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

December 22, 1997

STID 1331

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda. CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Srikanth Dasappa
USA Petroleum Corporation
30101 Agoura Court, Ste. 200
Agoura Hills, CA 91301-4311

Mr. Rory Packer
Westfield Corporation
11601 Wilshire Bl., 12th Fl.
Los Angeles, CA 90025-1748

RE: USA PETROLEUM STATION #73, 15120 HESPERIAN BOULEVARD, SAN LEANDRO

Dear Messrs. Dasappa and Packer:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health Services

c: Richard Pantages, Chief, Env. Protection Division
Kevin Graves, RWQCB
Dave Deaner, SWRCB (w/attachment)
Mike Bakaldin, San Leandro Hazardous Materials Program (w/o)
SOS/files

...LTH CARE SERVICES
AGENCY

RO#705

December 22, 1997

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda CA 94502-6577
510 567-6700
FAX 510 337-9335

STID 1331

Mr. Srikanth Dasappa
USA Petroleum Corporation
30101 Agoura Court, Ste. 200
Agoura Hills, CA 91301-4311

Mr. Rory Packer
Westfield Corporation
11601 Wilshire Boulevard, 12th Floor
Los Angeles, CA 90025-1748

RE: USA PETROLEUM STATION #73, 15120 HESPERIAN BOULEVARD, SAN LEANDRO

Dear Messrs. Dasappa and Packer:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]) of the California Health and Safety Code. The State Water Resources Control Board (SWRCB) has required since March 1, 1997 that this agency use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at this site.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist on- or off-site, and are associated with the UST release from this site:

- Up to 14,000 micrograms per liter (ug/l) Total Petroleum Hydrocarbons as Gasoline (TPH-G) and 110 ug/l benzene, among other fuel constituents, remain in ground water, and 1000 parts per million (ppm) TPH-G and 3 ppm benzene, among other fuel constituents, remain in soil encountered at off-site locations.

- Up to 11,000 ug/l TPH-G and non-detectable benzene, among other fuel constituents, remain in ground water, and 5100 ppm TPH-G and <20 ppm benzene, among other fuel constituents, remain in soil encountered at on-site locations.

I understand that the wells associated with this investigation are scheduled to be destroyed December 30 and 31, 1997. Case closure at this time is substantially based on assurances that this task will be performed as scheduled, and that this agency will be provided documents confirming that well destruction was completed.

If you have any questions, please contact the undersigned at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

cc: Richard Pantages, Chief, Environmental Protection

01-1626

- SIGNED COPY -

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 10/17/97

Agency name: **Alameda County-EPD** Address: **1131 Harbor Bay Pkwy #250**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Scott Seery** Title: **Haz. Materials Spec.**

II. CASE INFORMATION

Site facility name: **USA Petroleum Station #73**
Site facility address: **15120 Hesperian Blvd. San Leandro 94578**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **1331**
URF filing date: 06/08/89 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
USA Petroleum Corp. Attn: Srikanth Dasappa	30101 Agoura Ct, Ste. 200 Agoura Hills, CA 91301-4311	(818) 865-9200
Westfield Corp. Attn: Rory Packer	11601 Wilshire Bl., 12th Fl. L.A., CA 90025-1748	(310) 445-2425

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	gasoline	removed	05/03/89
2	10,000	"	"	"
3	10,000	"	"	05/04/89
4	300	waste oil	"	July 1992

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: tank failure / piping leak

Site characterization complete? YES

Date approved by oversight agency:

Monitoring Wells installed? YES Number: ~ 21

Proper screened interval? YES

Highest* GW depth below ground surface: 6.31' Lowest* depth: 10.11'

* Indicated depths to GW are for non-anomalous measurements recorded since April 1993 from wells located on the contiguous Bay Fair property, i.e. excluding wells MW-10, -11, and -12.

Flow direction: south-to-southeast

Most sensitive current use: commercial

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Are drinking water wells affected? NO Aquifer name: San Leandro cone

Is surface water affected? UNK Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): shallow ground water affected by elevated concentrations of fuel HCs

Report(s) on file? **YES** Where is report filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	300 gals	Disposal - H&H Ship Svc San Francisco, CA	02/10/93
	2x10K gals	Disposal - H&H Ship Svc San Francisco, CA	05/03/89
	1x10K gals	Disposal - H&H Ship Svc San Francisco, CA	05/05/89
Piping	UNK		
Product/H_2O	80 gals	Disposal - H&H Ship Svc San Francisco, CA	05/05/89
	UNK	UNK	07/21/91
Product	1442 lbs. (~223 gals.)	Treatment - RSI(S.A.V.E.)/GAC	'93-'97
Soil	2440 tons	Recycle - Port Costa Mtls Port Costa, CA	07/09/91-07/24/91
	354 yds^3	Disposal - Durham Rd. L.F. Fremont, CA	07/29/97
	4 yds^3	Disposal - Forward L.F. Stockton, CA	12/07/92
Groundwater	~503.5K gals	Disposal - POTW	'93-'97

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)				Water (ppb)			
	Before[1]	After[2]			Before[3]		After[4]	
	Pit/Disp.	Pit	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site
TPH (Gas)	9670	36	5100	1000	FP[5]	25K	11K	14k
TPH (Diesel)	300	NA	NA	NA	NA	NA	NA	NA
Benzene	76.5	0.35	<20	3	FP	4600	ND	110
Toluene	174.6	0.45	70	10	"	760	19	62

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)				Water (ppb)			
	Before[1]	After[2]			Before[3]		After[4]	
	Pit/Disp.	Pit	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site
Xylene	274	2.6	170	34	"	1200	270	140
Ethylbenzene	123	0.89	680	85	"	5400	0.75	77
Oil & Grease	NA							
Heavy metals	(See Note 1)							

Notes:

1) "Before" soil results represent samples collected during 1989 fuel UST closures (except TPH-D and metals), as follows: TPH-G and X from south dispenser island (sample DISP-S [aka 3D]); B and T from below north end of center UST (sample UST-2N [aka 2A]); and, E from below north end of west UST (sample UST-3N [aka 3A]). TPH-D and metals results from 1992 waste oil UST closure. All metal concentrations appear attributable to geogenisis (Cd <1 ppm; Cr=30 ppm; Zn=28 ppm; Ni=24 ppm; Pb=6 ppm).

2) "After" soil results reflect samples collected following overexcavation of the original UST cavity ("Pit"), and borings completed both on- and off-site. All "pit" results are from sample NW-2. "On-site" results are represented by samples collected from borings B-7 @ 6' and B-8 @ 11' BG. "Off-site" results are represented by samples collected from well/borings MW-3-P @ 8' and MW-8 @ 10' BG.

3) "Before" water results are presented for both "on-site" and "off-site" locations, as follows: "On-site" - free-product (FP) measured in well MW-1 (3") during August 1989; "Off-site" - BTE results from well MW-8, while TPH-G and XT from well MW-9, both during October 1989.

4) "After" water results are presented for both "on-site" and "off-site" locations, as follows: "On-site" - all data from well MW-6-P during Sept. 1997; "Off-site" - TPH-G, B, T, and E results from "hydropunch" points HP-12P, HP-2P, HP-10P, and HP-12P, respectively (5/97, 12/95, and 5/97, also respectively); X result from well MW-3-P (Sept. 1997).

5) FP = free-phase floating product; NA = not analyzed; ND = not detected

Comments (Depth of Remediation, etc.):

During May 1989, three (3) 10,000 gallon gasoline USTs were removed from and above-ground improvements demolished at this former service station site. The tanks were estimated at the time to be approximately 25 years old. It was reported that the central of the three tanks was observed to have several throughgoing holes of ~ 1" in diameter. The condition of the remaining tanks has not been reported.

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Comments (Depth of Remediation, etc.):

Ground water was reportedly encountered at the base of the tank excavation at an approximate depth of 10' BG, with tank inverts resting in ground water. Although free phase product (FP) was not observed floating on ground water, it has been reported that significant evidence of a release was noted in soil excavated from above and around the fuel USTs.

Soil samples were collected from below each of three (3) dispenser islands, and from the (presumed) capillary zone of the sidewalls at the ends of each tank. Initial results revealed up to 9670 ppm TPH-G and 76.5 ppm benzene, among other fuel components, in samples DISP-S (aka 3D) and UST-2N (aka 2A) collected from below the southern-most dispenser island and adjacent the north end of the central fuel UST, respectively.

During July 1991, the former UST pit and most of the dispenser area were excavated in two phases in an attempt to remove the bulk of the fuel-contaminated soil. The narrative of the July 24, 1991 USA Petroleum report presenting the results of sampling associated with this excavation activity implies the excavation extended to depths consistent with the appearance of ground water, i.e. approximately 10' BG.

During the second of the two excavation phases, also occurring in July 1991, a **storm drain line** surrounded by backfill was discovered near the dispenser islands. It is reported that the backfill surrounding this drain line appeared to contribute to contaminant dispersal from an apparent product line leak in the dispenser island area. Material from around the drain line was removed and the sidewalls resampled.

Final pit sidewall samples indicate a maximum residual concentration in the capillary zone of 36 ppm TPH-G and 0.35 ppm benzene, among other fuel compounds. Samples were <u>not</u> collected, however, from the north side of the resultant excavation along Bay Fair Drive. Final pit dimensions were approximately 100 x 70 (x 10) feet.

Approximately 2440 tons of excavated material were transported to Port Costa Materials (Port Costa, CA) for treatment by rotary kiln and reported incorporation into "inert" products.

A ~300 gallon waste oil UST was reportedly removed from the site during July 1992. It is unclear whether this tank was affiliated historically with the subject fueling station or with the adjoining former Mark Morris Tire Center, located immediately east of the USA site. No indication of the condition of the tank has been reported.

Soil samples were collected in an unknown fashion, presumably from the base

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Comments (Depth of Remediation, etc.):

of the UST excavation, and analyzed solely for the presence of TPH-G/-D, BTEX, and metals. No analyses for the remaining suite of waste oil compounds (i.e., SVOC, HVOC, TOG) were performed.

It is reported that 4 yds^3 of excavated soil was transported to Forward landfill (Stockton, CA) during December 1992.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES

Monitoring wells Decommisioned: YES*

Number Decommisioned: 17* Number Retained: 14

* The best information made available to this agency suggests that all 17 wells either cannot be located or are presumed destroyed. As such, these "decommisioned" wells were either inadvertently destroyed/obscured during site development, or destroyed during over-excavation of the former fuel UST area. None are known to have been destroyed following standard engineering protocol under permit issued by Zone 7 or with approval by any oversight agency.

List enforcement actions taken: NONE

List enforcement actions rescinded: NA

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Scott Seery Title: Haz Mat Specialist
Signature: Date: 11-4-97

Reviewed by
Name: Tom Peacock Title: Supervising Haz Mat Specialist
Signature: Date: 11-4-97

Name: Larry Seto Title: Sr. Haz Mat Specialist
Signature: Date: 11-4-97

Leaking Underground Fuel Storage Tank Program

VI. RWQCB NOTIFICATION

Date Submitted to RB: 11/5/97 RB Response: Approved
RWQCB Staff Name: Kevin Graves Title: San. Eng. Assoc. Date: 11/10/97
Stephen Hill for

VII. ADDITIONAL COMMENTS, DATA, ETC.

(Note: Much of the following historical account is paraphrased in part from a narrative presented in the October 3, 1989 Hygienetics, Inc. report entitled *"Soil & Groundwater Investigation."*)

It is reported that during the 1950's an area in proximity to the USA site (the greater Bay Fair Mall site) was operated as a automobile race track, Oakland Speedway. A service station was constructed on what is now the former USA Petroleum site and operated by Douglas Petroleum during early 1960. Three (3) ~10,000 gallon fuel and one 280 gallon waste oil USTs were installed at that time.

During the 1970's, USA Petroleum (USA) took over lease of the site, subleasing it to SVOCO Petroleum. The fuel dispenser islands were eventually reconfigured and station building moved to a different location of the site.

In 1981, two adjacent restaurants (Kasper's and China Express) located on contiguous (Bay Fair) property just south of the USA site, reported the presence of "intense" gasoline odors to the San Leandro Fire Department (SLFD). SLFD reportedly required USA to install several wells (XMW-1 to XMW-6) at the site. Up to 6" of FP was reportedly encountered in well XMW-6, located some *300 feet south* of the USA tank cluster.

SLFD ordered USA to remove the FP. Two additional "recovery" wells, designated EW-1 and EW-2, were installed by parties unknown, presumably, however, on behalf of USA, and, also presumably, in response to this SLFD request. (Note: It is unknown whether these wells were ever employed for this purpose or how much product may have been removed, as no records have been produced to date by any party regarding any aspect of the XMW and EW series wells, including well construction details or sample data.)

In 1982, it is reported that SLFD returned to the site and, again, discovered FP in well XMW-6. It is unknown what steps, if any, were taken as a consequence of this discovery.

Following a failed UST integrity test of one tank in February 1987, it is reported that USA was "issued an order by the RWQCB" (more likely this agency, however, based on correspondence from this office dated 03/10/87) to determine the extent of the release from the USTs at the site. After minor repairs, the tank passed a retest, prompting USA to request no further action at the site. None was requested by this agency.

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

Also during February 1987, Shell Oil Company (Shell) contracted an assessment of the property, for Shell was reportedly considering acquisition of the site. During this assessment five wells (S-1 through S-5) were constructed about the UST cluster and dispenser islands. Substantial soil and ground water impact was noted. Up to 9100 ppb benzene, among other fuel components, was identified in water sampled from these wells.

Between July and September 1989, and in response to the release identified during the earlier UST removals, several soil borings (B-1 through B-16) and wells (MW-1 through MW-6) were completed by a consultant representing the property owner. Measurable FP was noted in wells MW-1 and -4 at that time. High concentrations of dissolved phase HCs in the remaining wells at the site confirmed the presence of significant contamination below the site, the spread of which appears to have been exasperated by a sand layer present at a depth consistent with encountered ground water (~10 - 13' BG). Data suggest both water *and contaminants* are transported through this sand layer.

Additional wells (MW-7, -8, and -9) were installed at locations up to 300' south of the UST cluster during October 1989. Up to 4600 ppb benzene (MW-8), among other fuel components, was identified in water sampled during this phase of the investigation. The data indicate the plume boundary was clearly beyond the (then) current well network.

During April 1990, three more wells (MW-10, -11, and -12) were installed in locations up to ~600' south of the USA tank site to assess potential off-site impacts. No detectable HC compounds were identified in any water or soil (capillary fringe) samples. The thickness of the sand layer also appeared to have thinned (<3'), or was absent altogether (MW-12), when compared to it's occurrence in the previous wells/borings.

A remediation plan was proposed which included the installation of a series of dewatering trenches, water treatment system (S.A.V.E.), and reinjection wells for treated ground water. This plan was later modified substituting the original injection wells for injection *trenches*. This plan, as amended, was later approved by this agency in February 1992.

Between approximately March and October 1992, the contiguous Bay Fair property formerly housing the USA station, Mark Morris Tire, Kasper's and China Express restaurants, and Bayfair Lanes bowling alley were redeveloped by the property owner. The Home Express store and associated parking lot were the result. During construction and grading activity associated with this development, approximately 17 wells were either destroyed or their locations permanently obscured.

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

Between March 1992 and April 1993, USA's consultant implemented remedial action construction tasks, which included: installation of two (2) ground water infiltration trenches and associated extraction wells (E-1-P [MW-1-P] and E-2-P); installation of several additional monitoring/ extraction wells (MW-2-P through MW-7-P) and associated soil vapor/ground water extraction plumbing; and, installation of the S.A.V.E. treatment compound. A portion of the southern-most infiltration trench is now located below the foundation of the completed Home Express store. Treated ground water is directed through sewer laterals to the local POTW, as opposed to being *reinjected* into the formation. (Note: The location, number, and orientation of the completed trench and extraction well systems differ substantially from the approved plan, and was modified without approval from this agency.)

The remediation system reportedly began operation in May 1993. The original S.A.V.E. remediation unit was replaced in August 1995 with in-series GAC canisters for treatment of both extracted vapors and ground water. It is reported that a total of approximately 1442 pounds (223 gals.) of product have been removed from the formation and treated to date.

In order to facilitate an evaluation of potential human health risks and to better define plume geometry, a series of additional "hydropunch" (HP) points were advanced between December 1995 and May 1997 on both the contiguous Bay Fair site and along the railroad easement bordering the site to the south. Ground water, soil and soil vapor were collected from select HP points. Total organic carbon (TOC) and grain size distribution analyses were additionally performed on soil samples collected from three of the four HP points (i.e., HP-10-P, -11-P, -12-P) completed within the railroad easement.

HP data indicate the ground water plume extends at least as far south as HP-12-P and HP-4-P. Monitoring well MW-11, located within Olive Court and a mere 60' south of HP-12-P, has not, except for a single occurrence in 1994, been impacted by detectable concentrations of target compounds. These data suggest, therefore, that the southern plume boundary lies between MW-11 and HP-10-P et al. The eastern plume boundary appears to be defined by HP points HP-3-P, -6-P, -5-P, and -9-P. The northern boundary appears to be defined by well XMW-1. The western plume boundary, in contrast, has not been defined directly, as Hesperian Boulevard borders the site in that direction. Data suggest, however, that the plume passes below Hesperian to some extent, and may be intercepted by buried utility trenches (e.g., storm sewer line, etc.).

As indicated previously, ground water appears to be present within a sandy layer initially encountered at depths ranging from approximately 10 - 13' BG on the Bay Fair site. This sand layer appears to "pinch out" further to the south towards well MW-12. Ground water flow direction has been

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

calculated to be primarily towards the south-southeast, roughly towards Estudillo Canal. The canal may likely represent an entrenched and culvertized natural drainage course towards which preferential ground water flow pathways were long ago established as a consequence of natural sedimentary depositional processes.

Similarly, ground water flow and contaminant distribution appear to have been substantially affected by preferential flow through a now-abandoned storm drain trench (discovered during the 1991 UST pit overexcavation activities) oriented approximately north-south and passing below the former USA dispenser islands. This storm drain formerly passed beneath both the Kasper's and China Express restaurants, extending towards the southern property boundary where it ultimately connected with a segment which still directs storm water flow towards Estudillo Canal where it is discharged.

Exfiltration of fuel vapors from this trench may explain the presence of gasoline odors at both restaurants during the 1980's. This conduit likely contributed to the appearance of FP in well XMW-6 during the same period of time, as well as elevated concentrations of gasoline compounds measured historically in well MW-8 and HP points HP-2-P, -4-P, -7-P, -10-P, -11-P, and -12-P. It is not anticipated that contaminated ground water has or will discharge to Estudillo Canal, as the canal is cement lined.

Vapor samples were collected from probes V-P-1 and -P-2 during December 1995, VEW-4 and -5 during July 1996, and HP-10-P, -11-P, and -12-P during May 1997. Vapor samples were collected from the VP series probes at depths between 6.5 and 8' BG, from the VEW series at depths between 6 and 7' BG, and from the HP series at two depth intervals: 2' and 7' BG. Samples were reportedly collected in Tedlar bags and analyzed for the presence of TPH-G and BTEX.

Laboratory results indicate the only remarkable detection was from sample point V-P-1, located adjacent the noted north-south storm sewer and approximately 75' south of the former USA dispenser islands, where 4.7 ppmv *benzene* and 1200 ppmv *TPH-G*, as well as detectable TEX, were reportedly identified. In addition, TPH-G was detected in the 7' vapor samples collected from HP-10-P and -11-P, as well as toluene from the 7' sample in MW-11-P. *Benzene* was reportedly <u>not</u> detected (MDL = 0.16 ppmv) in any of the vapor samples collected from points HP-10-P through -12-P.

Reported results for soil TOC analyses of samples collected from HP points HP-10-P, -11-P, and -12-P were converted to fraction of organic carbon in soil (f_{oc}). Mean f_{oc} values for shallow (2 - 2.5') samples are determined to be 0.0127 g-C/g-soil (1.27%) for these three sample locations. Grain size distribution classification indicates this sample interval corresponds to (an apparent) organic silty or clayey sand (<50% by weight passed through #200 sieve). Deeper (7 - 7.5') sample grain size distribution

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

ranged from a sandy silt or clay (HP-12-P) to a well graded sand with silt or clay and gravel. A corresponding mean f_{oc} value of 0.0035 g-C/g-soil (0.35%) was determined.

.....

Site data were evaluated within the framework of the American Society for Testing and Materials (ASTM) E 1739-95 *"Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites,"* or RBCA. Potential complete exposure pathways were determined. A "Tier 1/Tier 2" evaluation was performed, comparing site chemical data with the "example" ASTM RBCA Tier 1 *California-modified* Risk-Based Screening Level (RBSL) look-up table, verifying the reasonable comparability to default input parameters used in development of the RBSLs. Comparisons were based on maximum *recent* contaminant concentrations for sample locations which appeared to represent reasonable "worse-case" examples. ***Benzene*** was used as the "risk-driving" compound during this screening evaluation, applying 1E-05 and 1E-04 excess cancer risk target levels for residential and commercial receptor populations, respectively.

Potential complete exposure pathways for this site were evaluated for both population groups, as follows:

(1) vapor intrusion from ground water to buildings;

(2) volatilization from ground water to outdoor air;

(3) vapor intrusion from soil to buildings; and,

(4) volatilization from soil to outdoor air

An asphalt-paved parking lot now covers the entire area where the UST cluster and dispenser islands were formerly located. Further, it is reported that a **vapor barrier** underlies the slab-on-grade foundation of the Home Express retail store now located at the site. The conclusion from these data, therefore, is that potential exposure pathways for these receptor locations from either soil or ground water media are not reasonably expected to be complete, and will not, consequently, be further evaluated in this context.

A small single-family residential neighborhood is located on the east side of Hesperian Boulevard south of the site, bordered to the north by the noted railroad easement, and clustered around Olive Court. In addition, a small office building adjoins this residential neighborhood, also south of and abutting the railroad easement, but fronting on Hesperian Boulevard. Exposure pathways for these receptor groups were considered potentially complete. Consequently, HP points HP-4-P, and HP-10-P through HP-12-P were

VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

specifically emplaced along the southern edge of the railroad easement to better evaluate potential exposure risks. (Note: Ground water chemical data from HP-4-P have been excluded from this evaluation due to the apparent anomalous values derived from that sample point. In contrast, data from proximal HP-12-P appear more consistent with those from other nearby sample points, and, consequently, have been used in this evaluation in lieu of those data from HP-4-P.)

Volatilization from soil and ground water media to the *outdoor air* exposure pathway was evaluated. The maximum **soil** *benzene* concentration of 2.2 ppm (HP-10-P @ 7' BG) is less than the Tier 1 RBSL for the 1E-04 risk target level for commercial sites. This maximum soil concentration does, however, exceed the *residential* Tier 1 RBSL 1E-05 risk target level for this exposure pathway. The maximum **water** *benzene* concentration of 4.0 ug/l (HP-10-P) is several orders-of-magnitude less than either target risk level under both commercial and residential scenarios.

Vapor intrusion from soil and ground water media to the *indoor air* exposure pathway was also evaluated. The maximum **soil** *benzene* concentration of 2.2 ppm (HP-10-P @ 7' BG) exceeds both the residential (1E-05) and commercial (1E-04) Tier 1 RBSL risk target levels for this exposure pathway. The maximum **water** *benzene* concentration of 4.0 ug/l (HP-10-P) is significantly less than either target risk level under both commercial and residential scenarios.

Comparison of default parameters used in calculating ASTM RBCA Tier 1 RBSLs to known site characteristics reveals that:

1) Shallow (2 - 2.5') mean f_{oc} values exceed RBSL Tier 1 default parameters (1.27% vs. 1.0%) in those sample locations proximal to the receptor populations under consideration;

2) Shallow (2 - 2.5') soil in the area of consideration is classified as silty or clayey sand (SM or SC) based on reported grain size distribution analyses. Tier 1 RBSLs from the ASTM E 1739-95 RBCA document are based on *"sandy soils."* Hence, several physical soil characteristics (e.g., total porosity [θ_T], bulk density [ρ_s], volumetric water and air content in vadose zone soils [θ_{ws} and θ_{as}], etc.) will also differ between formation and default soil types;

3) Depth-to-water (DTW) measurements in the area of consideration appear to be, in general, somewhat shallower than RBSL default values (~213 cm vs. 300 cm).

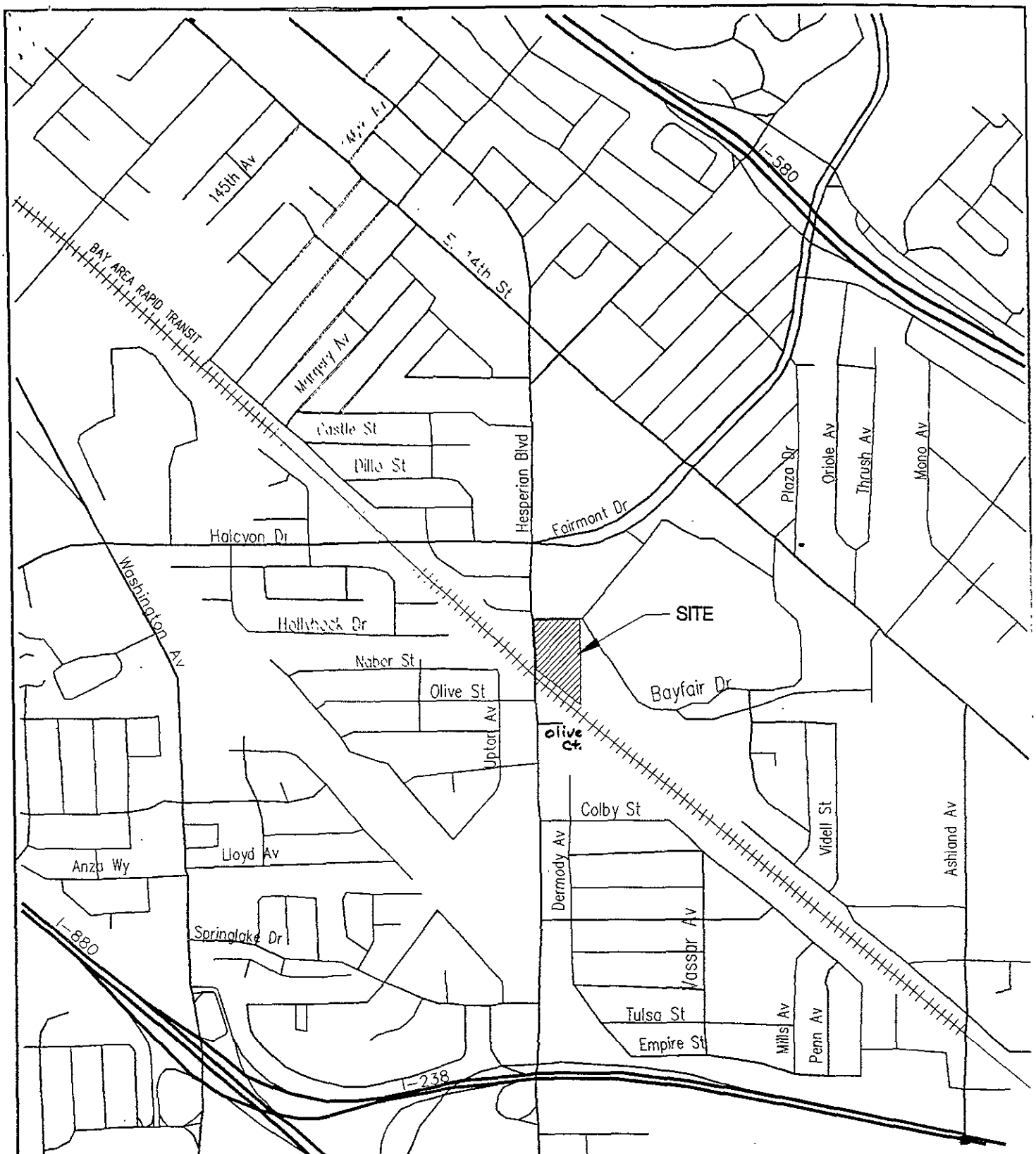
VII. ADDITIONAL COMMENTS, DATA, ETC. (Continued)

As indicated previously, **maximum** benzene concentrations were used as a conservative approach to evaluate a "worse case" risk scenario. In this light, ASTM RBCA Tier 1 RBSL target levels were exceeded for the *"soil-vapor intrusion from soil to buildings"* exposure pathway for both the residential and commercial receptor populations, as well as for the *"soil-volatilization to outdoor air"* exposure pathway for residential receptors. It is reasonably expected, however, that specific geogenic factors will produce greater *actual* vapor transport attenuation potential versus theoretical (i.e., ASTM Tier 1) potential. For example, mean f_{oc} for the shallow (2 - 2.5') soil zone in the area of consideration is greater than the default f_{oc} used to calculate the conservative RBSLs. In addition, anticipated θ_{ws} and θ_{as} values for formation soils, among others parameters, are also expected to further <u>increase</u> vapor attenuation. Collectively, such physical factors reduce potential exposure risks by impeding vapor flow to outside air or enclosed air space.

The role such physical formation characteristics play may be demonstrated through direct soil vapor measurements. Reported soil vapor measurements from the 2 and 7' depths verify the absence of detectable **benzene** (and near absence of detectable concentrations of the remaining aromatic compounds) in collected soil vapor samples in the area of consideration.

These lines of evidence demonstrate latent fuel hydrocarbons, specifically benzene, although present in *maximum* concentrations which exceed commensurate target RBSLs for the noted exposure pathways and receptor populations, are strongly sorbed to soil particles within the saturated/capillary zones. This evidence further demonstrates that the potential for vapor exfiltration from the formation to potential receptor populations is not reasonably expected to occur.

FIGURES



APPROX. SCALE: 1" = 1000'

USA GASOLINE STATION #73
15120 HESPERIAN BLVD.
SAN LEANDRO, CALIFORNIA
SITE LOCATION MAP

GHH
ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

INITIAL	M.A.R.
DATE	10/7/97
JOB #	5004
FIG. #	1

RUTH COURT

ARCO STATION

K.F.C.

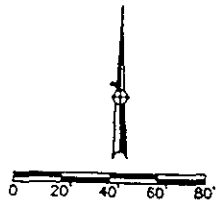
BART

ABOR ST.

OLIVE ST

UPTON AVE.

MW-10



- MONITORING WELL LOCATION
- SOIL BORING LOCATION (HYGIENETICS, INC. 8/89)
- EXCAVATION SOIL SAMPLE
- HP HYDROPUNCH LOCATION
- VAPOR PROBE LOCATION
- VAPOR PROBE LOCATION (8/89) APPLIED GEOSYSTEMS

NOTE: ALL LOCATIONS ARE APPROXIMATE

GENERAL NOTES

RING WELLS MW-1-P TO MW-7-P INSTALLED AUGUST AND BER 1992 BY PARK ENVIRONMENTAL. (STILL IN USE)

RING WELLS MW7*, MW8*, MW9* INSTALLED IN OCTOBER 1989 BY HYGIENETICS, INC. ONAL SOILS AND GROUNDWATER INVESTIGATION, NOVEMBER 1989)

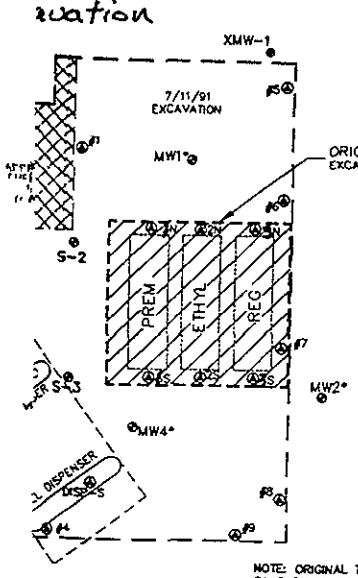
RING WELLS MW1* TO MW6* INSTALLED IN SEPTEMBER 1989 BY HYGIENETICS, INC. ETICS, INC. SITEPLAN 8/89)

RING WELLS S-1 TO S-5S INSTALLED FEBRUARY 1987 IFIC ENVIRONMENTAL GROUP, INC. D GEOSYSTEMS SITEPLAN 9/89)(ASSUMED DESTROYED IN SITE DEMOLITION IN APRIL 1989)

RING WELLS XMW-1 TO XMW-6 INSTALLED IN ~1981 ETICS, INC. SITEPLAN 8/89)

RING WELLS EW-1 & EW-2 WERE INSTALLED BEFORE 1981 BY OTHERS. ED DESTROYED IN SITE DEMOLITION IN APRIL 1989)

xcavation



NOTE: ORIGINAL TANK EXCAVATION SAMPLE LOCATIONS ARE ROUGH APPROXIMATIONS FROM ACDEH NOTES DATED 5/24/89.

DETAIL MAP
SCALE 1" = 20'

DRAIN IN...

RACE TRACK
PRE 1955

EXISTING BAYFAIR SHOPPING CENTER

BAYFAIR WAY

LOCATION OF SD TERMINATION DINKNCAN

. (CA. 1954)

ESTUDILLO CANAL

GHH
ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

ACKNOWLEDGEMENTS

DESIGNED BY	DATE
DRAWN BY M ROBINSON	DATE 7/2/97
CHECKED BY	DATE
APPROVED	DATE

REVISIONS

NO	DATE	BY	MADE

NOTES

PROJECT NO. 5004

PROJECT TITLE

FORMER
USA GASOLINE STATION #73
15120 HESPERIAN BLVD.
SAN LEANDRO, CA

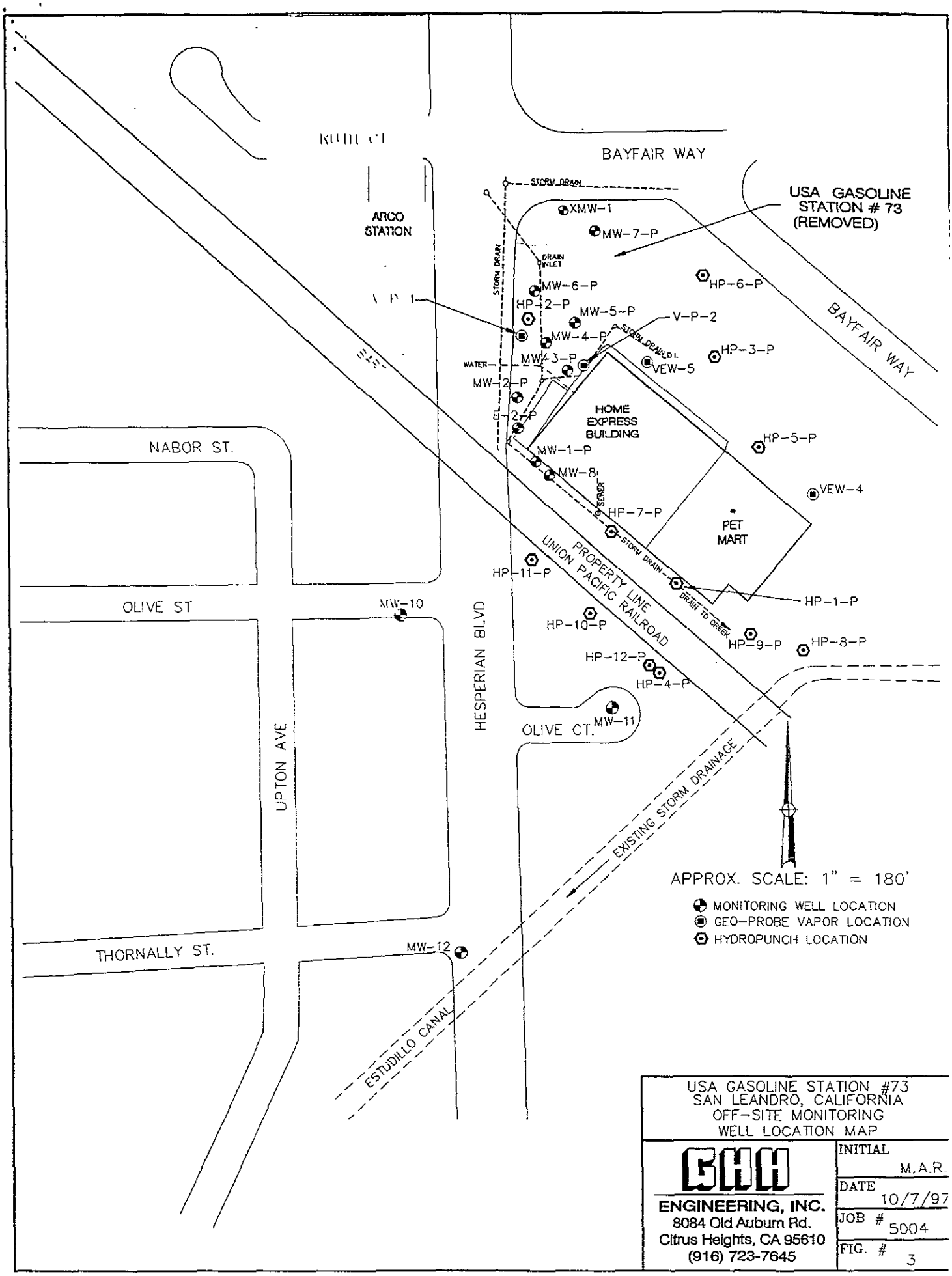
SHEET TITLE

SITEPLAN

SCALE 1" = 40'

DRAWING NO. 1

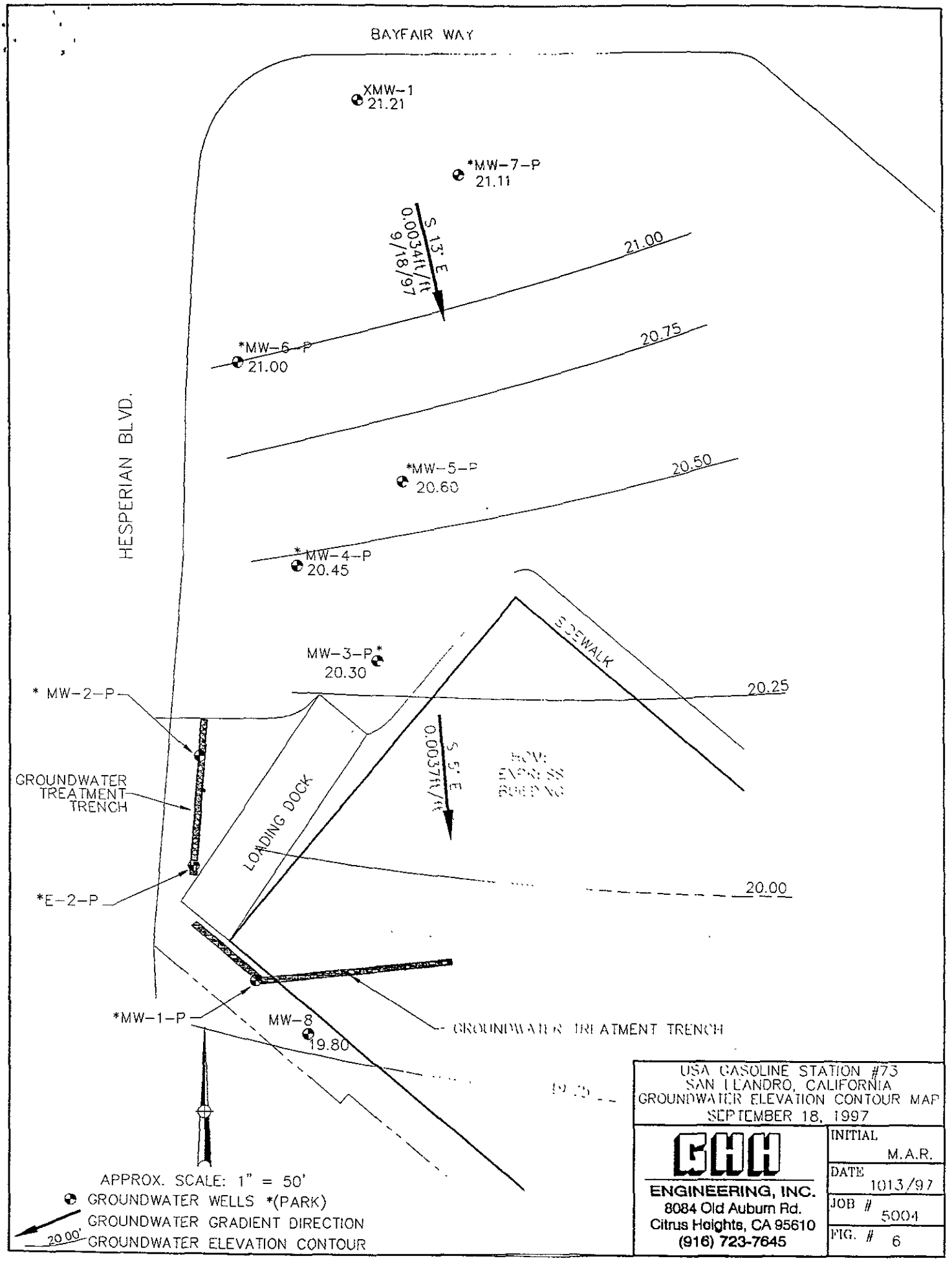
DRAWINGS IN SET



USA GASOLINE STATION #73
SAN LEANDRO, CALIFORNIA
OFF-SITE MONITORING
WELL LOCATION MAP

GAH
ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

INITIAL	M.A.R.
DATE	10/7/97
JOB #	5004
FIG. #	3

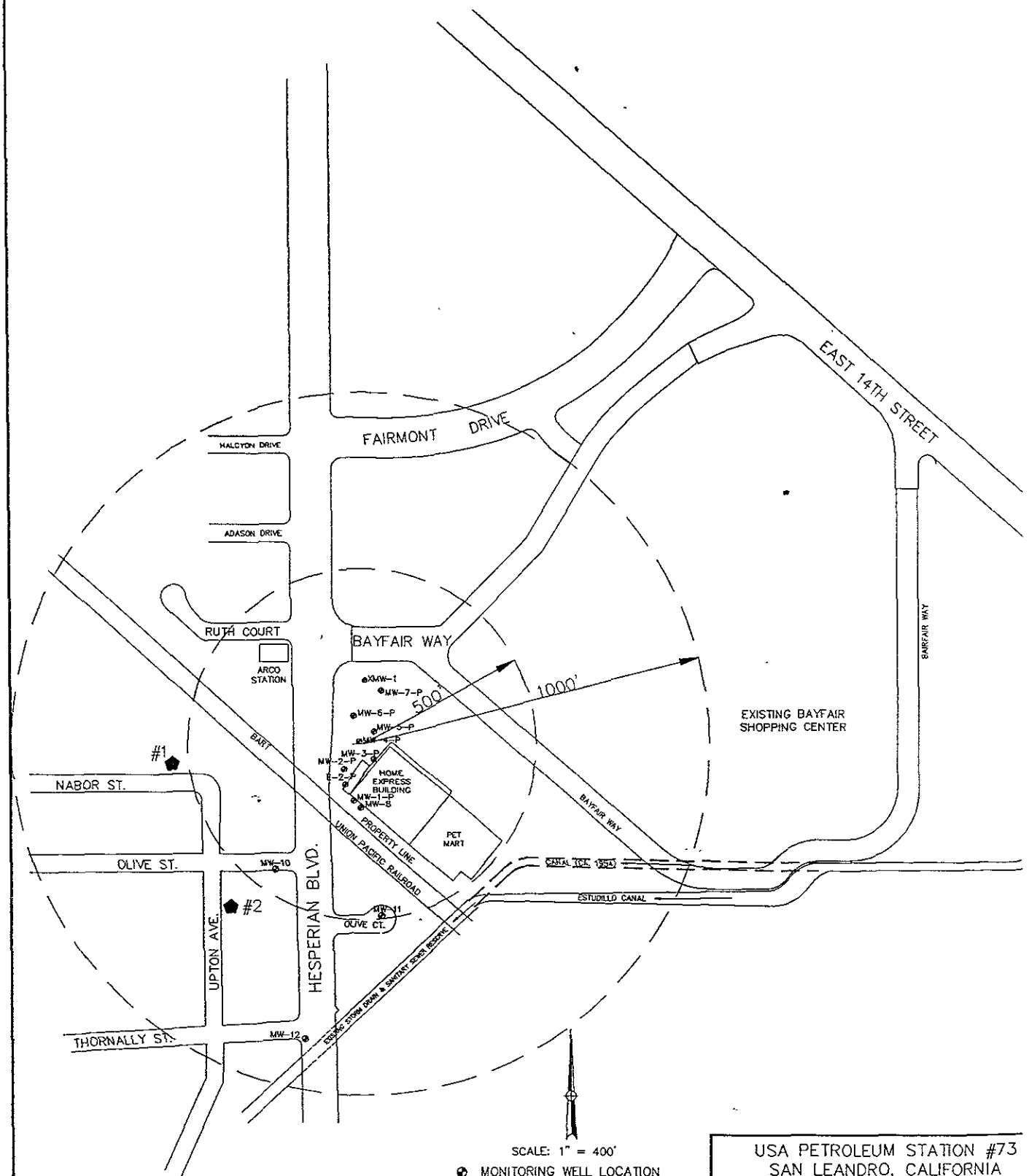


USA GASOLINE STATION #73
SAN LEANDRO, CALIFORNIA
GROUNDWATER ELEVATION CONTOUR MAP
SEPTEMBER 18, 1997

GHH
ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

INITIAL	M.A.R.
DATE	10/3/97
JOB #	5004
FIG. #	6

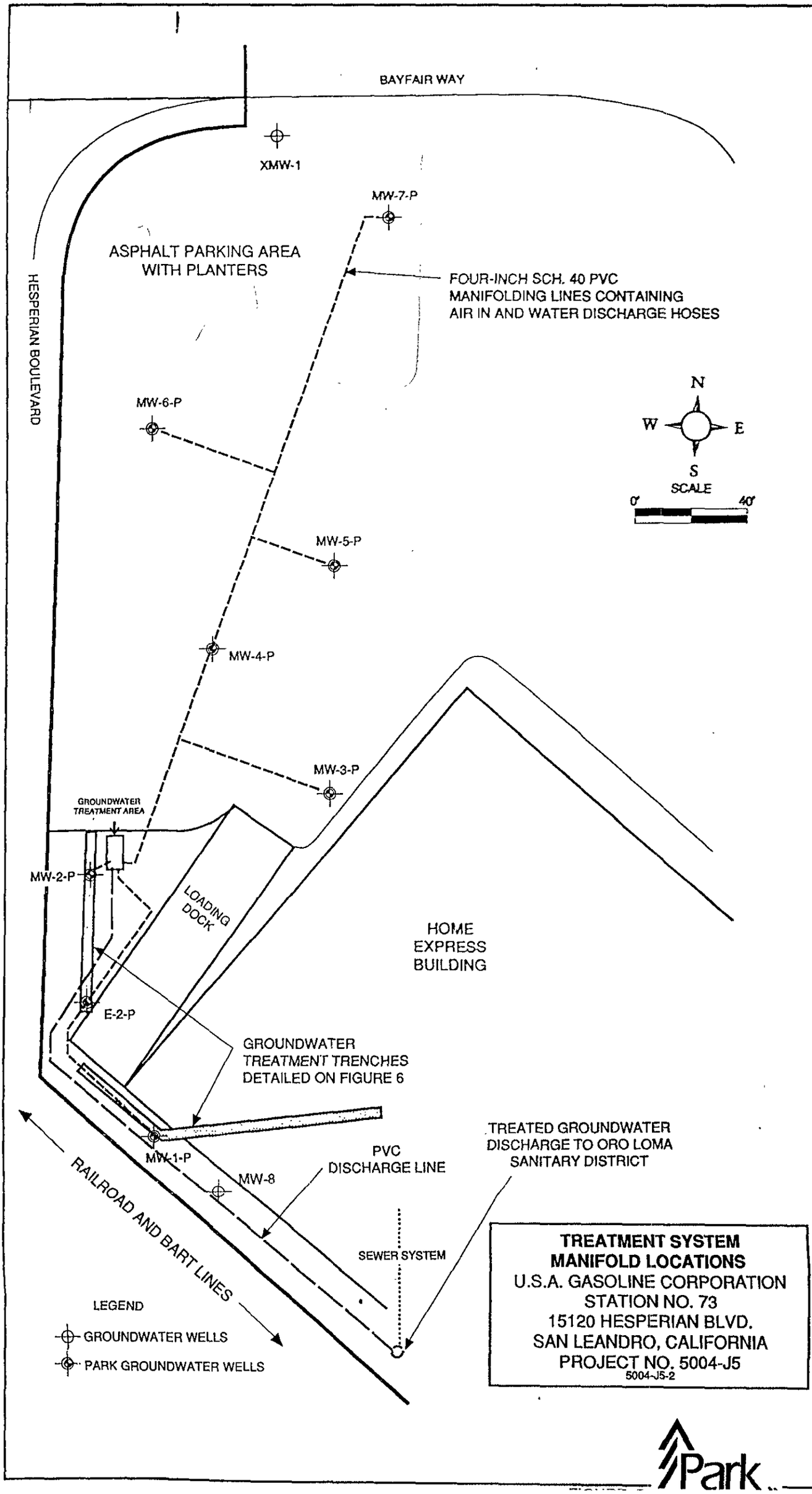
PRIVATE IRRIGATION WELL LOCATIONS



USA PETROLEUM STATION #73
SAN LEANDRO, CALIFORNIA
WELL LOCATION MAP

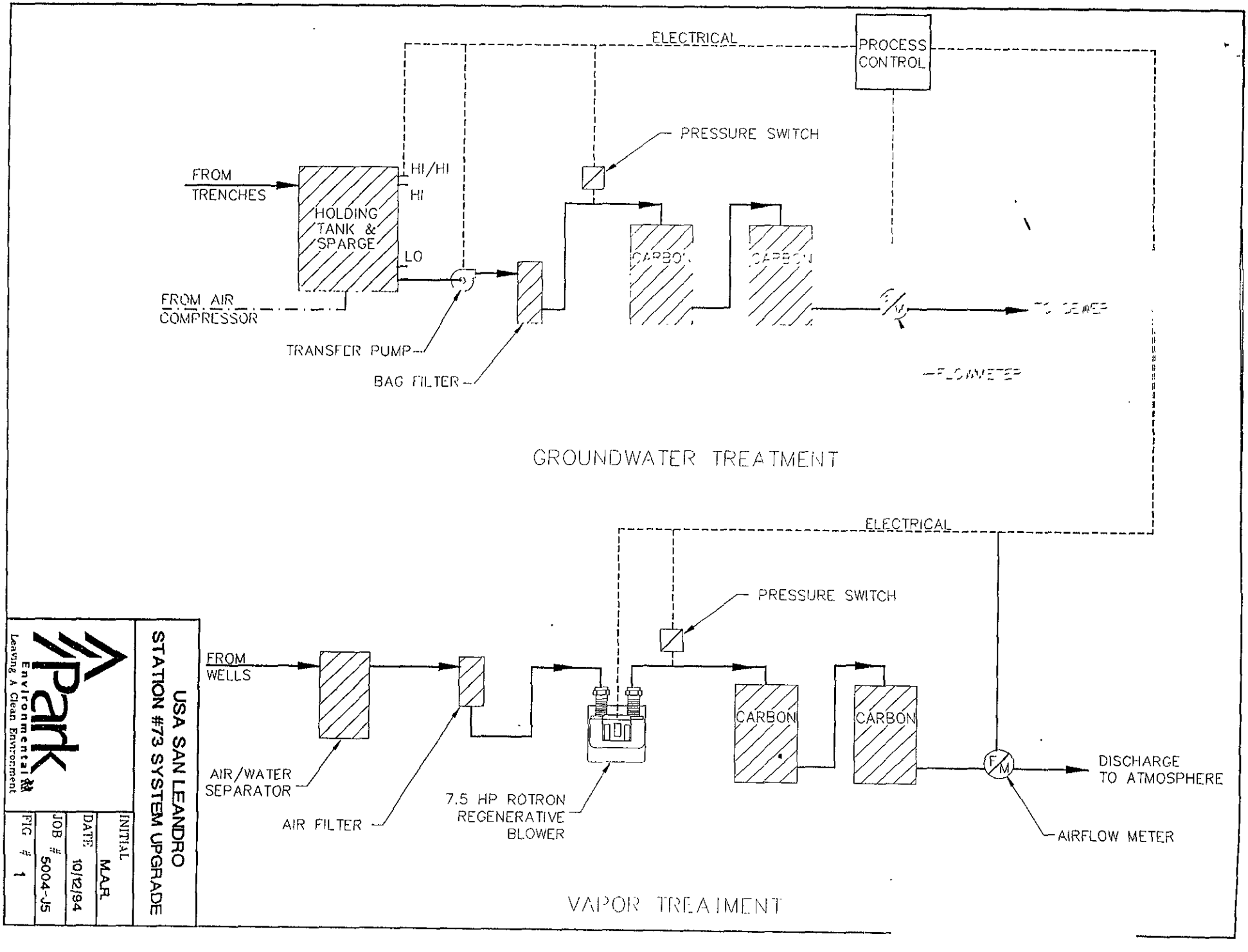
The Park Corporation

INITIAL	M./
DATE	6/26
JOB #	500
FIG #	6



TREATMENT SYSTEM
MANIFOLD LOCATIONS
U.S.A. GASOLINE CORPORATION
STATION NO. 73
15120 HESPERIAN BLVD.
SAN LEANDRO, CALIFORNIA
PROJECT NO. 5004-J5
5004-J5-2

Park


ELECTRICAL
PROCESS CONTROL
PRESSURE SWITCH
FROM TRENCHES
HI/HI
HI
HOLDING TANK & SPARGE
LO
FROM AIR COMPRESSOR
TRANSFER PUMP
BAG FILTER
CARBON
CARBON
F/M
FLOWMETER
GROUNDWATER TREATMENT
ELECTRICAL
PRESSURE SWITCH
FROM WELLS
AIR/WATER SEPARATOR
AIR FILTER
7.5 HP ROTRON REGENERATIVE BLOWER
CARBON
CARBON
F/M
DISCHARGE TO ATMOSPHERE
AIRFLOW METER
VAPOR TREATMENT
Park Environmental
Leaving A Clean Environment
USA SAN LEANDRO
STATION #73 SYSTEM UPGRADE
INITIAL
MAR
DATE
10/12/94
JOB #
5004-J5
FIG #
1

TABLES

GROUND WATER ELEVATION SUMMARY

TABLE 1

GROUNDWATER ELEVATION DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Location	Date of Measurement	Elevation Top of Casing (ft-MSL)	Depth to Groundwater	Elevation of Groundwater (ft-MSL)
XMW-1	04/08/93	29.23	6.69	22.54
	09/14/93		8.06	21.17
	01/13/94		7.89	21.34
	04/12/94		7.47	21.76
	07/27/94		8.12	21.11
	12/13/94		7.48	21.75
	03/16/95		6.31	22.92
	06/30/95		7.05	22.18
	09/15/95		7.70	21.53
	12/20/95		7.27	21.96
	03/06/96		6.37	22.86
	06/19/96		6.99	22.24
	09/20/96		7.68	21.55
	12/13/96		6.94	22.29
	03/21/97		6.94	22.29
	06/27/97		7.54	21.69*
	09/18/97		8.02	21.21
MW-1	06/19/96	NS	9.05	NS
MW-2	06/19/96	NS	10.11	NS
MW-3-P	04/08/93	28.32	6.92	21.40
	09/14/93		8.08	20.24
	01/13/94		7.96	20.36
	04/12/94		7.56	20.76
	07/27/94		8.13	20.19
	12/13/94		7.51	20.81
	03/16/95		6.55	21.77
	06/30/95		7.28	21.04
	09/15/95		7.71	20.61
	12/20/95		7.34	20.98
	03/06/96		6.70	21.62
	06/19/96		7.17	21.15
	09/10/96		7.88	20.44
	12/13/96		7.13	21.19
	03/21/97		7.15	21.17
	06/27/97		7.66	20.66
	09/18/97		8.02	20.30
MW-4-P	04/08/93	28.84	7.12	21.72
	09/14/93		8.60	20.24
	01/13/94		8.23	20.61
	04/12/94		7.97	20.87
	07/27/94		8.38	20.46
	12/13/94		7.81	21.03
	03/16/95		6.98	21.86
	06/30/95		7.63	21.21
	09/15/95		8.90	19.94
	12/20/95		7.69	21.15
	03/06/96		7.10	21.74
	06/19/96		3.74	25.10
	09/10/96		8.24	20.60
	12/13/96		7.47	21.37
	03/21/97		7.35	21.49
	06/27/97		8.03	20.81
	09/18/97		8.39	20.45

TABLE 1 (Continued)

GROUNDWATER ELEVATION DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Location	Date of Measurement	Elevation Top of Casing (ft-MSL)	Depth to Groundwater	Elevation of Groundwater (ft-MSL)
MW-5	04/08/93	29.52	7.75	21.77
	09/14/93		9.10	20.42
	01/13/94		8.91	20.61
	04/12/94		8.41	21.11
	07/27/94		9.09	20.43
	12/13/94		8.49	21.03
	03/16/95		7.47	22.05
	06/30/95		8.16	21.36
	09/15/95		8.62	20.90
	12/20/95		8.23	21.29
	03/06/96		7.46	22.06
	06/19/96		8.04	21.48
	09/10/96		8.73	20.79
	12/13/96		8.03	21.49
	03/21/97		7.91	21.61
	06/27/97		8.49	21.03
	09/18/97		8.92	20.60
MW-6-P	04/08/93	29.20	7.05	22.15
	09/14/93		8.48	20.72
	01/13/94		8.26	20.94
	04/12/94		7.79	21.41
	07/27/94		8.45	21.75
	12/13/94	Damaged	*	*
	03/16/95	Repaired	6.73	22.47
	06/30/95		7.42	21.78
	09/15/95		7.90	21.30
	12/20/95		7.56	21.64
	03/06/96		6.79	22.41
	06/19/96		7.29	21.91
	09/10/96		8.03	21.17
	12/13/96		7.29	21.91
	03/21/97		7.13	22.07
	06/27/97		7.77	21.43
	09/18/97		8.20	21.00
MW-7-P	04/08/93	29.17	6.84	22.33
	09/14/93		8.31	20.86
	01/13/94		8.13	21.04
	04/12/94		7.63	21.54
	07/27/94		8.27	20.90
	12/13/94		7.64	21.53
	03/16/95		6.46	22.71
	06/30/95		7.22	21.95
	09/15/95		7.81	21.36
	12/20/95		7.40	21.77
	03/06/96		6.54	22.63
	06/19/96		7.13	22.04
	09/10/96		7.85	21.32
	12/13/96		7.10	22.07
	03/21/97		6.96	22.21
	06/27/97		7.47	21.70
	09/18/97		8.06	21.11

TABLE 1 (Continued)

GROUNDWATER ELEVATION DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Location	Date of Measurement	Elevation Top of Casing (ft-MSL)	Depth to Groundwater	Elevation of Groundwater (ft-MSL)
MW-8-P	04/08/93	29.27	8.56	20.71
	09/14/93		9.58	19.69
	01/13/94		9.31	19.96
	04/12/94		8.99	20.28
	07/27/94		9.53	19.74
	12/13/94		8.98	20.29
	03/16/95		8.21	21.06
	06/30/95		8.83	20.44
	09/15/95		9.23	20.04
	12/20/95		8.77	21.96
	03/06/96		8.30	20.97
	06/19/96		8.86	20.41
	09/10/96		9.31	19.96
	12/13/96		8.46	20.81
	03/21/97		8.78	20.49
	06/27/97		9.12	20.15
	09/18/97		9.47	19.80
MW-10-P	06/30/95	NS	5.44	NS
	09/15/95		NC	NS
	12/20/95		NC	NS
	03/06/96		NC	NS
	06/19/96		5.56	NS
	09/10/96		6.02	NS
	12/13/96		4.95	NS
	03/21/97		5.34	NS
	06/27/97		5.80	NS
	09/18/97		6.27	NS
MW-11-P	04/12/94	NS	5.85	NS
	07/27/94		6.33	NS
	12/13/94		5.84	NS
	03/16/95		4.99	NS
	06/30/95		5.55	NS
	09/15/95		6.05	NS
	12/20/95		5.54	NS
	03/06/96		5.00	NS
	06/19/96		5.66	NS
	09/10/96		5.99	NS
	12/13/96		5.10	NS
	03/21/97		5.44	NS
	06/27/97		5.76	NS
	09/18/97		6.09	NS
MW-12-P	06/19/96	NS	6.52	NS
	09/10/96		6.38	NS
	12/13/96		5.96	NS
	03/21/97		6.14	NS
	06/27/97		6.21	NS
	09/18/97		6.63	NS
E-2-P	06/19/96	NA	8.92	NS

MSL Mean sea level
NS Top of casing not surveyed

WELL SAMPLING SUMMARY

TABLE 2

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)	MTBE (ug/l)
04/08/93	XMW-1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	590	NA
09/14/93		1.4	ND(0.5)	1.9	16	220	NA
01/13/94		1.7	1	1.1	3.6	240	NA
04/12/94		1.7	1.9	1.5	3.8	180	NA
07/27/94		ND(0.5)	2.4	ND(0.5)	ND(0.5)	240	NA
12/13/94		1.2	36	ND(0.5)	ND(0.5)	230	NA
03/16/95		0.63	2.3	ND(0.5)	ND(0.5)	130	NA
06/30/95		ND(0.5)	2.9	ND(0.5)	ND(0.5)	101	NA
09/15/95		0.73	2.7	ND(0.5)	ND(0.5)	93	NA
12/20/95		ND(0.5)	3.7	ND(0.5)	ND(0.5)	110	NA
03/06/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
06/19/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/20/96		0.5	2.2	ND(0.5)	0.66	81	ND(5.0)
12/13/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
03/21/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/27/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
09/18/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/19/96	MW-2-P	9.4	3.5	ND(0.5)	ND(0.5)	130(0.5)	NA
04/08/93	MW-3-P	1,600	450	1,100	4,300	41,000	NA
09/14/93		2,800	280	1,200	4,500	25,000	NA
01/13/94		1,500	110	510	1,500	15,000	NA
04/12/94		1,700	280	870	3,100	14,000	NA
07/27/94		1,100	74	720	1,500	17,000	NA
12/13/94		950	150	1,400	4,100	25,000	NA
03/16/95		650	120	1,200	3,500	28,000	NA
06/30/95		460	46	530	1,500	10,000	NA
09/15/95		300	39	650	1,600	13,000	NA
12/20/95		550	60	1,000	2,500	16,000	NA
03/06/96		340	80	750	1,500	11,000	NA
06/19/96		190	28	700	1,300	11,000	NA
09/10/96		200	25	610	1,100	14,000	ND(10)
12/13/96		230	39	950	1,700	16,000	ND(50)
03/21/97		95	22	450	380	7,600	ND(5.0)
06/27/97		19	23	2.2	480	7,500	ND(5.0)
09/18/97		ND(0.5)	19	1.5	140	7,000	ND(5.0)

TABLE 2 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)	MTBE (ug/l)
04/08/93	MW-4-P	72	32	85	210	3,000	NA
09/14/93		100	75	240	980	4,200	NA
01/13/94		3.2	ND(0.5)	3.8	6.3	ND(50)	NA
04/12/94		45	6.6	170	510	2,000	NA
07/27/94		24	13	140	200	2,300	NA
12/13/94		7.2	65	41	100	760	NA
03/16/95		0.98	0.63	3.5	5.8	100	NA
06/30/95		4.7	2.1	23	37	410	NA
09/15/95		ND(0.5)	1.1	ND(0.5)	2.8	ND(50)	NA
12/20/95		ND(0.5)	ND(0.5)	2.3	1.4	ND(50)*	NA
03/06/96		0.82	1.2	3.2	6.8	62	NA
06/19/96		ND(0.5)	ND(0.5)	ND(0.5)	2.2	ND(50)	NA
09/10/96		0.99	1.9	4.5	5.8	190	ND(5.0)
12/13/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
03/21/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/27/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
09/18/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
04/08/93	MW-5-P	160	440	120	470	7,700	NA
09/14/93		120	240	190	1,000	6,200	NA
01/13/94		53	74	17	78	550	NA
04/12/94		220	310	90	310	1,800	NA
07/27/94		150	210	70	170	2,100	NA
12/13/94		620	1,000	320	1,200	7,900	NA
03/16/95		560	1,100	370	1,400	11,000	NA
06/30/95		260	480	220	770	4,100	NA
09/15/95		380	550	270	840	5,500	NA
12/20/95		240	460	250	770	3,900	NA
03/06/96		160	390	190	690	2,700	NA
06/19/96		180	350	250	900	3,800	NA
09/10/96		55	57	67	130	940	ND(5.0)
12/13/96		93	190	190	600	2,800	ND(125)
03/21/97		18	9.8	64	120	610	ND(5.0)
06/27/97		ND(0.5)	3.2	ND(0.5)	0.72	320	ND(5.0)
09/18/97		ND(0.5)	3.0	ND(0.5)	100	810	ND(5.0)

TABLE 2 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)	MTBE (ug/l)
04/08/93	MW-6-P	260	660	210	1,000	12,000	NA
09/14/93		280	550	290	1,200	ND(50)	NA
01/13/94		390	750	310	2,100	11,000	NA
04/12/94		640	1,200	960	4,000	14,000	NA
07/27/94		160	400	420	1,200	11,000	NA
12/13/94	Destroyed	*	*	*	*	*	*
03/16/95	Repaired	470	1,500	2,000	8,600	48,000	NA
06/30/95		140	650	1,100	4,400	19,000	NA
09/15/95		330	600	1,900	8,000	34,000	NA
12/20/95		110	480	1,200	4,600	18,000	NA
03/06/96		130	800	2,100	8,000	28,000	NA
06/19/96		130	650	2,400	9,500	38,000	NA
09/10/96		53	280	1,400	4,900	25,000	ND(25)
12/13/96		60	350	2,000	7,700	29,000	ND(250)
03/21/97		23	140	900	2,800	11,000	ND(50)
06/27/97		20	110	54	6,200	22,000	ND(50)
09/18/97		ND(0.5)	19	0.75	270	7,500	ND(5.0)
04/08/93	MW-7-P	9.5	28	130	420	4,800	NA
09/14/93		45	34	240	880	5,600	NA
01/13/94		17	2.9	62	220	2,400	NA
04/12/94		31	5.7	87	240	2,100	NA
07/27/94		8.2	6.8	19	290	10,000	NA
12/13/94		2.1	31	300	630	13,000	NA
03/16/95		5	7.2	180	370	13,000	NA
06/30/95		ND(0.5)	1.1	13	28	830	NA
09/15/95		9	10	150	340	12,000	NA
12/20/95		12	9.4	130	290	11,000	NA
03/06/96		5	13	75	150	8,000	NA
06/19/96		3.7	12	66	140	9,800	NA
09/10/96		3.9	17	42	60	13,000	ND(5.0)
12/13/96		6.6	21	78	180	12,000	ND(5.0)
03/21/97		ND(0.5)	4.9	1.9	2.4	570	ND(5.0)
06/27/97		ND(0.5)	7.3	ND(0.5)	1.5	600	ND(5.0)
09/18/97		ND(0.5)	4.5	ND(0.5)	ND(0.5)	1,100	ND(5.0)

TABLE 2 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)	MTBE (ug/l)
04/08/93	MW-8	410	160	490	660	20,000	NA
09/14/93		570	330	1000	3100	23,000	NA
01/13/94		320	130	390	650	16,000	NA
04/12/94		170	22	51	60	3,000	NA
07/27/94		94	20	110	32	5,700	NA
12/13/94		60	18	220	110	6,500	NA
03/16/95		55	10	140	80	55,000	NA
06/30/95		140	20	110	29	4,300	NA
09/15/95		87	18	160	38	5,300	NA
12/20/95		72	24	220	42	7,400	NA
03/06/96		29	25	95	34	4,500	NA
06/19/96		55	25	35	18	4,400	NA
09/10/96		44	16	1.6	4.7	3,400	ND(5.0)
12/13/96		9.0	6.1	5.5	1.6	1,300	ND(5.0)
03/21/97		1.1	1.9	ND(0.5)	0.56	130	ND(5.0)
06/27/97		0.72	4	ND(0.5)	ND(0.5)	89	ND(5.0)
09/18/97		19	14	1.0	1.6	1,700	ND(5.0)
06/30/95	MW-10	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/15/95		NS	NS	NS	NS	NS	NS
12/20/95		NS	NS	NS	NS	NS	NS
03/06/96		NS	NS	NS	NS	NS	NS
06/19/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/10/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
12/13/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
03/21/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/27/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
09/18/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)

TABLE 2 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)	MTBE (ug/l)
04/12/94	MW-11	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
07/27/94		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
12/13/94		1	ND(0.5)	ND(0.5)	1.8	ND(50)	NA
03/16/95		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
06/30/95		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/15/95		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
12/20/95		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
03/06/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
06/19/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/10/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
12/13/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
03/21/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/27/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
09/18/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/30/95	MW-12	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/15/95		NS	NS	NS	NS	NS	NS
12/20/95		NS	NS	NS	NS	NS	NS
03/06/96		NS	NS	NS	NS	NS	NS
06/19/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	NA
09/10/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
12/13/96		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
03/21/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/27/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
09/18/97		ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)	ND(5.0)
06/19/96	E-2-P	3.9	5.1	ND(0.5)	1.5	280	NA

TPH G	Total petroleum hydrocarbons in the gasoline range
MTBE	Methyl-tert-butyl-ether
ug/l	Micrograms per liter
ND	Not detected at the method detection limit
( )	Method detection limit
NS	Not sampled
NA	Not analyzed

ALL SOIL DATA SUMMARY

● = soil still in place

TABLE 1

SOIL SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

	Boring/ Depth	Date	Consultant	TPH G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Organic Lead	location on-/off-site
●	S-1@ 9-10.5'	02/06/87	PEG	120	5.8	22	8.5	46	NA	on
	S-2@ 9-10.5'	02/06/87	PEG	540	5.6	14	3.9	29	NA	"
soil removed	S-3@ 3.5-5'	02/06/87	PEG	3	1.3	2.4	2.8	18	NA	"
	S-3@ 3.5-5'	02/06/87	PEG	10	1.7	2.0	1.9	12	NA	"
●	S-4@ 9-10.5'	02/06/87	PEG	12	2.2	3.8	0.8	3.5	NA	"
●	S-5@ 3.5-5'	02/06/87	PEG	43	3.7	4.5	2.0	5.8	NA	"
●	XMW-1	1981	USA	*	*	*	*	*	*	"
●	XMW-2	1981	USA	*	*	*	*	*	*	"
●	XMW-3	1981	USA	*	*	*	*	*	*	off
●	XMW-4	1981	USA	*	*	*	*	*	*	"
?	XMW-5	1981	USA	*	*	*	*	*	*	"
●	XMW-6	1981	USA	*	*	*	*	*	*	"
soil removed	MW1 @5'	07/31/89	Hygienetics	2,800	30	120	49	280	ND(0.5)	on
	MW1 @20'	07/31/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.5)	"
●	MW2 @6'	07/31/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	0.2	ND(0.5)	"
●	MW2 @16'	07/31/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.5)	"
●	MW3 @10'	07/31/89	Hygienetics	7	ND(0.1)	ND(0.1)	ND(0.1)	0.3	ND(0.5)	"
●	MW3 @21'	07/31/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.5)	"
soil removed	MW4 @6.5'	07/31/89	Hygienetics	5.7	0.2	0.2	0.6	0.1	ND(0.5)	"
	MW4 @15.5'	07/31/89	Hygienetics	110	0.6	1.8	7.7	1.4	ND(0.5)	"
	B1 @6'	08/01/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	0.3	ND(0.1)	NA	"

ND	Not detected at the method detection limit
NA	Not analyzed
( )	Method detection limit
*	No data available
(mg/kg)	Milligrams per kilogram
PEG	Pacific Environmental Group, Inc.
USA	USA Gasoline Corporation
Hygienetics	Hygienetics Incorporated

TABLE 1 (Continued)

SOIL SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

location on-/off-site

Boring/ Depth	Date	Consultant	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Organic Lead	location on-/off-site
B2 @11.5'	08/01/89	Hygienetics	740	6	24	18	86	1.5	on
B3 @6.5'	08/01/89	Hygienetics	110	1.3	2.1	2.2	10	ND(0.5)	"
B3 @11.5'	08/01/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.5)	"
B4	08/01/89	Hygienetics	*	*	*	*	*	*	"
B5 @11.5'	08/01/89	Hygienetics	2500	12	51	46	280	ND(0.5)	"
B6 @11.5'	08/01/89	Hygienetics	ND(5.0)	0.2	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
B6 @13'	08/01/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
B7 @6'	08/01/89	Hygienetics	2700	4.1	7.6	26	170	ND(0.5)	"
B7 @11.5'	08/01/89	Hygienetics	18	0.4	0.2	0.4	1.9	ND(0.5)	"
MW5 @6.5'	09/04/89	Hygienetics	ND(5.0)	0.1	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW5 @16'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW6 @5.5'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	off
B8 @6.5'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	1.1	ND(0.1)	NA	on
B8 @11'	09/04/89	Hygienetics	5100	ND(20)	70	680	100	NA	"
B9 @6.5'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
B9 @11'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
B9 @13'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
B10 @6.5'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	0.4	0.1	NA	"
B10 @11.5'	09/04/89	Hygienetics	17	0.8	0.5	2.4	0.6	NA	"
B11 @6.5'	09/04/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	0.1	ND(0.1)	NA	off
B12 @11.5'	09/05/89	Hygienetics	26	ND(0.1)	ND(0.1)	0.3	0.2	NA	"
B15 @6.5'	09/05/89	Hygienetics	ND(5.0)	ND(0.1)	ND(0.1)	0.2	ND(0.1)	NA	"
B16 @6.5'	09/05/89	Hygienetics	6	0.2	ND(0.1)	0.8	0.2	NA	"

soil removed

soil removed

?

ND	Not detected at the method detection limit
NA	Not analyzed
( )	Method detection limit
*	No data available
(mg/kg)	Milligrams per kilogram
Hygienetics	Hygienetics Incorporated

TABLE 1 (Continued)

SOIL SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Boring/ Depth	Date	Consultant	TPH G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Organic Lead	location on-/off-site
B16 @11.5'	09/05/89	Hygienetics	450	ND(2.0)	3	38	10	NA	off
B16 @16.5'	09/05/89	Hygienetics	180	1	2	17	2.2	NA	"
MW7 @10'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW7 @12'	10/24/89	USA	90	ND(0.2)	0.3	1	4.1	NA	"
MW7 @15.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW8 @10'	10/24/89	USA	1,000	3	10	85	17	NA	"
MW8 @12'	10/24/89	USA	7	0.3	ND(0.1)	0.2	ND(0.1)	NA	"
MW8 @15.5'	10/24/89	USA	6	0.3	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW9 @9'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW9 @14.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW9 @18.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW10 @10.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW11 @10.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW12 @10.5'	10/24/89	USA	ND(5.0)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	NA	"
MW-2P@ 5'	09/17/92	Park	ND(0.5)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	NA	"
MW-2P@ 8'	09/17/92	Park	1	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	NA	"
MW-3P@ 5'	09/17/92	Park	1.4	0.056	ND(0.005)	0.025	0.11	NA	"
MW-3P@ 8'	09/17/92	Park	580	1.8	1.4	7.5	34	NA	"
MW-4P@ 5'	08/05/92	Park	1.4	ND(0.005)	ND(0.005)	ND(0.005)	0.0097	NA	"
MW-4P@ 10'	08/05/92	Park	230	0.26	0.15	0.14	0.69	NA	"
MW-5P@ 5'	08/05/92	Park	1.2	0.052	0.027	0.026	0.11	NA	"
MW-5P@ 10'	08/05/92	Park	32	1.1	0.62	0.71	1.6	NA	"
MW-6P@ 5'	08/04/92	Park	3	0.037	0.065	0.1	0.42	NA	on
MW-7P@ 5'	08/04/92	Park	14	0.19	0.11	0.23	0.71	NA	off
HP-10P @ 2'	05/22/97	Park	ND(0.5)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	NA	"
HP-10P @ 7'	05/22/97	Park	2.2	ND(0.003)	0.023	ND(0.003)	0.008	NA	"
HP-11P @ 2'	05/22/97	Park	ND(0.5)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	NA	"
HP-11P @ 7'	05/22/97	Park	ND(0.5)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	NA	"
HP-12P @ 2'	05/22/97	Park	ND(0.5)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	NA	"
HP-12P @ 7'	05/22/97	Park	ND(0.5)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	NA	"

ND	Not detected at the method detection limit
NA	Not analyzed
( )	Method detection limit
(mg/kg)	Milligrams per kilogram
Hygienetics	Hygienetics Incorporated
USA	USA Gasoline Corporation
Park	The Park Corporation

TABLE 2

UST REMOVAL AND OVER-EXCAVATION
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Boring/ Depth	Date	Consultant	TPH G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
SW-1	07/11/91	USA	0.006	0.027	0.035	0.024	0.45
SW-2	07/11/91	USA	0.002	0.03	0.035	0.034	0.18
SW-3	07/11/91	USA	0.47	2.3	15	7.3	43
SW-4	07/11/91	USA	0.005	0.19	0.37	0.092	0.56
SW-5	07/11/91	USA	ND(1.0)	0.022	0.004	0.005	0.025
SW-6	07/11/91	USA	3	0.13	0.12	0.069	0.46
SW-7	07/11/91	USA	ND(1.0)	ND(0.003)	ND(0.003)	ND(0.003)	0.008
SW-8	07/11/91	USA	ND(1.0)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
SW-9	07/11/91	USA	4	0.07	0.28	0.11	0.67
NW-1	07/17/91	USA	2	0.022	ND(0.003)	0.022	ND(0.003)
NW-2	07/17/91	USA	36	0.35	0.45	0.89	2.6
NW-3	07/17/91	USA	11	0.35	0.22	0.33	1.1
UST-1N	05/03/89	ASE	3,890	11.9	52.5	58.4	110
UST-2N	05/03/89	ASE	6,630	76.5	174.6	120	204
UST-3N	05/03/89	ASE	6,500	54.9	168	123	212
UST-1S	05/03/89	ASE	931	6.3	8.2	2	3.3
UST-2S	05/03/89	ASE	255	2.6	2.8	4.5	7.9
UST-3S	05/03/89	ASE	1,000	2.5	12.2	19.9	41.3
DISP-N	05/03/89	ASE	33.6	ND(0.003)	0.17	0.38	0.9
DISP-C	05/03/89	ASE	44.1	1.2	0.41	0.6	1.6
DISP-S	05/03/89	ASE	9,670	33.6	75	83	274

Fuel UST over ex- samples

Final samples, west side

Fuel UST initial samples

ND	Not detected at the method detection limit
NA	Not analyzed
( )	Method detection limit
(mg/kg)	Milligrams per kilogram
DISP	Dispenser
UST	Underground storage tank
ASE	Aqua Science Engineers
USA	USA Gasoline Corporation
SW	Sidewalls
NW	Northwest sidewalls
N	North
C	Center
S	South

ALL WATER SAMPLES (CURRENT AND FORMER WELLS, HP POINTS, ETC.) (up to 9/96)

TABLE 3

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

well status

Date Collected	Sample Location	Constituent	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)
02/09/87	S-1	PEG	13	11	19	59	NS
02/09/87	S-2	PEG	4,700	8,300	2,500	11,000	NS
02/09/87	S-3	PEG	3,200	5,500	1,200	6,200	NS
02/09/87	S-4	PEG	9,100	22,000	2,700	14,000	NS
02/09/87	S-5	PEG	690	1,900	650	2,600	NS
09/05/89	XMW-1	Hygienetics	2,900	260	1,200	3,900	15,000
04/08/93		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	590
09/14/93		Park	1.4	ND(0.5)	1.9	16	220
01/13/94		Park	1.7	1	1.1	3.6	240
04/12/94		Park	1.7	1.9	1.5	3.8	180
07/27/94		Park	ND(0.5)	2.4	ND(0.5)	ND(0.5)	240
12/13/94		Park	1.2	36	ND(0.5)	ND(0.5)	230
03/16/95		Park	0.63	2.3	ND(0.5)	ND(0.5)	130
06/30/95		Park	ND(0.5)	2.9	ND(0.5)	ND(0.5)	101
09/15/95		Park	0.73	2.7	ND(0.5)	ND(0.5)	93
12/20/95		Park	ND(0.5)	3.7	ND(0.5)	ND(0.5)	110
03/06/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/19/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/20/96		Park	0.5	2.2	ND(0.5)	0.66	81
09/05/89	XMW-2	Hygienetics	*** 0.4"	free	product		
09/05/89	XMW-3	Hygienetics	50	140	9	630	9,400
09/06/89	XMW-4	Hygienetics	67	77	31	310	7,400
09/06/~~96~~ 97	XMW-5	Hygienetics	*	*	*	*	*
09/06/~~96~~ 97	XMW-6	Hygienetics	*	*	*	*	*
08/02/89	MW-1	USA	*** 3"	free	product		
08/02/89		USA	16,000	3,200	18,000	23,000	150,000
08/02/89	MW-2	USA	5,500	1,800	5,300	14,000	85,000
08/02/89	MW-3	USA	6.2	ND(0.3)	1.0	7.0	360

Park	The Park Corporation
USA	USA Gasoline Corporation
Hygienetics	Hygienetics Incorporated
ug/l	Micrograms per liter
ND	Not detected at the method detection limit
( )	Method detection limit
*	No data

TABLE 3 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Consultant	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylenes (ug/l)	TPH G (ug/l)
08/02/89	MW-4	USA	*** 0.75"	free	product		
08/02/89		USA	15,000	2,800	20,000	20,000	92,000
07/31/89	MW-5	Hygienetics	240	ND(5.0)	30	78	16,000
07/31/89	MW-6	USA	*	*	*	*	*
10/25/89	MW-7	USA	310	430	4,000	690	11,000
10/25/89	MW-8	USA	4,600	760	3,600	1,100	16,000
04/08/93		Park	410	160	490	660	20,000
09/14/93		Park	570	330	1000	3100	23,000
01/13/94		Park	320	130	390	650	16,000
04/12/94		Park	170	22	51	60	3,000
07/27/94		Park	94	20	110	32	5,700
12/13/94		Park	60	18	220	110	6,500
03/16/95		Park	55	10	140	80	55,000
06/30/95		Park	140	20	110	29	4,300
09/15/95		Park	87	18	160	38	5,300
12/20/95		Park	72	24	220	42	7,400
03/06/96		Park	29	25	95	34	4,500
06/19/96		Park	55	25	35	18	4,400
09/10/96		Park	44	16	1.6	4.7	3,400
10/25/89	MW-9	USA	1,000	730	5,400	1,200	25,000
04/17/90	MW-10	USA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/30/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/15/95		Park	NS	NS	NS	NS	NS
12/20/95		Park	NS	NS	NS	NS	NS
03/06/96		Park	NS	NS	NS	NS	NS
06/19/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/10/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
04/17/90	MW-11	USA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
04/12/94		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
07/27/94		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
12/13/94		Park	1	ND(0.5)	ND(0.5)	1.8	ND(50)
03/16/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/30/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/15/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
12/20/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
03/06/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/19/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/10/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)

gone
missing
"
"
missing

Park	The Park Corporation
USA	USA Gasoline Corporation
ug/l	Micrograms per liter
ND	Not detected at the method detection limit
( )	Method detection limit

TABLE 3 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Consultant	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylene (ug/l)	TPH G (ug/l)
04/17/90	MW-12	USA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/30/95		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/15/95		Park	NS	NS	NS	NS	NS
12/20/95		Park	NS	NS	NS	NS	NS
03/06/96		Park	NS	NS	NS	NS	NS
06/19/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
09/10/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
06/19/96	MW-2-P	Park	9.4	3.5	ND(0.5)	ND(0.5)	130
04/08/93	MW-3-P	Park	1,600	450	1,100	4,300	41,000
09/14/93		Park	2,800	280	1,200	4,500	25,000
01/13/94		Park	1,500	110	510	1,500	15,000
04/12/94		Park	1,700	280	870	3,100	14,000
07/27/94		Park	1,100	74	720	1,500	17,000
12/13/94		Park	950	150	1,400	4,100	25,000
03/16/95		Park	650	120	1,200	3,500	28,000
06/30/95		Park	460	46	530	1,500	10,000
09/15/95		Park	300	39	650	1,600	13,000
12/20/95		Park	550	60	1,000	2,500	16,000
03/06/96		Park	340	80	750	1,500	11,000
06/19/96		Park	190	28	700	1,300	11,000
09/10/96		Park	200	25	610	1100	14,000
04/08/93	MW-4-P	Park	72	32	85	210	3,000
09/14/93		Park	100	75	240	980	4,200
01/13/94		Park	3.2	ND(0.5)	3.8	6.3	ND(50)
04/12/94		Park	45	6.6	170	510	2,000
07/27/94		Park	24	13	140	200	2,300
12/13/94		Park	7.2	65	41	100	760
03/16/95		Park	0.98	0.63	3.5	5.8	100
06/30/95		Park	4.7	2.1	23	37	410
09/15/95		Park	ND(0.5)	1.1	ND(0.5)	2.8	ND(50)
12/20/95		Park	ND(0.5)	ND(0.5)	2.3	1.4	ND(50)
03/06/96		Park	0.82	1.2	3.2	6.8	62
06/19/96		Park	ND(0.5)	ND(0.5)	ND(0.5)	2.2	ND(50)
09/10/96		Park	0.99	1.9	4.5	5.8	190
04/08/93	MW-5-P	Park	160	440	120	470	7,700
09/14/93		Park	120	240	190	1,000	6,200
01/13/94		Park	53	74	17	78	550
04/12/94		Park	220	310	90	310	1,800
07/27/94		Park	150	210	70	170	2,100
12/13/94		Park	620	1,000	320	1,200	7,900
03/16/95		Park	560	1,100	370	1,400	11,000
06/30/95		Park	260	480	220	770	4,100
09/15/95		Park	380	550	270	840	5,500
12/20/95		Park	240	460	250	770	3,900
06/06/96		Park	160	390	190	690	2,700
06/19/96		Park	180	350	250	900	3,800
09/10/96		Park	55	57	67	130	940

Park The Park Corporation
ug/l Micrograms per liter
ND Not detected at the method detection limit
( ) Method detection limit

TABLE 3 (Continued)

GROUNDWATER SAMPLE DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Consultant	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylenes (ug/l)	TPH G (ug/l)
04/08/93	MW-6-P	Park	260	660	210	1,000	12,000
09/14/93		Park	280	550	290	1,200	ND(50)
01/13/94		Park	390	750	310	2,100	11,000
04/12/94		Park	640	1,200	960	4,000	14,000
07/27/94		Park	160	400	420	1,200	11,000
12/13/94	Damaged	Park	*	*	*	*	*
03/16/95	Repaired	Park	470	1,500	2,000	8,600	48,000
06/30/95		Park	140	650	1,100	4,400	19,000
09/15/95		Park	330	600	1,900	8,000	34,000
12/20/95		Park	110	480	1,200	4,600	18,000
03/06/96		Park	130	800	2,100	8,000	28,000
06/19/96		Park	130	650	2,400	9,500	38,000
09/10/96		Park	53	280	1,400	4,900	25,000
04/08/93	MW-7-P	Park	9.5	28	130	420	4,800
09/14/93		Park	45	34	240	880	5,600
01/13/94		Park	17	2.9	62	220	2,400
04/12/94		Park	31	5.7	87	240	2,100
07/27/94		Park	8.2	6.8	19	290	10,000
12/13/94		Park	2.1	31	300	630	13,000
03/16/95		Park	5	7.2	180	370	13,000
06/30/95		Park	ND(0.5)	1.1	13	28	830
09/15/95		Park	9	10	150	340	12,000
12/20/95		Park	12	9.4	130	290	11,000
03/06/96		Park	5	13	75	150	8,000
06/19/96		Park	3.7	12	66	140	9,800
09/10/96		Park	3.9	17	42	60	13,000
06/19/96	E-2-P	Park	3.9	5.1	ND(0.5)	1.5	280
12/12/95	HP-1-P	Park	0.54	6.6	ND(0.5)	ND(0.5)	98
12/12/95	HP-2-P	Park	110	9.0	8.1	9.7	1100
12/12/95	HP-3-P	Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
04/19/96	HP-4-P	Park	81	810	820	3900	120000
04/19/96	HP-5-P	Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
04/19/96	HP-6-P	Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
07/25/96	HP-7	Park	14	4.6	ND(0.5)	ND(0.5)	300
07/25/96	HP-8	Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
07/25/96	HP-9	Park	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(50)
05/22/97	HP-10P	Park	4.0	62	7.2	50	8,900
05/22/97	HP-11P	Park	3.1	14	1.7	6.5	2,200
05/22/97	HP-12P	Park	1.6	48	77	65	14,000

contaminated ?

Park	The Park Corporation
PEG	Pacific Environmental Group
ug/l	Micrograms per liter
ND	Not detected at the method detection limit
( )	Method detection limit
NS	Not sampled
*	No data

VAPOR SAMPLES

TABLE 4

VAPOR ANALYTICAL DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Date Collected	Sample Location	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Total Xylene (ppmv)	TPH G (ppmv)	MTBE (ppmv)
12/12/95	V-P-1	4.7	26	2.5	5.3	1,200	NS
	V-P-2	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(12)	NS
07/25/96	VEW-4	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(12)	NS
	VEW-5	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(12)	NS
05/22/97	HP-10P @ 2'	ND(0.16)	ND(0.14)	ND(0.12)	ND(0.12)	ND(12)	ND(1.4)
	HP-10P @ 7'	ND(0.16)	ND(0.14)	ND(0.12)	ND(0.12)	15	ND(1.4)
	HP-11P @ 2'	ND(0.16)	ND(0.14)	ND(0.12)	ND(0.12)	ND(12)	ND(1.4)
	HP-11P @ 7'	ND(0.16)	1.1	ND(0.12)	ND(0.12)	44	ND(1.4)
	HP-12P @ 2'	ND(0.16)	ND(0.14)	ND(0.12)	ND(0.12)	ND(12)	ND(1.4)
	HP-12P @ 7'	ND(0.16)	ND(0.14)	ND(0.12)	ND(0.12)	ND(12)	ND(1.4)

ppmv	Parts per million per volume
ND	Not detected at the method detection limit
( )	Method detection limit
MTBE	Methyl-tert-butyl-ether

TABLE 1

GROUNDWATER TREATMENT SYSTEM DATA
FORMER USA STATION #73
15120 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

Laboratory Analysis	Date	Days Between Readings	Totalizer Reading (Gallons)	Discharged Since Last Reading (Gallons)	Average Flow (gpm)	Influent TPH G Concentration (ug/l)	TPH G Recovery (lbs/day)	TPH G Recovery (lbs)
*^	08/03/93	1	--	1,152	0.8	20,000	9.6E-02	9.6E-02
*^	08/27/93	24	--	27,648	0.8	320	1.5E-03	3.7E-02
*^	11/19/93	53	--	61,056	0.8	59	2.8E-04	1.5E-02
*^	01/26/94	68	--	78,336	0.8	240	1.2E-03	7.8E-02
*^	02/23/94	28	--	32,256	0.8	110	5.3E-04	1.5E-02
*^	04/07/94	43	--	49,536	0.8	1,600	7.7E-03	3.3E-01
*^	05/16/94	39	--	44,928	0.8	4,500	2.2E-02	8.4E-01
	10/10/95	30	52,208	6,383	0.16	4,000	7.7E-03	2.3E-01
	11/09/95	30	62,356	10,148	0.23	4,000	1.1E-02	3.3E-01
	11/15/95	6	64,189	1,833	0.21	4,000	1.0E-02	6.1E-02
	12/04/95	19	64,189	0	--	--	0.0E+00	0.0E+00
	12/21/95	17	73,027	8,838	0.36	4,000	1.7E-02	2.9E-01
	12/28/95	7	80,018	6,991	0.69	4,000	3.3E-02	2.3E-01
	01/03/96	6	84,260	4,242	0.59	1,000	7.1E-03	4.3E-02
	01/15/96	12	99,802	15,542	0.9	3,000	3.2E-02	3.9E-01
	01/22/96	7	106,396	6,594	0.65	3,000	2.3E-02	1.6E-01
	01/31/96	9	114,659	8,263	0.64	3,000	2.3E-02	2.1E-01
	02/06/96	6	120,531	5,872	0.58	3,000	2.1E-02	1.3E-01
	02/13/96	7	127,060	6,529	0.65	3,000	2.3E-02	1.6E-01
	02/21/96	8	134,007	6,947	0.6	3,000	2.2E-02	1.7E-01
	02/29/96	8	143,054	9,047	0.78	3,000	2.8E-02	2.3E-01
	03/06/96	6	148,385	5,331	0.62	3,000	2.2E-02	1.3E-01
	03/21/96	15	162,942	14,557	0.67	3,000	2.4E-02	3.6E-01
	03/28/96	7	167,749	4,807	0.48	3,000	1.7E-02	1.2E-01
	04/04/96	7	175,044	7,295	0.72	2,000	1.7E-02	1.2E-01
	04/19/96	15	178,559	3,515	0.27	2,000	6.5E-03	9.7E-02
	04/26/96	7	178,593	36	0	2,000	0.0E+00	0.0E+00
	05/17/96	21	178,658	65	0	2,000	0.0E+00	0.0E+00
	05/23/96	6	178,706	48	0	2,000	0.0E+00	0.0E+00
	05/31/96	8	178,780	74	0	2,000	0.0E+00	0.0E+00
	06/04/96	4	178,846	66	0.01	2,000	2.4E-04	9.6E-04
	06/14/96	10	178,898	52	0	2,000	0.0E+00	0.0E+00
	06/25/96	11	179,210	312	0.02	1,000	2.4E-04	2.6E-03
	07/03/96	8	179,210	0	0	1,000	0.0E+00	0.0E+00
	07/17/96	14	179,210	0	0	1,000	0.0E+00	0.0E+00
	07/18/96	1	179,236	26	0.02	1,000	2.4E-04	2.4E-04
	07/25/96	7	180,261	1,025	0.1	1,000	1.2E-03	8.4E-03
	08/01/96	7	189,787	9,526	0.95	1,000	1.1E-02	8.0E-02
	08/06/96	5	189,899	112	0.02	1,000	2.4E-04	1.2E-03
*	08/16/96	10	198,438	14,400	0.59	550	3.9E-03	3.9E-02
	08/29/96	13	212,637	18,720	0.76	550	5.0E-03	6.5E-02

*Note The RSI unit was in operation prior to August 1, 1995. TPH G recovery for the RSI is decreased by on half due to the unit operating only 50% of the time

TABLE 1 (Continued)

GROUNDWATER TREATMENT SYSTEM DATA
FORMER USA STATION #73
15120 HESPERIAN BOULEVARD
SAN LEANDRO, CALIFORNIA

Laboratory Analysis	Date	Days Between Readings	Totalizer Reading (Gallons)	Discharged Since Last Reading (Gallons)	Average Flow (gpm)	Influent TPH G Concentration (ug/l)	TPH G Recovery (lbs/day)	TPH G Recovery (lbs)
	09/06/96	8	216,024	3,387	0.29	550	1.9E-03	1.5E-02
*	09/10/96	4	218,386	2,362	0.41	780	3.8E-03	1.5E-02
	09/20/96	10	218,386	0	0	780	0.0E+00	0.0E+00
	10/03/96	13	218,404	18	0	780	0.0E+00	0.0E+00
	10/11/96	8	218,517	113	0.01	780	9.4E-05	7.5E-04
*	10/18/96	7	225,495	6,978	0.69	190	1.6E-03	1.1E-02
	10/25/96	7	232,190	6,695	0.66	190	1.5E-03	1.1E-02
	11/06/96	12	235,334	3,144	0.18	190	4.1E-04	4.9E-03
*	11/14/96	8	235,474	140	0.01	ND(50)	6.0E-06	4.8E-05
	11/21/96	7	235,491	17	0	ND(50)	0.0E+00	0.0E+00
	12/02/96	11	235,513	22	0	ND(50)	0.0E+00	0.0E+00
*	01/17/97	46	251,464	15,951	0.24	290	8.4E-04	3.8E-02
	01/24/97	7	263,927	12,463	1.23	290	4.3E-03	3.0E-02
	02/05/97	12	277,365	13,438	0.84	290	2.9E-03	3.5E-02
	02/20/97	15	288,131	10,766	0.5	290	1.7E-03	2.6E-02
	02/25/97	5	288,139	8	0	290	0.0E+00	0.0E+00
*	03/05/97	8	288,224	85	0	ND(50)	0.0E+00	0.0E+00
	03/21/97	16	301,135	12,911	0.56	74	5.0E-04	8.0E-03
	04/04/97	14	310,465	9,330	0.49	74	4.4E-04	6.1E-03
*	04/09/97	5	310,514	49	0	ND(50)	0.0E+00	0.0E+00
*	04/16/97	7	310,535	21	0	ND(50)	0.0E+00	0.0E+00
*	04/25/97	9	318,587	8,052	0.61	71	5.2E-04	4.7E-03
	05/06/97	11	324,191	5,604	0.35	71	3.0E-04	3.3E-03
	05/13/97	7	324,191	0	0	71	0.0E+00	0.0E+00
*	05/20/97	7	332,185	7,994	0.79	74	7.0E-04	4.9E-03
	05/28/97	8	340,211	8,026	0.7	74	6.2E-04	5.0E-03
	06/04/97	7	350,096	9,885	0.98	74	8.7E-04	6.1E-03
*	06/25/97	21	364,441	14,345	0.47	ND(50)	0.0E+00	0.0E+00
	07/02/97	7	371,198	6,757	0.67	ND(50)	4.0E-04	2.8E-03
	07/17/97	15	371,198	0	0	ND(50)	0.0E+00	0.0E+00
*	07/21/97	4	375,155	3,957	0.69	56	4.6E-04	1.9E-03
	08/06/97	16	387,635	12,480	0.54	56	3.6E-04	5.8E-03
*	08/14/97	8	393,875	6,240	0.54	ND(50)	3.2E-04	2.6E-03
	08/22/97	8	397,044	3,169	0.28	ND(50)	1.7E-04	1.3E-03
*	09/10/97	19	417,222	20,178	0.74	110	9.8E-04	1.9E-02
	09/18/97	8	426,139	8,917	0.77	110	1.0E-03	8.1E-03
TOTALS		995		503,456				5.4E+00

* Sample collected for laboratory analysis
^ Assumed flow rate
-- No data

TABLE 2

VAPOR EXTRACTION DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Laboratory Analysis	Date	Days of VES Operation	Flow cfm	Average TPH Influent (ppmv)	TPH G Recovery (lbs/day)	TPH G Recovery (lbs)
*^	08/03/93	1	40	40	0.30	0.30
*^	08/27/93	24	40	370	2.77	66.40
*^	09/27/93	31	40	37	0.28	8.58
*^	11/29/93	63	40	32	0.24	15.08
*^	02/23/94	86	40	7	0.05	4.50
*^	04/07/94	43	40	53	0.40	17.04
*^	05/16/94	39	40	12	0.09	3.50
*^	06/01/94	16	40	26	0.19	3.11
*^	08/11/95	436	324	ND(12)	1.45	633.81
*^	10/10/95	60	324	ND(12)	1.45	87.22
*^	10/17/95	7	324	ND(12)	1.45	10.18
^	10/25/95	5	324	ND(12)	1.45	7.27
*	11/09/95	15	324	27	3.27	49.06
	11/15/95	6	324	27	3.27	19.62
*	12/04/95	19	250	42	3.93	74.59
*	12/21/95	17	109	29	1.18	20.09
	12/28/95	7	130	29	1.41	9.87
	01/03/96	6	140	29	1.52	9.11
	01/06/96	3	149	29	1.62	4.85
*	01/10/96	4	149	18	1.00	4.01
	Treatment	system off line	for carbon	change out		
	07/18/96	1	280	18	1.88	1.88
	07/25/96	7	275	18	1.85	12.96
*	08/01/96	7	293	ND(12)	0.11	0.77
	08/06/96	5	280	ND(12)	0.10	0.52
	08/16/96	10	283	ND(12)	0.11	1.06
*	08/29/96	13	287	ND(12)	0.11	1.40
*	09/10/96	12	287	ND(12)	0.11	1.29
	09/20/96	10	297	ND(12)	0.11	1.11
*	10/03/96	13	289	130	14.05	182.61
	10/11/96	8	311	ND(12)	0.12	0.93
	10/18/96	7	316	ND(12)	0.12	0.83
	10/25/96	7	310	ND(12)	0.12	0.81

*Note The RSI unit was in operation prior to August 1, 1995. TPH G recovery for the RSI is decreased by one half due to the unit operating only 50% of the time.

TABLE 2 (Continued)

VAPOR EXTRACTION DATA
FORMER USA STATION #73
SAN LEANDRO, CALIFORNIA

Laboratory Analysis	Date	Days of VES Operation	Flow cfm	Average TPH Influent (ppmv)	TPH G Recovery (lbs/day)	TPH G Recovery (lbs)
	11/06/96	17	312	ND(12)	0.12	1.98
	11/14/96	8	313	ND(12)	0.12	0.94
	11/21/96	7	306	ND(12)	0.11	0.80
	12/02/96	11	311	ND(12)	0.12	1.28
	01/17/97	46	304	ND(12)	0.11	5.23
*	01/24/97	7	290	ND(12)	0.11	0.76
*	01/29/97	5	283	ND(12)	0.11	0.53
	02/05/97	7	256	ND(12)	0.10	0.67
	02/20/97	15	304	ND(12)	0.11	1.70
	02/25/97	5	397	ND(12)	0.15	0.74
*	03/05/97	11	302	18	2.03	22.36
	03/21/97	16	302	18	2.03	32.52
	04/04/97	14	302	18	2.03	28.45
	04/09/97	5	310	18	2.09	10.43
*	04/16/97	7	309	ND(12)	0.12	0.81
*	04/25/97	9	304	ND(12)	0.11	1.02
	04/29/97	4	306	ND(12)	0.11	0.46
	05/06/97	7	308	ND(12)	0.12	0.81
	05/13/97	7	301	ND(12)	0.11	0.79
*^	05/20/97	7	301	ND(12)	0.11	0.79
	06/04/97	14	300	ND(12)	0.11	1.57
*	06/25/97	20	275	ND(12)	0.10	2.06
	07/02/97	7	285	ND(12)	0.11	0.75
*	07/21/97	19	287	27	2.90	55.05
*	08/14/97	24	289	ND(12)	0.32	7.78
	08/22/97	8	290	ND(12)	0.22	1.73
*	09/10/97	19	303	ND(12)	0.17	3.23
	09/18/97	8	290	ND(12)	0.16	1.30
	09/26/97	8	300	ND(12)	0.17	1.35
	TOTALS	1,330				1,442.24

* Sample collected for laboratory analysis
^ Estimated flow rate

ATTACHMENT A

BORING LOGS
(SELECT)

Project Location: USA GASOLINE STATION #73
15120 HESPERIAN BLVD., SAN LEANDRO, CA

Log of Soil Boring No. HP-10-P

Date Started: 5/22/97

Total Depth: 12 FEET

Date Completed: 5/22/97

Seal: NEAT CEMENT GROUT WITH <5% BENTONITE

from 12 FEET to SURFACE

Logged By: V BENNETT Checked By:

Drilling Co.: VIRONEX Driller: DION

Drilling Method: GEOPROBE CONTINUOUSLY CORED

Drill Bit Diameter: 2"

Drilling Equipment: GEOPROBE/HYDROPUNCH

Sampler: CA SPLIT SPOON

Depth (feet)	Lithologic Description Surface Elevation	Lithology	Sample	Blow Counts	Remarks PID READINGS
	Fill to 1.5 feet, sandy			PUSH	40ppm @surface
	Clay; lean, 2.5Y 2/0 black; dry.	CL			0ppm vapor @2' No odor.
	Sand; medium , subround rock fragments; dry.				70ppm @4' No odor.
5	Sand; poorly sorted, medium to coarse; 10YR dark brown, wet @7ft.	SW			7ppm @7'(Tedlar bag) No odor
	Clay; lean, 2.5Y 3/2 very dark grayish brown; moist.	CL			20ppm @8' No odor.
10	Sand; medium to coarse; subround to subangular rock fragments, 2.5Y 3/2 very dark grayish brown	SW			0ppm @12'
15					Groundwater: no odor 6ppm on PID
20					
25					
30					
35					

The Park Corporation
8084 Old Auburn Road, Suite E
Citrus Heights, CA 95610 (916) 723-1776

Project Name: USA SAN LEANDRO

Project #: 5004

Project Location: USA GASOLINE STATION #75 15120 HESPERIAN BLVD., SAN LEANDRO, CA	Log of Soil Boring No. HP-11-P
Date Started: 5/22/97	Total Depth: 12 FEET
Date Completed: 5/22/97	Seal: NEAT CEMENT GROUT WITH <5% BENTONITE
Logged By: V. BENNETT Checked By:	from 12 FEET to SURFACE
Drilling Co.: VIRONEX Driller: DION	
Drilling Method: GEOPROBE CONTINUOUSLY CORED	Drill Bit Diameter: 2"
Drilling Equipment: GEOPROBE HYDROPUNCH	Sampler: CA SPLIT SPOON

Depth (feet)	Lithologic Description Surface Elevation	Lithology	Sample	Blow Counts	Remarks PID READINGS
	Fill to 1.5 feet, sandy			PUSH	90ppm @surface
	Clay; lean; 10YR 3/2 very dark brown; dry.	CL			0ppm @2'(Tedlar bag) No odor
5	Sand, medium to coarse, 10YR 4/3 brown; wet @ 7ft.	SW			70ppm @4' No odor
	▼				
	Clay; lean; 2Y 3/2 dark grayish brown, moist.	CL			20ppm @7'(Tedlar bag) No odor 14ppm @8' No odor
10	Sand; medium to coarse; poorly sorted, subround rock fragments; 2Y 3/2 dark grayish brown; wet	SW			35ppm @12' No odor
15					Groundwater No odor 0ppm on PID
20					
25					
30					
35					

The Park Corporation
8084 Old Auburn Road, Suite E
Citrus Heights, CA 95610 (916) 723-1776

Project Name: USA SAN LEANDRO
Project #: 5004

Project Location: USA GASOLINE STATION #73 15120 HESPERIAN BLVD., SAN LEANDRO, CA	Log of Soil Boring No. HP-12-P
Date Started: 5/29/97	Total Depth: 12 FEET
Date Completed: 5/29/97	Seal: NEAT CEMENT GROUT WITH <5% BENTONITE
Logged By: V. BENNETT Checked By:	from 12 FEET to SURFACE
Drilling Co.: VIKONIX Driller: DION	
Drilling Method: GEOPROBE CONTINUOUSLY CORED	Drill Bit Diameter: 2"
Drilling Equipment: GEOPROBE/HYDROPUNCH	Sampler: CA SPLIT SPOON

Depth (feet)	Lithologic Description Surface Elevation	Lithology	Sample	Blow Counts	Remarks PID READINGS
	Fill to 2 feet, sandy.			PUSH	20ppm @surface
	Loam; organic; loam; very dark.	OH			0ppm @2' (Tedlar bag) No odor
5	**Sand;** poorly sorted; medium to coarse; subround rock fragments; medium dark brown.	SW			150ppm @4' No odor
	▼ Clay, loam; 2.5Y 3/2 very dark grayish brown	CL			6ppm @7' (Tedlar bag) Slight petroleum odor
	Sand; medium to coarse, subround quartz, wet.	SW			
10	Clay, loam, 2.5Y 3.2 very dark grayish brown, moist	CL			No odor
	Sand, poorly sorted; medium to coarse, 2.5Y 3/2 very dark grayish brown, wet.	SW			6ppm @12' No odor
15					Groundwater Slight odor 200ppm on PID
20					
25					
30					
35					

The Park Corporation
8084 Old Auburn Road, Suite E
Citrus Heights, CA 95610 (916) 723-1776

Project Name: USA SAN LEANDRO
Project #: 5004

Project: **USA Petroleum Corporation #73**
San Leandro, California

Log of Well No. MW-2-P

Date Started: 9/17/92
Date Completed: 9/17/92
Logged By: C.K. Goodrum Checked By: Ed Furu
Drilling Co: West HazMat Driller: Bill
Drilling Method: Hollow Stem
Drilling Equipment: B-57

Total Depth: 26.5-ft Casing Elev: GW ATD: 9.5ft/
Perforation: .020 inch from 5' to 15'
Pack: #3 Sand from 4' to 26.5'
Seal: Concrete from Surface to 1'
Bentonite from 1' to 4'
Casing: Sch. 40 PVC 4" Drill Bit Diameter: 10 1/4
Sampler: Split Spoon

Depth (feet)	Surface Elevation: Lithologic Description	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
	SILT, DARK BROWN, DRY	ML				OVA PPM
	DARK GRAY AT 2.5 FEET					
5	SILT, DARK BROWN, MOIST, STIFF				14	1
	SANDY/CLAYEY SILT, DARK GRAYISH BROWN, MOIST, STIFF (SAMPLE INTERVAL 8-9.5)				12	6
10						
		SP				
15	GRAVELLY SAND, DARK GRAY, SATURATED, MODERATELY DENSE				13	80
		CL				
20	SILTY CLAY, BROWN, MOIST, SOFT				4	5
25	SILTY CLAY, GRAY TO BLUISH GRAY, MOIST, SOFT				4	6
30	BORING COMPLETED AT 26.5 FEET BELOW GROUND SURFACE GROUNDWATER ENCOUNTERED AT 9 FEET					
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: 1101-J3

Project: **USA Petroleum Corporation #73**
San Leandro, California

Log of Well No. MW-3-P

Date Started: **9/17/92**
Date Completed: **9/17/92**
Logged By: **C.K. Goodnum** Checked By: **Ed Furu**
Drilling Co: **West HazMat** Driller: **Bill**
Drilling Method: **Hollow Stem**
Drilling Equipment: **B-57**

Total Depth: **26.5-ft** Casing Elev: GW ATD: **9.0ft/**
Perforation: **0.02 inch** from **4.5'** to **14.5'**
Pack: **#3 Sand** from **3.5'** to **26.5'**
Seal: **Concrete** from **Surface** to **1'**
Bentonite from **1'** to **3.5'**
Casing: **Sch. 40 PVC 4"** Drill Bit Diameter: **10 1/4**
Sampler: **Split Spoon**

Depth (feet)	Surface Elevation: Lithologic Description	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
	ASPHALT/SUBGRADE	CL				OVA PPM
	BLACK TO VERY DARK BROWN DRY					
5	SILTY CLAY, BLACK TO DARK GRAYISH BROWN				12	
	SILT/CLAYEY SAND, DARK GRAY, SATURATED AT 9 FEET	SM SC			7	
10						
		ML SC				
15	CLAYEY SILT/CLAYEY SAND, DARK GRAYISH BROWN WITH GRAVEL 15 SO 17 FEET				5	
		CL				
20	SILTY CLAY, DARK GRAYISH BROWN					
	SILTY CLAY, DARK GRAY				17	
25	SILTY CLAY, DARK GRAY, MOIST				18	
30	BORING COMPLETED AT 26.5 FEET BELOW GROUND SURFACE GROUNDWATER ENCOUNTERED AT 9 FEET					
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: **1101-J3**

Project: **USA Petroleum Corporation #73**
San Leandro, California

Log of Well No. MW-4-P

Date Started: 8/5/92
Date Completed: 8/5/92
Logged By: C.K. Goodrum Checked By: Ed Furu
Drilling Co: Spectrum Driller: Joel
Drilling Method: Hollow Stem
Drilling Equipment: CME55

Total Depth: 26.5-ft Casing Elev: GW ATD: 9.5ft/
Perforation: 0.02 inch from 5' to 15'
Pack: #3 Sand from 3' to 26.5'
Seal: from to
Bentonite from Surface to 3
Casing: Sch. 40 PVC 4" Drill Bit Diameter: 10 1/4
Sampler: Split Spoon

Depth (feet)	Surface Elevation: Lithologic Description	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
5	CLAYEY SILT/SILTY CLAY,, DARK GRAYISH BROWN TO DARK GRAY, MOIST, VERY STIFF	CL ML		20		OVA PPM
10	SILTY CLAY, DARK GRAYISH BROWN, MOIST, MODERATELY STIFF			8		
15	SILTY CLAY, DARK BROWN, MOIST, VERY STIFF	CL		16		
20	SAME AS ABOVE			17		
25	SILTY CLAY/CLAYEY SILT, GRAYISH BROWN, MOIST	CL ML		13		
30						
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: 1101-J3

Project: USA Petroleum Corporation #73
San Leandro, California

Log of Well No. MW-5-P

Date Started: 8/5/92
Date Completed: 8/5/92
Logged By: C.K. Goodrum Checked By: Ed Furu
Drilling Co: Spectrum Driller: Joel
Drilling Method: Hollow Stem
Drilling Equipment: CME55

Total Depth: 26.5-ft Casing Elev: GW ATD: 10.0ft/
Perforation: 0.02 inch from 5' to 15'
Pack: #3 Sand from 3' to 26.5'
Seal: from to
Bentonite from Surface to 3
Casing: Sch. 40 PVC 4" Drill Bit Diameter: 10 1/4
Sampler: Split Spoon

Depth (feet)	Surface Elevation: Lithologic Description	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
0	SILTY CLAY, DARK BROWN, SLIGHTLY MOIST	CL				OVA PPM
5	SILTY, CLAY, DARK GRAY, SLIGHTLY MOIST, MINOR SAND, MODERATELY STIFF				10	
10	SILTY FINE SAND, OLIVE GRAY, SATURATED, LOOSE	SM			14	
15	SILTY CLAY, VERY DARK GRAY, MOIST, SOFT	CL			6	
20					17	
25	SILTY CLAY, LIGHT OLIVE BROWN, MOIST, STIFF				12	
30	BORING COMPLETED AT 26.5 FEET BELOW GROUND SURFACE GROUNDWATER ENCOUNTERED AT 10 FEET					
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: 1101-J3

Project: USA Petroleum Corporation #73
San Leandro, California

Log of Well No. MW-6-P

Date Started: 8/4/92
Date Completed: 8/4/92
Logged By: C.K. Goodrum Checked By: Ed Furu
Drilling Co: Spectrum Driller: Joel
Drilling Method: Hollow Stem
Drilling Equipment: CME55

Total Depth: 26.5-ft Casing Elev: GW ATD: 9.0ft/
Perforation: 0.02 inch from 5' to 15'
Pack: #3 Sand from 4' to 26.5'
Seal: from to
Bentonite from Surface to 4
Casing: Sch. 40 PVC 4" Drill Bit Diameter: 10 1/4
Sampler: Split Spoon

Depth (feet)	Lithologic Description (Surface Elevation:)	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
5	CLAYEY/SANDY SILT, DARK GRAY, MOIST, STIFF	ML		9		OVA PPM 5
10	FINE SAND, DARK GRAY, SATURATED, MODERATELY STIFF, WITH SILT AND SOME CLAY	SM		7		
15	SILTY CLAY, DARK GRAYISH BROWN, VERY STIFF	CL		19		
20	SILTY CLAY, VERY DARK GRAY, MOIST, VERY STIFF			17		
25	SILTY CLAY, GRAYISH BROWN, MOIST WITH MINOR SAND			14		
30	BORING COMPLETED AT 26.5 FEET BELOW GROUND SURFACE GROUNDWATER ENCOUNTERED AT 9 FEET					
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: 1101-J3

Project: USA Petroleum Corporation #73
San Leandro, California

Log of Well No. **MW-7-P**

Date Started: 8/4/92
Date Completed: 8/4/92
Logged By: C.K. Goodrum Checked By: Ed Furu
Drilling Co: Spectrum Driller: Joel
Drilling Method: Hollow Stem
Drilling Equipment: CME55

Total Depth: 26.5-ft Casing Elev: GW ATD: 9.5ft/
Perforation: 0.02 inch from 5′ to 15′
Pack: #3 Sand from 4′ to 26.5′
Seal: from to
Bentonite from Surface to 4
Casing: Sch. 40 PVC 4" Drill Bit Diameter: 10 1/4
Sampler: Split Spoon

Depth (feet)	Surface Elevation: Lithologic Description	Lithology	Monitoring Well Construction	Sample	Blow Counts	Remarks
5	SILTY CLAY, DARK GRAYISH BROWN, MOIST, STIFF	CL		11		OVA PPM 160
10	FINE, SAND, VERY DARK GRAY, SATURATED, MODERATELY DENSE, WITH GRAVEL	SP		18		160
15	SILTY CLAY, VERY DARK GRAY, MOIST, VERY STIFF	CL		20		120
20	SILTY CLAY, DARK GRAY, MOIST, STIFF WITH MINOR SAND			16		35
25	SILTY CLAY, LIGHT OLIVE BROWN-GRAYISH BROWN, STIFF			12		2
30	BORING COMPLETED AT 26.5 FEET BELOW GROUND SURFACE GROUNDWATER ENCOUNTERED AT 9.5 FEET					
35						

Park Environmental
5100 East Hunter Avenue
Anaheim, California 92807
Tel: (714) 777-1001
Fax: (714) 777-1262

Project: 1101-J3