# *Work Plan for Additional Soil and Groundwater Investigation and Site Conceptual Model with Preferential Pathway Study for*
# 3744 Depot Road
# Hayward, California

***Prepared For:***
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***July 2004***
***Job Number 04184***

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July 19, 2004

Mr. Scott Seery
Alameda County Health Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Work Plan for Additional Soil and Groundwater Investigation
And Site Conceptual Model with Preferential Pathway Study
3744 Depot Road, Hayward, CA

Dear Mr. Seery:

In response to your letter of May 19, 2004, PIERS has prepared this work plan for additional soil and groundwater investigation at the above-referenced site, hereinafter referred to as the "Property". In addition, the results of a preferential pathway study are summarized, and the site conceptual model is presented. The work plan proposes to further delineate the extent of petroleum hydrocarbons in the vicinity of two former underground storage tank (UST) pits at the Property.

SITE DESCRIPTION AND BACKGROUND

The Property is located on the south side of Depot Road, between the intersections of Depot Road with Cabot Boulevard and Foley Street, in the City of Hayward, County of Alameda, and State of California. A Property Location Map and Vicinity Map are included with this report (Figures 1 and 2). The present tenant is American Auto Dismantler, an automobile salvage operation. The current use of the Property involves the storage and demolition of automobiles.

According to previous investigations by PIERS, a 500-gallon waste oil UST and a 1,000-gallon gasoline UST were apparently excavated sometime in 1990 and 1991, the tanks were left on site for years, and finally disposed of in 1994 by a previous tenant, without a permit. The tank excavations were also left open for approximately two years before being backfilled, apparently with the aerated soils from the excavations. The Alameda County Health Services Agency (ACHSA) was informed of the tank removals in 1991 and required the owner to provide soil sample analytical results. Samples were later collected by an environmental consultant, TAT Environmental, in May 1992, but no report was ever issued, and the consultant is now out of business. The Property went into foreclosure, and was sold in 1996 to River Bend Properties.

PIERS completed a "Limited Phase II Environmental Assessment" at the Property in August 1995 (report dated September 12, 1995). Five exploratory soil borings were installed at the site. Soil samples and grab groundwater samples were collected from borings located down-gradient of the two tank pits. Up to 3,300 parts per million (ppm) of oil and grease and 2,795 parts per billion (ppb) of semi-volatile organic compounds (SVOCs) were present in soil collected from the vicinity of the former waste oil tank. Oil and grease at concentrations of 390 ppm and up to 600 ppb of volatile organic compounds (VOCs) were detected in a grab groundwater sample from the boring located down-gradient of the former waste oil tank. The grab groundwater sample collected from the boring located down-gradient from the former gasoline tank contained 43,000 ppb of Total Petroleum Hydrocarbons (TPH) as gasoline and 300 ppb of benzene.

To meet the requirements of the ACHSA and the Regional Water Quality Control Board (RWQCB), PIERS performed a Preliminary Site Assessment to delineate and assess the extent of soil and groundwater impact. This work was outlined in a work plan submitted to the ACHSA on July 2, 1996. Two exploratory soil borings and two monitoring wells were subsequently installed at the site on November 25, 1996. Soil samples were obtained from the borings and wells, and groundwater grab samples were obtained from the borings. The two newly installed monitoring wells and the one on-site existing well were developed and sampled.

On April 29, 1997, PIERS performed another sampling event of the three groundwater wells at the request of Ms. Amy Leech, the ACHSA case worker. No detectable chemical constituents were present in water from any of the three wells during this sampling event.

On March 1, 1999, the ACHSA requested an additional round of sampling before closure. In the report "Final 1999 Groundwater Monitoring Well Sampling Report and Request for No Further Action Status", dated April 20, 1999, PIERS recommended that the site be granted a "no further action" status, and that case closure be granted.

In August 2000, PIERS prepared and submitted a Phase I Environmental Site Assessment for the Property, and a separate "Site Closure Summary and Request for Case Closure for 3744 Depot Road, Hayward, California".

In March, April and May of 2001, a series of letters were generated between the ACHSA and PIERS, as a response to comments to various aspects of the Site Closure Summary and Request for Case Closure. The letters discussed the hydraulic gradient on-site, and whether the flow direction was clearly defined. Apparently, the final letter from the ACHSA dated May 14, 2001, was not received by PIERS, and work didn't proceed until a phone call in January 2003. PIERS then responded to the last set of comments by ACHSA, and again requested Case Closure on February 10, 2003.

In December 2003, in an effort to advance the Property towards closure, PIERS prepared a work plan to conduct additional sampling in the vicinity of each of the former UST pits. The work plan summarized all of the previous work at the Property, including analytical data. The investigative work (six borings) proposed in the December 2003 work plan was completed in February 2004, and is summarized in a report by PIERS dated March 2004.

RECENT INVESTIGATIONS

Former Waste Oil Tank Pit

During this work, up to 350,000 ppb of TPH as diesel and 120 ppb of benzene were measured in grab groundwater samples collected from the area of the former waste oil in borings EB-4 and EB-5, respectively. Up to 2,000 ppm of Total Recoverable Petroleum Hydrocarbons were detected in soil at 11.5 feet below grade. Shallower soils samples collected between 4.5 and 5.5 feet below grade had non-detectable results. These findings were relatively similar to the 1995 results, except for methyl-tertiary-butyl-ether (MTBE) and TBA in groundwater. MTBE concentrations of 7.5 and 37 ppb were detected in EB-5 and EB-6, respectively, and 32 ppb of TBA was detected in EB-5. MTBE was also detected in nearby wells MW-2 and MW-3 at concentrations of 84 ppb and 8.5 ppb, respectively.

Former Gas Tank Pit

In 1995, up to 43,000 ppb of TPH as gasoline and 300 ppb benzene were detected in a grab groundwater sample from a boring at the northwestern corner of the former gas UST pit. In the February 2004 sampling event (borings EB-1 through EB-3), dissolved hydrocarbons in groundwater were non-detectable except for MTBE, which was detected in all three of the samples at concentrations ranging between 3.9 ppb and 6.0 ppb. MTBE was also detected in MW-1 at a concentration of 3.4 ppb.

A table summarizing previous reports, work plans, and agency correspondence for the Property, and all of the analytical data collected to date summarized in previous reports is included as Appendix A. Historical groundwater analytical data is shown on Figure 3.

## PREFERENTIAL PATHWAY STUDY

In June 2004, PIERS contacted the City of Hayward Public Works-Engineering Department and the Alameda County Public Works Agency and obtained available utility maps for the Property and vicinity. The utilities at and in the vicinity of the Property are shown on Figure 2. The majority of these utilities are located along Depot Road, seventy feet or more from the former gasoline underground storage tank (UST) pit. These utilities include, from south to north, a 12-inch-diameter water line, a 60-inch-diameter storm drain, a 10-inch-diameter sewer line, and an 8-inch-diameter Shell Oil pipeline. In addition, there is a 24-inch-diameter sewer line at about fifteen feet below grade that crosses the Property obliquely between the gasoline UST pit and the former waste oil UST pit, trending northwest. Also, it is assumed that there are sewer and water laterals on the down-gradient parcels to the west.

The utilities at the Property itself consist of a sewer lateral. The Property does not use Alameda County Water District (ACWD) water. The exact location of the sewer lateral from the existing shop building is not shown on the maps, but is located up-gradient of the former tank pits. Also, as the bottom of the sewer line is approximately 2.2 feet below grade, above the highest stands of groundwater; the sewer line, and any laterals from other parcels west of (down-gradient from) the Property, would not be expected to act as preferential pathways.

The direction of groundwater flow at the Property, as measured during previous monitoring events, has varied widely due to poor triangulation and possibly differing well construction of existing well MW-3 versus monitoring wells MW-1 and MW-2. However, based on a regional direction of groundwater flow of southwest, migration of hydrocarbons is assumed to diverge slightly from Depot Road, towards the southwest.

The utilities that could potentially act as preferential pathways, based on an assumed southwesterly flow, would include the 24-inch diameter sewer line at about 15 feet below grade, approximately 130 feet southwest of the former gasoline UST pit. Also, the water lateral on the next parcel to the west, which would be expected to be at about six feet below grade, could potentially act as preferential pathways. The nearest water lateral is estimated to be approximately 90 feet to the west.

The 24-inch-diameter sewer line at approximately 15 feet below grade is located approximately thirty feet up-gradient of the former waste oil UST pit. Permeable backfill around the sewer could potentially act as a preferential pathway for lateral migration, although it would require some migration up-gradient before contacting this feature.

The proposed investigative work will allow a further determination of whether hydrocarbons from the two on-site sources have migrated far enough to encounter these utilities. Copies of the utility maps are included in Appendix B.

Well Survey

In June 2004, a one-half mile radius well survey was completed for the Property using data provided by the Alameda County Public Works Agency – Water Resources Section. A copy of the data used is included in Appendix C. For the purposes of this well survey, the half-mile radius located towards the west and down-gradient of the Property was evaluated. Three wells were identified in this area, as shown on Table 1. Two of these are monitoring wells, one of which has been abandoned (H1). The other monitoring well (J1) is located approximately 700 feet to the west-northwest. The third well (R3) is located at 8200 Depot Road, approximately 800 feet to the southwest. The use of this well, which was installed in 1950, is reportedly for industrial use.

Based on the fact that there are no identified domestic wells within one half-mile down-gradient of the Property, there does not appear to be a potential pathway of exposure to contaminants originating at the Property through ingestion of groundwater. As the site is entirely paved and all of the soil impacts identified are up to seven feet below grade, no pathway for contact with impacted soils is active.

Volatilization of hydrocarbons to indoor air is the potentially active pathway for human health risk. At the site itself, the building is an open bay door structure located on a paved surface up-gradient of the gas UST pit. As this building is up-gradient of the source and is open to outdoor air during use, this pathway does not appear to be active on site. Down-gradient sites consist of similar wrecking yards with similar structures, or with mobile office structures not founded directly on the surface. After completion of the proposed work, the need for further evaluation of this pathway down-gradient of the Property can be determined.

Site Geology and Hydrogeology

The Property is located on the eastern margins of San Francisco Bay, approximately 3,800 feet east of the bay waters (U.S.G.S. 7.5' "San Leandro" Topographic Quadrangle) and approximately 1,000 feet west of a number of salt evaporators. Marsh lands lie between the salt evaporators and the bay waters. The Property lies at approximately ten feet above mean sea level (msl).

According to Helley et al (1979), the Property and vicinity are underlain by fine-grained alluvium (map symbol Qhaf). The fine-grained alluvium is described as organic rich silt and clay, which grades towards the bay waters into marsh deposits.

Based on the previous subsurface investigations, including six borings to sixteen feet in the most recent phase, the subsurface soils consist predominantly of clayey silt (ML). On the most recent drilling event in February 2004, the first water was encountered in the borings below 12 feet, and later rose to approximately six feet, which correlated with the depth to water measured in wells MW-1 and MW-2. The total depth explored was sixteen feet below grade. The first water encountered was observed in four of the borings (EB-2 through EB-5) to correspond with a slightly sandier silt zone or a thin (two- to six-inch-thick) sandy silt zone.

There have been five monitoring events at the Property. These events took place on November 25, 1996, November 26, 1996, April 27, 1997, March 30, 1999, and on February 4, 2004. The depth to water as measured during these events has ranged from as shallow as 5.17 feet below the top of the casing (MW-2 on February 4, 2004) to 7.11 feet below the top of the casing (TOC) (MW-2 on November 26, 1996). However, if not considering the November 1996 monitoring events for MW-2, at the time of installation, the depth to water has fluctuated from 5.46 feet to 5.96 feet below TOC in MW-1 over all five events, and from 5.17 feet to 5.63 feet below TOC in MW-2 (last three events).

There is apparently some fluctuation seasonally, although there is only the November 1996 event to contrast with three spring events. The November 1996 events were the lowest groundwater stands for both MW-1 and MW-2.

Wells MW-1 and MW-2 are monitoring wells screened from five to fifteen feet below grade. Existing well MW-3 is a steel-cased well that extends to at least 30.5 feet below grade, with an unknown screen interval. Because of the very poor triangulation on the long narrow parcel between the three wells, and possibly because of the differing construction of well MW-3, the previous measurements of the direction of groundwater flow have been inconsistent. Regionally, the direction of groundwater flow is assumed to be following the topography to the southwest, towards San Francisco Bay.

Over time, the hydraulic gradient at the site has been measured as 0.0017 feet per foot (ft/ft), 0.002 ft/ft, and 0.0009 ft/ft, all essentially flat gradients. The direction of flow has been measured over time as southerly and northerly. The groundwater elevation is approximately 5 feet below grade; however, there are fluctuations of at least up to two feet in elevation over time.

## SITE CONCEPTUAL MODEL (SCM) and PROPOSED ADDITIONAL WORK

The SCM developed for the Property, which is designed to be modified and improved when additional data is obtained, is currently based on site investigations to a depth of approximately sixteen feet below grade. Within this interval, the subsurface soils consist predominantly of low permeability clayey silt. A more permeable zone which varied from gradationally sandier to a distinct sandy "stringer" several inches thick was identified in a number of borings at approximately twelve feet below grade. Groundwater is confined or semi-confined and has varied historically from 5.17 to 7.11 feet below grade, but is generally five to six feet below grade. Both tank pits were apparently backfilled with aerated soils that also appear to be of low permeability and appear to be identical to the native soils

Waste Oil UST Pit

Residual heavy hydrocarbons (primarily TRPH) have been identified in soil between seven and 11.5 feet below grade. Gas, diesel, benzene, toluene, ethylbenzene, and xylenes (BTEX), oxygenates and VOCs concentrations are relatively low or non-detectable. Further delineation of soil impacts vertically at the source (tank pit) is proposed.

Elevated concentrations of gasoline, diesel, TRPH, MTBE, and BTEX are present in groundwater, and a sheen was observed during the most recent investigation. TBA was detected in one grab water sample (32 ppb). Nearby wells MW-2 and MW-3 show relatively low or non-detectable concentrations except for MTBE, however, the wells may not reflect conditions directly down-gradient. Further delineation of groundwater impacts laterally and vertically is proposed.

For the waste oil UST pit, where significant residual hydrocarbons remain in soil, the low permeability soils can allow residual hydrocarbons to remain in a "smear zone". The extent of the "smear zone' can be prohibitive for excavation, yet continues to provide a source for excavation. Further delineation is expected to allow a determination of feasible remedial options.

Gasoline UST Pit

Elevated residual hydrocarbons in soil have not been detected in previous investigations in the vicinity of the former gas tank. To confirm these findings, further delineation of soil impacts vertically at the source (tank pit) is proposed.

The nearby well (MW-1) has shown entirely non-detectable results, except for 3.4 ppb of MTBE detected on the last event (February, 2004). However, the well may not reflect conditions directly down-gradient. A grab groundwater sample collected in 1995 from the northwestern corner of the pit area indicated elevated concentrations of gas and BTEX. In February 2004, three grab water samples from borings yielded non-detectable results, except for MTBE, which varied from 3.9 to 6.0 ppb. Further delineation of groundwater impacts laterally and vertically is proposed.

To determine if the MTBE is from an up-gradient source, PIERS proposes to install up-gradient soil borings.

At both release sources, lateral migration of hydrocarbons, with the exception of MTBE, would be expected to stabilize at some point within approximately 250 feet from the source. Vertical migration (downward), with the exception of MTBE, would not be expected with the contaminants of concern unless vertical conduits are encountered. No vertical conduits are known to exist. Existing well MW-3 on site appears to be a driven steel casing without a permeable filter pack.

PROPOSED WORK

To further delineate the degree and extent of petroleum hydrocarbons in the vicinity of the two former UST pits at the Property, including the potential for migration along preferential pathways, the following scope of work is proposed:

At all locations, a Geoprobe drill rig will be used. All of the borings will be continuously cored and logged for lithology over the total depth.

Table 1 summarizes the purpose and rationale for the borings (EB-7 through EB-21), and the locations of the proposed borings are shown on Figures 4 and 5. It is anticipated that soil and "grab" groundwater samples will be collected at the two tank pit locations, and "grab" groundwater samples only at the other boring locations, unless soil contamination is encountered. The locations of the proposed borings will be revised during drilling based on conditions encountered, and "stepped out" or deepened, if warranted. During drilling, the three monitoring wells will also be monitored and sampled.

While use of a CPT rig was recommended by ACHSA for this phase of work, the expense to employ this method does not appear to be warranted at this time. A relatively homogenous lithology is expected at depth in the bay plain environment where the Property is located. It is expected that more permeable sandy zones within the overall low permeability sediments can be identified even where very thin with the continuous Geoprobe coring, and sample collection can be conducted at the same time, allowing a significant cost savings.

The borings within each of the tank pits will be extended to at least twenty feet beneath the deepest encountered impacted soil, based on on-site observations and photo-ionization detector (PID) readings. An accelerated turnaround for laboratory results may be employed to confirm these findings. The depth of the remaining borings will be completed to the deepest impacted zone at the source. The lithology identified in the "source" borings will be used to focus sampling on the stepped out borings. If contamination is encountered at the total depths of the "source borings", the stepped out borings will be extended at least twenty feet beneath the identified impacted area. If other water-bearing zones are encountered, methods will be employed to reduce the potential for cross-contamination during drilling.

The methodology for the drilling and sampling of the borings, and the sampling of the wells, is outlined in PIERS' previous work plan dated December 2003.

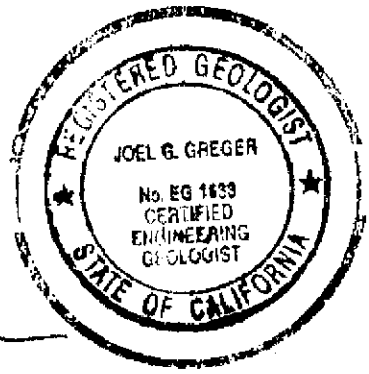
All of the soil and groundwater samples from the former waste oil UST pit and vicinity will be analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Methods 8015C and 8020, and for Total Recoverable Petroleum Hydrocarbons. The groundwater samples will also be analyzed for the fuel oxygenates by EPA Method 8260, and for Total Dissolved Solids.

All of the soil and groundwater samples from the former gas UST pit and vicinity will be analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Methods 8015C and 8020. The groundwater samples will also be analyzed for the fuel oxygenates by EPA Method 8260, and for Total Dissolved Solids.

Following analysis of this data, a report will be prepared which summarizes the procedures and findings associated with the completed work, and makes additional recommendations, as appropriate. The report will include boring logs and cross-sections, and the SCM will be updated to reflect the additional data collected.

If you have any questions regarding this work plan/proposal, please do not hesitate to contact our office.

Sincerely,
**PIERS Environmental Services, Inc.**




Joel G. Greger
Senior Project Manager
CEG # EG1633, REA # 07079


Kay Pannell
Chief Operations Officer
REP #5800, REA-II #20236

Attachments
References
Figures 1 through 5
Table 1 –Rationale for Locations of Borings
Appendix A – Summary of Previous Work, Agency Correspondence, and Previous Analytical Data
Appendix B – Utility Maps
Appendix C – Well Survey

REFERENCES

Alameda County Flood Control and Water Conservation District, Zone No. 4 Project, Line E-2 Plan and Profile, Sheet 3 of 9, dated April, 1970.

City of Hayward Water Mains Base Map, August, 2003

City of Hayward Sewer Mains Base Map, June, 1999.

Helley et al, 1979. Flatland Deposits of the San Francisco Bay Region, California, U. S. Geological Survey Professional Paper 943.

U. S. Geological Survey 7.5 Minute "San Leandro" Topographic Quadrangle

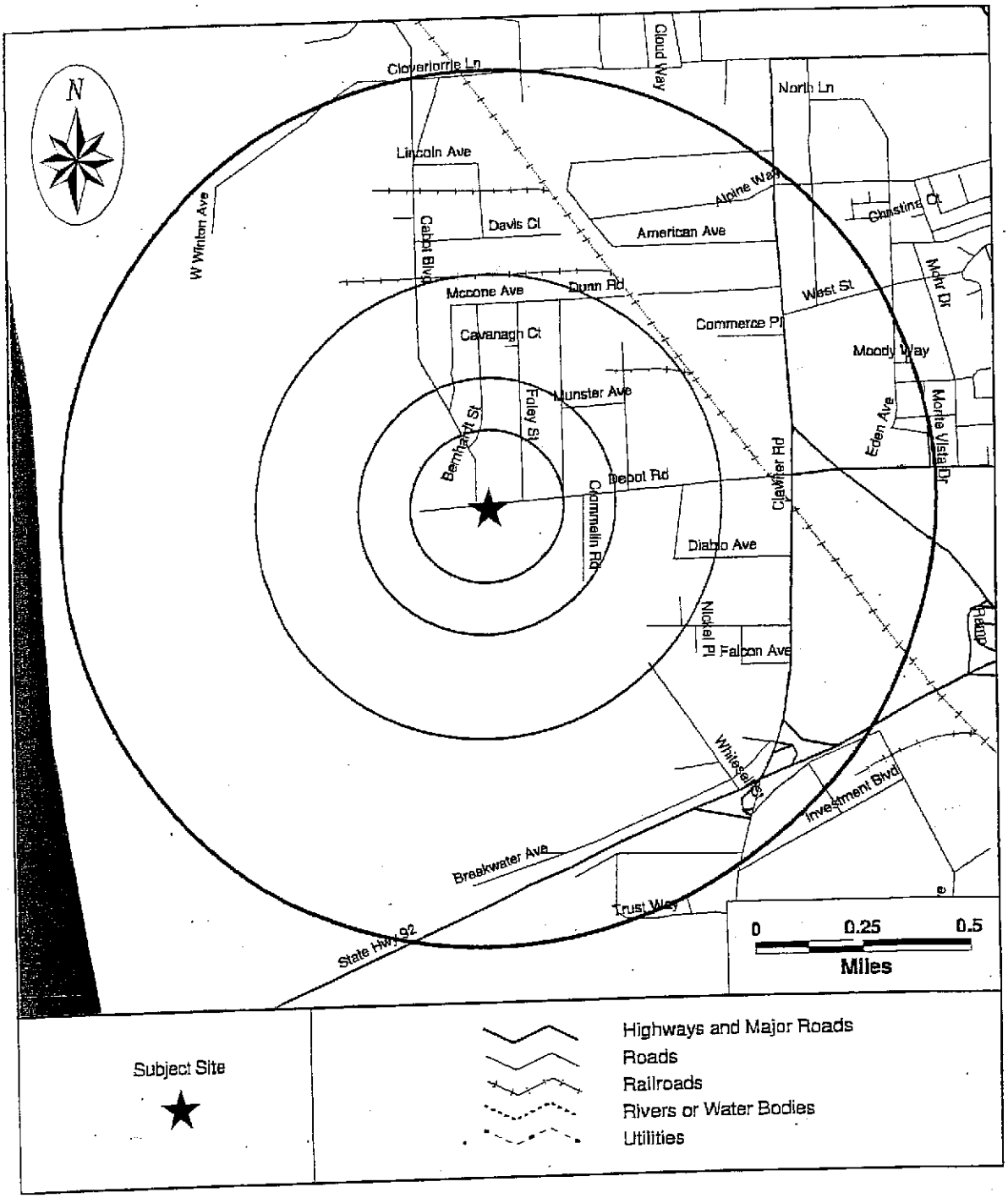



FIGURE 1
*SITE VICINITY MAP*

3744 DEPOT ROAD
HAYWARD, CALIFORNIA

NOVEMBER 2003
NOT TO SCALE

PIERS ENVIRONMENTAL SERVICES, INC. 1330 S. BASCOM AVE., SUITE F, SAN JOSE, CA 95128
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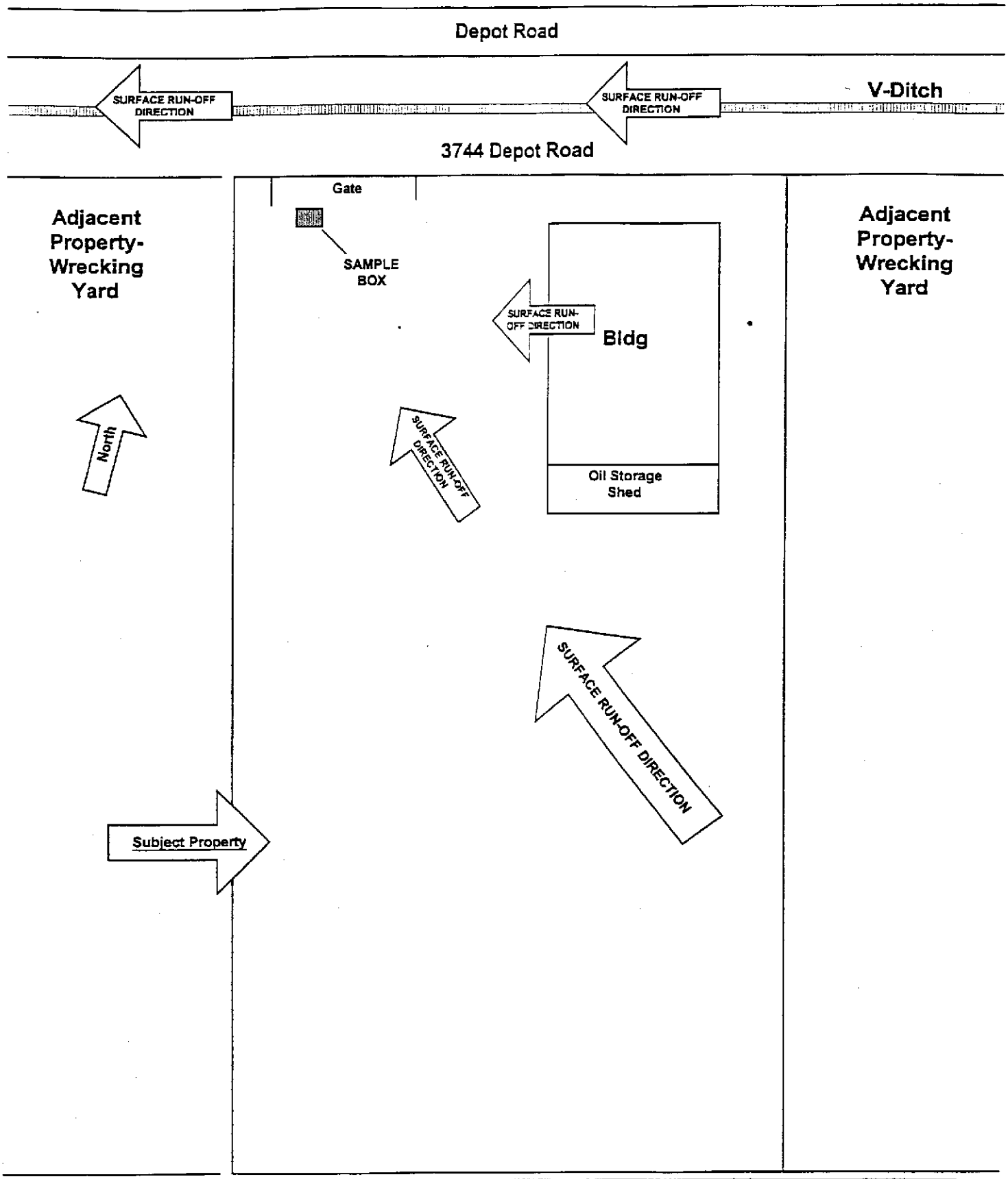


**FIGURE 2**
***PROPERTY SITE PLAN***

**3744 DEPOT ROAD**
**HAYWARD, CALIFORNIA**

NOT TO SCALE
APRIL 1999

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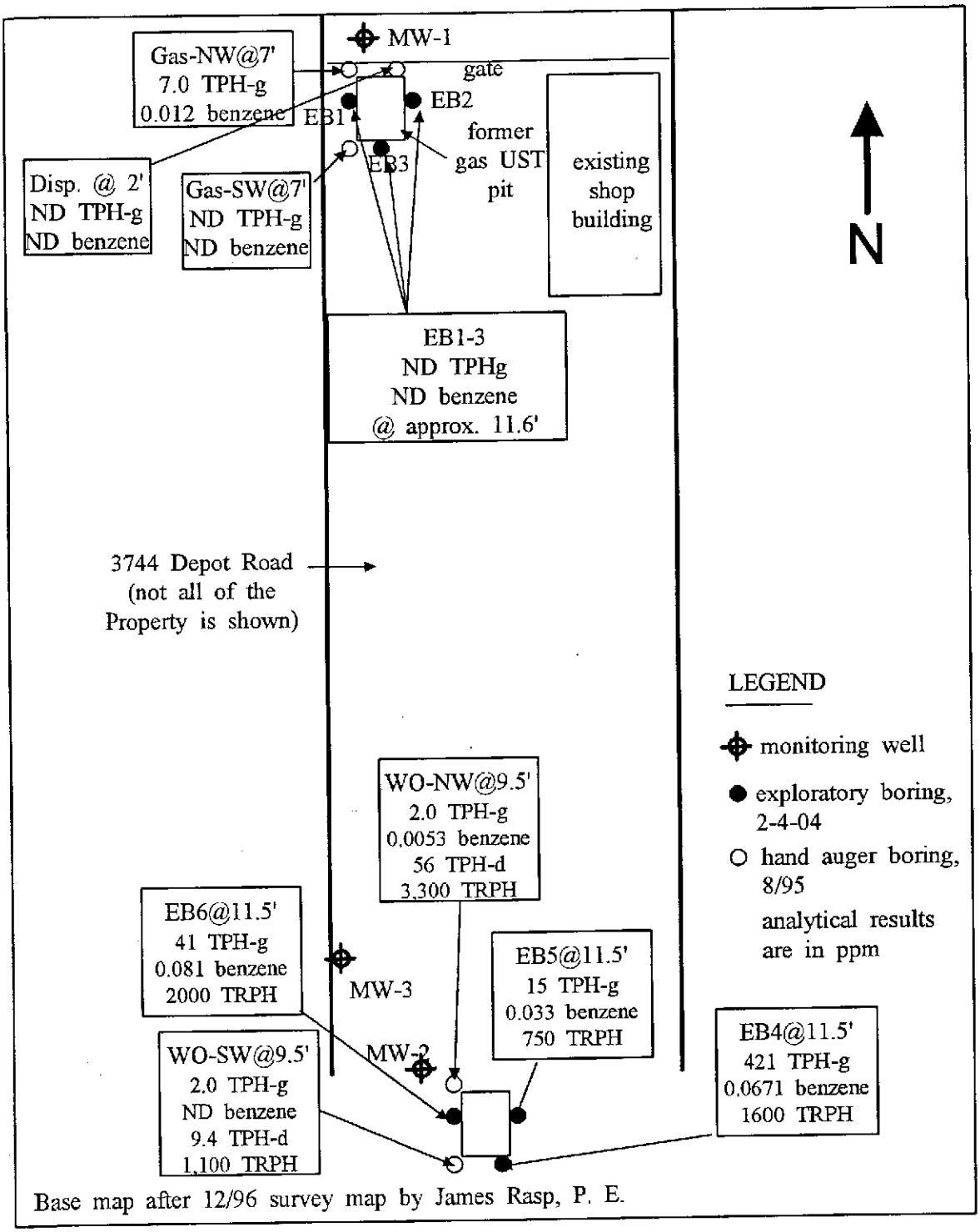


**FIGURE 3**

***GROUNDWATER ANALYTICAL DATA***

3744 DEPOT ROAD
HAYWARD, CALIFORNIA

JULY 2004
SCALE: 1" = 50'

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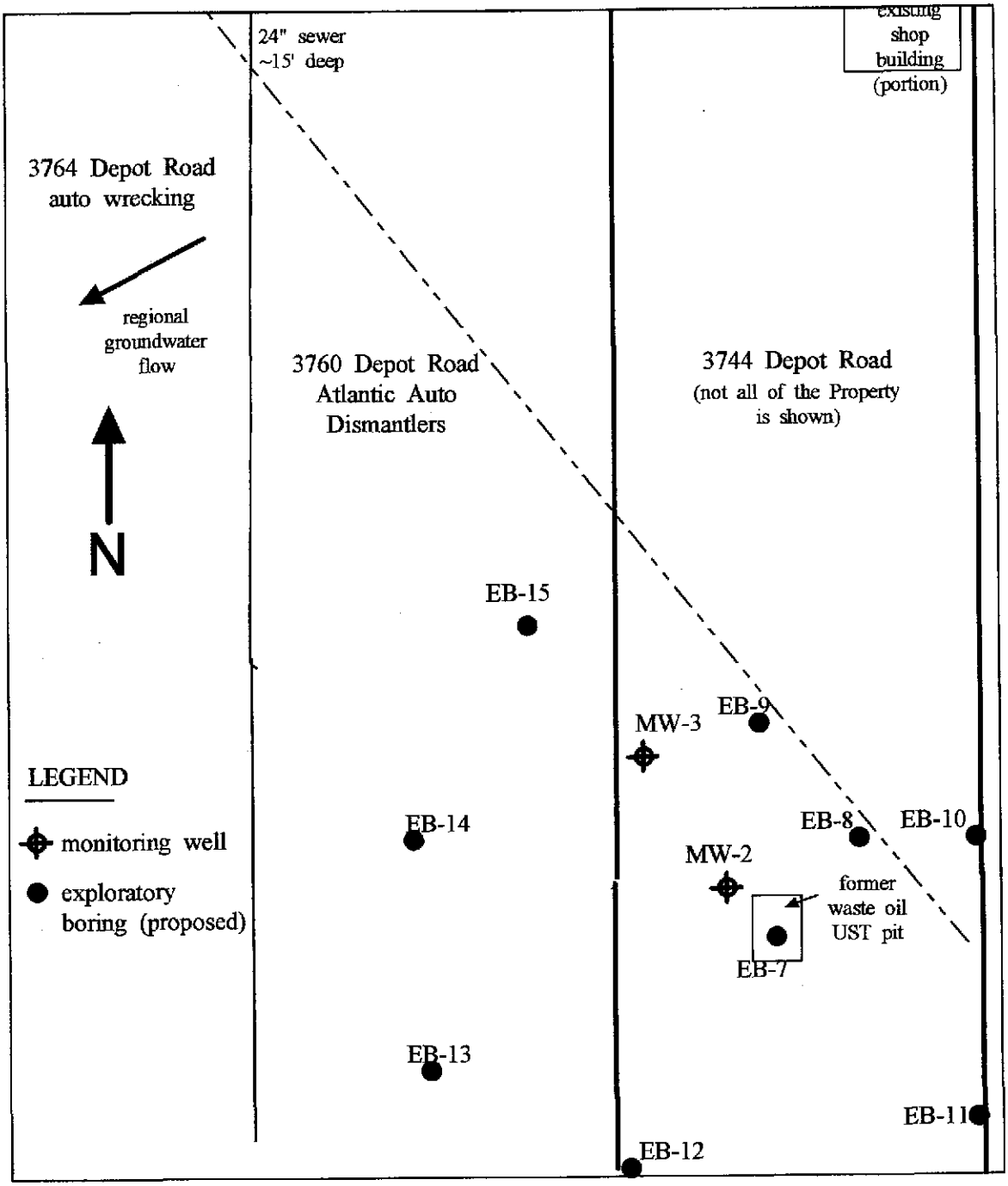


**FIGURE 4**

***PROPOSED BORINGS – FORMER WASTE OIL UST PIT***

3744 DEPOT ROAD
HAYWARD, CALIFORNIA

JULY 2004
SCALE: 1" = 50'

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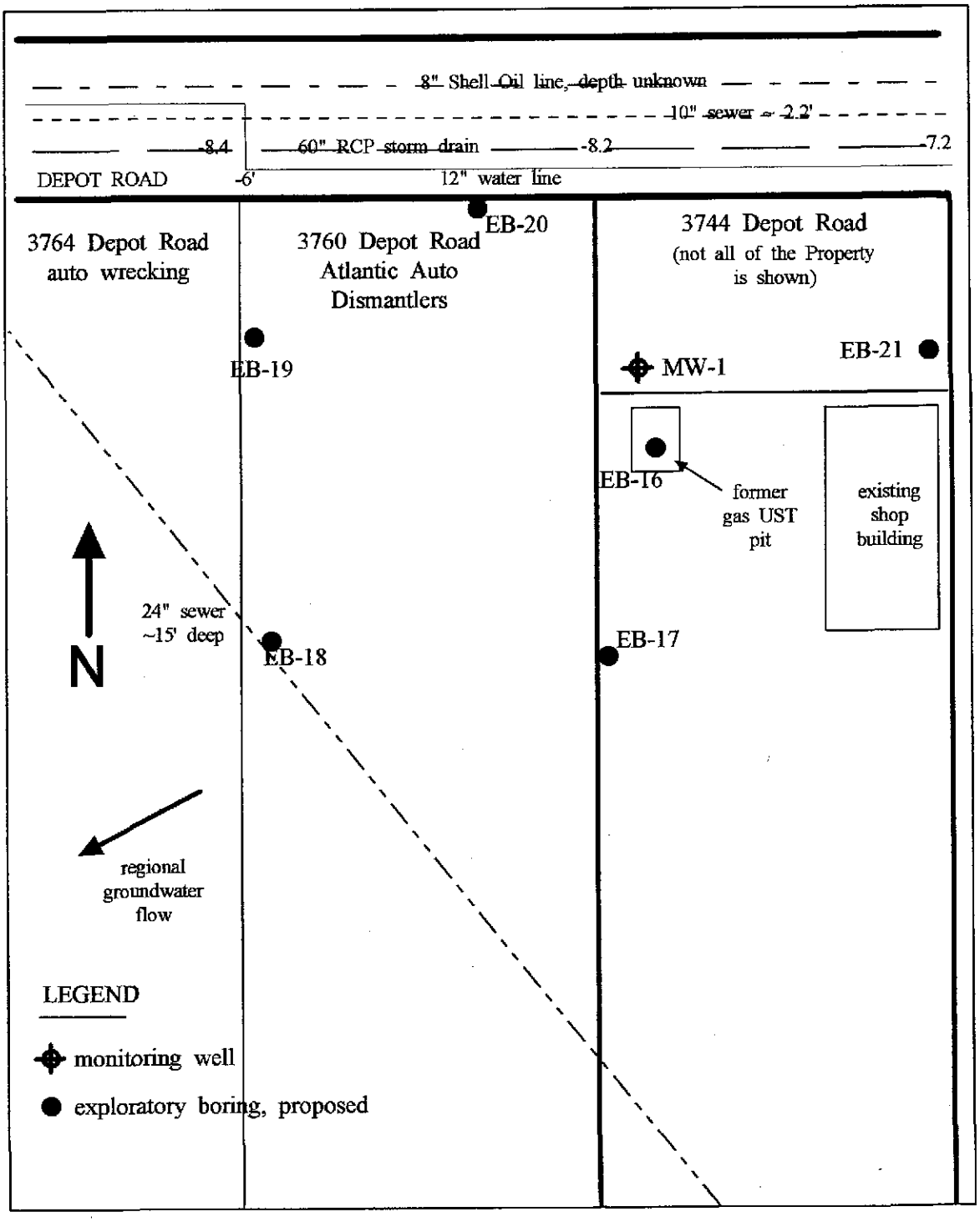


**FIGURE 5**

***PROPOSED BORINGS – FORMER GAS UST PIT***

3744 DEPOT ROAD
HAYWARD, CALIFORNIA

JULY 2004
SCALE: 1" = 50'

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**TABLE 1 - RATIONALE FOR LOCATIONS OF BORINGS**
**3744 Depot Road, Hayward**

| Boring No. | Location | Depth | Purpose |
|---|---|---|---|
| | | | |
| EB-7 | fmr. waste oil tank pit | 20' of ND below | vertical delineation in soil and groundwater at source |
| | | deepest impact | |
| | | | |
| EB-8 & | adj. to 24" sewer | deepest impacted | investigate potential for groundwater migration and preferential flow along sewer utility. |
| EB-9 | | zone at EB-7 | |
| | | | |
| EB-10 | eastern perimeter, | deepest impacted | upgradient delineation of groundwater impacts including potential for offsite contribution |
| | upgradient of pit | zone at EB-7 | |
| | | | |
| EB-11 | southeast of tank pit | deepest impacted | lateral delineation of groundwater impacts including potential for offsite contribution |
| | | zone at EB-7 | |
| | | | |
| EB-12-15 | downgradient & cross- | deepest impacted | delineation of groundwater impacts downgradient and cross-gradient |
| | gradient of tank pit | zone at EB-7 | |
| | | | |
| EB-16 | fmr. gas tank pit | 20' of ND below | vertical delineation in soil and groundwater at source |
| | | deepest impact | |
| | | | |
| EB-17 | SSW of tank pit | deepest impacted | lateral delineation of groundwater impacts |
| | | zone at EB-16 | |
| | | | |
| EB-18-20 | SW to NW of tank pit | deepest impacted | lateral delineation of ground water impacts, investigation of potential to migrate to utilities |
| | | zone at EB-16 | |
| | | | |
| EB-21 | eastern perimeter, | deepest impacted | upgradient delineation of groundwater impacts including potential for offsite contribution |
| | upgradient of pit | zone at EB-16 | |
| | | | |

# APPENDIX A

# SUMMARY OF PREVIOUS WORK, AGENCY CORRESPONDENCE AND ANALYTICAL DATA

# Table Summary of Previous Work and Agency Correspondence

| *Reports/Correspondence* | *Date* | *Author* | *Description* |
|---|---|---|---|
| **Letter requiring submission of reports** | January 27, 1995 | ACHSA | Requirement of submission of Tank Closure Rpt & PSA |
| **Letter: Notice of Violation to Jack Lotz/ Jesse Allen/ Kenneth & Patricia Hein** | May 18, 1995 | ACHSA PIERS | Letter of Notice of Violation, failure to submit Tank Closure Rpt & PSA |
| **Site Reconnaissance Workplan for: 3744 Depot Road, Hayward, California** | August 28, 1995 | | Workplan to reconstruct tank history and to install soil borings |
| **Work plan acceptance letter** | August 28, 1995 | ACHSA | ACHSA reviewed and accepted Work Plan w/comments |
| **Limited Phase II Site Assessment for 3744 Depot Road, Hayward, CA** | September 12, 1995 | PIERS | Tank removal report & soil borings |
| **Work Plan for Preliminary Site Assessment for 3744 Depot Road, Hayward, CA** | June 1996 | PIERS | Work plan for PSA |
| **Memorandum on Guidance on MTBE** | August 22, 1996 | SWRCB | New guidance on GW monitoring of MTBE from active LUFT cases |
| **Well Survey Report** | December 30, 1996 | JW Rasp, PE | Surveyed monitoring well elevations |
| **Preliminary Site Assessment, Groundwater Well Installation and 1st Quarterly Report** | February 10, 1997 | PIERS | PSA, well installation and sampling report |
| **Letter reviewed PSA Report** | April 9, 1997 | ACHSA | Reviewed PIERS' PSA report, and ordered 2 quarters of GW monitoring & sampling |
| **Groundwater Monitoring Well Sampling Report and Request for No Further Action Status** | May 27, 1997 | PIERS | GW sampling report and request for NFA status |
| **Amendment Letter to the ACHSA** | November 3, 1998 | PIERS | Letter amending previous groundwater flow direction of 0.002 ft/ft to the south |
| **Letter requesting an additional round of sampling** | March 1, 1999 | ACHSA | Request for an additional round of well sampling before closure |
| **GW Monitoring Wells Sampling Report** | March 30, 1999 | PIERS | All results were non-detect |
| **Storm Water Pollution Prevention Plan** | April 1999 | PIERS | Storm water plan |
| **First Rainfall Event Storm Water Sampling Report** | April 1999 | PIERS | Storm water sampling report |
| **Final 1999 Groundwater Monitoring Well Sampling Report and Request for No Further Action Status** | April 1999 | PIERS | Qtrly GW sampling report & request for NFA |
| **Amendment to Final 1999 Report** | July 12, 1999 | PIERS | Amended lab report, now quantifies MTBE in results. |
| **Phase I Environmental Site Assessment of 3744 Depot Road, Hayward, California** | August 2000 | PIERS | Phase I ESA |
| **Site Closure Summary and Request for Case Closure for 3744 Depot Road, Hayward, California** | August 2000 | PIERS | Site closure summary and formal request for No Further Action status |
| **Letter: Comments to Request for Case Closure** | March 6, 2001 | ACHSA | Comments on case closure request |
| **Letter: Case Closure Summary Additional Data** | March 30, 2001 | PIERS | Response to ACHSA comments on case closure |
| **Letter response to Case Closure Summary Add. Data** | April 4, 2001 | ACHSA | Response to letter by PIERS dated March 30, 2001 |
| **Letter response to ACHSA on GW gradient** | May 9, 2001 | PIERS | Response to ACHSA letter dated April 4, 2001 |
| **Comments on Case Closure request** | May 14, 2001 | ACHSA | Response to PIERS letter dated May 9, 2001 |
| **Response to Comments and Case Closure Request** | February 10, 2003 | PIERS | Synopsis of previous work done on-site |
| **Work Plan for Additional Soil and Groundwater Investigation** | December 10, 2003 | PIERS | Work plan for six borings with soil and groundwater sampling. |
| **Report of Additional Soil and Groundwater Investigation** | March 1, 2004 | PIERS | Report of work proposed in December, 2003 work plan |
| **Letter response to March 2004 report** | May 19, 2004 | ACHSA | Response to findings and request for pathway study, site conceptual model, and work plan for additional investigation |

# APPENDIX B

# UTILITY MAPS

1527W420

STREET

KIDDER

BERNHARDT STREET

CABOT BLVD

FOLEY STREET

CONNECTICUT STREET

MUNSTER AVENUE

EICHLER STREET

VIKING STREET

SOUTH PORTION DE SOTO RANCHO
RANCHO ARROYO DE LA ALAMEDA

AM-439

DEPOT

ALAMEDA COUNTY

HAYWARD

CITY OF HAYWARD

10' San Sewer Easement

10' WATER EASEMENT

Storm Drain Easement

10' Sanitary Sewer Easement

SCALE IN FEET
100 0 100 200 300 400 500 600 700

1527W416

NOTE: THIS MAP IS BASED ON THE CALIF. COOR. SYSTEM, ZONE III. ELEVATIONS ARE BASED ON U.S.C.& G.S. M.S.L. DATUM. INFORMATION IS FOR REFERENCE USE ONLY AND THE CITY OF HAYWARD ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

U.S.G.S. QUAD. HAYWARD

1527W418

1524W418

1530W418

CITY OF HAYWARD BASE MAP
STREET ADDRESSES AUG 2003
WATER MAINS OCT 2000
SEP 97

1527S420

STREET
KIDDER
BERNHARDT
CABOT
FOLEY
CONNECTICUT
MUNSTER AVENUE
EICHLER
VIKING
DEPOT
ALAMEDA
COUNTY
HAYWARD
BLVD

SOUTH PORTION DE SOTO RANCHO
RANCHO ARROYO DE LA ALAMEDA

AM-439

10" San Sewer Easement
10' WATER EASEMENT
10' Sanitary Sewer Easement
Storm Drain Easement
6' PUE

CITY OF HAYWARD BASE MAP
STREET, ADDRESSES JUN 92
SEWER MAINS JUN 92
MAY 99

SCALE IN FEET
100 0 100 200 300 400 500 600 700

1527S416

NOTE: THIS MAP IS BASED ON THE CALIF. COOR. SYSTEN, ZONE III. ELEVATION'S ARE BASED ON U.S.C.& G.S. M.S.L. DATUM. INFORMATION IS FOR REFERENCE USE ONLY AND THE CITY OF HAYWARD ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY

U.S.G.S. QUAD HAYWARD

1527S418

1530S418

12+22± Exist. 24" San. Sew.

Rim elev. 9.3±
Conform

13+22 Construct Standard Manhole Type H. with bolt down cover.

13+57± Existing 12" Water line to be relocated by others.

2.2 Sewer 2.1

1.4

Storm Drain Install 60" R.C.

7.2
Place 6" Cru
or Gravel

8.2

8.4

℄ of M.H.

15'

## PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

12+00 13+00 14+00 15+00

N

Exist. 24" San. Sew.

P.G.&E. Easement

Construct Standard Manhole Type H. with bolt down cover.

13+22

Existing 12" Water line

Exist. 8" Shell

Construction ℄

12+0 13+0 14+00 15+00

Existing 12" Water line to be relocated by others.

Exist. 12" W

P.L.

P.G.&E. 230 KV Line

DORRI

LUTSCHAN

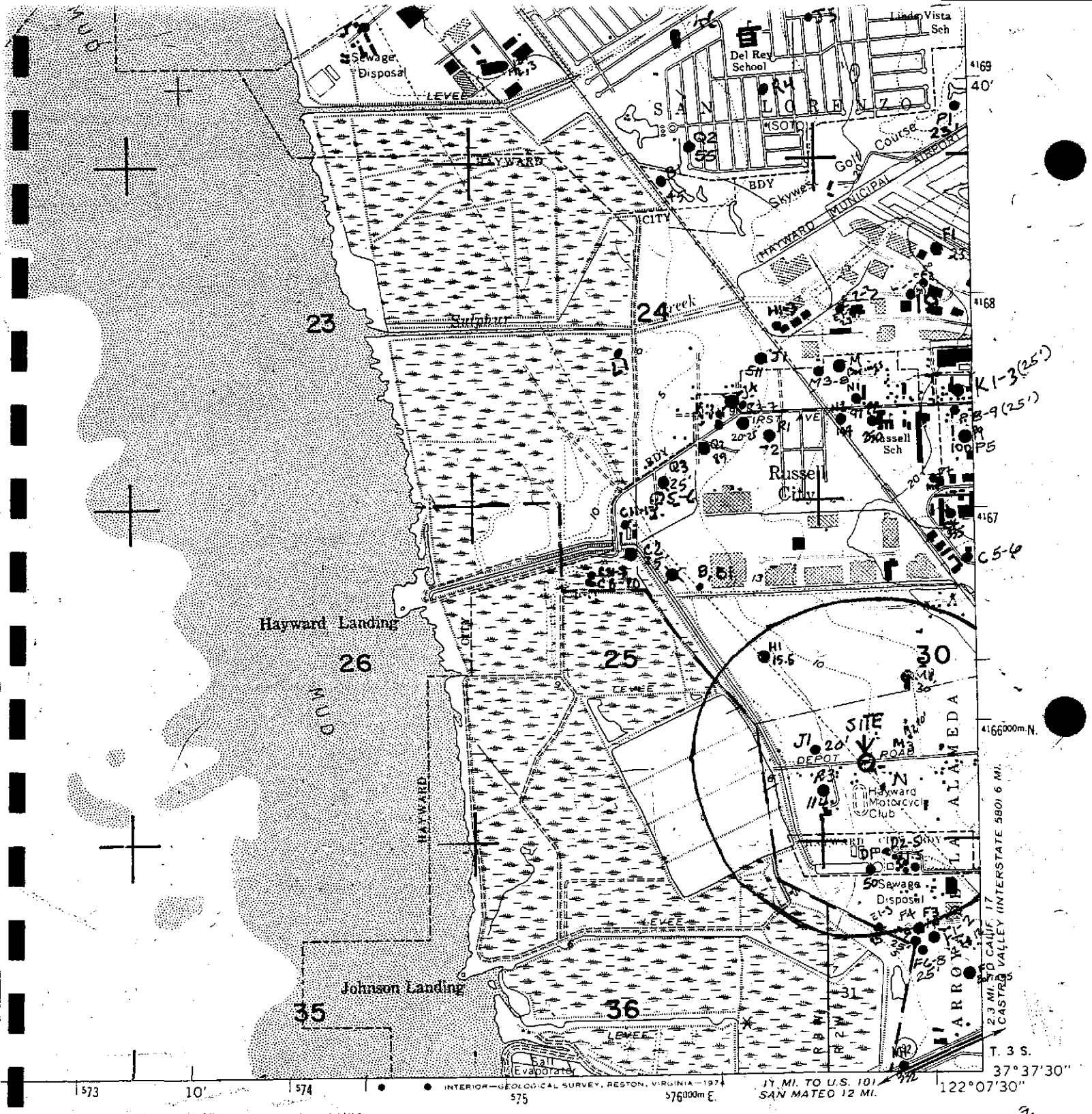
ACWD Rev 10-15-71
ZONE NO. 4 PROJECT
LINE E-2
PLAN & PROFILE
SHEET 3/9

# APPENDIX C

# WELL SURVEY

TABLE 1 - WELL SURVEY
3744 Depot Road, Hayward

| TR | Section | Address | Owner | Update | Drilldate | Total depth | Diam. | Use |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| 3S/3W | 25H1 | 23510 Bernhardt St. | Calif. Courier Serv. MW1 | 7/15/1993 | Nov-92 | 16 | 2 | DES |
| | | | | | | | | |
| 3S/3W | 25J 1 | CABOT BLVD. NR. DEPOT RD. | LINCOLN PROP(FOSTER CITY) | 2/3/1988 | May-87 | 19 | 2 | MON |
| | | | | | | | | |
| 3S/3W | 25R 3 | 8200 DEPOT RD | E.B. STONE & SON | 8/16/1984 | 2/50 | 114 | 12 | IND+ |




1 MILE
7000 FEET
1 KILOMETER

ROAD CLASSIFICATION

Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
Interstate Route
State Route

CALIF

QUADRANGLE LOCATION

RICHMOND
OAKLAND WEST
OA
2

SAN LEANDRO, CALIF.
NW 4 HAYWARD 15' QUADRANGLE
N3737.5—W12207.5/7.5

1959
PHOTOREVISED 1968 AND 1973
AMS 1559 II NW—SERIES V895

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RDS
TON, VIRGINIA 22092
REQUEST