aqua science engineers inc.

January 12, 1993

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

ATTENTION: Ms. Juliet Shin
Hazardous Materials Specialist

SUBJECT: Closure Report
Breitenbach Property
21065 Foothill Boulevard
Hayward, CA

Dear Ms. Shin:

Please find attached two copies of Aqua Science Engineers, Inc's. (ASE) Subject Report. We have included a copy for the RWQCB, for Mr. Eddy So. We look forward to receiving closure for Mr. Breitenbach at this site.

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

aqua science engineers inc.

January 7, 1993

SITE CLOSURE REPORT

at
21065 Foothill Boulevard
Hayward, California

for:

Mr. Roy R. Breitenbach, Sr.
2358 Loma Vista Drive
Prescott, Arizona 86301-2129

submitted by:

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

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

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and
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INTRODUCTION

SITE ADDRESS

21065 Foothill Boulevard
Hayward, California

PROPERTY OWNER

Mr. Roy R. Breitenbach, Sr.
2358 Loma Vista Drive
Prescott, Arizona 86301-2129
(602) 776-8995

AGENCY REVIEW

Alameda County Health Care Services Agency (ACHCSA)
Oakland, California
Ms. Juliet Shin

Regional Water Quality Control Board, San Francisco Bay Region (RWQCB)
Oakland, California
Mr. Eddy So

Eden Consolidated Fire Protection District
San Lorenzo, California

ENVIRONMENTAL CONSULTING FIRM

Aqua Science Engineers, Inc.
San Ramon, California
David Allen, Project Manager

Please accept the following information as formal application for "Request For Site Closure" at 21065 Foothill Boulevard. Aqua Science Engineers, Inc. (ASE) was contracted by the property owner, Mr. Roy Breitenbach, Sr., to perform the necessary tasks essential for application of site closure.

SITE DESCRIPTION

The current property owner leases commercial/warehouse space at this 15,000 sq. ft. site located near the southwest corner of the intersection of Foothill Boulevard and Mattox Road, SEE FIGURE 1, SITE LOCATION MAP. The site is relatively flat, although it drops off slightly along the east boundary where the property fronts Foothill Boulevard. The site is bounded on the

southeast by other commercial space and on the northwest by residential property. Local topography slopes gently downhill to the west-southwest where the site is located along the crest of low hills near the intersection of Foothill Boulevard and Highway 580.

PREVIOUS WORK

The site history with regard to contaminated site assessment activities begins in October of 1991 with the removal of a single, 1,000 gallon, steel, underground fuel storage facility last containing gasoline. The UST was located near the center of the property (SEE FIGURE 2, SITE PLAN). Associated soil sampling conducted at the time of tank removal indicated detectable levels of Total Petroleum Hydrocarbons (TPH) as gasoline and the fractions Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) in the vicinity of the removed tank. TPH concentrations were reported at 1300 parts per million (ppm), Benzene at 320 parts per billion (ppb), Toluene at 11000 ppb, Ethylbenzene at 2700 ppb and Xylenes at 85000 ppb. Tank removal and soil sampling was performed by Decon Environmental, Hayward, CA. Decon's tank removal report and results, dated November 5, 1991, is attached in APPENDIX A.

An excavation of petroleum hydrocarbon contaminated soil was undertaken by Decon in November of 1991. An additional 30 cubic yards of contaminated soil were removed from the tank excavation pit. Six (6) soil samples from the pit walls and floor were obtained and analyzed for TPH as gasoline and BTEX. Analysis indicated non-detectable (N.D.) concentrations in all samples for all constituents analyzed. A copy of this Decon report, dated December 13, 1991, is attached in APPENDIX B.

Attached in APPENDIX C is Decon's final correspondence to the property owner as far as ASE is aware. This letter report, dated December 18, 1991 refers to the final overexcavation activities. Although the report does not detail the disposal of the overexcavated material, ASE has been informed that the overexcavated material was transported to the BFI Facility on Vasco Road in Livermore, California under Non-Hazardous Waste Manifests.

Documentation provided to ASE referencing work conducted by Decon Environmental made no report of any groundwater in the UST excavations.

The purpose of the project, detailed in the following sections, was to determine whether site groundwater near the location of the former UST had been impacted by petroleum hydrocarbon contamination previously identified in on-site soils.

INVESTIGATIVE METHODS

Per RWQCB and ACHCSA requirements, the property owner contracted ASE to conduct further investigative activities which would address the possibility of presence of elevated levels of petroleum hydrocarbons in the groundwater. A workplan detailing the scope of work to be performed and the methodology to be utilized was prepared and submitted to ACHCSA and the RWQCB. Upon approval from the ACHCSA and permitting with the Alameda County Flood Control and Water Conservation District Zone 7, site investigations were initiated on January 30, 1992.

Drilling and Well Construction Procedures

One soil boring was performed at the site in accordance with the approved workplan. The boring was located about 10 feet away from the former tank excavation in an assumed down gradient direction (SEE FIGURE 2, SITE PLAN).

A Mobile Drill B-61 hydraulic rotary drill with 4.25" I.D. X 8" O.D. hollow stem augers was used to drill the boring to 44 feet depth below grade. A two inch groundwater monitoring well was installed through the augers, to 43.75' feet total depth. Two inch I.D. schedule 40 PVC well casing was used, of which the bottom 10 feet was machine slotted (0.02") well screen. All casing joints were flush threaded. The well was suspended about three inches above total depth within the augers while #2/12 sand was placed to two feet above the top of the perforated casing interval. Two feet of medium bentonite pellets was placed above the sand and hydrated with tap water. The remainder of the boring was filled to near original grade with cement/bentonite grout. A flush mounted, traffic rated, watertight well cover and locking inner cap comprised the surface completion of MW-1. Attached in APPENDIX D is ASE's report detailing the methods and findings of the monitoring well investigation activities.

Soils excavated by the augers were placed onto plastic sheeting and left on site nearby the boring location. The drill rig and augers were high pressure hot washed prior to arrival on site, and the augers were again washed on site after drilling.

Site Geology

The site rests upon mildly consolidated alluvial deposits of silty clay with increasing content of sands and gravels to a depth of approximately 10 feet below grade. From a depth of 10 feet below grade to the depth of the boring terminus at 44 feet, fractured metamorphosed rock formations were encountered. Shallow groundwater was encountered at 37 feet depth below grade.

The soils encountered as drilling progressed were logged by an ASE geologist using the Unified Soil Classification System (USCS). The surface cover at the boring location is 3" asphaltic concrete. From grade to about 3 feet depth the soils were clay fill, dark grey and brown mottled, silty 10%, v. fine sandy <10%, damp to moist, stiff, (CL). Between 3 feet and 5.5 feet depth, the native materials were found to be clay, dark olive gray, silty 10%, v. fine sand <10%, damp, stiff, (CH). Between 6 feet and 10 feet depth, the soils were sand, tan brown, v. fine to coarse grained, well graded, silty 10-20%, minor clay, occasional 3/8" gravel, mildly consolidated (SW). Between 10 feet and and 44 feet below grade the formation encountered was a metamorphic gabbro diabase, multicolored green, gray, tan, red, v. fine to course grained, mineralized clayey (altered) matrix, silty 10-20%, hard, fractured, iron oxide and manganese oxide staining abundant. Refusal of the split spoon sampler was encountered in the hard rock materials between 15.5 feet below grade and end of boring at 44 feet below grade.

No fuel product odors were noted at any time during drilling of the bore hole.

Soil Sampling Procedures

Undisturbed soil samples were obtained from the boring at 5 foot intervals to 15.5 feet depth with a California modified split spoon sampler and a 140 lb. drop hammer. The sampler was advanced ahead of the auger tip by successive blows from the down hole hammer. The samples were collected into pre-cleaned 2" X 6" brass liners, and used for visual soils classification and certified chemical analysis. Below the depth of 15.5 feet soil sampling was attempted at 20 feet, 30 feet, 40 feet and 43.75 feet. Sampler refusal was encountered at these sample elevations.

The sample tubes were sealed with aluminum foil, plastic caps and tape, permanently labeled, then placed into a cooler with wet ice for transport to a State Certified Hazardous Waste Analytical Lab following chain of custody procedures. The samplers and liners were cleaned immediately prior to each use with a TSP solution and rinsed with tap water in plastic buckets. Cleaning rinsates were temporarily contained then disposed of on site.

Well Development and Sampling

After casing and sand installation and prior to emplacement of the cement well seal, the well was developed with a high volume steel bailer and rubber swabbing tools. The bailer and swabbing tool were steam cleaned prior to insertion into the well. The close fitting swabs were used to clear residual muddy materials from the well slots during bailing. The well was bailed into labeled drums at a rate of one gallon per minute or greater during much of the development. A total of about 80 gallons of groundwater were removed.

On February 3, 1992, a clear acrylic bailer was lowered into the well until it was about half submerged, then gently retrieved from the well. A visual inspection of the piezometric surface waters did not show petroleum sheen or product. The well was then purged of five well volumes with a Teflon bailer in to a plastic bucket, then an existing drum. The bailer and new string were washed with a TSP solution and brush in a bucket, then rinsed twice with tap water. The sampler wore new nitrile gloves during the bailing and sampling of the water.

Four amber septum vials were filled from the bailer until no head space remained and a positive meniscus was apparent. The vials were then gently sealed, labeled, and placed into a cooler with wet ice for transport to the laboratory following chain of custody procedures.

Soil and Groundwater Sample Analysis

Three selected soil samples and the groundwater sample were submitted to a State Certified Laboratory. The samples were analyzed for the following constituents using EPA methods approved by the Regional Water Quality Control Board: TPH as gasoline with aromatic volatile hydrocarbons Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). Soil samples obtained from MW-1 at 6 feet, 10.5 feet, and 15 feet depth yielded N.D. results for all sample analysis. Equally, the groundwater analytical results indicated N.D. contamination. See Table 1 below.

For complete details regarding the methods and findings of the soil boring and monitoring well installation and sampling, see APPENDIX D.

TABLE ONE: RESULTS OF SOIL and GROUNDWATER SAMPLE ANALYSIS
(1-30-92)

Sample I.D.	TPH gas mg/kg	benzene ug/kg	toluene ug/kg	ethyl benzene ug/kg	total xylenes ug/kg
SOIL					
MW-1,6'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1,10.5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1, 15'	N.D.	N.D.	N.D.	N.D.	N.D.
GROUNDWATER					
MW-1A	N.D.	N.D.	N.D.	N.D.	N.D.

mg/kg and mg/l = parts per million
ug/kg and ug/l = parts per billion
N.D. = Not Detected

ADDITIONAL INVESTIGATIVE METHODS

On April 13, 1992, ASE returned to the subject site to perform three soil borings which would further characterize the potential for hydrocarbon contamination at the site. See APPENDIX E for complete methods and findings report.

In brief, three soil borings, B1, B2, and B3 were drilled to 20 feet, 15 feet, and 15 feet respectively. The location of the borings were within 8 feet of the former tank pit on the east side. See Figure 2, in the report in Appendix E.

Soil samples were collected at five (5) foot intervals in all three of the borings. Selected soil samples were made available for analysis by a State of California certified laboratory. Analytical testing included TPH as Gasoline, and the fractions BTEX. As Table Two below details, all submitted soil samples resulted in N.D. levels of contamination. A copy of the analytical results and the chain of custody procedures can be found in APPENDIX E.

TABLE TWO: RESULTS OF SOIL SAMPLE ANALYSES (4-17-92)

Sample #	TPH gas mg/kg	benzene ug/kg	toluene ug/kg	ethyl benzene ug/kg	total xylenes ug/kg
B1-10.0	N.D.	N.D.	N.D.	N.D.	N.D.
B1-15.0	N.D.	N.D.	N.D.	N.D.	N.D.
B1-20.5	N.D.	N.D.	N.D.	N.D.	N.D.
B2-5.5	N.D.	N.D.	N.D.	N.D.	N.D.
B2-10.0	N.D.	N.D.	N.D.	N.D.	N.D.
B2-15.5	N.D.	N.D.	N.D.	N.D.	N.D.
B3-5.5	N.D.	N.D.	N.D.	N.D.	N.D.
B3-11.0	N.D.	N.D.	N.D.	N.D.	N.D.
B3-15.5	N.D.	N.D.	N.D.	N.D.	N.D.

mg/kg = parts per million
ug/kg = parts per billion
N.D. = Not Detected

Once this report had been received and reviewed by the ACHCSA, it was determined that the presence of petroleum hydrocarbons in the soil no longer existed. The ACHCSA required the site to continue groundwater monitoring on a quarterly basis.

Quarterly Groundwater Sampling

As the reports attached in APPENDIX F detail, the site has remained on a quarterly groundwater monitoring plan since the initial sampling period occurred during monitoring well installation activities. As the reports document, for each quarter, groundwater monitoring well MW-1 has been sampled and analyzed for TPH as Gasoline, and the fractions BTEX (EPA methods 5030/8015, 602). The results for each quarter are tabulated below as Table Three, and copies of the report which include analytical data and sampling protocol can be found in APPENDIX F.

TABLE THREE: GROUNDWATER ANALYSIS RESULTS
FOR ALL FOUR QUARTERS

Sample Date	TPH Gas (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	pH	Cond. (uS)
2/3/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
4/29/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
7/10/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
10/15/92	N.D.	N.D.	N.D.	N.D.	N.D.	7.3	1100

ppb Parts per Billion
N.D. Not Detected
--- Not Analyzed

EXTENT OF HYDROCARBON PRESENCE IN SOIL AND GROUNDWATER

Soil

At the time of tank removal operations (October 30, 1991) soil samples were collected from beneath the former 1,000 gallon, steel, gasoline tank. Samples were submitted for analysis of TPH as Gasoline, and the fractions BTEX. Results indicated elevated levels of contamination (as high as 1300 ppm TPH-G in one soil sample. Overexcavation activities were initiated which removed approximately 30 yards of contaminated soil. Six additional soil samples were collected from the excavation, two from the bottom, and one from each of the excavation sidewalls. Results of analysis on these six samples indicated N.D. levels of contamination. Additionally, 3 soil borings were conducted at the site. Selected soil samples were also analyzed for TPH as Gasoline and the fractions BTEX. All samples resulted in N.D. levels of contamination. Therefore, it was apparent that the presence of hydrocarbon contamination in the on-site soil was no longer an issue (in relation to the former underground tank).

Groundwater

As for the on-site groundwater, a monitoring well, MW-1, was installed and sampled on a quarterly basis. At no time during any of the four sampling periods did the monitoring well analysis result in detectable levels of hydrocarbon contamination. The samples were analyzed by a State of California certified laboratory by EPA methods 5030/8015 and 602.

HYDROLOGY

Local and Regional Hydrology, and Gradient

Since only one (1) groundwater monitoring well was installed at the site, a verified groundwater gradient and direction was not possible in reference to the site specifically. However, some assumptions were made and verified through resources at the Alameda County Public Works Department, Water Resources Division. From previous investigative reports, it was assumed that groundwater flowed toward the west in the direction of the San Francisco Bay. This was a regional assumption.

Seasonal Variations of Groundwater

With only one monitoring well on site, it was difficult to prove if the different seasons (Winter, Spring, Summer, and Fall) had any influence on groundwater depths. However, ASE did find that during sampling periods in the Spring (4-29-92) and in the Summer (7-10-92) groundwater depths dropped as much as 3.5 feet from the Winter sampling period. Although the Bay Area has suffered from an extended drought, the groundwater levels appeared to fluctuate seasonally. Table Four shows the Depth to Water in MW-1 at four distinct dates during the quarterly groundwater monitoring program.

TABLE FOUR: DEPTH TO WATER IN FEET AT MW-1

Date	Depth to Water
2/3/92	36.5'
4/29/92	33.0'
7/10/92	33.9'
10/15/92	34.7'

Aquifer Characteristics

Due to the nature of the soils during well installation, it appears that the aquifer is unconfined due to the weathered, fractured Meta-granite (diabase/gabbro) formation that exists from approximately 10 feet below grade to the bottom of the hole.

BENEFICIAL USES OF GROUNDWATER

Since groundwater was never encountered during the original tank excavation or during overexcavation activities, it was determined that further interest in this area was not necessary.

Furthermore, since groundwater has not been impacted (via 4 successive quarters of N.D. status), ASE equally did not place significant interest in determining a well inventory, contaminant fate transport, or the sources of drinking water determination.

REMEDIATION ACTIVITIES AND EFFECTIVENESS

Remediation was limited to tank removal and contaminated soil overexcavation. The effectiveness of these tasks (via the excavation samples per Decon Environmental, and the soil borings per ASE) was significantly efficient. Soil samples verify that all of the contaminated soil associated with the underground fuel tank was excavated and removed from the site.

No groundwater remediation was initiated or necessary.

It appears that residual hydrocarbons do not exist on site in relation to the former underground fuel tank. However, should some residual hydrocarbon contamination exist, it has not impacted the underlying groundwater. ASE is confident that residual contamination, if any, would not significantly impact any of the beneficial uses of the surrounding soil or groundwater.

SUMMARY AND CONCLUSIONS

A 1000 gallon, steel, underground fuel tank was removed from the site at 21065 Foothill Boulevard, in Hayward, California. The tank was removed and properly disposed of by Decon Environmental in October, 1991. Due to elevated concentrations of TPH as Gasoline and the fractions BTEX, overexcavation activities were performed by Decon. Approximately 30 yards of contaminated soil was removed from the original excavation. Additional soil sampling following overexcavation activities resulted in N.D. levels of contamination in the soil.

A groundwater monitoring well was installed by ASE in January 1992. Subsequent to the monitoring well installation, three soil borings were conducted to further investigate the possibility of petroleum hydrocarbon contamination. All soil samples and groundwater samples submitted for analysis in regard to the monitoring well and the soil borings resulted in N.D. levels of contamination.

For a period of one (1) year, the monitoring well MW-1 was sampled and analyzed for TPH as Gasoline and the fractions BTEX. For all four successive quarters, analytical results indicated N.D. levels of contamination.

It is the recommendation of Aqua Science Engineers, that the site has been completely remediated of its soil contamination problem, and that quarterly groundwater monitoring has proven that groundwater has not been impacted due to the release of petroleum hydrocarbons in respect to the former underground tank. ASE recommends that the site files be closed, and that the monitoring well be properly abandoned.

REPORT LIMITATIONS

The results of this investigation represent conditions at the time of the tank removal, overexcavation activities, groundwater monitoring well installation, sampling and specific location at which the samples were collected, and for the specific parameters analyzed for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources other than the former 1000 gallon, underground fuel tank, 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.

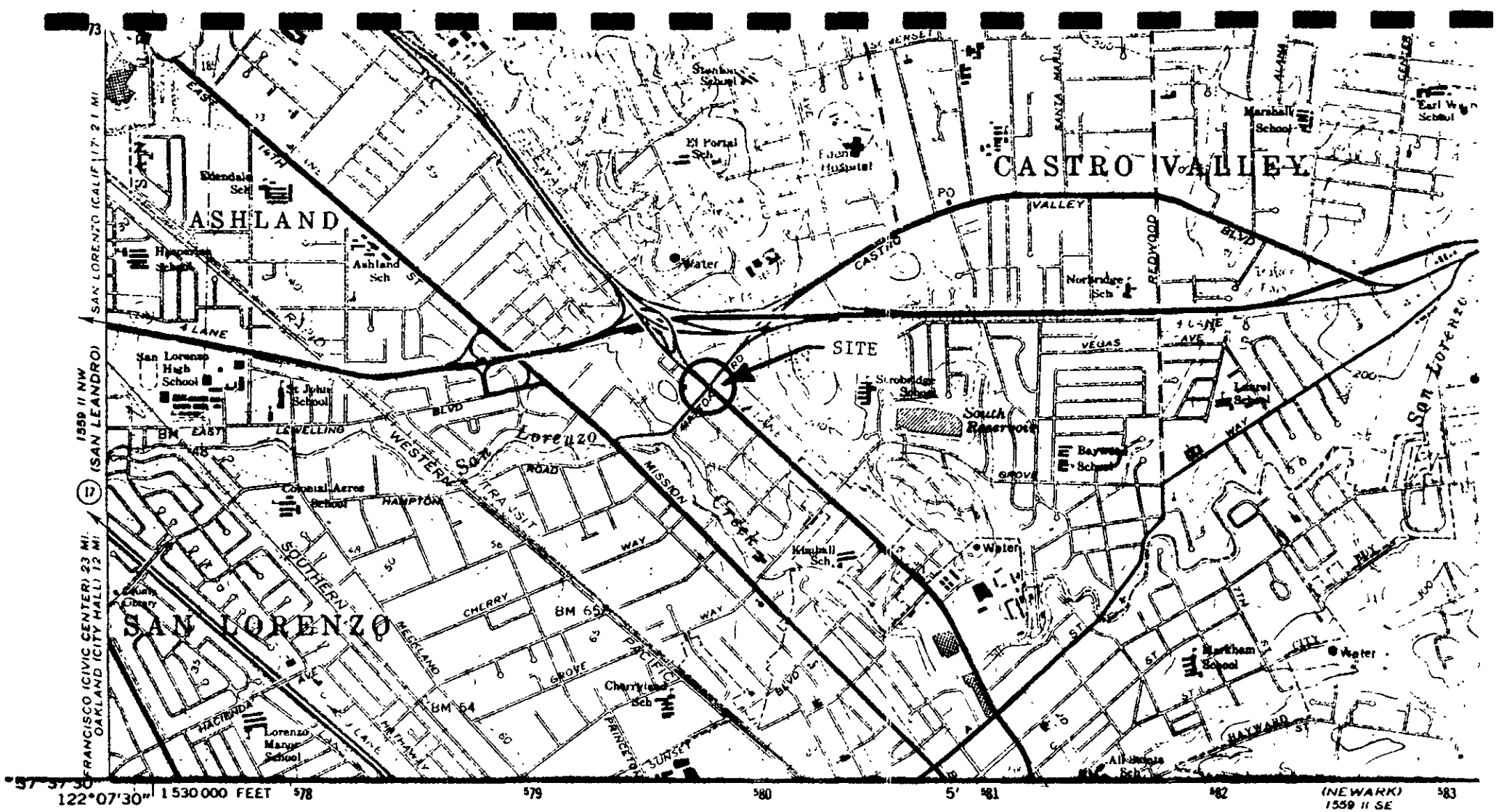
Should you have any questions or comments regarding this report, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

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

FIGURES



Mapped, edited, and published by the Geological Survey

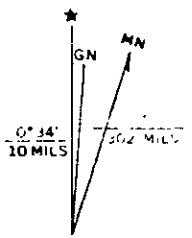
Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field check 1959

Polyconic projection
10,000-foot grid based on California coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks,
zone 10, shown in blue 1927 North American Datum
To place on the predicted North American Datum 1983
move the projection lines 14 meters north and
95 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

There may be private inholdings within the boundaries of the National or State reservations shown on this map



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled from aerial photographs taken 1979 and other source data This information not field checked. Map edited 1980

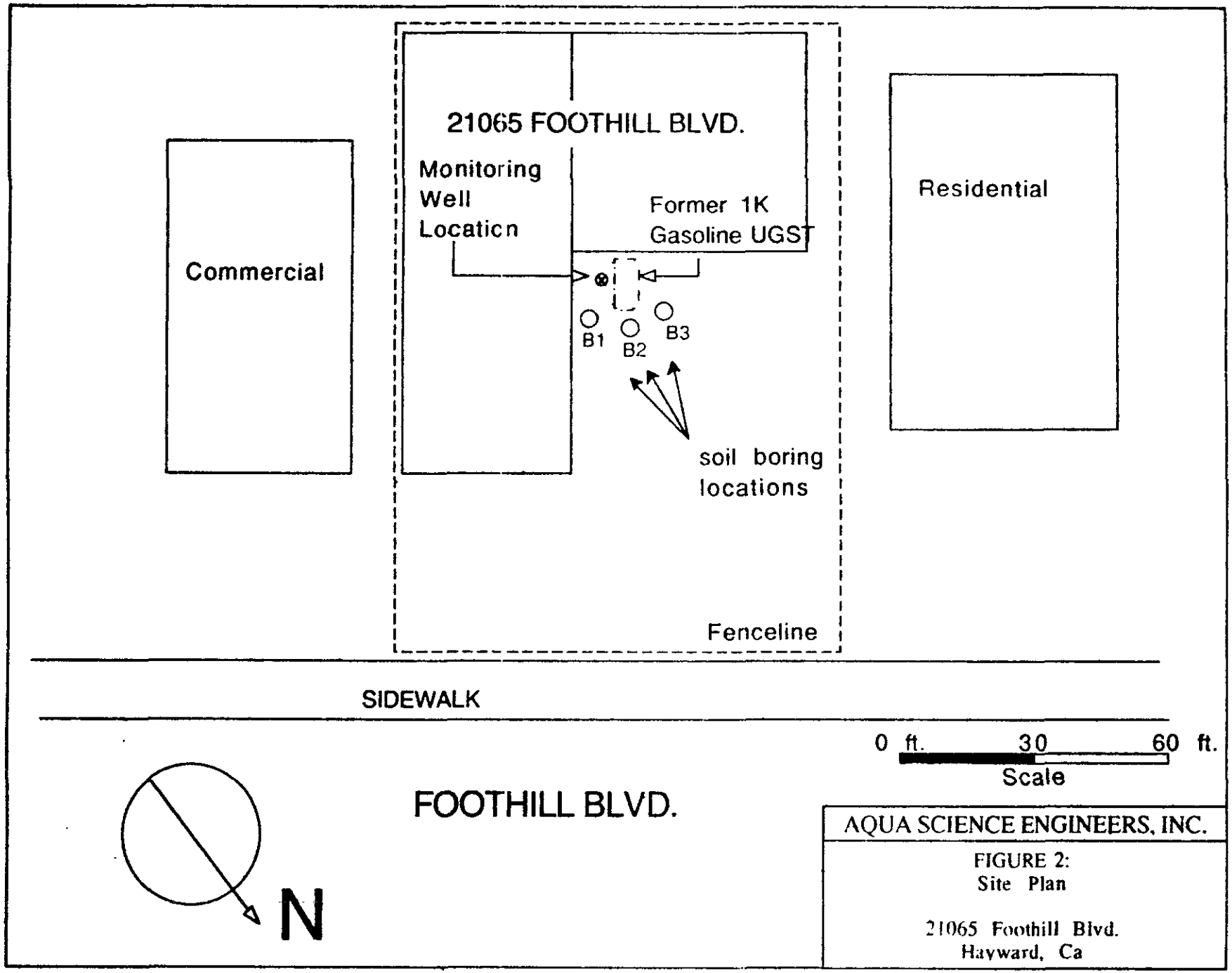
SCALE 1 24 000

CONTOUR INTERVAL 20 FEET

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1:
Site Location Map

21065 Foothill Blvd.
Hayward, Ca



AQUA SCIENCE ENGINEERS, INC.

FIGURE 2:
Site Plan

21065 Foothill Blvd.
Hayward, Ca

APPENDIX A

Decon Environmental Tank Pull Report
Dated November 5, 1991

DECON
ENVIRONMENTAL SERVICES, INC.

November 5, 1991

Roy R. Breitenbach
9986 East Fanfol Drive
Scottsdale, AR 85258

RE: UNDERGROUND TANK REMOVAL PROJECT AT 21065 FOOTHILL BLVD, HAYWARD, CALIFORNIA.

Dear Mr. Breitenbach:

DECON Environmental Services, Inc. (DECON) contracted with Roy R. Breitenbach on September 27, 1991 to inert and remove one underground gasoline storage tank at 21065 Foothill Blvd., Hayward, California.

The tank was located in front the building under the concrete driveway. The tank, constructed of steel, was approximately 13 feet long and 4 feet in diameter and had a capacity of 1000 gallons.

Two permits and a letter of notification were required for the tank closure. DECON applied for and received authorization to proceed from the Eden Consolidated Fire District and Alameda County Department of Health Services. Notification was to the Bay Area Air Quality Management District.

DECON mobilized its equipment and began work on October 28, 1991. The concrete and soil overlaying the tank was removed and the tank was cleaned using a pressure washer and a degreasing agent. The LEL and Oxygen levels were checked and found to <5 and <5 respectively.

On October 30, 1991, in the presence of fire and health officials, the tank was removed from the excavation, inspected for holes and corrosion and loaded onto DECON's flatbed truck. The tank was manifested and hauled to Erickson, Inc., a licensed TSD facility.

Under the direction of Pamela Evans, Alameda Co. Health, DECON extracted two samples from the soil beneath each end of the tank. The samples were analyzed for TPH-gasoline and B.T.X.& E. (Benzene, Toluene, Xylene and Ethylbenzene). Copies of the analytical results as well as all permits and manifests are enclosed.

26102 Eden Landing Road, Suite 4 Hayward, CA 94545 (415) 732-6444 Fax (415) 782-8584 CL#545726

If you have any questions regarding this project please do not hesitate to call me at (510) 732-6444.

Sincerely,

Anthony Cappella
Project Manager

cc: Pamela Evans, Alameda Co. Health
James Ferdinand, Eden Consolidated Fire District
Mike Tanzillo

...060—0039 (Expires 9-30-91) and Front of Page 7 Sacramento, California

...orm designed for use on elite (12-pitch typewriter).

...ORM HAZARDOUS ...ASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
C A C 0 0 0 6 4 2 4 8 8	6 6 9 0 1 1		

...nerator's Name and Mailing Address
Roy R. Bretenbach
9986 E. Fanfol Drive Scottsdale, AR 85258
4. Generator's Phone (602) 457-3905

A. State Manifest Document Number: 90661344
B. State Generator's ID:

5. Transporter 1 Company Name: DECON ENvironmental Services, Inc.
6. US EPA ID Number: C A D 9 8 2 4 6 8 1 8 3
C. State Transporter's ID: 205880
D. Transporter's Phone: (510) 732-6444

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Erickson, Inc.
255 Parr Boulevard
Richmond, CA 94801
10. US EPA ID Number: C A D 0 0 9 4 6 6 3 9 2
G. State Facility's ID: CAD009461639 4
H. Facility's Phone: (415) 235-1393

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-RCRA hazardous waste, solid, empty UST	0 0 1	T P	0 1 0 0 0	P	State 512 / EPA/Other None
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
~~XXX~~ empty UST inerted with 15 lbs of dry ice per 1000 gallon capecity

K. Handling Codes for Wastes Listed Above
a. D1 b.
c. d.

15. Special Handling Instructions and Additional Information
Avoid contact. Wear appropriate protective clothing when handling.

EMERGENCY 24 HOUR PHONE NUMBER (510) 475-2901

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: Michael TRAVIS AS AGENT FOR OWNER
Signature:
Month Day Year: 10 28 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jonathan D. PATTON
Signature: Jonathan D. Patton
Month Day Year: 10 30 91

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: DONALD H. ROSSON JR.
Signature:
Month Day Year: 10 30 91

Do Not Write Below This Line

...022 A
...PA 8700—22
...ev. 6-88) Previous editions are obsolete.

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 DAYS
To: P.O. Box 400, Sacramento, CA 95812-0400

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

See Instructions on Back of Page 6 and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAC000642488
Manifest Document No.: 66902
2. Page 1 of 1

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

3. Generator's Name and Mailing Address
Roy R. Bretenbach
9986 E. Fanfol Drive Scottsdale, AR 85258
4. Generator's Phone (602) 457-3905

A. State Manifest Document Number: 90661347
B. State Generator's ID:

5. Transporter 1 Company Name: DECON Environmental Services, Inc.
6. US EPA ID Number: CAD982461813
C. State Transporter's ID: 203880
D. Transporter's Phone: (510) 732-6444

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Hedrick Distributors
210 Encinal Street
Santa Cruz, CA 95060
10. US EPA ID Number: CAD088838222
G. State Facility's ID:
H. Facility's Phone: (408) 427-3773

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-RCRA Hazardous WAste Liquid; petroleum contaminated water	001	~~TP~~ DM	~~[illegible]~~ 55	~~P~~ G	State 223; EPA/Other None
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above
Empty UST inerted with 15 lbs of dry ice per 1000 gallon capacity

K. Handling Codes for Wastes Listed Above: a. b. c. d.

15. Special Handling Instructions and Additional Information
Avoid contact. Wear appropriate protective clothing.

EMERGENCY 24 HOUR PHONE NUMBER (510) 475-2901

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: MICHAEL RTANZILLO AS AGENT FOR OWNER
Signature: [signature]
Month Day Year: 10 28 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JONATHAN D. PATTON
Signature: Jonathan D. Patton
Month Day Year: 11 06 91

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: GRANT K GREGORY
Signature: [signature]
Month Day Year: 11 06 91

GENERATOR / TRANSPORTER / FACILITY

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

DHS 8022 A
EPA 8700—22
(Rev. 6-89) Previous editions are obsolete.

Do Not Write Below This Line

YELLOW: GENERATOR RETAINS

EDEN CONSOLIDATED
FIRE PROTECTION DISTRICT

(415) 670-5853

FIRE PERMIT

NO: 91-1030
ISSUE DATE: 10-20-91
EXPIRATION DATE: 10-31-91

NAME OF BUSINESS: Decon Environmental

BUSINESS ADDRESS: 26102 Eden Landing Rd., Hayward, CA 9454[illegible] [illegible]-6444

THE BUSINESS (AND ITS LOCATION) LISTED ABOVE PURSUANT TO THE PROVISIONS OF THE ALAMEDA COUNTY FIRE CODE, HAVING MADE APPLICATION IN DUE FORM AND BEING IN COMPLIANCE WITH APPLICABLE CODES AND ORDINANCES, IS HEREBY GRANTED [illegible] FOR THE FOLLOWING TYPES OF OPERATION:

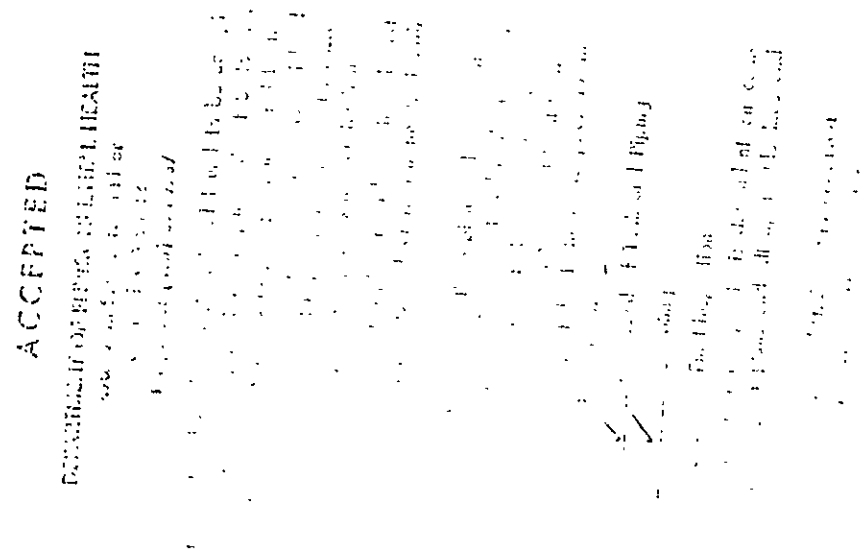
Removal of one (1) 1000 gallon underground fuel storage tank from [illegible] Foothill Blvd., Hayward

UPON ACC[illegible] WITH ALL ORDINANCE PROVISIONS [illegible]

THIS PERMIT [illegible] THE PREMISES AT ALL TIMES

[signature]

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320



Project Specialist (print) Pamela J. Evans 10-8-91

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

1. Business Name Roy R. Breitenbach
   Business Owner Roy R. Breitenbach
2. Site Address 21665 Foothill Blvd.
   City Hayward (unincorp.) Zip _____ Phone N/A
3. Mailing Address 9956 E. Fanfol Dr.
   City Scottsdale, Arizona Zip 85258 Phone (602) 451-3905
4. Land Owner Same as above
   Address _____ City, State _____ Zip _____
5. Generator name under which tank will be manifested Roy R. Breitenbach
   EPA I.D. No. under which tank will be manifested CAC000642488

rev 12/90

6. Contractor Decon Environmental

Address 26102 Eden Landing Rd. #4

City Hayward Phone 732-6444

License Type A - Haz. ID# 545726

7. Consultant /

Address N/A

City _____ Phone _____

8. Contact Person for Investigation

Name Anthony Cappello Title Project Manager

Phone 732-6444

9. Number of tanks being closed under this plan One

Length of piping being removed under this plan unknown

Total number of tanks at facility 1

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 Decon Envir. Srvcs. Inc. EPA I.D. No. CAD982468183

Hauler License No. 2592 License Exp. Date 3/3/92

Address 26102 Eden Landing Rd. #103

City Hayward State CA Zip 94545

b) Product/Residual Sludge/Rinsate Disposal Site

Name Hedrick Distributors EPA I.D. No. CAD088838222

Address 210 Encinal St.

City Santa Cruz State CA Zip 95060

rev 12/90

c) Tank and Piping Transporter

Name DELON EPA I.D. No. CAD982468183

Hauler License No. 2592 License Exp. Date 3/31/92

Address 26107 Eden Landing Rd.

City Hayward State CA Zip 94545

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 Anthony Capilla

Company Delon

Address

City State Zip Phone

12. Laboratory

Name Seaport Analytical

Address 680 Chesapeake Dr.

City Redwood City State CA Zip 94063

State Certification No. 1210

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

If yes, describe.

14. Describe methods to be used for rendering tank inert

WASHING with pressure WASHER
VENTILATION
Dry Ice (20 lbs per 1000 gal. capacity)

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, groundwater, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
500 gal.	LAST contained unleaded gasoline presently out of service.	soil (groundwater if present)	One sample beneath tank no deep than 2 feet below bottom of 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)	Sampling Plan
20 yards^3	1 discreet sample for every 20 yd^3

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
TPH-G	GC-FID	5030	1 ppm - soil
~~TPH-D~~			
BTEX	8020 or 8240	8020 - 8240	5 ppb - soil

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

18. Submit Worker's Compensation Certificate copy

Name of Insurer State Fund

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) Anthony CAPELLA

Signature Anthony Capella

Date 10/1/91

Signature of Site Owner or Operator

Name (please type) _____

Signature _____

Date _____

rev 12/90

General Instructions

* Three (3) copies of this plan plus attachments and deposit must be submitted to this Department.

* Any cutting into tanks requires local fire department approval.

* One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.

Item Specific Instructions

2. SITE ADDRESS
Address at which closure is taking place.

5. EPA I.D. NO. under which the tanks will be manifested
EPA I.D. numbers may be obtained from the State Department of Health Services, 916/324-1781.

6. CONTRACTOR
Prime contractor for the project.

10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES

a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.

c) Tanks must be hauled as hazardous waste.

d) This is the place where tanks will be taken for cleaning.

15. TANK HISTORY AND SAMPLING INFORMATION
Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.

Material to be sampled - e.g. water, oil, sludge, soil, etc.

Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the high water mark, etc.

17. SITE HEALTH AND SAFETY PLAN

A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum:

a) The name and responsibilities of the site health and safety officer;

b) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;

c) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;

d) Frequency and types of air and personnel monitoring to be used - along with the environmental sampling techniques and instrumentation. Include instrumentation maintenance and calibration methods and frequencies;

e) Specific personal protective equipment and procedures to be used by workers to protect themselves from the identified hazards. Also state the contaminant concentrations in air - or other conditions - which will trigger changes in work or work habits to ensure workers are not exposed to high levels of hazardous chemicals or to other unsafe conditions;

f) Confined space entry procedures (if applicable);

g) Decontamination procedures;

h) Measures to be taken to secure the site, excavation and stockpiled soil during and after work hours (e.g. barricades, caution tape, fencing, trench plates, security guards, etc.);

i) Spill containment and emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital nearest the site;

j) Documentation that all site workers have received the appropriate OSHA approved trainings and participate in appropriate medical surveillance per 29 CFR 1910.120; and

k) Page for employees to sign indicating they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. **A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.**

NOTE: These requirements are excerpts from 29 CFR Part 1910.120, Hazardous Waste Operations and Emergency Response; Final Rule, March 6, 1989. Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19. PLOT PLAN
The plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:

a) Scale;

b) North Arrow;

c) Property Lines;

d) Location of all Structures;

e) Location of all relevant existing equipment including tanks and piping to be removed and dispensers;

f) Streets;

g) Underground conduits, sewers, water lines, utilities;

h) Existing wells (drinking, monitoring, etc.);

i) Depth to ground water; and

j) All existing tanks and piping in addition to the ones being pulled.

20. DEPOSIT
A deposit, payable to Alameda County for the amount indicated on the Alameda County Underground Storage Tank Fee Schedule, must accompany the plans.

21. Blank Unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from our office and from the San Francisco Bay Regional Water Quality Control Board (415/464-1255). Larger quantities may be obtained directly from the State Water Resources Control Board at (916) 739-2421.

22. TANK CLOSURE REPORT
The tank closure report should contain the following information:

a) General description of the closure activities;

b) Description of tank, fittings and piping conditions. Indicate tank size and former contents; note any corrosion, pitting, holes, etc.;

c) Description of the excavation itself. Include the tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential contaminant pathways, the depth to any observed ground water, descriptions and locations of stained or odor-bearing soil, and descriptions of any observed free product or sheen;

d) Description of sampling methods;

e) Description of any remedial measures conducted at the time of tank removal;

f) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations. Include a copy of the plot plan prepared for the Tank Closure Plan under item 19;

g) Chain of custody records;

h) Copies of signed laboratory reports;

i) Copies of "TSDF to Generator" Manifests for all hazardous wastes hauled offsite (sludge, rinsate, tanks and piping, contaminated soil, etc.); and

j) Tabulation of the volume and final destination of all non-manifested contaminated soil hauled offsite.

TABLE #2

RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR UNDERGROUND TANK LEAKS

HYDROCARBON LEAK	SOIL ANALYSIS	WATER ANALYSIS
Unknown Fuel	TPH G GCFID(5030) TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH G GCFID(5030) TPH D GCFID(3510) BTX&E 602, 624 or 8260
Leaded Gas	TPH G GCFID(5030) BTX&E 8020 OR 8240 TPH AND BTX&E 8260 TOTAL LEAD AA ------Optional------- TEL DHS-LUFT EDB DHS-AB1803	TPH G GCFID(5030) BTX&E 602 or 624 TOTAL LEAD AA TEL DHS-LUFT EDB DHS-AB1803
Unleaded Gas	TPH G GCFID(5030) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH G GCFID(5030) BTX&E 602, 624 or 8260
Diesel, Jet Fuel and Kerosene	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602, 624 or 8260
Fuel/Heating Oil	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602, 624 or 8260
Chlorinated Solvents	CL HC 8010 or 8240 BTX&E 8020 or 8240 CL HC AND BTX&E 8260	CL HC 601 or 624 BTX&E 602 or 624 CL HC AND BTX&E 8260
Non-chlorinated Solvents	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602 or 624 TPH and BTX&E 8260
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G GCFID(5030) TPH D GCFID(3550) TPH AND BTX&E 8260 O & G 5520 D & F BTX&E 8020 or 8240 CL HC 8010 or 8240 ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni METHOD 8270 FOR SOIL OR WATER TO DETECT: PCB* PCP* PNA CREOSOTE	TPH G GCFID(5030) TPH D GCFID(3510 O & G 5520 C & F BTX&E 602, 624 or 8260 CL HC 601 or 624 PCB PCP PNA CREOSOTE

* If found, analyze for dibenzofurans (PCBs) or dioxins (PCP)

Reference: Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, 10 August 1990

EXPLANATION FOR TABLE #2: MINIMUM VERIFICATION ANALYSIS

1. OTHER METHODOLOGIES are continually being developed and as methods are accepted by EPA or DHS, they also can be used.

2. For DRINKING WATER SOURCES, EPA recommends that the 500 series for volatile organics be used in preference to the 600 series because the detection limits are lower and the QA/QC is better.

3. APPROPRIATE STANDARDS for the materials stored in the tank are to be used for all analyses on Table #2. For instance, seasonally, there may be five different jet fuel mixtures to be considered.

4. To AVOID FALSE POSITIVE detection of benzene, benzene-free solvents are to be used.

5. TOTAL PETROLEUM HYDROCARBONS (TPH) as gasoline (G) and diesel (D) ranges (volatile and extractible, respectively) are to be analyzed and characterized by GCFID with a fused capillary column and prepared by EPA method 5030 (purge and trap) for volatile hydrocarbons, or extracted by sonication using 3550 methodology for extractable hydrocarbons. Fused capillary columns are preferred to packed columns; a packed column may be used as a "first cut" with "dirty" samples or once the hydrocarbons have been characterized and proper QA/QC is followed.

6. TETRAETHYL LEAD (TEL) analysis may be required if total lead is detected unless the determination is made that the total lead concentration is geogenic (naturally occurring).

7. CHLORINATED HYDROCARBONS (CL HC) AND BENZENE, TOLUENE, XYLENE AND ETHYLBENZENE (BTX&E) are analyzed in soil by EPA methods 8010 and 8020 respectively, (or 8240) and in water, 601 and 602, respectively (or 624).

8. OIL AND GREASE (O & G) may be used when heavy, straight chain hydrocarbons may be present. Infrared analysis by method 418.1 may also be acceptable for O & G if proper standards are used. Standard Methods" 17th Edition, 1989, has changed the 503 series to 5520.

9. PRACTICAL QUANTITATION REPORTING LIMITS are influenced by matrix problems and laboratory QA/QC procedures. Following are the Practical Quantitation Reporting Limits:

	SOIL PPM	WATER PPB
TPH G	1.0	50.0
TPH D	1.0	50.0
BTX&E	0.005	0.5
O & G	50.0	5,000.0

Based upon a Regional Board survey of Department of Health Services Certified Laboratories, the Practical Quantitation Reporting Limits are attainable by a majority of laboratories with the exception of diesel fuel in soils. The Diesel Practical Quantitation Reporting Limits, shown by the survey, are:

ROUTINE	MODIFIED PROTOCOL
≤ 10 ppm (42%)	≤ 10 ppm (10%)
≤ 5 ppm (19%)	≤ 5 ppm (21%)
≤ 1 ppm (35%)	≤ 1 ppm (60%)

When the Practical Quantitation Reporting Limits are not achievable, an explanation of the problem is to be submitted on the laboratory data sheets.

10. LABORATORY DATA SHEETS are to be signed and submitted and include the laboratory's assessment of the condition of the samples on receipt including temperature, suitable container type, air bubbles present/absent in VOA bottles, proper preservation, etc. The sheets are to include the dates sampled, submitted, prepared for analysis, and analyzed.

11. IF PEAKS ARE FOUND, when running samples, that do not conform to the standard, laboratories are to report the peaks, including any unknown complex mixtures that elute at times varying from the standards. Recognizing that these mixtures may be contrary to the standard, they may not be readily identified; however, they are to be reported. At the discretion of the LIA or Regional Board the following information is to be contained in the laboratory report:

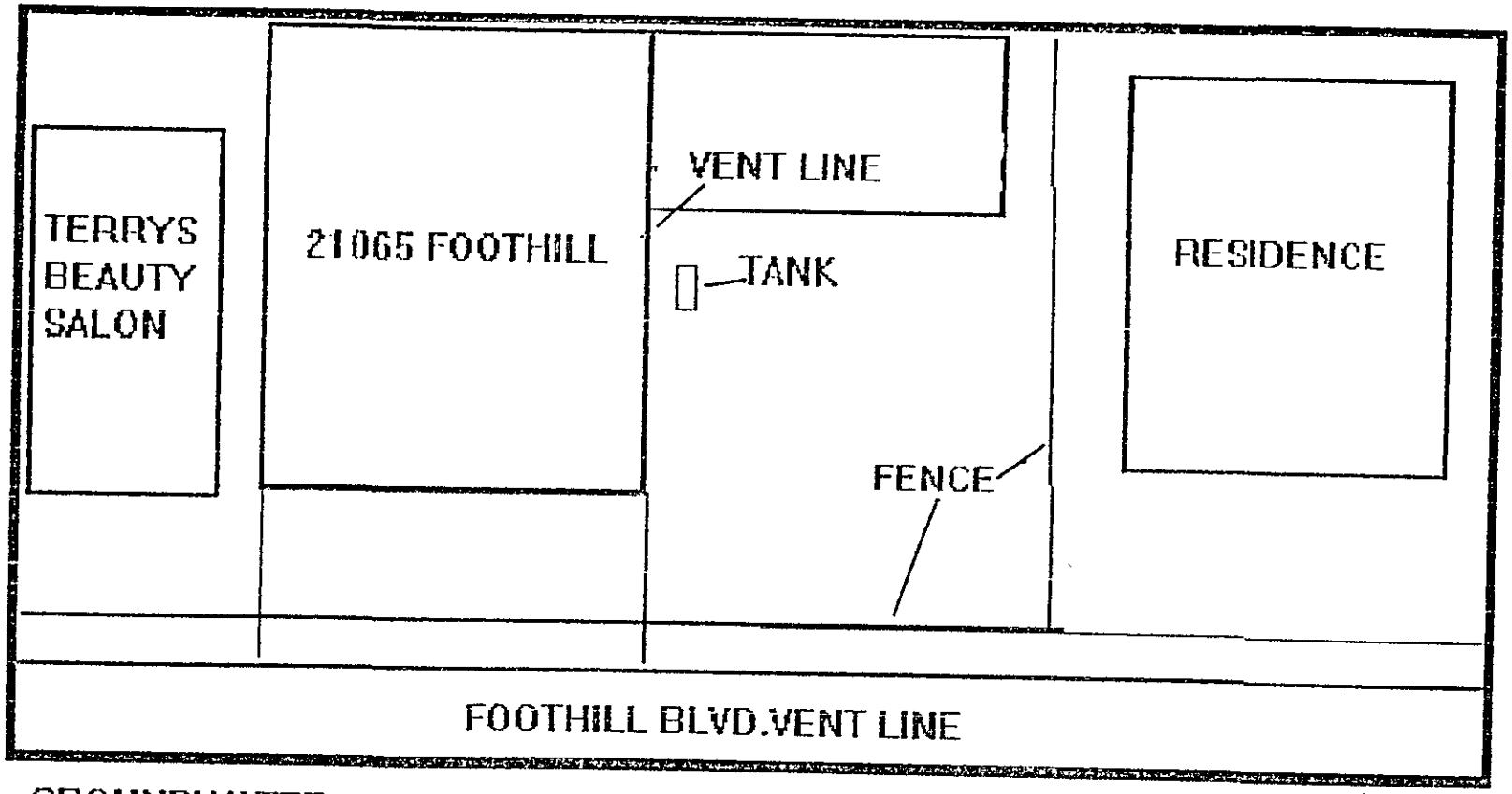
    The relative retention time for the unknown peak(s) relative to the reference peak in the standard, copies of the chromatogram(s), the type of column used, initial temperature, temperature program is C/minute, and the final temperature.

12. REPORTING LIMITS FOR TPH are: gasoline standard ≤ 20 carbon atoms, diesel and jet fuel (kerosene) standard ≤ 50 carbon atoms. It is not necessary to continue the chromatography beyond the limit, standard, or EPA/DHS method protocol (whichever time is greater).

EPILOGUE

ADDITIVES: Major oil companies are being encouraged or required by the federal government to reformulate gasoline as cleaner burning fuels to reduce air emissions. MTBE (Methyl-tertiary butyl ether), ETHANOL (ethyl alcohol), and other chemicals may be added to reformulate gasolines to increase the oxygen content in the fuel and thereby decrease undesirable emissions (about four percent with MTBE). MTBE and ethanol are, for practical purposes, soluble in water. The removal

from the water column will be difficult. Other compounds are being added by the oil companies for various purposes. The refinements for detection and analysis for all of these additives are still being worked out. If you have any questions about the methodology, please call your Regional Board representative.



GROUNDWATER:
APPROX. 15'

N

PLOT PLAN TANK REMOVAL PROJECT 21065 FOOTHILL BLVD. HAYWARD, CA	OCT. 2, 1991

Site Safety Plan

Background Info:

Project Name:	BREITENBACH
Job Number:	669
Project Manager:	Tony Cappella
Client Contact:	Mike Tanzillo
Site Name:	None
Site Address:	21065 Foothill Blvd. Hayward,CA
Overall Objective of Site Work:	Removal of 1 500 gallon UST
Proposed Date of Site Work:	Oct. 16, 1991
Source of Site Info:	Client
Will Site Officials Accompany Work Personnel:	Yes
Work Time Limitations:	No
Warning for Site Evacuation:	Verbal

Site Description:

Current status:	Abandoned Building
Prior status:	Unknown
Materials Handled, Disposed, or Stored:	Gasoline or diesel.
Potential Degradation Products:	Phenols, benzene, xylene, toluene.
Industrial Processes/Procedures:	Bulk handling of motor fuels.

HAZARDS: DESCRIPTION, PROTECTION AND MONITORING

The following substances are known or suspected to be currently or historically onsite:

Substance	Physical State	TLV (ppm)	Exposure Characteristics
Gasoline	Liquid	300	Headaches,Dizziness
Diesel fuel	Liquid		Skin Irritant

Potential Environmental Hazards: Spillage of gasoline or diesel fuel may cause soil or groundwater contamination.

Potential Worker Hazards: Excavation, heavy equipment, exposure to gasoline and diesel fuel.

Potential Physical Hazards Onsite:

Trenches
Noisy operations
Shallow ground water may be encountered

Overall Hazard Estimation: Low

The following levels of personal protection have been designated:
(NOTE: No eating, drinking or smoking is allowed in work areas)

Level of Protection: D

Location(s) to be used: Onsite.

Equipment to be used consists of hard hat, eye protection, work clothes, leather or neoprene boots with steel toes and shanks, and work gloves.

When to use: During all onsite work, dermal protection for all workers in contact with soil.

Level of Protection: C

Location to be used: Excavation area.

Equipment to consist of Level D protection plus dermal and respiratory protection including neoprene gloves, tyvek coveralls and American Optical air purifying respirators with AO-52 cartridge filters.

When to use: When TPH reading is greater than 100 ppm in breathing zone.

Required Decontamination Equipment: Pressure Washer

Disposal of Contaminated Materials or Equipment: Tank rinsate will be disposed of at a licensed disposal or recycling facility. Underground tanks will be disposed of as hazardous at a TSD facility where they will be triple rinsed and salvaged as scrap metal.

Monitoring

1. Direct Reading Monitoring Equipment

Equipment: LEL meter - O_2-H_2S

Location to be used: Excavation site

When to use: Prior to tank removal (15-20% LEL) to monitor work-conditions.

2. Action Levels for Monitoring Results:

Equipment: Explosimeter

Action Level: 15% LEL

Action (type and duration): Tank must be rendered inert, below LEL specified by inspector.

3. Medical Monitoring: None.

ONSITE ORGANIZATION AND COORDINATION

General

The following personnel are designed to carry out the stated job functions onsite:

Project Team Leader: Anthony Cappella

Site Safety Officer: Anthony Cappella

Contractors onsite (state function): DECON Environmental - tank excavation, removal.

Government Agency Reps: BAAQMD Reps. Alameda Co. Health Dept.

Site Access Control

Access to the site will be controlled such that no unauthorized person enters within the following boundaries: Within barricades or 25 feet of excavation.

EMERGENCY MEDICAL CARE AND PROCEDURES

Nearest emergency medical facility:
(see attached map)

Facility Name: St. Rose Hospital

Address: Tennyson Ave. Hayward

Telephone: (510) 782-6200

Emergency Telephone Numbers:

Fire: 911

Police: 911

Ambulance: 911

Hotline (e.g., Poison Control Center): (415) 666-2845

Emergency First Aid for Substances Present:

Substance	Exposure Symptoms	First Aid
Gasoline	Dizziness, nausea, headache	Evacuate to open air area
Diesel	Dizziness, nausea, headache	Evacuate to open air area

First Aid Equipment Onsite:

Equipment	Location
First Aid Kit	Adjacent to Excavation
Fire Extinguisher	Adjacent to Excavation
Emergency Eye Wash	Adjacent to Excavation

Onsite Emergency Procedures:

1. Personal injury or illness: Administer first aid; call ambulance if necessary; transport to Merrit Hospital.

2. Fire or Explosion: Turn off all motorized equipment; evacuate working area; meet at designated upwind location.

3. Earthquake: Turn off all motorized equipment; evacuate working area; meet at designated upwind location.

4. Hazardous Material Spill or Release: Turn off all motorized equipment; evacuate work area in an upwind direction of the spill or release; meet at designated upwind location.

5. Personal Protective Equipment Failure: If any site worker experiences a failure of alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the Exclusion Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

6. Other Equipment Failure: If any other equipment onsite fails to perate properly, the project team leader and site safety officer shall be notified and then shall determine the effect of this failure on continuing operations onsite. If the failure affects the safety of personnel or prevents completion of the work plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

Prepared By:

Anthony Cappella _____ Date _____

Reviewed By:

Dalton DeOrnellas _____ Date _____

Approved By:

Ken Kincaid _____ Date _____

CHAIN OF CUSTODY REPORT

JOB NUMBER AND NAME: Breitenbach Tank 669

TURNAROUND TIME: 5 - Day

REPORT AND BILL TO:
DECON Environmental Services, Inc.
26102 Eden Landing Road, Suite 4
Hayward, CA 94545
(510) 732-6444

SAMPLER: Anthony Cappella

DATE: 10/30/91

ANALYSIS REQUESTED

SAMPLE ID#/ STATION	SAMPLE DESCRIPTION	CONTAINERS NUMBER	CONTAINERS TYPE*	SAMPLING TIME/DATE	B.T.X.E.	TPH - GAS								REMARKS
669-01	Tank Bottom East	1	G	10/30	X	X								
669-02	Tank Bottom West	1	G	10/30	X	X								

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
A. Cappella	10/30/91	1420	Elizabeth Totah
RELINQUISHED BY: Elizabeth Totah	DATE: 103191	TIME: 3:00	RECEIVED BY: J. O'Connell Y694
RELINQUISHED BY:	DATE:	TIME:	RECEIVED IN LAB BY:

Laboratory Use Only:

Were samples:	Yes	No
preserved/on ice?		
in good condition?		
labeled?		

* G = Grab C = Composite W = Wipe

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 671-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 54279
CLIENT: Decon Environmental Services
CLIENT JOB NO.: BREITENBACH

DATE RECEIVED: 10/31/91
DATE REPORTED: 11/07/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	669-01	4
2	669-02	1300

mg/kg - parts per million (ppm)
Minimum Detection Limit for Gasoline in Soil: 1mg/kg

QAQC Summary:
Daily Standard run at 2mg/L: %DIFF Gasoline = <15%
MS/MSD Average Recovery = 92%: Duplicate RPD = 3.1%

Richard Srna, Ph.D.

Laboratory Director

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 54279
CLIENT: Decon Environmental Services
CLIENT JOB NO.: BREITENBACH

DATE RECEIVED: 10/31/91
DATE REPORTED: 11/07/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	669-01	ND<3	9	5	160
2	669-02	320	11000	2700	85000

ug/kg - parts per billion (ppb)

Minimum Detection Limit in Soil: 3.0ug/kg

QAQC Summary:
Daily Standard run at 20ug/L: %DIFF 8020 = <15%
MS/MSD Average Recovery = 92% ; Duplicate RPD = 2.9%

Richard Srna Ph.D

Laboratory Director

APPENDIX B

Decon Environmental Overexcavation Report
Dated December 13, 1991

DECON
ENVIRONMENTAL SYSTEMS, INC.

December 13, 1991

Mr. Roy R. Breitenbach
9986 E. Fanfol Drive
Scottsdale, AR 85358

RE: ADDITIONAL EXCAVATION AND SAMPLING AT 21065 FOOTHILL BOULEVARD IN HAYWARD, CALIFORNIA

Dear Mr. Breitenbach:

Due to the high results from the original sampling, additional excavation was required to clean up the foothill site.

Approximately 30 yards of soil was removed from the excavation and a total of six additional samples were taken. The results from these samples are enclosed.

At this time, the excavation has been backfilled. Once the stockpiled soil has been removed, the excavation will be paved.

If you have questions, please call me at (510) 732-6444.

Sincerely,

Anthony Cappella
Project Manager

AC/emt

Enclosures

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 84357
CLIENT: Decon Environmental Services
CLIENT JOB NO.: 669

DATE RECEIVED: 11/11/91
DATE REPORTED: 11/18/91
DATE SAMPLED : 11/11/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by MODIFIED EPA SW-846 METHOD 5030 and 8015

LAB #	Sample Identification	Concentration (mg/Kg) Gasoline Range
1	669-1111-1	ND<1
2	669-1111-2	ND<1
3	669-1111-3	ND<1
4	669-1111-4	ND<1
5	669-1111-5	ND<1
6	669-1111-6	ND<1

mg/Kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/Kg

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 98%: Duplicate RPD = 3

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 84357
CLIENT: Decon Environmental Services
CLIENT JOB NO.: 669

DATE RECEIVED: 11/11/91
DATE REPORTED: 11/18/91
DATE SAMPLED : 11/11/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/Kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	669-1111-1	ND<3	ND<3	ND<3	ND<3
2	669-1111-2	ND<3	ND<3	ND<3	ND<3
3	669-1111-3	ND<3	ND<3	ND<3	ND<3
4	669-1111-4	ND<3	ND<3	ND<3	ND<3
5	669-1111-5	ND<3	ND<3	ND<3	ND<3
6	669-1111-6	ND<3	ND<3	ND<3	ND<3

ug/Kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 ug/Kg

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 90%: Duplicate RPD = < 1

Richard Srna, Ph.D.
Laboratory Director

APPENDIX C

Decon Environmental Final Correspondence
Dated December 18, 1991

DECON
ENVIRONMENTAL SERVICES, INC.

December 18, 1991

Mr. Roy Breitenbach
9986 East Fanfol Drive
Scottsdale, AR 85258

RE: UNDERGROUND TANK REMOVAL PROJECT AT 21065 FOOTHILL BOULEVARD IN HAYWARD, CALIFORNIA

Dear Mr. Breitenbach:

The purpose of this letter is to summarize our activities at 21065 Foothill Boulevard in Hayward.

On October 30, 1991, DECON Environmental Services, Inc. (DECON) removed from 21065 Foothill Boulevard in Hayward, California, a 1,000 gallon underground storage tank. Excavation work for this tank began on October 28, 1991.

Under the direction of Pamela Evans, Alameda County Health Department, DECON took two samples from the soil beneath the tank. The samples results, forwarded to you in our letter dated November 5, 1991, showed the presences of petroleum hydrocarbons (BTE&X and total petroleum hydrocarbons, gasoline range).

Shortly after receiving the sample results, DECON returned to the excavation and removed approximately 30 additional yards of soil. Under the direction of Alameda County Health Department, DECON took six samples from the excavation, two from the floor of the excavation, and one from the each sidewall. All six samples showed non-detectable levels of petroleum hydrocarbons. We forwarded the sample results to you in our letter dated December 13, 1991.

After receipt of the analytical results, and in accordance with Alameda County Health Department policies, DECON backfilled the excavation. the excavation area will be paved once the stockpile of soil from the excavation is removed.

26102 Eden Landing Road, Suite 4 Hayward, CA 94545 (415) 732-6444 Fax (415) 782-8584 CL#545726

It is our understanding that Alameda County Health Department policies do not require you to perform any further remedial work (such as groundwater monitoring) with respect to the excavation. This is based on the latest soil analyses from the excavation showing non-detectable levels of petroleum hydrocarbons. The stockpiled soil however, may require remediation and/or removal. DECON is not aware of the condition of the site in areas other than the excavation itself.

If you have any questions regarding the above, please do not hesitate to contact me.

Sincerely,

Anthony Cappella
Project Manager

AC/emt

APPENDIX D

Aqua Science Engineers, Inc.
Monitoring Well Installation Report
Dated February 12, 1992

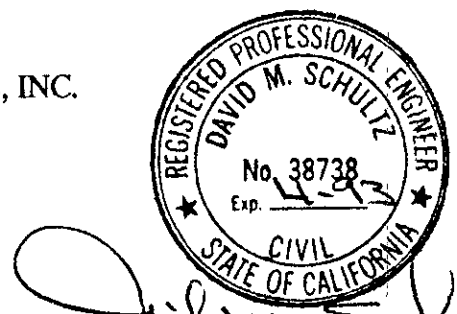
aqua science engineers inc.

FINAL REPORT
of
METHODS & FINDINGS
for

PRELIMINARY SITE ASSESSMENT METHODS AND FINDINGS: SOIL BORING AND SAMPLING, GROUNDWATER MONITORING WELL DRILLING, INSTALLATION, SAMPLING

at
21065 Foothill Blvd.
Hayward, Ca.

submitted by
AQUA SCIENCE ENGINEERS, INC.
Concord, CA 94518



Breitenbach- February 12, 1992

TABLE OF CONTENTS
and
LIST OF TABLES, FIGURES, APPENDICES

Breitenbach- February 12, 1992

INTRODUCTION

Aqua Science Engineers, Inc. (ASE) was contracted by the property owner to drill one soil boring which was converted into a groundwater monitoring well (MW-1). This scope of work represents the first phase of preliminary site assessment activities conducted at "the site", 21065 Foothill Blvd, Hayward, Ca. (Figure 1: Site Location Map). Subsequent to review of documentation describing a previously performed underground fuel storage tank removal and soil sampling, the Alameda County Department of Health Services requested the performance of the additional investigative activities documented herein.

The current property owner, Mr. Roy Breitenbach, Prescott, Ariz. leases commercial/warehouse space at this 15,000 sq.ft. site located near the southwest corner of the intersection of Foothill Boulevard and Mattox Road. The site is relatively flat although it drops of slightly along the east boundary where the property fronts onto Foothill Boulevard. The site is bounded on the southeast by other commercial space and on the northwest by residential property. Local topography slopes gently downhill to the west-southwest where the site is located along the crest of low hills near the intersection of Foothill Boulevard and Highway 580.

The site history with regards to contaminated site assessment activities begins in October of 1991 with the removal of a single underground fuel storage facility last containing gasoline. The UST was located near the center of the property (Figure 2: Site Plan). Associated soil sampling conducted at the time of tank removal indicated detectable levels of Total Petroleum Hydrocarbons (TPH) and fuel fractions Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) in the vicinity of the removed tank. TPH concentrations were reported at 1300 parts per million (ppm), Benzene at 320 parts per billion (ppb), Toluene at 11000 ppb, Ethylbenzene at 2700 ppb and Xylenes at 85000 ppb. Tank removal and soil sampling was performed by Decon Environmental, Hayward, CA. Documentation of the precise depth and location of soil samples was not made available to ASE.

An excavation of petroleum hydrocarbon contaminated soil was undertaken by Decon Environmental, Hayward, CA in November of 1991. An additional 30 cubic yards of contaminated soil were removed from the tank excavation. Documents detailing the total depth of excavation were not made available to ASE. Six (6) soil samples from the pit walls and floor were obtained and analyzed for TPH as gasoline and BTEX. Analysis indicated non-detectable concentrations in all samples for all constituents analyzed. The limits of detection were reported at 1 ppm and 3 ppb for TPH gasoline and fractions, respectively. Copies of tables of previously performed soil testing can be found in Appendix A (Appendix A: Previous Investigative Data).

Documentation provided to ASE referencing work conducted by Decon Environmental made no report of any groundwater in the UST excavations.

The purpose of the project detailed herein was to determine whether site groundwater at the location of the monitoring well installation has been impacted by petroleum hydrocarbon contamination previously identified in site soils.

A workplan detailing the scope of work to be performed and the methodology to be utilized was prepared and submitted to the Alameda County Department of Health Services and the Regional Water Quality Control Board (RWQCB). Upon approval by the Alameda County Department of Health and permitting with the Alameda County Flood Control and Water Conservation District Zone 7, site investigations were initiated on January 30, 1992.

DRILLING AND WELL CONSTRUCTION PROCEDURES

A workplan was prepared and submitted to the Alameda County Department of Health Services and the RWQCB. The workplan was approved by Ms. Pamela J. Evans of the Alameda County Department of Health prior to permitting the well construction with the Alameda County Flood Control and Water Conservation District Zone 7 (Appendix B: Permits).

One soil boring was performed at the site in accordance with the approved workplan. The boring is located about 10 feet away from the former tank excavation in an assumed down gradient direction (Figure 2: Site Plan).

A Mobile Drill B-61 hydraulic rotary drill with 4.25" I.D. X 8" O.D. hollow stem augers was used to drill the boring to 44 feet depth below grade. A two inch groundwater monitoring well was installed through the augers, to 43.75' feet total depth. Two inch I.D. schedule 40 PVC well casing was used, of which the bottom 10 feet was machine slotted (0.02") well screen. All casing joints were flush threaded. The well was suspended about three inches above total depth within the augers while #2/12 sand was placed to two feet above the top of the perforated casing interval. Two feet of medium bentonite pellets was placed above the sand and hydrated with tap water. The remainder of the boring was filled to near original grade with cement/bentonite grout. A flush mounted, traffic rated, watertight well cover and locking inner cap comprised the surface completion of MW-1 (Appendix C: Boring/Well Completion Logs).

Soils excavated by the augers were placed onto plastic sheeting and left on site nearby the boring location. The drill rig and augers were high pressure hot washed prior to arrival on site, and the augers were again washed on site after drilling. Steam cleaning and sampler cleaning rinsates were temporarily contained then disposed of on site.

SITE GEOLOGY

The site rests upon mildly consolidated alluvial deposits of silty clay with increasing content of sands and gravels to a depth of approximately 10 feet below grade. From a depth of 10 feet below grade to the depth of the boring terminus at 44 feet, fractured metamorphosed rock formations were encountered. Shallow groundwater was encountered at 37 feet depth below grade.

The soils encountered as drilling progressed were logged by an ASE geologist using the Unified Soil Classification System (USCS) (Appendix D: Unified Soil Classification System). The surface cover at the boring location is 3" asphaltic concrete. From grade to about 3 feet depth the soils were clay fill, dark grey and brown mottled, silty 10%, v. fine sandy <10%, damp to moist, stiff, (CL). Between 3 feet and 5.5 feet depth, the native materials were found to be clay, dark olive gray, silty 10%, v. fine sand <10%, damp, stiff, (CH). Between 6 feet and 10 feet depth, the soils were sand, tan brown, v. fine to coarse grained, well graded, silty 10-20%, minor clay, occasional 3/8" gravel, mildly consolidated (SW). Between 10 feet and and 44 feet below grade the formation encountered was a metamorphic gabbro diabase, multicolored green, gray, tan, red, v. fine to course grained, mineralized clayey (altered) matrix, silty 10-20%, hard, fractured, iron oxide and manganese oxide staining abundant. Refusal of the split spoon sampler was encountered in the hard rock materials between 15.5 feet below grade and end of boring at 44 feet below grade.

No fuel product odors were noted at any time during drilling of the bore hole.

SOIL SAMPLING PROCEDURES

Undisturbed soil samples were obtained from the boring at 5 foot intervals to 15.5 feet depth with a California modified split spoon sampler and a 140 lb. drop hammer. The sampler was advanced ahead of the auger tip by successive blows from the down hole hammer. The samples were collected into pre-cleaned 2" X 6" brass liners, and used for visual soils classification and certified chemical analysis. Below the depth of 15.5 feet soil sampling was attempted at 20 feet, 30 feet, 40 feet and 43.75 feet. Sampler refusal was encountered at these sample elevations.

The sample tubes were sealed with aluminum foil, plastic caps and tape, permanently labeled, then placed into a cooler with wet ice for transport to a State Certified Hazardous Waste Analytical Lab following chain of custody procedures. The samplers and liners were cleaned immediately prior to each use with a TSP solution and rinsed with tap water in plastic buckets. Cleaning rinsates were temporarily contained then disposed of on site.

WELL DEVELOPMENT AND SAMPLING

After casing and sand installation and prior to emplacement of the cement well seal, the well was developed with a high volume steel bailer and rubber swabbing tools. The bailer and swabbing tool were steam cleaned prior to insertion into the well. The close fitting swabs were used to clear residual muddy materials from the well slots during bailing. The well was bailed into labeled drums at a rate of one gallon per minute or greater during much of the development. A total of about 80 gallons of groundwater were removed.

On February 3, 1992, a clear acrylic bailer was lowered into the well until it was about half submerged, then gently retrieved from the well. A visual inspection of the piezometric surface waters did not show petroleum sheen or product. The well was then purged of five well volumes with a Teflon bailer in to a plastic bucket, then an existing drum. The bailer and new string were washed with a TSP solution and brush in a bucket, then rinsed twice with tap water. The sampler wore new nitrile gloves during the bailing and sampling of the water.

Four amber septum vials were filled from the bailer until no head space remained and a positive meniscus was apparent. The vials were then gently sealed, labeled, and placed into a cooler with wet ice for transport to the laboratory following chain of custody procedures.

The well developing, purging, and sampling documentation can be found in Appendix E (Appendix E: Well Development and Sampling Documentation). Water generated during well development and sampling was disposed of on site following receipt of non-detectable analytical sample results.

SOIL AND GROUNDWATER SAMPLE ANALYSES

Three selected soil samples were submitted to and analyzed at a State Certified Hazardous Waste Analytical Lab (#E694). The samples were analyzed for the following constituents using EPA methods approved by the Regional Water Quality Control Board: total petroleum hydrocarbons (TPH) as gasoline with aromatic volatile hydrocarbons Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). Soil samples obtained from MW-1 at 6 feet, 10.5 feet, and 15 feet depth yielded non detectable results for all sample analysis. A groundwater sample was analyzed and showed a distinct lack of the same constituents of interest (Appendix F: Soil and Groundwater Sample Analysis).

TABLE ONE: RESULTS OF SOIL SAMPLE ANALYSES (1-30-92)

Sample #	TPH gas mg/kg	benzene ug/kg	toluene ug/kg	ethyl benzene ug/kg	total xylenes ug/kg
MW-1,6'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1,10.5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1, 15'	N.D.	N.D.	N.D.	N.D.	N.D.

TABLE TWO: RESULTS OF WATER SAMPLE ANALYSES (2-3-92)

Sample #	TPH gas mg/l	benzene ug/l	toluene ug/l	ethyl benzene ug/l	total xylenes ug/l
MW-1A	N.D.	N.D.	N.D.	N.D.	N.D.

mg/kg and mg/l = parts per million
ug/kg and ug/l = parts per billion
N.D. = Not Detected

CONCLUSIONS

One soil boring was drilled and sampled, then converted into a groundwater monitoring well (MW-1) at the commercial/warehouse space, 21065 Fremont Boulevard, Hayward, Ca. The well was developed and sampled. Soil and groundwater samples were analyzed at a State Certified lab for petroleum hydrocarbon products as gasoline and fractions.

This work was performed for the property owner as per Alameda County Department of Health direction and in accordance with Regional Water Quality Control Board guidelines. The well installation follows directly from an earlier detection of petroleum hydrocarbon contaminated soil in the vicinity of a previously removed underground fuel storage tank last containing gasoline. Previously detected soil contamination was removed through excavation and landfill disposal. Confirming sample analysis performed at the time of soil excavation reported petroleum hydrocarbons and fractions not detected in excavation sidewall and bottom samples.

The purpose of the project was to ascertain the possible presence of earlier identified petroleum hydrocarbon contamination in shallow site groundwater near the former excavation site.

The boring was advanced with hollow stem auger equipment, and soil samples were taken for visual classification and certified chemical analysis. The well was installed by placing 2" schedule 40 PVC well casing through the augers to near total depth, followed by the emplacement of sand, bentonite, and cement, in that order, through the augers as well. The well specifications were based on field observations of subsurface soil and groundwater conditions.

The soils were sampled during drilling at 5 foot intervals to 15 feet depth and at 10 foot intervals from 20 to 44 feet total depth. Fuel product odors were not noted during drilling or sampling. Three discrete soil samples were obtained in the elevations between 5 feet and 15 feet below grade. The samples were submitted for chemical analysis at a State Certified Hazardous Waste Analytical Lab.

Development, purging and sampling of the well were performed. A groundwater sample was obtained for chemical analysis at a State Certified Hazardous Waste Analytical Lab.

Certified chemical analysis of soil and groundwater samples indicated a distinct lack of the chemicals of interest, namely TPH as gas and BTEX at the sampling locations.

The depth to free groundwater was measured at 37 feet depth below grade at the well site. At the time of groundwater sampling, site groundwaters at the well location had not been impacted by petroleum hydrocarbons.

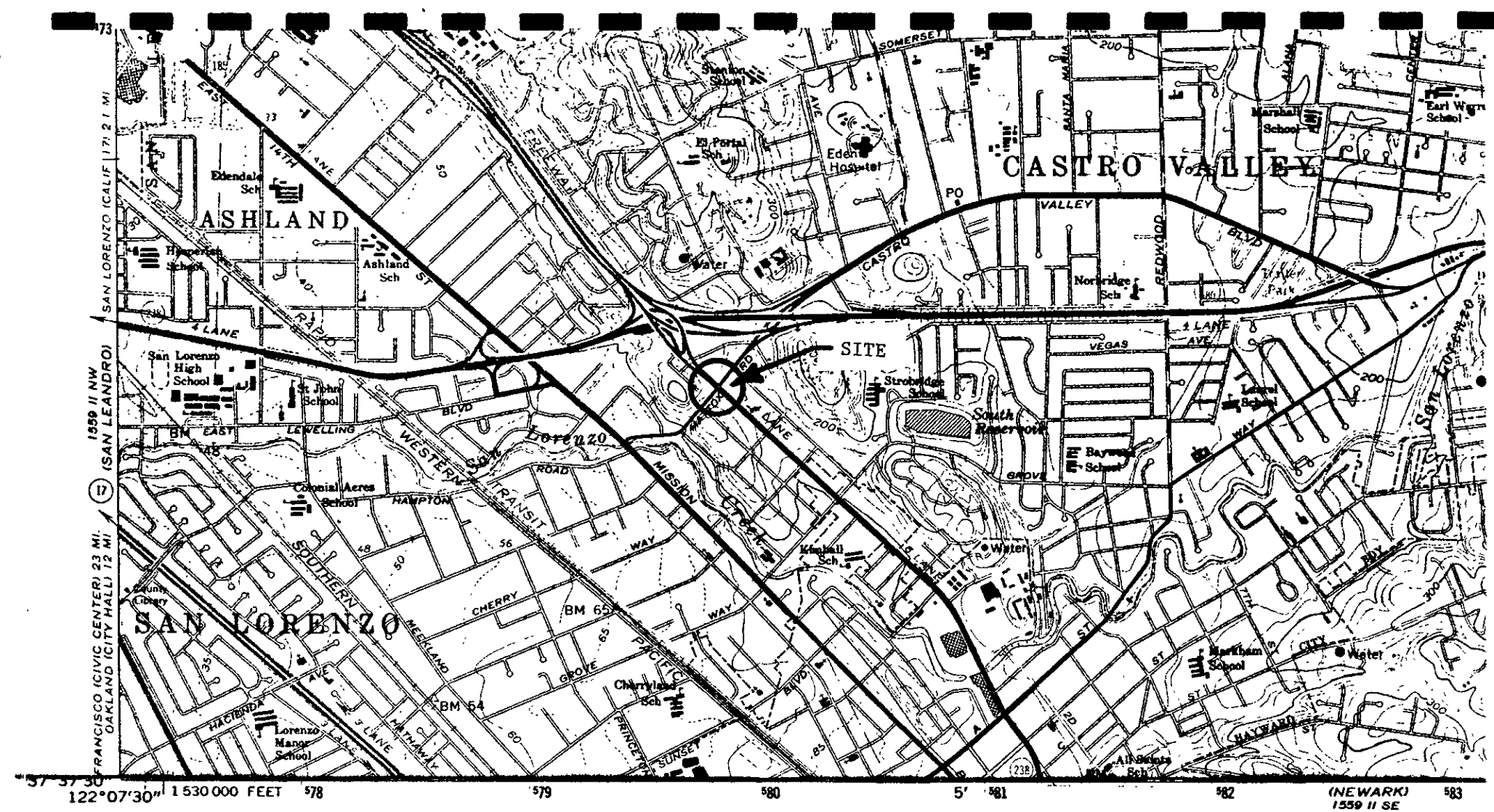
RECOMMENDATIONS

As per current RWQCB guidelines, the well should be monitored quarterly for one year and the sample results distributed to the Alameda County Department of Health and the RWQCB. Should the well analyze "clean" for the constituents of interest for four consecutive quarters a petition to discontinue groundwater sampling and properly abandon the well may be in order.

LIMITATIONS

This report has been prepared for the exclusive use of Mr. Roy Breitenbach for this project only. The analysis and conclusions in this report are based on conditions encountered at the time of our field activities, information provided to us, and our experience and engineering judgement.

Our work has been performed in a manner consistent with that of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty express or implied, is made.



Mapped, edited, and published by the Geological Survey

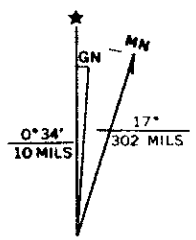
Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field check 1959

Polyconic projection
10,000-foot grid based on California coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue 1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 14 meters north and 95 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

There may be private inholdings within the boundaries of the National or State reservations shown on this map



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled from aerial photographs taken 1979 and other source data
This information not field checked. Map edited 1980

SCALE 1:24000

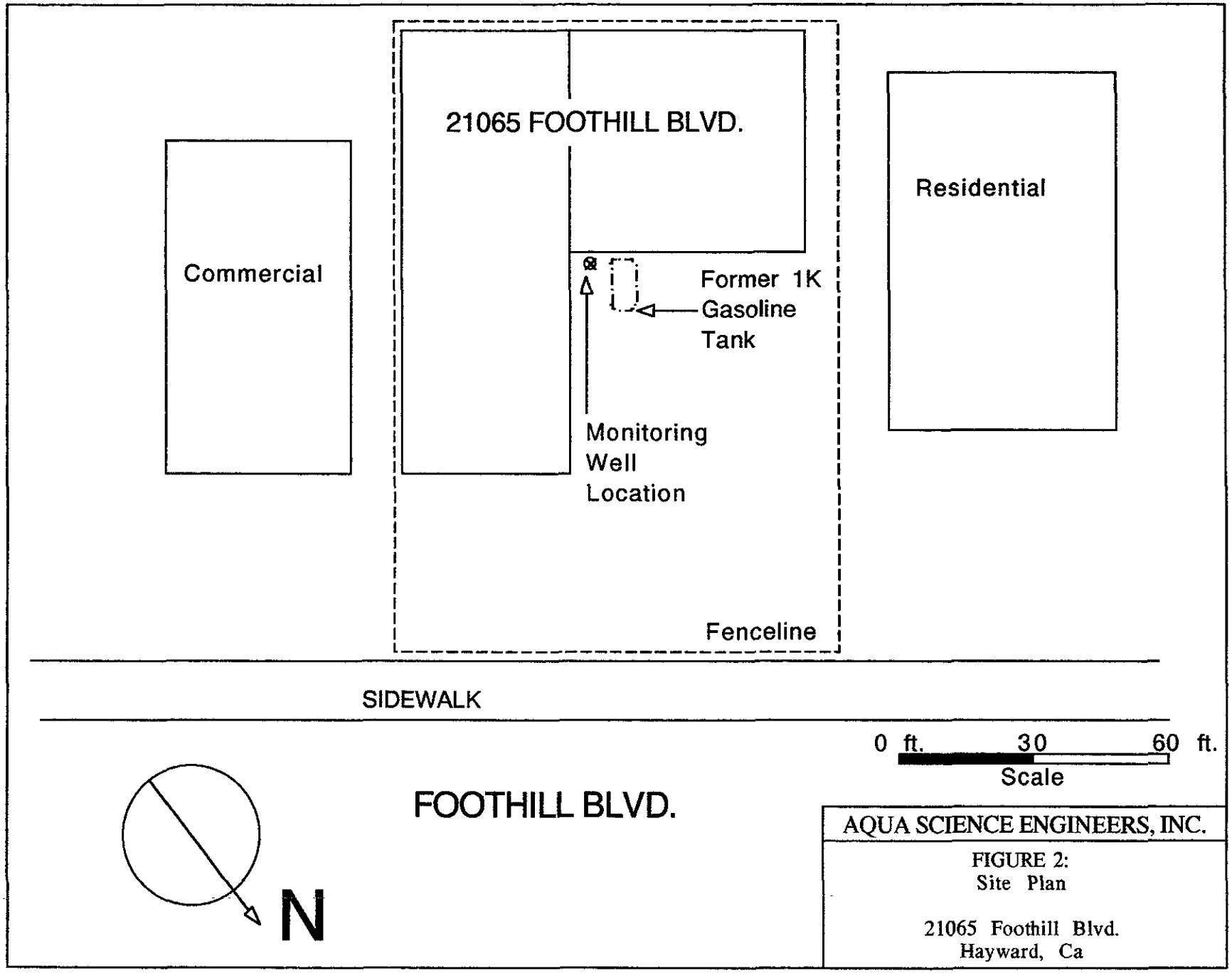
1 0 1/2
1000 0 1000 2000 3000 4000
1 5 0

CONTOUR INTERVAL 20 FEET

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1:
Site Location Map

21065 Foothill Blvd.
Hayward, Ca


21065 FOOTHILL BLVD.
Residential
Commercial
Former 1K
Gasoline
Tank
Monitoring
Well
Location
Fenceline
SIDEWALK
0 ft.
30
60 ft.
Scale
FOOTHILL BLVD.
N
AQUA SCIENCE ENGINEERS, INC.
FIGURE 2:
Site Plan
21065 Foothill Blvd.
Hayward, Ca

APPENDIX A - Previous Investigative Data

Breitenbach- February 12, 1992

APPENDIX B - Permits

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600
(510) 462-3914

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 21065 FOOTHILL BLVD.
HAYWARD, CA 94545

(2) CLIENT
Name ROY BREITENBACH
Address 2358 LOMA VISTA DR Phone (602) 776-8995
City PRESCOTT, AZ Zip 86301

(3) APPLICANT
Name AQUA SCIENCE ENGINEERS, INC.
Address 1041 SHARY CIRCLE Phone (510) 685-6700
City CONCORD, CA Zip 94518

(4) DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical ___
Cathodic Protection ___ Well Destruction ___

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

WELL PROJECTS
Drill Hole Diameter 8 in. Depth(s) 50 ft.
Casing Diameter 2 in. Number
Surface Seal Depth 28 ft. of Wells 1
Driller's License No. 487000 C-57

GEOTECHNICAL PROJECTS
Number ___
Diameter ___ in. Maximum Depth ___ ft.

(7) ESTIMATED STARTING DATE ~~FEB 3~~ JAN 30, 1992
ESTIMATED COMPLETION DATE ~~FEB 4~~ JAN 30, 1992

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

APPLICANT'S SIGNATURE [signature] Date Jan 22 1992

FOR OFFICE USE

PERMIT NUMBER 92052
LOCATION NUMBER ___

Approved Wyman Hong Date 29 Jan 92
Wyman Hong

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. Notify this office (484-2600) at least one day prior to starting work on permitted work and before placing well seals.
3. 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 bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. 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, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

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

E. WELL DESTRUCTION. See attached.

APPENDIX C - Boring / Well Completion Logs

Breitenbach- February 12, 1992

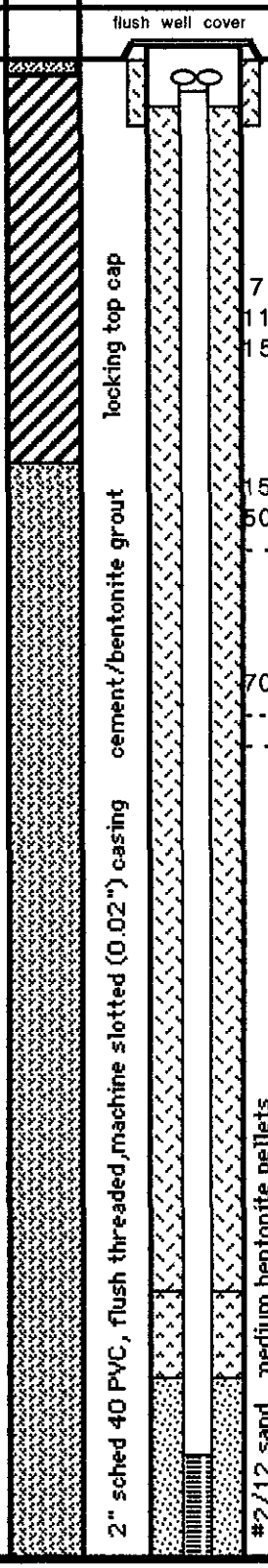
PROJECT: 21065 Foothill Blvd., Hayward

LOG OF BORING #MW-1 sheet 1 of 2

DEPTH FEET	SOILS/ROCK DESCRIPTION
0	3" asphalt
1	clay fill, dk. gray and brown mixed, silty 10%, sandy
2	v. fine <10%, damp, stiff
3	
4	clay, dk. olive gray, silty 10%, sandy v. fine <10%,
5	stiff, damp. (CH)
6	sand, tan brown, v. fine to coarse gr., well graded,
7	silty 10-20%, clay minor, occ. 3/8" gravel,
8	mildly consolidated (SW)
9	
10	Metamorphic rocks, green and multicolored, pervasive
11	quartzose fractures 1/16" wide on 1/2" grid, silty tan
12	brown matrix 10-20%, heavy Fe Ox and Mn Ox
13	staining, friable, hard, damp
14	Meta-mafic granitic rocks
15	
16	Mafic, granitic rocks, metamorphosed,
17	olive green gray, rusty, brickred, tan, gray mottled,
18	v. fine to coarse gr., well graded, silty10-20%,
19	hard, fractured, Fe Ox and Mn Ox staining abundant
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	Meta-granite (diabase/gabbro as per USGS Open File
31	Report # 80-540, "Preliminary Geologic Map of the
32	Hayward Quadrangle..." by Thomas Dibblee, Jr., 1980)
33	
34	
35	

GRAPHIC LOG

BACKFILL DETAILS



DEPTH FEET	REMARKS
1	no odors
5	soil sample 5-6.5'
6	no fuel odors
10	soil sample 10-11'
11	no odors
15	soil sample 15-15.5
16	no odors
20	soil sample 20'
21	refusal
30	sample 30' refusal
31	

Logged by: G. Gouvea Date Logged: 1-30-92
Rig/Driller: B-61, Bill

AQUA SCIENCE ENGINEERS, INC.

PROJECT: 21065 Foothill Blvd., Hayward

LOG OF BORING #MW-1 sheet 2 of 2

DEPTH FEET	SOILS/ROCK DESCRIPTION	GRAPHIC LOG	BACKFILL DETAILS	REMARKS
35-36-37-38-39-40-41-42-43-44-	Meta-gabbro/diabase, highly altered, fractured, *angular well graded, green-gray clayey matrix* 10-20%, quartose fracture fillings, heavy Mn Ox, Fe Ox, 60% dark minerals, wet as above, damp Bottom of Hole 44'		threaded bottom cap #2/12 sand; 2" sch. 40 PVC, 0.02" slotted	▽ approx. 37' sample 40-40.25' refusal, no odor sample 43.75-44' refusal, no odor

Logged by: G. Gouvea Date Logged: 1-30-92
Rig/Driller: B-61, Bill

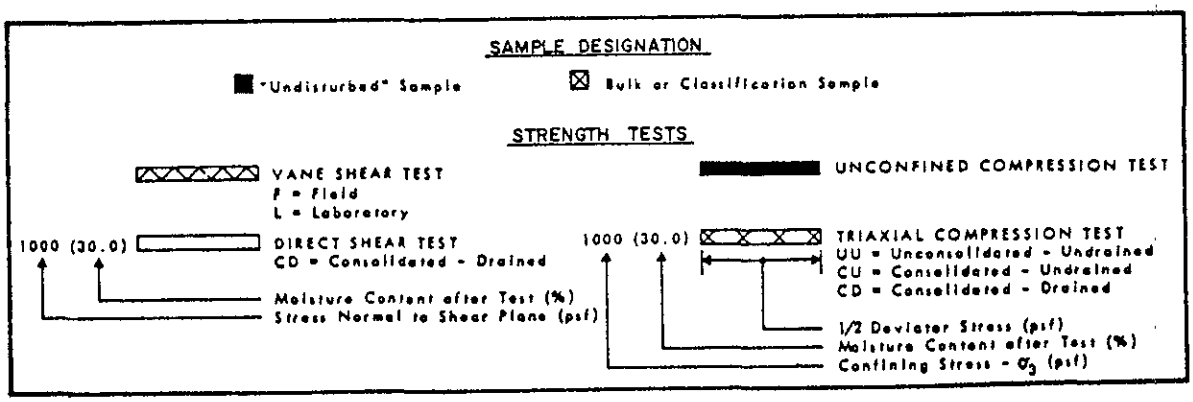
AQUA SCIENCE ENGINEERS, INC.

APPENDIX D - Unified Soil Classification System

Breitenbach- February 12, 1992

MAJOR DIVISIONS					TYPICAL NAMES
COARSE GRAINED SOILS (MORE THAN HALF IS LARGER THAN #200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS, GRAVEL - SAND MIXTURES
			GP		POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, POORLY GRADED GRAVEL - SAND - SILT MIXTURES
			GC		CLAYEY GRAVELS, POORLY GRADED GRAVEL - SAND - CLAY MIXTURES
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS, GRAVELLY SANDS
			SP		POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS, POORLY GRADED SAND - SILT MIXTURES
			SC		CLAYEY SANDS, POORLY GRADED SAND - CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN HALF IS SMALLER THAN #200 SIEVE)	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM



KEY TO TEST DATA

aqua science engineers inc.

UNIFIED SOIL CLASSIFICATION SYSTEM

APPENDIX E- Well Development and Sampling Documentation

Breitenbach- February 12, 1992

WELL SAMPLING FIELD LOG

Project: Breitenbach

ASE
environmental
1041 Shary Circle
Concord, CA 94518
(800) 678-9391

Project Name: Breitenbach
Project Address: 21065 Foothill Blvd, Fremont, CA
Job # 2481 Date of sampling: Feb 3,1992 Completed by: Gouvea
Well Number / Designation: MW-1
Top of casing elevation: Not measured
Total depth of well casing: 43.25' Well diameter: 2"
Depth to water (before sampling): 36.5'
Depth of floating product if any: Not detected
Depth of well casing in water: 6.75'
Req'd volume of groundwater to be purged before sampling: 5.5 gallons
Approximate volume of groundwater purged: 10 gallons
Type of seal at grade: Portland cement seal, locking cover
Type of cap on the casing: locking type expanded plug
Is the seal water tight? yes Is the cap water tight? yes
Number of samples (containers) collected (3) 40 ml. VOA
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: Not tested
Sample pH: N/A Test method: N/A
Physical description of water during initial bailing period:
Slightly turbid with silt, grey
Physical description of water sample: opaque
Type of analysis requested: TPH gasoline w/BTEX

Type of bailer/sampling equipment used: Acrylic bailer w/new cord

Equipment cleaning procedures: TSP wash, water rinse

Disposition of bailed water volume: Temporarily drummed, disposed of on site subsequent to receipt of N.D. sample results.

APPENDIX F - Soil and Groundwater Sample Analyses

Breitenbach- February 12, 1992

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

February 6, 1992 ChromaLab File No.: 0192274

AQUA SCIENCE ENGINEERS, INC.

Attn: Greg Gouvea

RE: Three soil samples for Gasoline/BTEX analysis

Project Name: BREITENBACH, FOOTHILL BLVD.
Project Location: Foothill, Hayward
Date Sampled: Jan. 30, 1992 Date Submitted: Jan. 30,1992
Date Extracted: Feb. 3, 1992 Date Analyzed: Feb. 4, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
MW-1,6'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1,10.5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1,15'	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	113%	103%	107%	100%	103%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020

ChromaLab, Inc.

Mary Cappelli
Analytical Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

aqua science engineers inc.

Aqua Science Engineers Inc.
PO Box 535, San Ramon, CA 94583 • 415-820-9391

Chain of Custody

DATE Jan 30 PAGE 1 OF 1

PROJ. Brentenbach Foothill Blvd
COMPANY Aqua Science
ADDRESS Concord

SAMPLERS (SIGNATURE) (PHONE NO.)
(925-6700)

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.
MW-1, 6'	1-30-92	11:00	soil	
MW-1, 10.5'	1-30-92	12:00	"	
MW-1, 15'	1-30-92	13:00	"	

ANALYSIS REQUEST

TPH - Gasoline (EPA 5030)	TPH - Gasoline (5030) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510, 3550)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270)	TOTAL OIL & GREASE (EPA 5030E)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)			METALS: Cd, Cr, Pb, Zn	CAM METALS (18) w/Cr VI	PRIORITY POLLUTANT METALS (13)						NUMBER OF CONTAINERS
	X																			
	X																			
	X																			

CHROMALAB FILE # 192274
ORDER # 5305

PROJECT INFORMATION
PROJECT Foothill Tayward
PO NO
SHIPPING ID NO
VIA

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	3
CHAIN OF CUSTODY SEALS	/
REC'D GOOD CONDITION/COLD	/
CONFORMS TO RECORD	/
LAB NO.	

SPECIAL INSTRUCTIONS/COMMENTS:
5 day turn

RELINQUISHED BY 1.
(Signature) (Time) 16:35
(Printed Name) Greg Gouvea (Date) 1-30-92
(Company) Aqua Science

RECEIVED BY 1.
(Signature) (Time)
(Printed Name) (Date)
(Company)

RELINQUISHED BY 2.
(Signature) (Time)
(Printed Name) (Date)
(Company)

RECEIVED BY 2.
(Signature) (Time)
(Printed Name) (Date)
(Company)

RELINQUISHED BY 3.
(Signature) (Time)
(Printed Name) (Date)
(Company)

RECEIVED BY (LABORATORY) 3.
(Signature) Ronald E. Hulsne (Time) 4:40
(Printed Name) Chromalab (DATE) 1/30/92
(LAB)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

February 10, 1992 ChromaLab File No.: 0292003

AQUA SCIENCE ENGINEERS, INC.

Attn: Greg Gouvea

RE: One water sample for Gas/BTEX analysis

Project Name: BREITENBACH, FOOTHILL, HAYWARD
Date Sampled: Feb. 3, 1992 Date Submitted: Feb. 3, 1992
Date Extracted: Feb. 6, 1992 Date Analyzed: Feb. 6, 1992

RESULTS:

Sample I.D.	Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
MW-1A	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	88%	102%	108%	96%	97%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc.

Charles Woolley
Analytical Chemist

Eric Tam
Laboratory Director

RECEIVED
FEB 24 1992
AQUA SCIENCE ENG

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

aqua science engineers inc.

Aqua Science Engineers Inc.
PO Box 535, San Ramon, CA 94583 • 415-820-9391

Chain of Custody

DATE 2-3-92 PAGE 1 OF 1

PROJ. Breitenbach Ext... Hayward
COMPANY Aqua Science Eng.
ADDRESS
[illegible]

SAMPLERS (SIGNATURE) (PHONE NO.)
[signature] 838-6700

ANALYSIS REQUEST

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030)	TPH - Gasoline (5030) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510, 3550)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 624/627, 8270)	TOTAL OIL & GREASE (EPA 5030E)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	HOLD		METALS: Cd, Cr, Pb, Zn	CAM METALS (18) w/Cr VI	PRIORITY POLLUTANT METALS (13)					NUMBER OF CONTAINERS
MW-1A	2-3-92	11:00	water			X																		1
MW-1B	"	11:00	"												X									1
MW-1C	"	11:04	"												X									1

CHROMALAB FILE # 292003
ORDER # 5337

PROJECT INFORMATION	
PROJECT	Breitenbach
PO NO	
SHIPPING ID NO	
VIA	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	3
CHAIN OF CUSTODY SEALS	—
REC'D GOOD CONDITION/COLD	—
CONFORMS TO RECORD	—
LAB NO.	

SPECIAL INSTRUCTIONS/COMMENTS:
5 day turn

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(Signature) Greg Gouvea (Time) 11:49	(Signature) (Time)	(Signature) (Time)
(Printed Name) Greg Gouvea (Date) 2-3-92	(Printed Name) (Date)	(Printed Name) (Date)
(Company) Aqua Science	(Company)	(Company)

RECEIVED BY 1.	RECEIVED BY 2.	RECEIVED BY (LABORATORY) 3.
(Signature) (Time)	(Signature) (Time)	(Signature) [signature] (Time) 11:49
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) Yin Keung Lam (DATE) 2-3-92
(Company)	(Company)	(LAB) CHROMALAB

APPENDIX E

Aqua Science Engineers, Inc.
Additional Investigation (Soil Borings) Report
Dated April 17, 1992

aqua science engineers inc.

April 17, 1992

FINAL REPORT
of
METHODS & FINDINGS
for

ADDITIONAL SITE ASSESSMENT METHODS AND FINDINGS: SOIL BORING AND SAMPLING

at
21065 Foothill Blvd.
Hayward, Ca.

Prepared for: Mr. Roy Breitenbach
2358 Loma Vista Drive
Prescott, AZ 86301

Submitted by: AQUA SCIENCE ENGINEERS, INC.
1041 Shary Circle
Concord, CA 94518

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
38738
Exp 9-92
CIVIL
STATE OF CALIFORNIA

aqua science engineers inc.

April 21, 1992

Mr. Scott Seery
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Rm. 210
Oakland. CA 94621

Re: Final Report: Additional Site Assessment Methods and Findings
21065 Foothill Blvd., Hayward. California.

Mr. Seery,

Please find enclosed a copy of Aqua Science Engineers final report of Additional Site Assessment Methods and Findings performed at the site 21065 Foothill Blvd., in Hayward. We are submitting this final report for review and comments by your department.

Quarterly sampling of the groundwater monitoring well at this facility is scheduled to proceed directly. Your offices should receive a copy of the of sample results in mid May. No other work is planned at this facility.

Respectfully,
AQUA SCIENCE ENGINEERS, INC.

David C. Prull
Project Manager

cc. Mr. Roy Breitenbach
Rich Heitt, Regional Water Quality Control Board

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and
LIST OF TABLES, FIGURES, APPENDICES

INTRODUCTION

Aqua Science Engineers, Inc. (ASE) was contracted by the property owner to drill three soil borings at the referenced site and sample soils for petroleum hydrocarbons as gasoline. This scope of work represents the second phase of site assessment activities conducted at "the site", 21065 Foothill Blvd, Hayward, Ca. (Figure 1: Site Location Map). A Preliminary Site Assessment, (ASE, February 12, 1992) composed of one soil boring to 45 feet and converted to a monitoring well was executed at an earlier date. Subsequent to review of the report on preliminary site investigations, the Alameda County Department of Health Services requested the performance of the additional investigative activities documented herein.

The current property owner, Mr. Roy Breitenbach, Prescott, Ariz. leases commercial/warehouse space at this 15,000 sq.ft. site located near the southwest corner of the intersection of Foothill Boulevard and Mattox Road. The site is relatively flat although it drops of slightly along the east boundary where the property fronts onto Foothill Boulevard. The site is bounded on the southeast by other commercial space and on the northwest by residential property. Local topography slopes gently downhill to the west-southwest where the site is located along the crest of low hills near the intersection of Foothill Boulevard and Highway 580.

The site history with regards to contaminated site assessment activities begins in October of 1991 with the removal of a single underground fuel storage facility last containing gasoline. The UST was located near the center of the property (Figure 2: Site Plan). Associated soil sampling conducted at the time of tank removal indicated detectable levels of Total Petroleum Hydrocarbons (TPH) and fuel fractions Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) in the vicinity of the removed tank. TPH concentrations were reported at 1300 parts per million (ppm), Benzene at 320 parts per billion (ppb), Toluene at 11000 ppb, Ethylbenzene at 2700 ppb and Xylenes at 85000 ppb. Tank removal and soil sampling was performed by Decon Environmental, Hayward, CA. Documentation of the precise depth and location of soil samples was not made available to ASE.

An excavation of petroleum hydrocarbon contaminated soil was undertaken by Decon Environmental, Hayward, CA in November of 1991. An additional 30 cubic yards of contaminated soil were removed from the tank excavation. Documents detailing the total depth of excavation were not made available to ASE. Six (6) soil samples from the pit walls and floor were obtained and analyzed for TPH as gasoline and BTEX. Analysis indicated non-detectable concentrations in all samples for all constituents analyzed. The limits of detection were reported at 1 ppm and 3 ppb for TPH gasoline and fractions, respectively. Copies of tables of previously performed soil tests can be found in Appendix A (Appendix A: Previous Investigative Data).

On January 30, 1991 Aqua Science Engineers mobilized a rotary drill to the site and completed one soil boring to a depth of 44 feet below grade. A two inch groundwater monitoring well was installed in the boring and select samples of soil and groundwater were analyzed for TPH gasoline and fractions. All samples, (3) soil and (1) water, were reported by a State certified lab to be free of petroleum hydrocarbons and fractions at or above the detection limit (Preliminary Site Assessment, ASE, February, 12, 1992).

The purpose of the project detailed herein was to determine whether site soils at the soil boring locations have been impacted by petroleum hydrocarbon contamination previously identified following tank removal.

A brief workplan detailing the scope of work performed was prepared and submitted to the Alameda County Department of Health Services. Upon approval by the Alameda County Department of Health and permitting with the Alameda County Flood Control and Water Conservation District Zone 7, site investigations were initiated on April 13, 1992.

DRILLING PROCEDURES

A brief workplan consisting of a written scope of work and site map showing the location of proposed borings was prepared and submitted to the Alameda County Department of Health Services. The workplan was approved by Mr. Scott Seery of the Alameda County Department of Health prior to permitting the boring program with the Alameda County Flood Control and Water Conservation District Zone 7 (Appendix B: Permits).

Three soil borings denoted B1, B2, and B3 were performed at the site in accordance with the approved workplan. The borings are located within 8 feet of the former tank excavation along an arc bounding the former tank pit on the east side (Figure 2: Site Plan).

A Mobile Drill B-61 hydraulic rotary drill with 4.25" I.D. X 8" O.D. hollow stem augers was used to drill the borings B1, B2, and B3 to 20 feet, 15 feet and 15 feet depth below grade respectfully. Samples were collected on five foot intervals in a 2" by 18" split spoon sampler using a down hole hammer. The borings were backfilled with a neat portland cement and bentonite mixture. (Appendix C: Boring Logs).

Soil excavated by the augers was placed onto plastic sheeting and left on site. The drill rig and augers were high pressure hot washed prior to arrival on site, and the augers were again washed on site after drilling. Steam cleaning and sampler cleaning rinsates were temporarily contained then disposed of on site.

SITE GEOLOGY

Soil types encountered during drilling were logged by an ASE civil engineer using observations of drill spoils, observations made by the driller and samples of soils collected down the hole using standard methods. The first encountered soil type at all three boring locations was thin layer (1.5 feet to 2.5 feet thick) of mildly consolidated alluvial deposits of silty clay. At a depth of approximately 3 feet below grade the soil type changed abruptly to a moderately dense sandy soil described as a weathered form of metamorphic (granitic) rock and gravels with a minor amount of silt and clay filling abundant fractures amid the course grained materials. Increased density and hardness of the soil materials encountered from about 5 feet below grade to the boring terminus was evident, sampler refusal was encountered at several sample depths. Samples retrieved from sampling efforts below the depth of approximately 5 feet showed larger rock fragments, angular fractures in many planes, moist silt and clayey silts in fracture voids, numerous metal oxides, crystalline nodes.

The soils encountered as drilling progressed were logged by the ASE civil engineer using the Unified Soil Classification System (USCS) (Appendix D: Unified Soil Classification System). The surface cover at the boring locations varied from 8" portland concrete to soil to 1" asphaltic concrete. From grade to about 3 feet depth the soils were clay fill, dark brown to black, silty 15%, damp to moist, stiff, (CL). Between 2.5 feet and 5.5 feet depth, the native materials were found to be sands, course to very fine, medium to fine angular gravels 40%, clayey silts 10%, mildly dense, (SP). Between 5 feet and 20 feet depth, the native materials were weathered metamorphic mafic rock, tan brown, v. fine to course grained, clayey silt matrix 10-20%, hard, fractured, iron oxide and manganese oxide nodes abundant (rock).

No fuel product odors were noted at any time during drilling of the bore holes. Groundwater was not encountered in the course of the boring. Groundwater has been measured in an adjacent well (MW-1) at 37 feet below grade.

SOIL SAMPLING PROCEDURES

Undisturbed soil samples were obtained from the borings at 5 foot intervals to 16.0 feet (21.5 feet in B1) depth with a California modified split spoon sampler and a 140 lb. drop hammer. The sampler was advanced ahead of the auger tip by successive blows from the down hole hammer. The samples were collected into pre-cleaned 2" X 6" brass liners, and used for visual soils classification and certified chemical analysis.

Select sample tubes were sealed with aluminum foil, plastic caps and tape, permanently labeled, then placed into a cooler with wet ice for transport to a State Certified Hazardous Waste Analytical Lab following chain of custody procedures. The samplers and liners were cleaned immediately prior to each use with a TSP solution and rinsed with tap water in plastic buckets. Cleaning rinsates were temporarily contained then disposed of on site.

SOIL SAMPLE ANALYSES

Nine selected soil samples were submitted to and analyzed at a State Certified Hazardous Waste Analytical Lab (Geochem Labs, Milpitas). The samples were analyzed for the following constituents using EPA methods approved by the Regional Water Quality Control Board: total petroleum hydrocarbons (TPH) as gasoline with aromatic volatile hydrocarbons Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). Soil samples obtained from B1 at 10.0 feet, 15.0 feet and 20.5 feet depth yielded non-detectable results for all sample analysis. Soil samples obtained from B2 at 5.5 feet, 10.0 feet and 15.5 feet yielded non-detectable results for all sample analysis. Soil samples form B3 at 5.5 feet, 11.0 feet and 15.5 feet yielded non-detectable results for all sample analysis (Appendix E: Soil Sample Analysis).

TABLE ONE: RESULTS OF SOIL SAMPLE ANALYSES (4-17-92)

Sample #	TPH gas mg/kg	benzene ug/kg	toluene ug/kg	ethyl benzene ug/kg	total xylenes ug/kg
B1-10.0	N.D.	N.D.	N.D.	N.D.	N.D.
B1-15.0	N.D.	N.D.	N.D.	N.D.	N.D.
B1-20.5	N.D.	N.D.	N.D.	N.D.	N.D.
B2-5.5	N.D.	N.D.	N.D.	N.D.	N.D.
B2-10.0	N.D.	N.D.	N.D.	N.D.	N.D.
B2-15.5	N.D.	N.D.	N.D.	N.D.	N.D.
B3-5.5	N.D.	N.D.	N.D.	N.D.	N.D.
B3-11.0	N.D.	N.D.	N.D.	N.D.	N.D.
B3-15.5	N.D.	N.D.	N.D.	N.D.	N.D.

mg/kg = parts per million
ug/kg = parts per billion
N.D. = Not Detected

CONCLUSIONS

Three soil borings was drilled and soil sampled at the commercial/warehouse space, 21065 Fremont Boulevard, Hayward, Ca. Soil samples were analyzed at a State Certified lab for petroleum hydrocarbon products as gasoline and fractions.

This work was performed for the property owner as per Alameda County Department of Health direction and in accordance with Regional Water Quality Control Board guidelines. In addition to a soil boring/monitoring well installation performed at an earlier date, this soil sampling plan was conducted in response to the detection of petroleum hydrocarbons in soil following the removal of an underground storage tank last containing gasoline. Soil contamination detected at the time of tank closure was removed through excavation and subsequent landfill disposal. Confirmation sampling performed at the time of soil excavation reported non-detectable concentrations of petroleum hydrocarbons and fractions in excavation sidewall and bottom samples. Likewise, the preliminary assessment composed of a soil boring and groundwater monitoring well within ten feet of the former tank yielded non-detectable concentrations of petroleums and fractions.

The purpose of the project was to assess shallow soils near the former excavation site for petroleum hydrocarbon contamination which may remain after previous remedial action.

Soil borings were advanced with hollow stem auger equipment and soil samples were taken for visual classification and certified chemical analysis. Soils were sampled during drilling at 5 foot intervals to 15 feet depth (B2 and B3) and to 20 foot depth in B1. No fuel product odors were noted during drilling or sampling. Three discrete soil samples were obtained in the elevations between 5 feet and the boring terminus. The samples were submitted for chemical analysis at a State Certified Hazardous Waste Analytical Lab.

Certified chemical analysis of soil samples indicated a distinct lack of the chemicals of interest, namely TPH as gas and BTEX at the sampling locations.

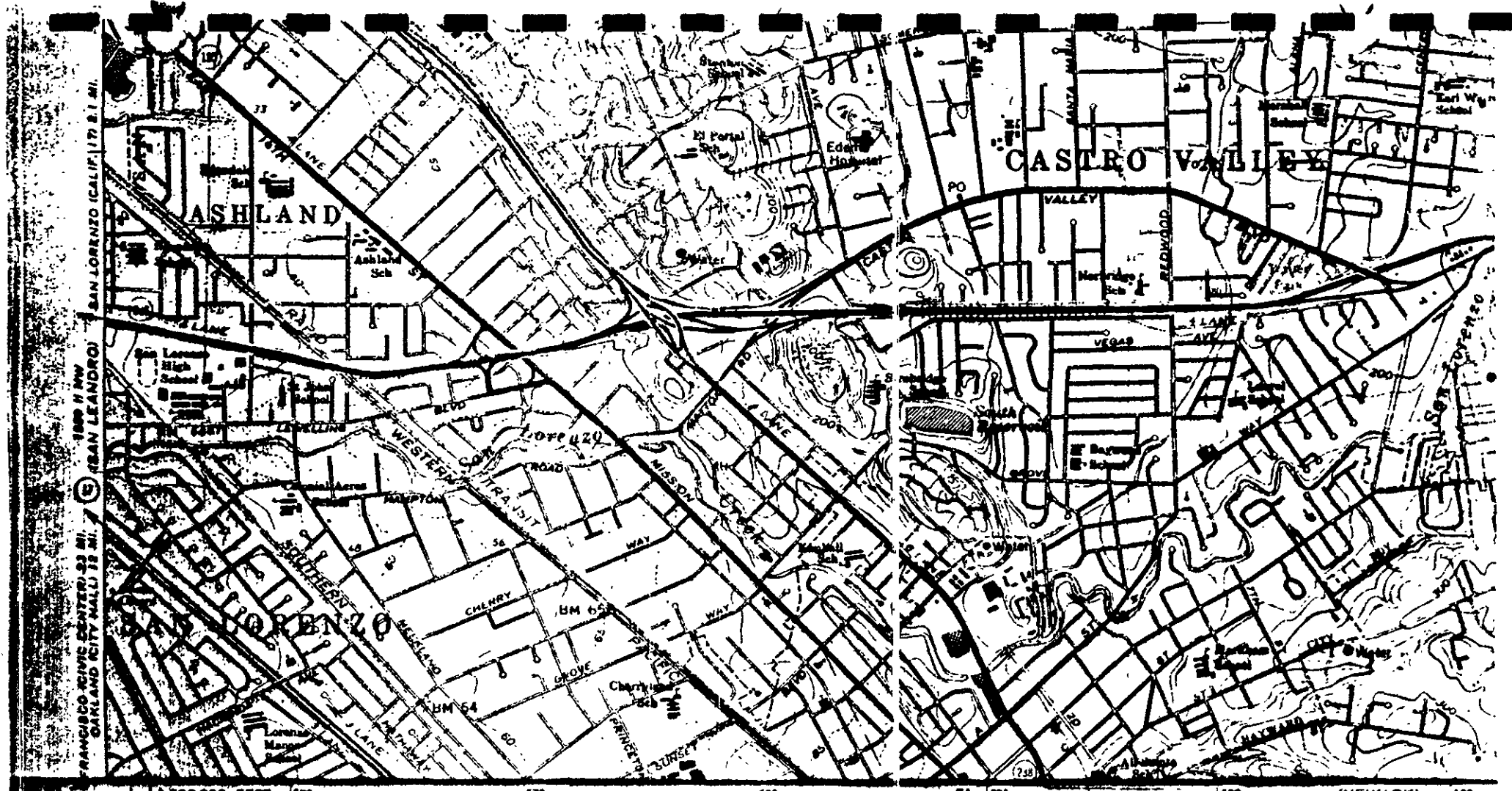
RECOMMENDATIONS

As per current RWQCB guidelines, the existing groundwater monitoring well should be monitored quarterly for one year and the sample results distributed to the Alameda County Department of Health and the RWQCB. Should the well analyze "clean" for the constituents of interest for four consecutive quarters a petition to discontinue groundwater sampling and properly abandon the well may be in order.

LIMITATIONS

This report has been prepared for the exclusive use of Mr. Roy Breitenbach for this project only. The analysis and conclusions in this report are based on conditions encountered at the time of our field activities, information provided to us, and our experience and engineering judgement.

Our work has been performed in a manner consistent with that of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty express or implied, is made.



Mapped, edited, and published by the Geological Survey

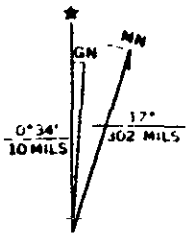
Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field check 1959

Polyconic projection
10,000-foot grid based on California coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue 1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 14 meters north and 95 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

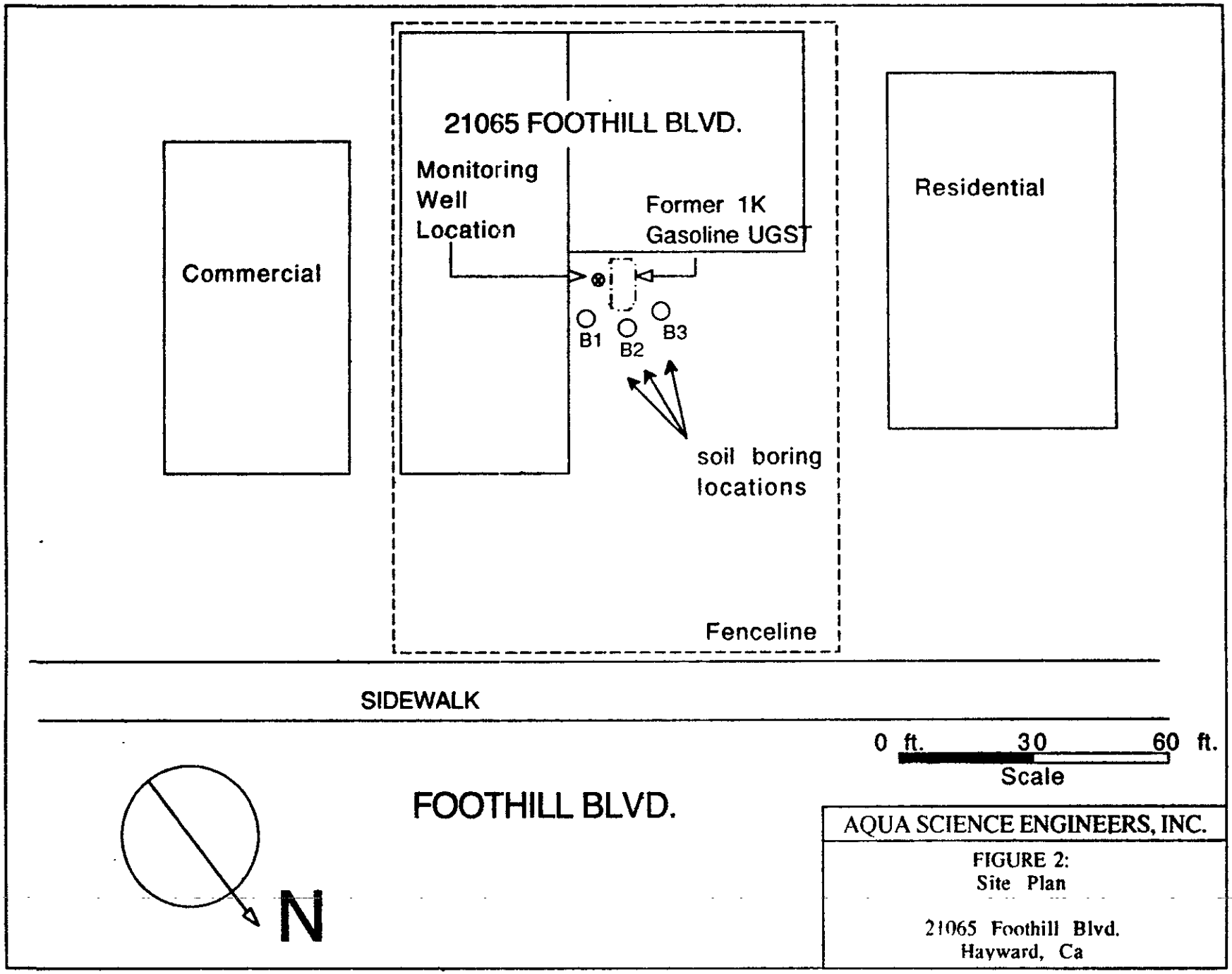
There may be private inholdings within the boundaries of the National or State reservations shown on this map



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled from aerial photographs taken 1979 and other source data. This information not field checked. Map edited 1980

AQUA SCIENCE ENGINEERS, INC.
FIGURE 1: Site Location Map 21065 Foothill Blvd. Hayward, Ca



AQUA SCIENCE ENGINEERS, INC.

FIGURE 2:
Site Plan

21065 Foothill Blvd.
Hayward, Ca

APPENDIX A - Previous Investigative Data

DECON
ENVIRONMENTAL SERVICES, INC

December 18, 1991

Mr. Roy Breitenbach
9986 East Fanfol Drive
Scottsdale, AR 85258

RE: UNDERGROUND TANK REMOVAL PROJECT AT 21065 FOOTHILL BOULEVARD IN HAYWARD, CALIFORNIA

Dear Mr. Breitenbach:

The purpose of this letter is to summarize our activities at 21065 Foothill Boulevard in Hayward.

On October 30, 1991, DECON Environmental Services, Inc. (DECON) removed from 21065 Foothill Boulevard in Hayward, California, a 1,000 gallon underground storage tank. Excavation work for this tank began on October 28, 1991.

Under the direction of Pamela Evans, Alameda County Health Department, DECON took two samples from the soil beneath the tank. The samples results, forwarded to you in our letter dated November 5, 1991, showed the presences of petroleum hydrocarbons (BTE&X and total petroleum hydrocarbons, gasoline range).

Shortly after receiving the sample results, DECON returned to the excavation and removed approximately 30 additional yards of soil. Under the direction of Alameda County Health Department, DECON took six samples from the excavation, two from the floor of the excavation, and one from the each sidewall. All six samples showed non-detectable levels of petroleum hydrocarbons. We forwarded the sample results to you in our letter dated December 13, 1991.

After receipt of the analytical results, and in accordance with Alameda County Health Department policies, DECON backfilled the excavation. the excavation area will be paved once the stockpile of soil from the excavation is removed.

26102 Eden Landing Road, Suite 4 Hayward, CA 94545 (415) 732-6444 Fax (415) 782-8584 CL#545726

It is our understanding that Alameda County Health Department policies do not require you to perform any further remedial work (such as groundwater monitoring) with respect to the excavation. This is based on the latest soil analyses from the excavation showing non-detectable levels of petroleum hydrocarbons. The stockpiled soil however, may require remediation and/or removal. DECON is not aware of the condition of the site in areas other than the excavation itself.

If you have any questions regarding the above, please do not hesitate to contact me.

Sincerely,

Anthony Cappella
Project Manager

AC/emt

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 54279
CLIENT: Decon Environmental Services
CLIENT JOB NO.: BREITENBACH

DATE RECEIVED: 10/31/91
DATE REPORTED: 11/07/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	669-01	ND<3	9	5	160
2	669-02	320	11000	2700	85000

ug/kg - parts per billion (ppb)

Minimum Detection Limit in Soil: 3.0ug/kg

QAQC Summary:
Daily Standard run at 20ug/L: %DIFF 8020 = <15%
MS/MSD Average Recovery = 92% ; Duplicate RPD = 2.9%

Richard Srna, Ph.D.

Laboratory Director

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 54279
CLIENT: Decon Environmental Services
CLIENT JOB NO.: BREITENBACH

DATE RECEIVED: 10/31/91
DATE REPORTED: 11/07/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	669-01	4
2	669-02	1300

mg/kg - parts per million (ppm)
Minimum Detection Limit for Gasoline in Soil: 1mg/kg

QAQC Summary:
Daily Standard run at 2mg/L: %DIFF Gasoline = <15%
MS/MSD Average Recovery = 92%; Duplicate RPD = 3.1%

Richard Srna, Ph.D.

Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

RECEIVED
NOV 26 1991
Ans'd.....

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 84357
CLIENT: Decon Environmental Services
CLIENT JOB NO.: 669

DATE RECEIVED: 11/11/91
DATE REPORTED: 11/18/91
DATE SAMPLED : 11/11/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by MODIFIED EPA SW-846 METHOD 5030 and 8015

LAB #	Sample Identification	Concentration (mg/Kg) Gasoline Range
1	669-1111-1	ND<1
2	669-1111-2	ND<1
3	669-1111-3	ND<1
4	669-1111-4	ND<1
5	669-1111-5	ND<1
6	669-1111-6	ND<1

mg/Kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/Kg

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 98%: Duplicate RPD = 3

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

RECEIVED
NOV 26 1991
Ans'd.....

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 84357
CLIENT: Decon Environmental Services
CLIENT JOB NO.: 669

DATE RECEIVED: 11/11/91
DATE REPORTED: 11/18/91
DATE SAMPLED : 11/11/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/Kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	669-1111-1	ND<3	ND<3	ND<3	ND<3
2	669-1111-2	ND<3	ND<3	ND<3	ND<3
3	669-1111-3	ND<3	ND<3	ND<3	ND<3
4	669-1111-4	ND<3	ND<3	ND<3	ND<3
5	669-1111-5	ND<3	ND<3	ND<3	ND<3
6	669-1111-6	ND<3	ND<3	ND<3	ND<3

ug/Kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 ug/Kg

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 90%: Duplicate RPD = < 1

Richard Srna, Ph.D.
Laboratory Director

APPENDIX F

Aqua Science Engineers, Inc.
Reports of Quarterly Groundwater Monitoring

aqua science engineers inc.

November 4, 1992

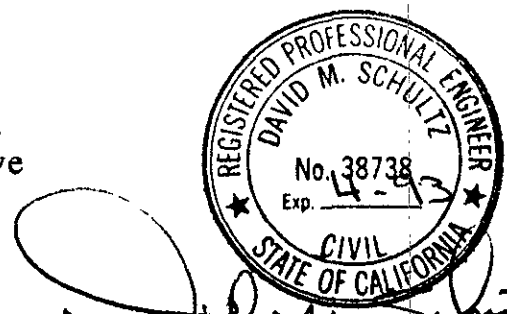
QUARTERLY MONITORING WELL SAMPLING
FOURTH QUARTER, OCTOBER 15, 1992

Performed at:

21065 Foothill Blvd.
Hayward, CA

Prepared for:

Mr. Roy Breitenbach
2358 Loma Vista Drive
Prescott, AZ 86301



Prepared by:

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583

aqua science engineers inc.

November 4, 1992

Alameda County Health Care Services Agency
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

ATTENTION: Mr. Scott Seery

SUBJECT: Quarterly Groundwater Monitoring Report
Fourth Quarter
21065 Foothill Boulevard
Hayward, California

INTRODUCTION

The following report and accompanying data represents Aqua Science Engineer's (ASE) findings of groundwater sampling and analysis for the monitoring well located at 21065 Foothill Boulevard, Hayward, CA (see Figure 1 Location Map). The enclosed Site Plan, Figure 2, shows the location of monitoring well MW-1 in relation to site buildings and right-of-ways. This quarter's sample routine, conducted on October 15, 1992, represents the fourth quarter sampling round of a one year program initiated in February of 1992 with the placement and initial sampling of the well.

WELL SAMPLING

On October 15, 1992 ASE personnel, Steve DeHope, arrived on site to perform sampling activities on groundwater monitoring well MW-1. See the Well Sampling Field Log at the end of this report for field measurements and sampling criteria. After measuring for depth to water, a clear, disposable, teflon bailer was slowly lowered into the well and retrieved when approximately half full. No free-product or sheen was observed, no odors were detected. The well was purged the necessary well volumes, and allowed to regenerate to 90% of original volume. Two (2) 40 mil VOA bottleswere filled with the sample groundwater, capped and labeled. The water samples were transported in a cold ice-chest to Priority

Aqua Science Engineers Inc., P.O. Box 535, San Ramon, CA 94583 • 415-820-9391 • FAX 415-837-4853

Labs in Milpitas, CA under proper chain-of-custody procedures. The samples were analyzed for Total Petroleum Hydrocarbons as Gasoline, and the fractions BTEX (EPA methods 5030/8015, and 8020). The samples were also tested for pH and Conductivity. The following table, Table One, details results of analytical testing of MW-1 groundwater for this fourth quarter and the previous three quarters.

TABLE ONE
GROUNDWATER ANAYSIS RESULTS

Sample Date	TPH Gas (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl Benzene (ppm)	Total Xylenes (ppm)	pH	Cond. (uS)
2/3/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
4/29/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
7/10/92	N.D.	N.D.	N.D.	N.D.	N.D.	---	---
10/15/92	N.D.	N.D.	N.D.	N.D.	N.D.	7.3	1100

ppm Parts per million
N.D. Not Detected
--- Not Analyzed

CONCLUSIONS AND RECOMMENDATIONS

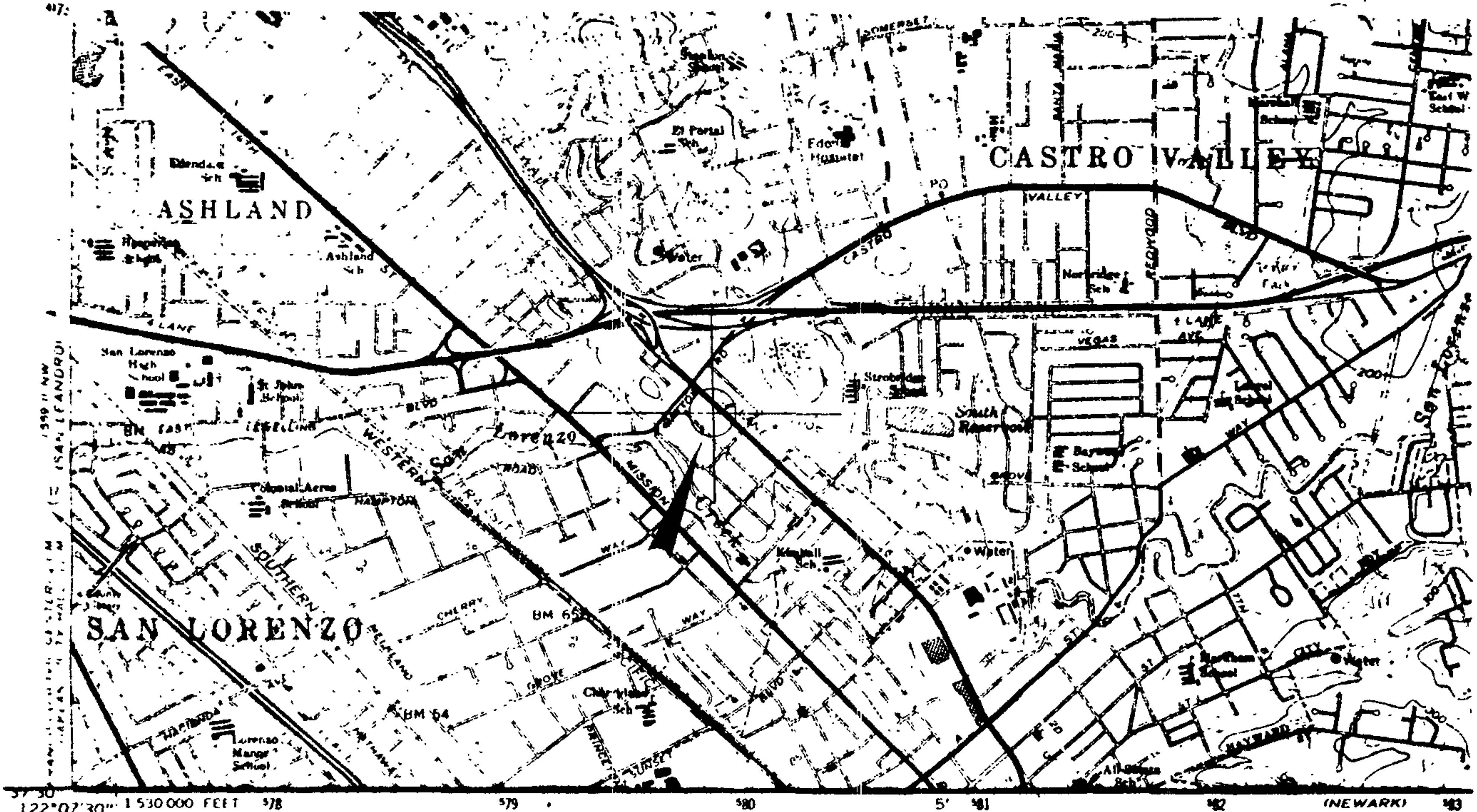
As per current Alameda County Water District guidelines, the well has been monitored quarterly for one year. Since the results of analytical testing detect N.D. levels for the constituents of interest for four consecutive quarters, it is recommended that an application be filed for groundwater sampling to be discontinued, and the monitoring well be properly abandoned.

If you have any questions regarding the enclosed information, please feel free to contact us at (510) 820-9391

Respectfully submitted,
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

cc. Mr. Roy Breitenbach, Property Owner
Mr. Hugh Murphy, Hayward Fire Department
Mr. Eddie So, RWQCB, San Francisco Bay Region



Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field check 1959

Polyconic projection
10,000 foot grid based on California coordinate system, zone 3
1000 meter Universal Transverse Mercator grid ticks zone 10, shown in blue ... North American Datum
To place on the predicted North American Datum 1983 ... 14 meters north and ... east ... shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

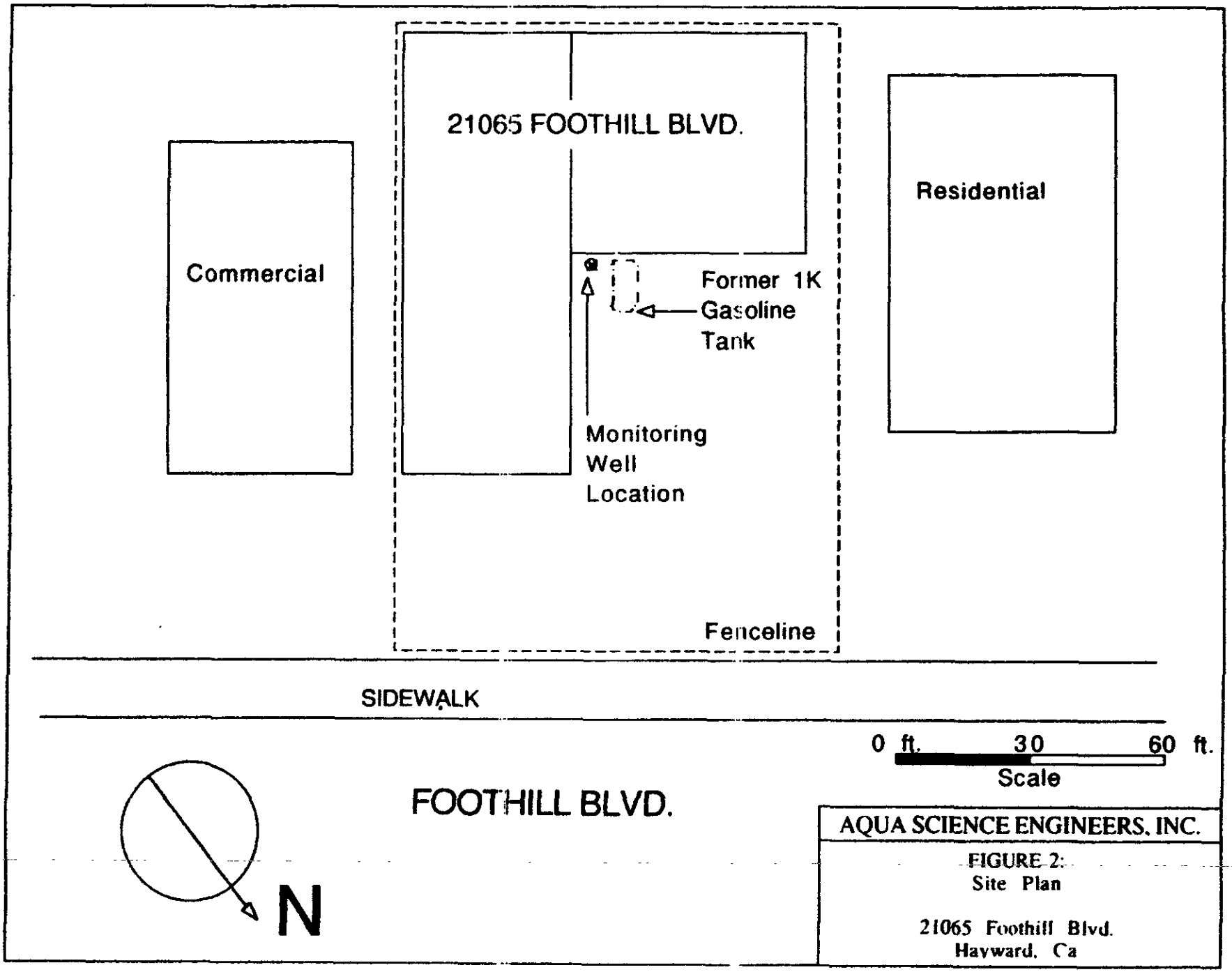
There may be private inholdings within the boundaries

UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1
Site Location Map

21065 Foothill Blvd.
Hayward, Ca


21065 FOOTHILL BLVD.
Commercial
Residential
Former 1K
Gasoline
Tank
Monitoring
Well
Location
Fenceline
SIDEWALK
FOOTHILL BLVD.
N
0 ft.
30
60 ft.
Scale
AQUA SCIENCE ENGINEERS, INC.
FIGURE 2:
Site Plan
21065 Foothill Blvd.
Hayward, Ca

PRIORITY ENVIRONMENTAL LABS

October 18, 1992 PEL # 109206

AQUA SCIENCE ENGINEERING, INC.

Attn: Steve DeHope
Re: One water sample for pH, Conductivity, and Gasoline/BTEX analyses.

Project name: Breitenbach
Project location: 21065 Foothill Blvd., -Hayward

Date sampled: Oct 15 1992 Date submitted: Oct 16, 1992
Date extracted: Oct 16-17, 1992 Date analyzed: Oct 16-17, 1992

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Conductivity (uS)	pH
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	1100	7.3
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	0.0	7.0
Spiked Recovery	93.2%	100.1%	98.8%	103.2%	99.6%	---	---
Detection limit	50	0.5	0.5	0.5	0.5	10	0.05
Method of Analysis	5030 / 8015	602	602	602	602	120.1	9045

David Duong
Laboratory Director

RECEIVED
OCT 20 1992
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 Cus

PEL # 109206

INV # 201143

DATE 10/16/92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.) (510) 820-9311

PROJECT NAME Prentiss NO.

ADDRESS 2105 Foothill Blvd Hayward

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS: Archive

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)	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	P.H.	Conductivity
			W	2		X												X	X

RELINQUISHED BY	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) 17.15 (time)	
(printed name) (date)	(printed name) (date)	(printed name) (date)	DAVID DUONG 10/16/92 (printed name) (date)	
Company-	Company-	Company-	Company- PEL	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: Breitenbach
Project Address: 21065 Foothill Blvd.,Hayward, CA
Job # 2544 Date of sampling: 10/15/92
Completed by: Steve DeHope
Well Number / Designation: MW-1
Top of casing elevation: -4" from grade
Total depth of well casing: 43.76 Well diameter: 2"
Depth to water (before sampling): 34.7
Thickness of floating product if any: None
Depth of well casing in water: 9.06
Req'd volume of groundwater to be purged before sampling: 7.5 Gallons
Approximate volume of groundwater purged: 7.5
Type of seal at grade: Portland cement
Type of cap on the casing: Locking cap
Is the seal water tight? Yes Is the cap water tight? Yes
Number of samples (containers) collected (2) 40 mil VOA
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: 68 deg. F
Sample pH: _____ Test method: _____

Physical description of water during initial bailing period:
Slightly cloudy and clearing
Physical description of water sample: Clear

Type of analysis requested: TPH, Gas, BTEX
pH
Conductivity

Type of bailer/sampling equipment used: 1.67' x 3' PVC Bailer

Equipment decontamination procedures: TSP wash and tap water rinse

Disposition of bailed water volume:
Temporarily stored on site.

aqua science engineers inc.

August 6, 1992

REPORT OF QUARTERLY WELL SAMPLING

Performed at:

21065 Foothill Blvd.
Hayward, CA

Prepared for:

Mr. Roy Breitenbach
2358 Loma Vista Drive
Prescott, AZ 86301

Prepared by:

Aqua Science Engineers, Inc.
Concord, CA.

aqua science engineers inc.

August 6, 1992

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

Re: Second Quarterly Sampling, 21065 Foothill Blvd., Hayward, CA

Mr. Seery,

Enclosed please find the analytical results of a water sample taken from the monitoring well at 21065 Foothill Blvd., Hayward, CA. The enclosed site plan shows the location of monitoring well MW1 in relation to site buildings and right-of-ways. This sample routine represents the second quarter sampling round of a one year program initiated in February of 1992 with the placement and initial sampling of the well. To date, all sampling results have been N.D.

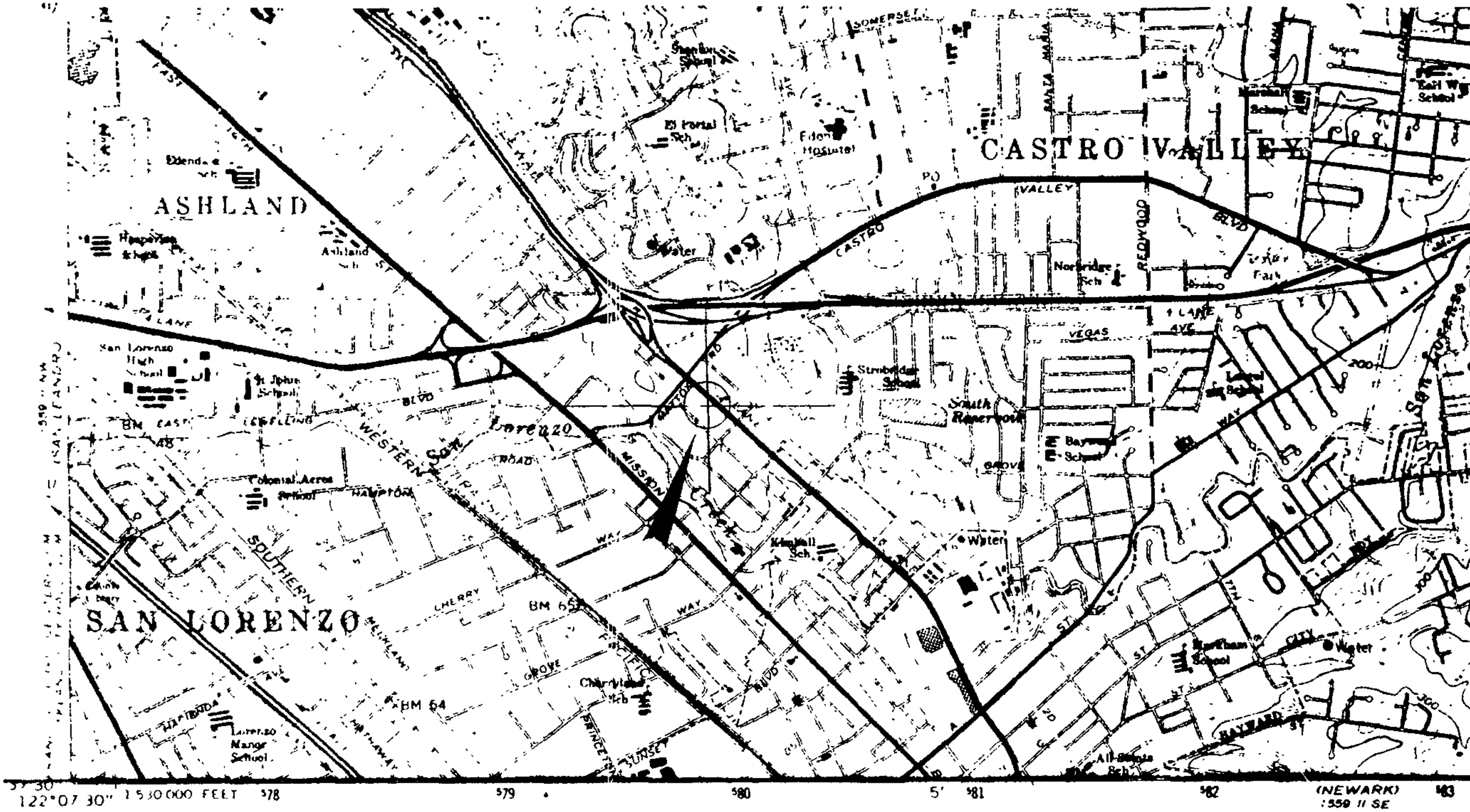
If you have any questions regarding the enclosed information, please contact me at my offices.

Respectfully,
AQUA SCIENCE ENGINEERS, INC.

Gerald Sasse.
Vice President

encl. (1)

cc. Mr. Roy Breitenbach
City of Hayward Fire Dept.
R.W.Q.C.B - San Francisco Bay Region



Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field check 1959

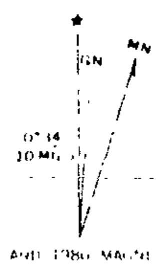
Polyconic projection

10,000 foot grid based on California coordinate system, zone 3

1000 meter Universal Transverse Mercator grid ticks zone 10, shown in blue ... North American Datum ... the predicted North American Datum 1983 ... 14 meters north and 95 meters east ... shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

There may be private inholdings within the boundaries of the National or State reservations shown on this map



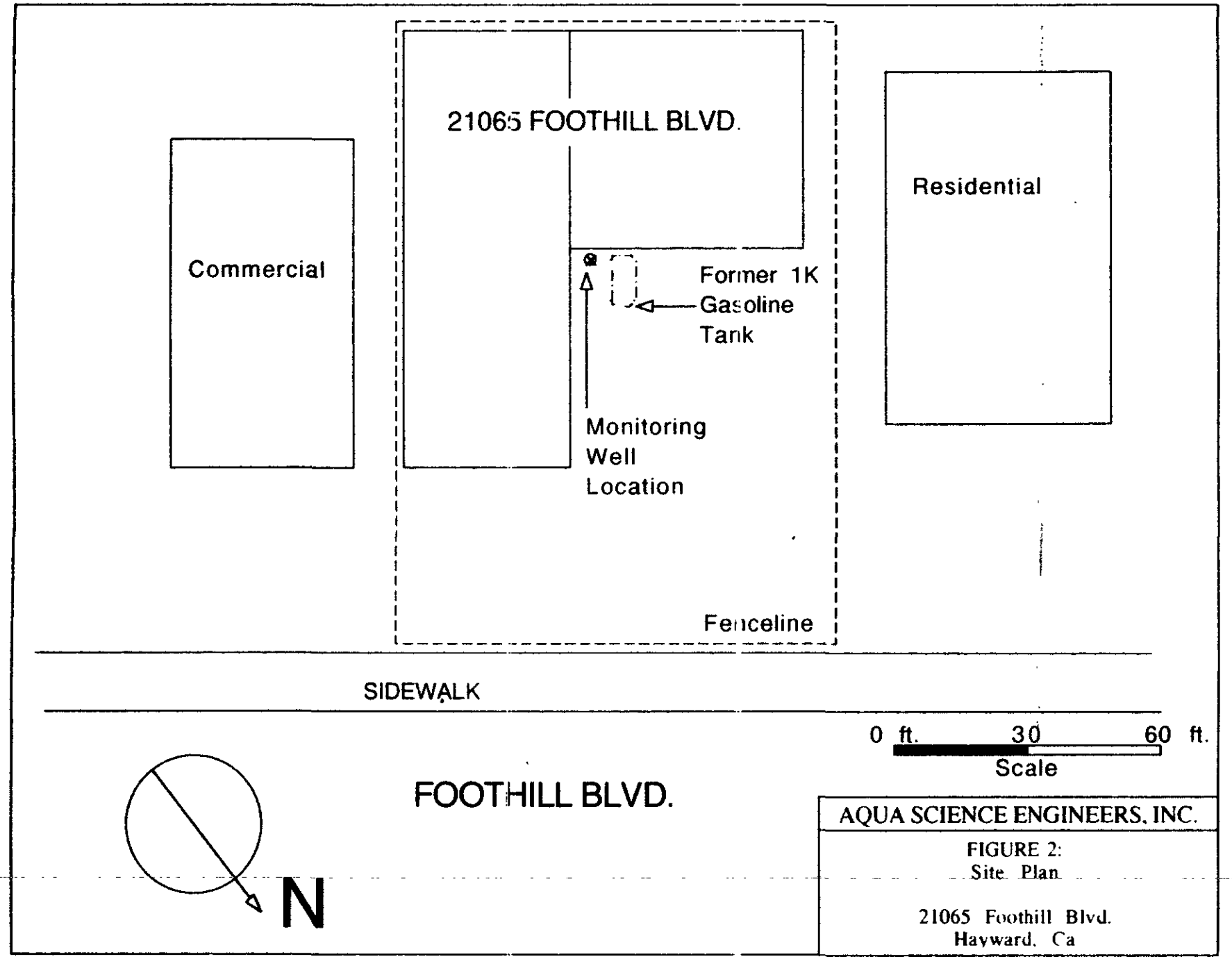
UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland ... aerial photographs taken 1979 ...

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1:
Site Location Map

21065 Foothill Blvd.
Hayward, Ca



AQUA SCIENCE ENGINEERS, INC.

FIGURE 2:
Site Plan

21065 Foothill Blvd.
Hayward, Ca

TABLE ONE: RESULTS OF WATER SAMPLE ANALYSES
21065 Foothill Blvd., Hayward, CA

Monitoring Well MW-1

Sample Date	TPH gas mg/l	benzene mg/l	toluene ug/l	ethyl benzene ug/l	total xylenes ug/l
2/3/92	N.D.	N.D.	N.D.	N.D.	N.D.
4/29/92	N.D.	N.D.	N.D.	N.D.	N.D.
7/10/92	N.D.	N.D.	N.D.	N.D.	N.D.

WELL SAMPLING FIELD LOG

Project:

ASE environmental
1041 Shary Circle
Concord, CA 94518
(510) 685-6700

Project Name: Breitenbach III
Project Address: 21065 Foothill Blvd., Hayward, CA
Job # 2544 Date of sampling: 7-10-92 Completed by: S.D.
Well Number / Designation: MW-1
Top of casing elevation: -4" from portland cement sanitary seal
Total depth of well casing: 43' 9" Well diameter: 2"
Depth to water (before sampling): 33' 9"
Depth of floating product if any: none
Depth of well casing in water: 10
Req'd volume of groundwater to be purged before sampling: 8 gallon
Approximate volume of groundwater purged: 8 gallons
Type of seal at grade: Portland Cement
Type of cap on the casing: Locking Cap
Is the seal water tight? Yes Is the cap water tight? Yes
Number of samples (containers) collected (2) 40 mil VOA
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: 68
Sample pH: 7.5 Test method:
Physical description of water during initial bailing period:
Cloudy & Clearing
Physical description of water sample: Clear
Type of analysis requested: TPH Gas BTEX

Type of bailer/sampling equipment used: 1.67' x 3' PVC Bailer

Equipment cleaning procedures: TSP wash tap water rinse

Disposition of bailed water volume: Temp stored on site discharged to the ground subsurface

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 16, 1992 PEL # 079205

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve DeHope
Re: One water sample for Gasoline/BTEX analysis.

Project name: Breitenbach
Project location: 21065 Foothill Blvd.
Project number: 2544

Date sampled: July 10, 1992 Date submitted: July 15, 1992
Date extracted: July 15,1992 Date analyzed: July 15,1992

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
BRIT MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	85.5%	90.2%	94.1%	93.8%	97.9%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

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

July 23, 1992 PEL # 079205

AQUA SCIENCE ENGINEERS

Attn: Steve DeHope
Re: One water sample for pH and Conductivity analyses.

Project name: Breitenbach
Project location: 21065 Foothill Blvd.
Project number: 2544

Date sampled:July 10 1992 Date submitted:July 15, 1992
Date extracted:July 21, 1992 Date analyzed:July 21, 1992

RESULTS:

SAMPLE I.D.	pH	CONDUCTIVITY (uS)
BRIT MW-1	7.5	1030
Blank	7.0	0

David Duong
Laboratory Director

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

PEL # 079205

INV # 201109

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA 94518
(510) 685-6700

Chain of Custody

DATE 7-10-92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)

PROJECT NAME Breitenbach NO. 2544

ADDRESS 21065 Foothill Blvd

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
Standard turn Around

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)	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		
Brt-MW-1	7-10	3:00	W	2		X																

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
8:15A			8:15A	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Gerald Ross 7/15/92			DAVID DUONG	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- AGE	Company-	Company-	Company- PEL 07/15/92	

aqua science engineers inc.

May 8, 1992

REPORT OF QUARTERLY WELL SAMPLING

Performed at:

21065 Foothill Blvd.
Hayward, CA

Prepared for:

Mr. Roy Breitenbach
2358 Loma Vista Drive
Prescott, AZ 86301

Prepared by:

Aqua Science Engineers, Inc.
Concord, CA.

aqua science engineers inc.

May 18, 1992

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

Re: First Quarterly Sampling, 21065 Foothill Blvd., Hayward, CA.

Mr. Seery,

Enclosed please find the analytical results of a water sample taken from the monitoring well at 21065, Hayward, CA. The enclosed site plan shows the location of monitoring well MW1 in relation to site buildings and right-of-ways. This sample routine represents the first quarter sampling round of a one year program initiated in February of 1992 with the placement and initial sampling of the well. Second quarterly sampling is tentatively scheduled for execution in August of 1992.

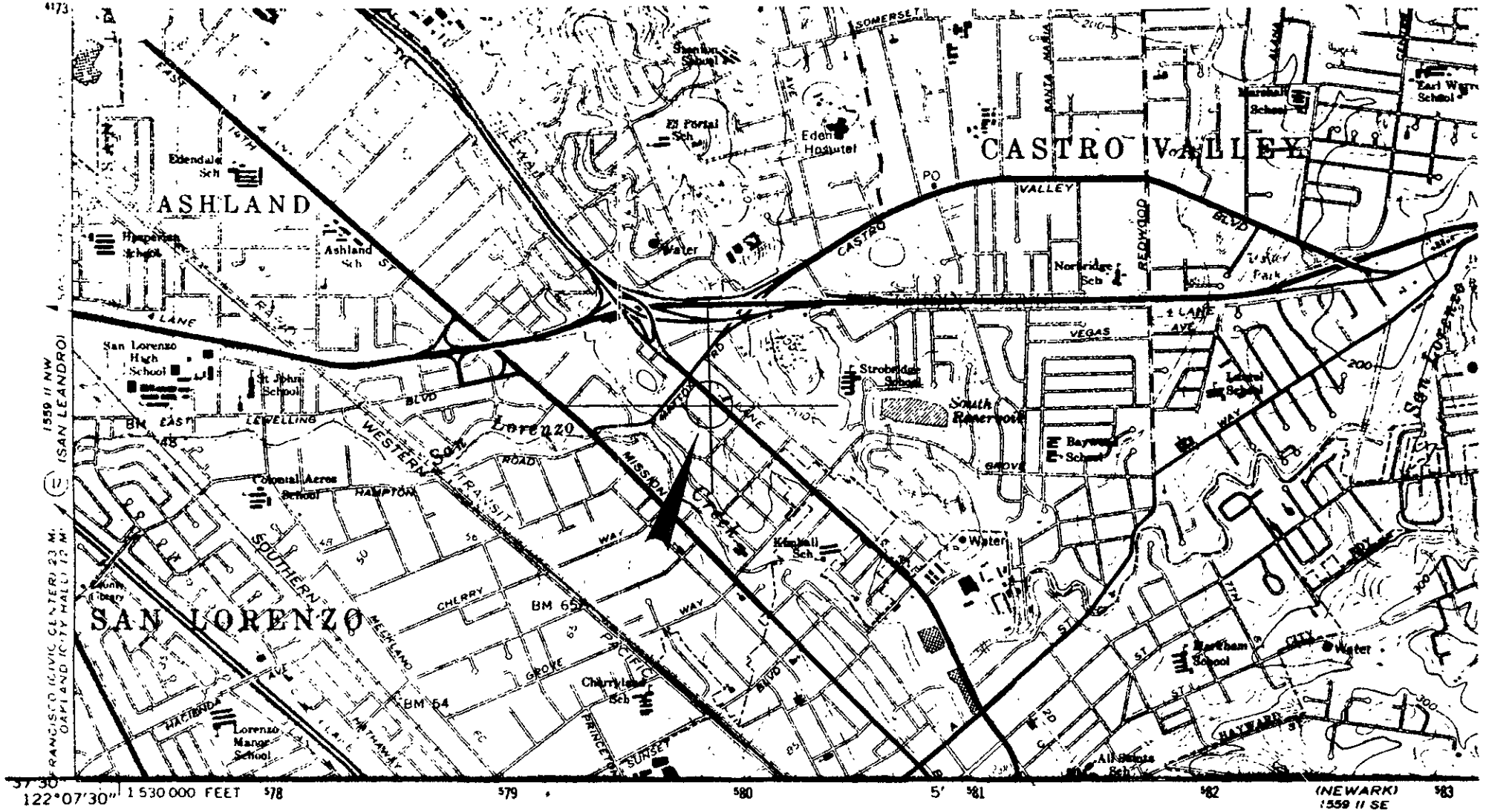
If you have any questions regarding the enclosed information, please contact me at my offices.

Respectfully,
AQUA SCIENCE ENGINEERS, INC.

David C. Prull
Project Manager

encl. (1)

cc. Mr. Roy Breitenbach, Property Owner



Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, USCE, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947 Revised from aerial photographs taken 1958 Field check 1959

Polyconic projection

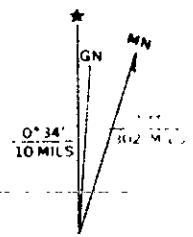
10,000 foot grid based on California coordinate system, zone 3

1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue 1927 North American Datum

To place on the predicted North American Datum 1983 move the projection lines 14 meters north and 95 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

There may be private inholdings within the boundaries of the National or State reservations shown on this map



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled from aerial photographs taken 1979 and other source data This information not field checked Map edited 1980

SCALE 1:24000

1 0

1000 0 1000 2000 3000 4000

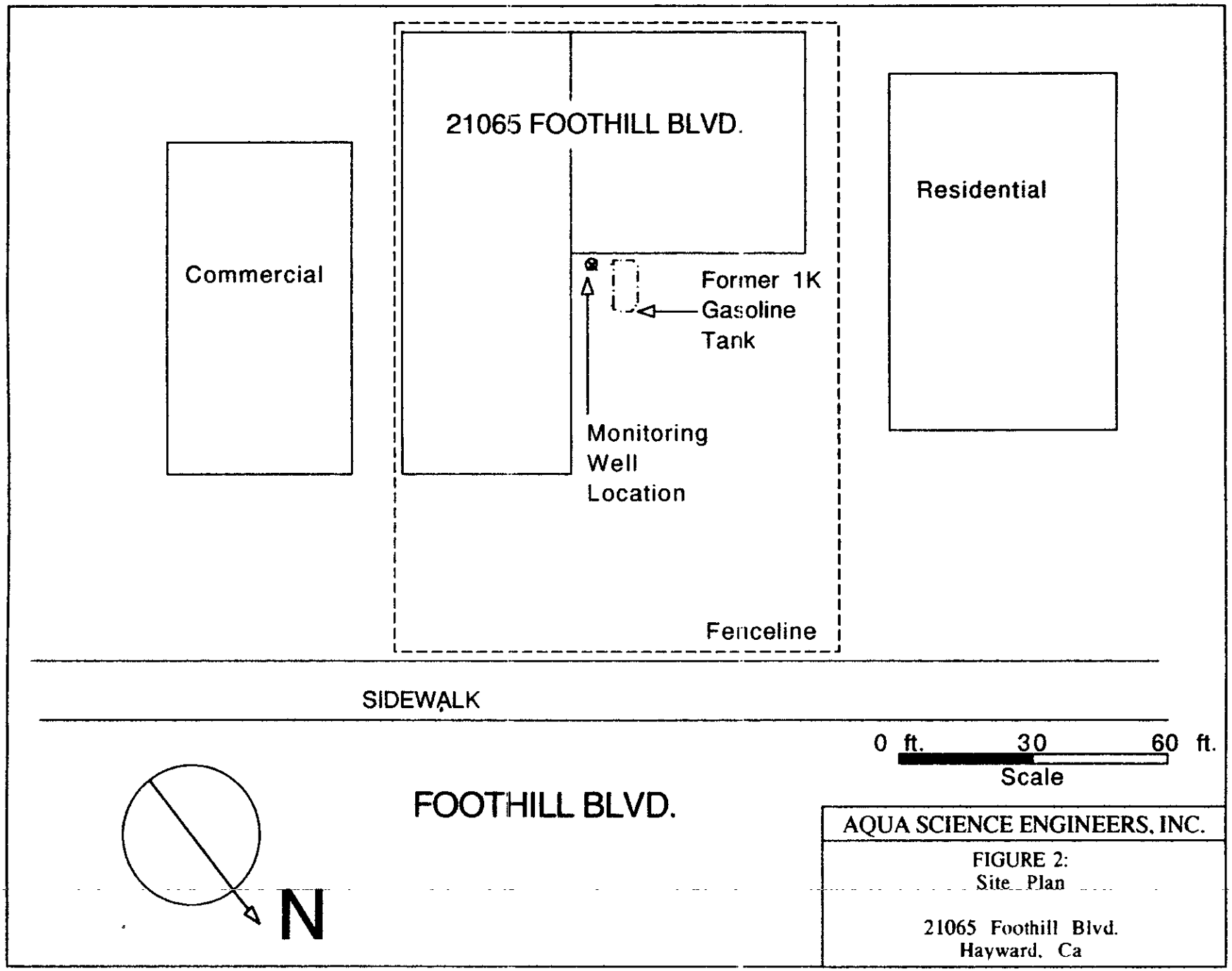
1 5 0

CONTOUR INTERVAL 20 FEET

AQUA SCIENCE ENGINEERS, INC.

FIGURE 1:
Site Location Map

21065 Foothill Blvd.
Hayward, Ca



AQUA SCIENCE ENGINEERS, INC.

FIGURE 2:
Site Plan

21065 Foothill Blvd.
Hayward, Ca

TABLE ONE: RESULTS OF WATER SAMPLE ANALYSES
21065 Foothill Blvd., Hayward, CA

Monitoring Well MW-1

Sample Date	TPH gas mg/l	benzene mg/l	toluene ug/l	ethyl benzene ug/l	total xylenes ug/l
2/3/92	N.D.	N.D.	N.D.	N.D.	N.D.
4/29/92	N.D.	N.D.	N.D.	N.D.	N.D.

WELL SAMPLING FIELD LOG

ASE environmental

1041 Shary Circle
Concord, CA 94518
(510) 685-6700

Project: Breitenbach III
21065 Foothill Blvd.
Hayward, CA

Project Name: *Breitenbach III*
Project Address: *21065 Foothill Blvd., Hayward, CA*
Job # *2544* Date of sampling: *4/29/92* Completed by: *S. DeHope*
Well Number / Designation: MW-1
Top of casing elevation: *Not measured*
Total depth of well casing: *43'-9"* Well diameter: *2"*
Depth to water (before sampling): *33'-0"*
Depth of floating product if any: *None*
Depth of well casing in water: *10'-9"*
Req'd volume of groundwater to be purged before sampling: *8.5 gallons*
Approximate volume of groundwater purged: *8.5 gallons*
Type of seal at grade: *portland cement at grade*
Type of cap on the casing: *locking type expanded plug*
Is the seal water tight? *yes* Is the cap water tight? *yes*
Number of samples (containers) collected: *(2) VOA vials.*
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: *not tested*
Sample pH: *not tested* Test method: *N/A*
Physical description of water during initial bailing period: *turbid lt. brown.*
Physical description of water sample: *turbid lt. brown.*
Type of analysis requested: *TPH Gasoline (EPA 5030/8015)*
BTEX (EPA 602)

Type of bailer/sampling equipment used: *1.5" x 3' PVC bailer*
Equipment cleaning procedures: *TSP wash, tap water rinse*
Disposition of bailed water volume: *temporarily retained, discharged to the ground surface.*

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

May 6, 1992 ChromaLab File No.: 0492274

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve DeHope

RE: One water sample for Gas/BTEX analysis

Project Name: BREITENBACK III
Project Number: 2544
Date Sampled: April 29, 1992 Date Submitted: April 29, 1992
Date Extracted: May 5, 1992 Date Analyzed: May 5, 1992

RESULTS:

Sample I.D.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	98%	94%	100%	97%	102%
DUP. SPIKE RECOVERY	----	93%	96%	99%	102%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc.

Mary Cappelli
Analytical Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

CHROMALAB FILE # 492274
ORDER # 6258

CHROMALAB, INC.

2239 Omega Road, #1 • San F
510/831-1788 • Facsimi.

Chain of Custody

DATE _____ PAGE _____ OF _____

PROJ. MGR. Steve DeHope
COMPANY A.S.E.
ADDRESS 1041 Shaq circle

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

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTeX (EPA 602,8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	EXTRACTION (TCLP, STLC)					NUMBER OF CONTAINERS
MW-1	4/29		H2O			X																		2

PROJECT INFORMATION

PROJECT NAME: Breitenbach II
PROJECT NUMBER: 2544
SHIPPING ID. NO.
VIA: S DeHope

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	
LAB NO.	

SPECIAL INSTRUCTIONS/COMMENTS:
Paid CK # 014743

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Steve DeHope 4:00		
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
A.S.E. 4-29		
(COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME) 4.29.95 16:00
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY)	(COMPANY)	(LAB)