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PRELIMINARY SITE ASSESSMENT REPORT

FIESTA BEVERAGES
966 89TH AVENUE
OAKLAND, CA 94621

Prepared For:
MR. TED WALBEY
7402 HILLVIEW COURT
PLEASANTON, CA 94588

Submitted By:
TANK PROTECT ENGINEERING
Of Northern California, Inc.
December 15, 1993

Project Number 264

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Registered Geologist

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This report has been prepared by the staff of **Tank Protect Engineering of Northern California, Inc.** under direction of an Engineer and/or Geologist whose seal(s) and/or signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

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1.0 INTRODUCTION

The subject site is located at 966 89th Avenue in the city of Oakland in Alameda County, California (see Figure 1). Tank Protect Engineering of Northern California, Inc. (TPE) understands that 2 underground gasoline storage tanks, one 500-gallon and one 1,000-gallon, were removed from separate excavations at the site on August 24, 1990 (see Figure 2). Contaminated soil was documented in both excavations with total petroleum hydrocarbons as gasoline (TPHG) detected at a maximum concentration of 4,900 parts per million (ppm) in the excavation that contained the 1,000-gallon tank.

TPE further understands that contaminated soil was excavated from the floor of both excavations on January 15, 1991 to the depth of groundwater, about 15 feet below ground surface. After completing excavation activities, soil and groundwater samples were collected on January 15, 1991 and analyzed for TPHG and benzene, toluene, ethylbenzene, and xylenes (BTEX). A soil sample collected from the center of the floor of the 1,000-gallon tank excavation detected only toluene and xylenes at concentrations of .0068 ppm and .0077 ppm, respectively. A soil sample collected from the center of the floor of the 500-gallon tank excavation detected TPHG, benzene, toluene, and xylenes at concentrations of 2.2 ppm, .081 ppm, .013 ppm, and .0092 ppm, respectively. The groundwater sample collected from the 1,000-gallon tank excavation detected TPHG, benzene, toluene, ethylbenzene, and xylenes at concentrations of 25,000 parts per billion (ppb), 3,100 ppb, 2,900 ppb, 380 ppb, and 2,800 ppb, respectively. The groundwater sample from the 500-gallon tank excavation detected TPHG, benzene, toluene, ethylbenzene, and xylenes at concentrations of 36,000 ppb, 3,700 ppb, 4,300 ppb, 840 ppb, and 4,900 ppb, respectively.

Because of the above analytical results, the Alameda County Health Care Services Agency (ACHCSA), in a December 17, 1992 letter, has required Fiesta Beverages to perform a subsurface investigation which determines the extent of the soil and groundwater contamination (see Appendix A).

In response the above ACHCSA letter, Mr. Walbey contracted with TPE on April 21, 1993 to drill up to 3 soil borings and to convert up to 3 of the borings into groundwater monitoring wells as an investigation of the horizontal and vertical extent of contaminated vadose zone soil and groundwater. TPE submitted a May 24, 1993

WORKPLAN FOR SOIL AND GROUNDWATER INVESTIGATION (WP) to Mr. Walbey for his approval and submittal to the ACHCSA and California Regional Water Quality Control Board-San Francisco Bay Region (CRWQCB) for their approval. The workplan was conditionally approved by the ACHCSA in a June 11, 1993 letter (see Appendix A).

2.0 PRELIMINARY INVESTIGATION OF VADOSE ZONE SOIL AND GROUNDWATER CONTAMINATION

As a preliminary investigation of vadose zone soil and groundwater contamination, TPE conducted the following work:

- Conducted a file review at the CRWQCB's Oakland, California office to investigate the potential for any documented, off-site contamination to be migrating onto the subject site and to investigate vicinity and site groundwater flow direction to assist in selecting locations for up to 3 groundwater monitoring wells.

- Conducted a subsurface utility survey to minimize the potential of encountering unexpected utilities and buried objects while drilling soil borings.

- Drilled 3 soil borings to investigate the horizontal and vertical extent of vadose zone soil contamination.

- Collected soil samples from each soil boring at approximately 5-foot depth intervals for construction of a boring log and for examination for evidence of contamination.

- Analyzed all vadose zone soil samples from the borings for TPHG and BTEX.

- Converted all borings into groundwater monitoring wells.

- Developed, purged, and sampled groundwater from each monitoring well for chemical analysis.

- Analyzed 3 groundwater samples and 1 trip blank sample for TPHG and BTEX.

- Surveyed top-of-casings (TOC) to the nearest .01 foot above Mean Sea Level (MSL).

- Interpreted direction and gradient of groundwater flow.

- Reviewed regional hydrogeology and interpreted site hydrogeology.

- Prepared this Preliminary Site Assessment Report (PSAR).

Details of the above work are presented below.

2.1 File Review

On May 26, 1993, a representative of TPE visited the CRWQCB's Oakland, California office to conduct a file review. The purpose of the review was to research documented fuel leaks within about a quarter-mile radius of the subject site to obtain any information concerning aquifer lithology, depth-to-groundwater, groundwater flow direction, and the potential for the site to be impacted by upgradient sources of contamination. This information was used for selecting locations for installing 3 groundwater monitoring wells.

Three monitoring wells were found to be located about 300 feet to 400 feet westerly of the subject site at 910 89th Avenue and 1 well located about 200 feet to 300 feet westerly of the site at 925 89th Avenue. Blymyer Engineers, Inc., consultant for Lanaidor, Inc. located at 925 89th Avenue, used depth to groundwater in all 4 wells to establish a northwesterly gradient on April 20, 1992. Based on this gradient information, TPE recommended to the ACHCSA that 1 well be installed in the estimated downgradient direction from each former tank location (a total of 2 wells).

The recommendation was made by telephone and FAX on June 3, 1993. The ACHCSA conditionally accepted the recommendation in a June 11, 1993 letter (see Appendix A). Because of the conditions required by the ACHCSA, TPE recommended to Mr. Walbey that 3 wells be installed as originally proposed in the WP as a potential long term cost savings in the event that 2 wells would not meet the ACHCSA's conditions.

2.2 Prefield Activities

Prior to beginning drilling activities, TPE contracted with subsurface locators to conduct an underground utility survey to minimize the potential for encountering any buried utilities or underground objects while drilling soil borings.

Before commencing drilling activities, TPE obtained a well installation permit from the Alameda County Flood Control and Water Conservation District, Water Resources Management Zone 7 (see Appendix A).

2.3 Soil Boring/Monitoring Well Locations

Since all soil borings were to be converted into monitoring wells, locations were chosen based on gradient information discovered in the above file review (see section 2.1 File Review). Borings for wells MW-1 and MW-2 were located in the estimated downgradient direction from the locations of the former 500-gallon and 1,000-gallon gasoline tanks, respectively (see Figure 2). The boring for well MW-3 was located in the estimated upgradient direction from the former location of the 1,000-gallon gasoline tank (see Figure 2).

The soil boring/monitoring well locations were estimated to place at least 1 well within 10 feet and downgradient of each former underground storage tank according to recommendations in the CRWQCB's "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990.

2.4 Soil Investigation

The following discusses soil boring and soil sampling procedures. Appendices B, C, and D document TPE's protocols relative to hollow-stem auger drilling and soil sampling procedures, sample handling procedures, and waste handling and decontamination procedures.

2.4.1 Soil Boring and Sampling Procedures

The exploratory borings were drilled by JCON Exploration, located in Yuba City, California 95991 (C-57 Water Well Driller Contractor's License 563305), on June 24 and 25, 1993 using 8-inch diameter, hollow-stem, auger drilling equipment. The augers were steam-cleaned before drilling each boring to prevent cross contamination between borings or the introduction of off-site contamination for the initial boring.

For construction of the geologic logs and examination of soil for evidence of contamination, representative soil samples were collected at approximately 5-foot depth intervals below the ground surface. In the first boring drilled, for construction of well MW-3, continuous sampling was conducted upon encountering saturated soil to investigate the aquifer for well construction purposes. Samples were collected by advancing a split-spoon sampler, equipped with three 2-inch diameter by 6-inch long brass tubes, into the undisturbed soil beyond the tip of the augers. The sampling equipment was cleaned before each sampling event by washing with a trisodium phosphate solution and rinsing in potable water.

The lead tube of each vadose zone soil sample was collected for chemical analysis for TPHG and BTEX. Samples were collected in each boring at depths of about 6.0 feet and 11.0 feet. Each sample was preserved in the tube by quickly covering the open ends with Teflon tape and capping the ends with plastic end-caps. Each tube was labeled to show site name, project number, date, time, sample name, depth collected, and sampler and stored in an iced cooler for transport to California State Department of Health Services (DHS) certified Trace Analysis Laboratory, Inc., located in Hayward, California, accompanied by chain-of-custody documentation.

A detailed boring log (see Appendix E) was prepared from auger return material and split-spoon samples according to the Unified Soil Classification System under the direction of a California registered geologist.

Drill cuttings were stored on site, contained in 55-gallon steel drums. The drums were labeled to show contents, date stored, suspected contamination, expected date of removal, company name, contact, and telephone number. Disposal of the cuttings is the responsibility of Mr. Walbey. At Mr. Walbey's request, TPE will provide recommendations or assist in remediation, or disposal of the cuttings, or both in an appropriate manner as an additional work item.

2.4.1.1 Results of Chemical Analyses

Soil samples collected from soil borings for chemical analysis were analyzed for TPHG by the DHS Method and for BTEX by the Modified United States Environmental Protection Agency (EPA) Method 8020.

Chemical analyses detected TPHG and BTEX in all soil samples. TPHG ranged from a low concentration of 5 ppm in the boring of well MW-3, at a depth of about 6.0 feet, to a high concentration of 260 ppm in the boring of well MW-2, at a depth of about 6.0 feet. In regard to BTEX chemicals, benzene was detected at the lowest concentration of .097 ppm and xylenes were detected at the highest concentration of 49 ppm in the boring of well MW-2 at depths of about 11.0 feet and 6.0 feet, respectively.

Results of chemical analyses are summarized in Table 1 and documented with a certified analytical report and chain-of-custody in Appendix F.

2.5 Groundwater Investigation

The following discusses groundwater monitoring well construction, development, and sampling procedures; and chemical analyses. Appendices G, H, and I document TPE's protocols regarding groundwater monitoring well construction, development, and sampling procedures. Appendices C, D, and J document TPE's protocols regarding sample handling procedures, waste handling and decontamination procedures, and quality assurance and quality control procedures (QA/QC).

2.5.1 Groundwater Monitoring Well Installation

Groundwater was reported by the driller in each of the 3 borings to be converted into monitoring wells at a depth of about 13 feet. The depth-to-groundwater in each boring stabilized at about 9.5 feet, indicating a confined aquifer.

In each boring the lithology at about 13 feet was a clay containing laminae of clayey sand or sand which were the first apparent water-bearing materials. Other water-bearing materials included a .5-foot to 2.0-foot thick clayey sand in each boring at a depth of about 15 feet and a 1.5-foot and 1.0-foot thick sand, respectively, in the borings for wells MW-1 and MW-2 at depths of 18 feet and 20, respectively. A 1.0-foot thick, water-bearing, clayey silt was encountered in the boring for well MW-3 at a depth of about 21 feet. TPE interpreted all the water-bearing materials to be facies of the first encountered shallow groundwater aquifer.

Based on the occurrences of water-bearing materials, each well was constructed to a total depth of about 25 feet. Each boring was converted into a monitoring well by installing 2-inch diameter, flush-threaded, schedule 40, polyvinyl chloride (PVC) casing and .010-inch machine-slotted screen. Since the aquifer was interpreted to be confined, the screen in each well was constructed to be 15 feet long and to terminate in the overlying, apparent clay aquitard or aquiclude. The bottom of each screen was capped with a PVC slip cap. Filter sand, #2/16, was placed in the annular space from the bottom of the boring to 2 feet above the top of the screened interval. About 2 feet of bentonite was placed above the sand pack followed by a cement slurry. A traffic rated, bolt-locked, vault box was set in concrete about .75-inch above ground surface to protect the well and divert surface water from entering the well. A locking well cap with lock was installed on each well casing and the elevation of the TOC for each well was surveyed with respect to MSL datum by a professional civil engineer.

A well construction detail for each well is documented in Appendix E.

2.5.2 Groundwater Monitoring Well Development

Wells MW-2 and MW-3 were developed on July 12, 1993 and well MW-1 was developed on July 15, 1993. Before development, depth-to-groundwater was measured from the TOC to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements were made for each level determination to ensure accuracy. Each well was checked for floating product using a dedicated polyethylene bailer. No floating product was present.

Each well was developed by using a 1.7", positive displacement, PVC hand pump and surge block until no further improvement was apparent in water quality. The water was slightly turbid in all wells after development.

Development water was stored on site in 55-gallon steel drums labeled to show contents, date filled, suspected contaminant, company name, contact, and telephone number. Disposal of the drummed water is the responsibility of Mr. Walbey. At the request of Mr. Walbey, TPE will provide recommendations or assistance in remediation, or disposal of the fluids, or both in an appropriate manner as an additional work item.

2.5.3 Groundwater Sampling

All wells were sampled on August 6, 1993. Prior to sampling, depth-to-groundwater was measured from the TOC to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements were made for each level determination to ensure accuracy. Each well was checked for floating product using a dedicated polyethylene bailer; no floating product or sheen was present. Each well was purged a minimum of 3 wetted well volumes with dedicated polyethylene bailers. Temperature, pH, and electrical conductivity were monitored until they stabilized. A slight gasoline odor was detected in all 3 wells during purging. After purging, the water in all 3 wells remained slightly turbid. Samples were collected in laboratory provided, sterilized glass vials having Teflon-lined screw caps, immediately sealed in the vials, and labeled to include: date, time, sample location, project number, and sampler. The samples were stored in an iced cooler for transport to DHS certified Priority

Environmental Labs, located in Fremont, California accompanied by chain-of-custody documentation.

Purge water was stored on site in 55-gallon drums. Disposal of the purge water is the responsibility Mr. Walbey. At the request of Mr. Walbey, TPE will provide recommendations and/or assist in remediation or disposal of the fluids, or both in an appropriate manner as an additional work item.

2.5.3.1 Results of Chemical Analyses

All groundwater samples and 1 trip blank sample were analyzed for TPHG and BTEX by EPA Methods 5030/8015 and 602, respectively.

TPHG and BTEX chemicals were detected in all samples. TPHG was detected in wells MW-1, MW-2, and MW-3 at concentrations of 17,000 ppb, 2,700 ppb, and 5,200 ppb, respectively.

Results of chemical analyses are summarized in Table 2 and documented with a certified analytical report and chain-of-custody in Appendix F.

2.6 Hydrogeology

2.6.1 Regional Hydrogeology

The site is located in the East Bay Plain of the Coast Range physiographic province. The surface of the Bay Plain in the general area of the site is gently sloping to the west-northwest and the site is at an elevation of about 18.5 feet above MSL. The East Bay Plain is an area comprised of flat alluvial lowlands and bay and tidal marshes lying between the bedrock hills of the Diablo Range to the east and San Francisco Bay to the west. Geologic materials underlying the plain are classified as consolidated and unconsolidated. The consolidated materials beneath the site are estimated to be present at a depth of about 1,000 feet below the ground surface and are not considered to be aquifers. The unconsolidated materials, occurring from ground surface to a depth of about 1,000 feet, contain the groundwater aquifers of the East Bay Plain. These materials consist of a heterogeneous mixture of clay, silt, sand, and gravel mainly derived by erosion of the Diablo Range. According to the United States Department of the Interior Geological Survey Professional Paper 943, surficial material at the subject site is Quaternary age Late Pleistocene alluvium consisting of weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel.

Major groundwater-bearing materials beneath the East Bay Plain occur at depths ranging from 50 feet to 1,000 feet below ground surface. Groundwater from these aquifers is presently used mostly for irrigation and industrial purposes. Groundwater flow is generally in a direction from the Diablo Range toward San Francisco Bay.

The nearest, major, downgradient bodies of surface water to the site are San Leandro Creek and San Leandro Bay located about 7,000 feet and 10,000 feet southwest of the site, respectively. Unnamed minor, downgradient, drainage channels, some perhaps buried by landfilling or construction activities, are located about 3,000 feet west of the site.

2.6.2 Site Hydrogeology

The site hydrogeology has been interpreted from soil boring logs constructed by TPE and the stabilized groundwater levels in the 3 on-site groundwater monitoring wells. Boring logs and well construction details are presented in Appendix B. Geologic cross section A-A' (Figure 4) has been constructed from the boring logs to illustrate the stratigraphy beneath the site in the area of the 3 groundwater monitoring wells. The location of the cross section is shown in Figure 2.

Cross section A-A' illustrates that the geologic stratigraphy, as represented in the borings for the 3 wells, consist of a dominant clay sequence to the total depth explored. The clay sequence is interrupted with a .5 to 2.0-foot thick, wet, clayey sand correlatable in the 3 borings at a depth of about 15 feet and a 1.0 to 3-foot thick, wet sand encountered in the borings for wells MW-1 and MW-2 at depths of 18 and

20 feet, respectively; this sand interval correlates to a 1.0-foot thick, wet, clayey silt in the boring of well MW-3 at a depth of 21 to 22 feet.

During drilling activities, groundwater was initially encountered in all borings at a depth of about 13 feet which TPE believes is derived from the wet, clayey sand discussed above. The groundwater rose in the borings to stabilize at a depth of about 9.0 feet. The rising of the groundwater in the borings and the overlying sequence of dry clay aquitards or aquicludes indicate the aquifer is confined.

The wet sands and silt discussed above are interpreted to be different facies of the same shallow groundwater aquifer.

Groundwater gradient was evaluated by triangulation of stabilized depth-to-groundwater in the 3 wells on August 6, 1993 (see Figure 3). On this date groundwater flow direction was northwesterly with a gradient of .011 feet per foot.

The potential source areas for contamination to groundwater, the 2 former underground fuel tanks, were upgradient and within 10 feet of groundwater monitoring wells MW-1 and MW-2 on August 6, 1993. Well MW-3 was upgradient of the location of the former underground 1,000-gallon fuel tank.

Depth-to-groundwater measurements and elevation calculations are documented in Table 3.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Vadose Zone Soil

Based on vadose zone soil analytical results exceeding 100 ppm for TPHG in the soil boring for well MW-2 (see Table 1) and the shallow depth-to-groundwater (about 13 to 15 feet), the ACHCSA and CRWQCB may require additional soil investigation.

If additional soil investigation is required, TPE recommends the investigation be accomplished by drilling soil borings or by direct excavation of contaminated soil.

Upon Mr. Walbey's request, TPE will discuss the advantages and disadvantages of each alternative.

3.2 Groundwater

Evaluation of groundwater contamination and the necessity for additional work is usually begun by comparing analytical results with Maximum Contaminant Levels (MCLs) and Action Levels (ALs) established by the DHS for drinking water in California. MCLs are enforceable primary drinking water standards adopted into regulation under the Safe Drinking Water Act and ALs are non-enforceable health-based guidance numbers.

Although regulators will probably agree that groundwater at the site is not or will not be used as drinking water, the above comparison is valid because groundwater at the site may potentially impact groundwater that is or may potentially be used for drinking water.

MCLs have been established for benzene, ethylbenzene, and xylenes at limits of 1 ppb, 680 ppb, and 1,750 ppb, respectively. Toluene is unregulated with an AL of 100 ppb. Based on the above limits, groundwater analytical results from all 3 wells exceed the MCL for benzene by a maximum of 6.1 ppb; all other analytical results are below the MCL or AL limits.

Based on the low concentration by which groundwater at the site exceeds the benzene MCL and that the site groundwater is not used as drinking water, TPE recommends that quarterly groundwater quality and gradient monitoring be commenced to confirm the initial results and to determine if a decreasing trend of contaminant concentrations can be established to argue that no further groundwater investigation is required.

TPE recommends that future groundwater analyses be conducted for TPHG and BTEX.

LEGEND

REFERENCE: USGS 7.5 MINUTE SERIES
QUADRANGLE MAPS SAN LEANDRO
AND OAKLAND EAST, CALIFORNIA,
PHOTOREVISED 1980.

-N-

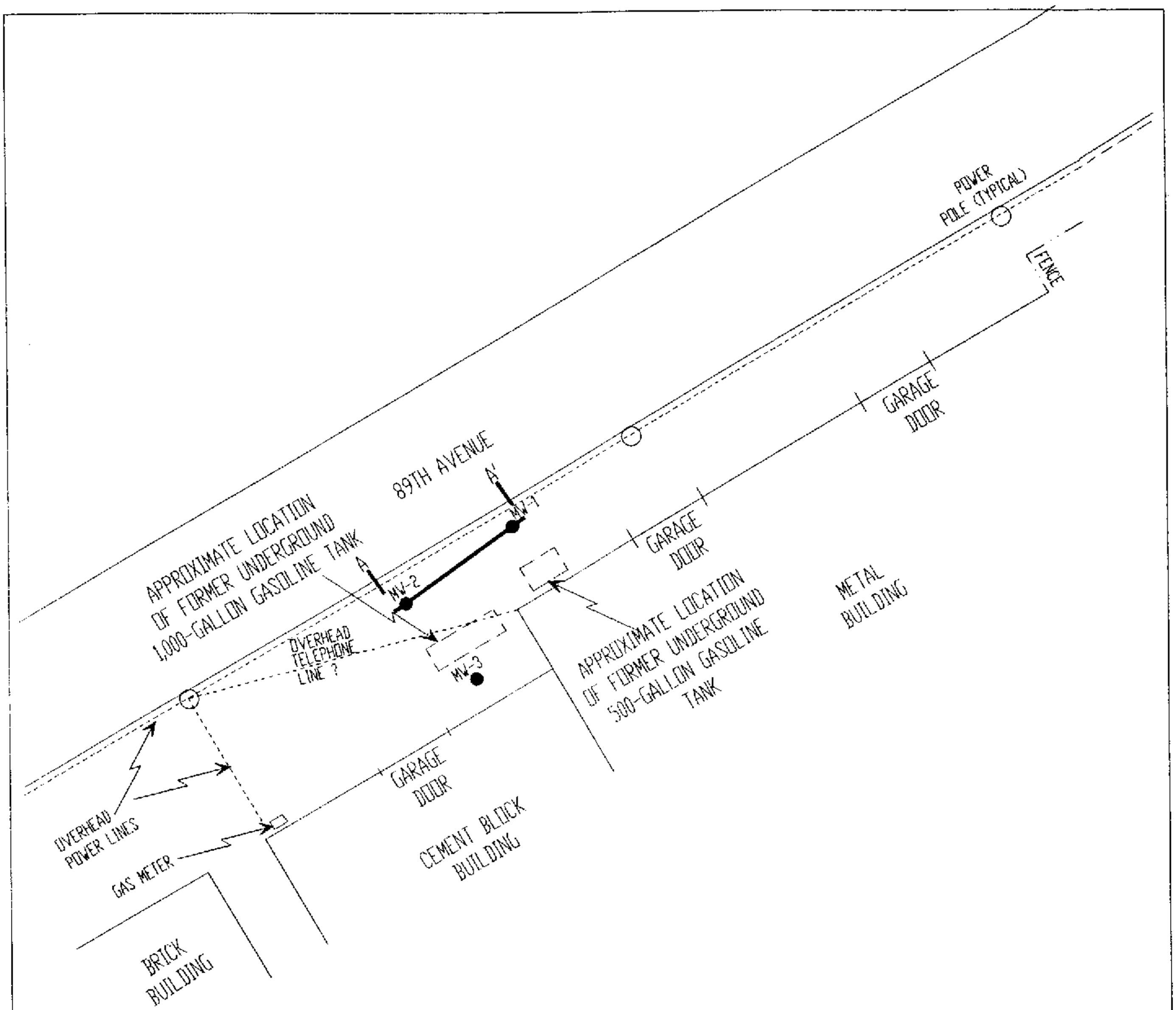
0 2,000
SCALE IN FEET

TANK PROTECT ENGINEERING

SITE VICINITY MAP

FIESTA BEVERAGES
966 89TH AVENUE
OAKLAND, CA 94621

DATE	5/14/93
FIGURE	1
FILE #	264-1
DRAWN BY	STACY
CHECKED BY	JVM



LEGEND

MW-1 ● NAME AND LOCATION OF MONITORING WELL

A A' GEOLOGIC CROSS SECTION, SEE FIGURE 4

N

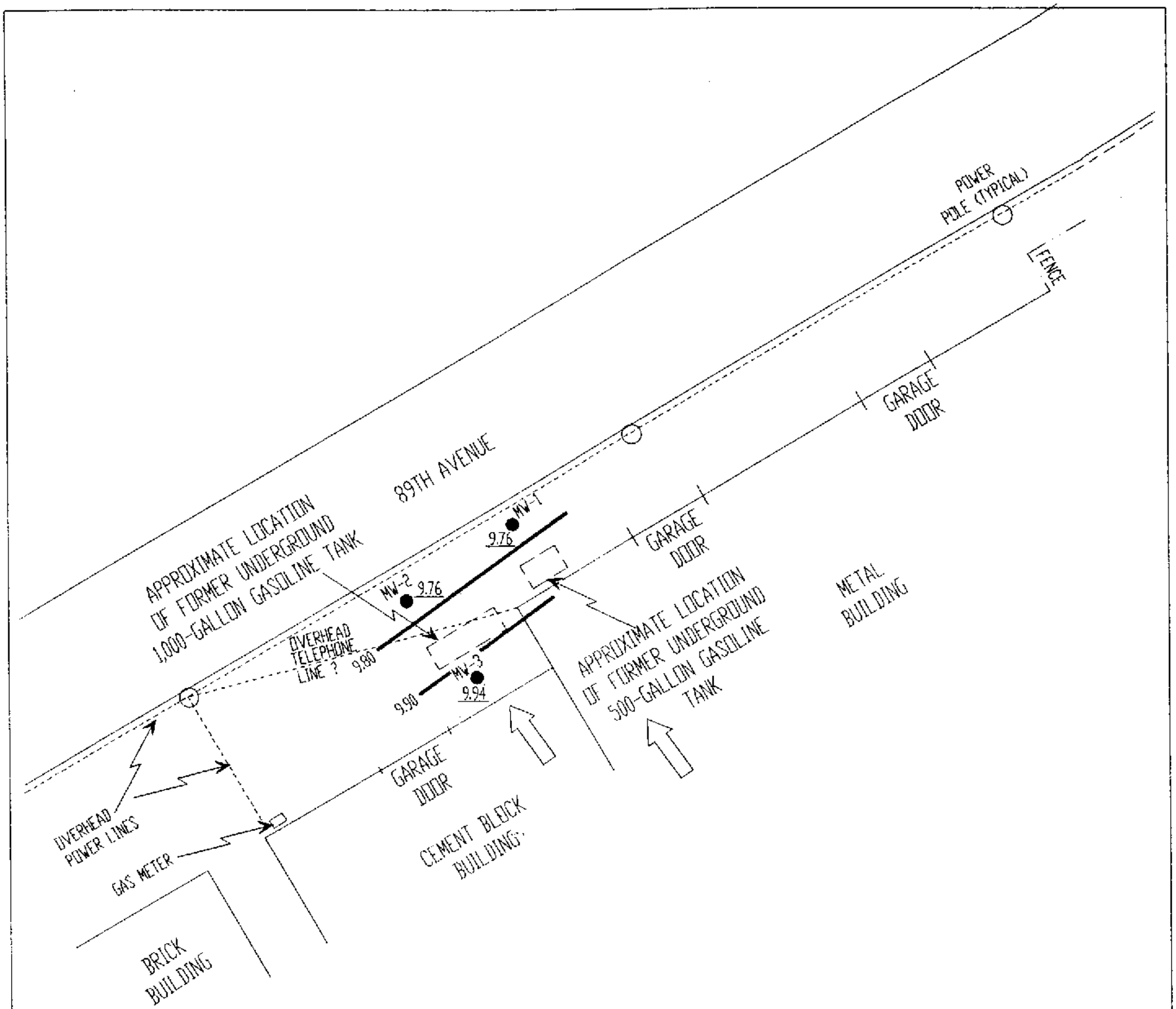
0 25 SCALE IN FEET

TANK PROTECT ENGINEERING

SITE PLAN

FIESTA BEVERAGES
966 89TH AVENUE
OAKLAND, CA 94621

DATE	9/14/93
FIGURE	2
FILE #	264-2
DRAWN BY	AK
CHECKED BY	JVM



LEGEND

MW-1 ● NAME AND LOCATION OF MONITORING WELL

9.90 POTENTIOMETRIC CONTOUR (8/6/93)

9.76 POTENTIOMETRIC ELEVATION

GROUNDWATER FLOW DIRECTION

N

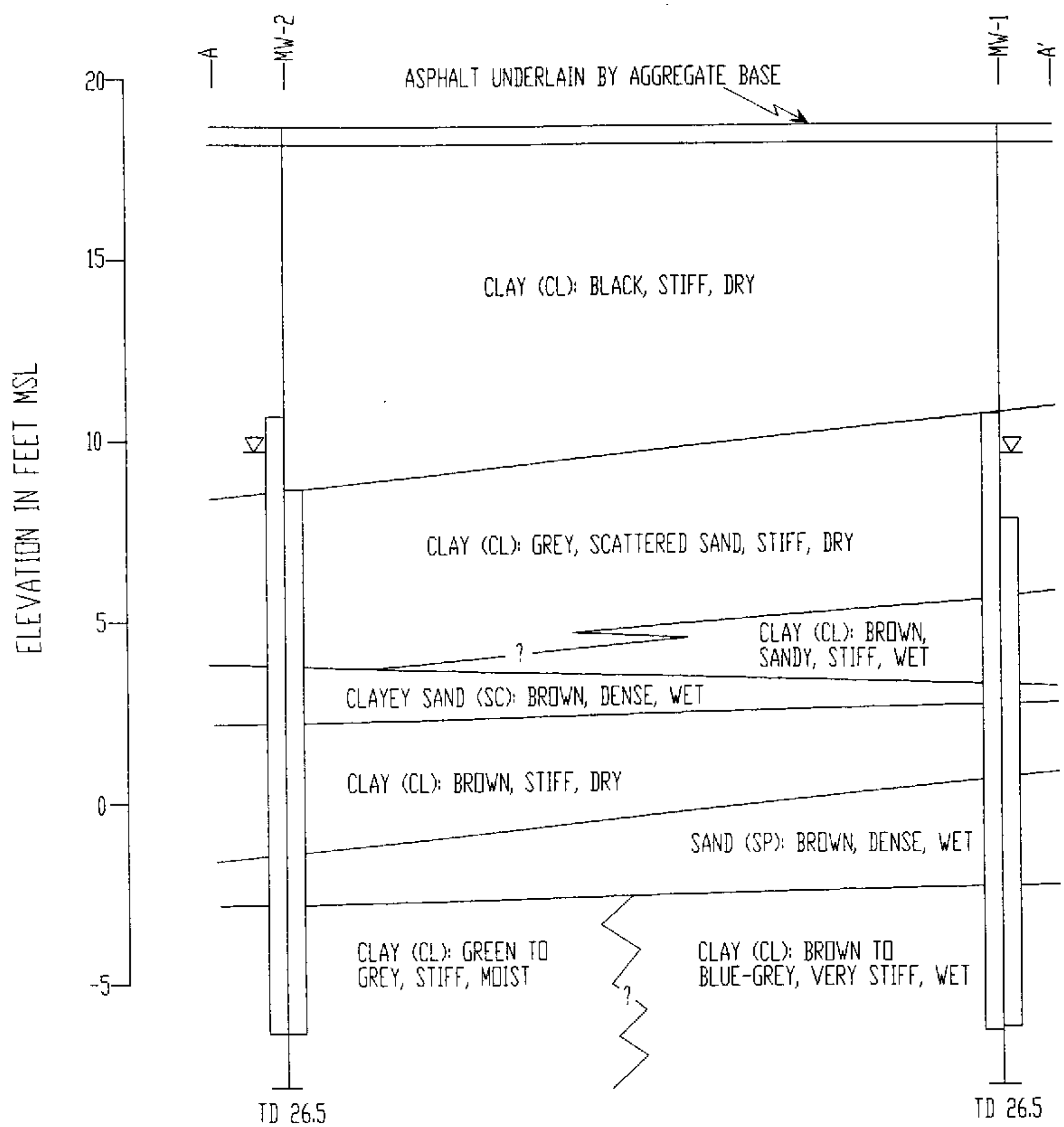
0 25
SCALE IN FEET

TANK PROTECT ENGINEERING

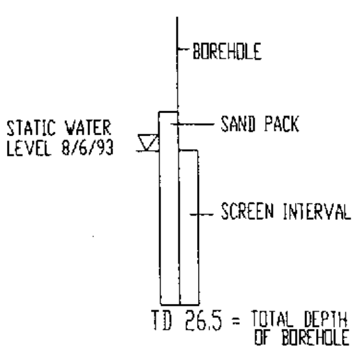
GROUNDWATER GRADIENT MAP (8/6/93)

FIESTA BEVERAGES
966 89TH AVENUE
OAKLAND, CA 94621

DATE	9/14/93
FIGURE	3
FILE #	264-4
DRAWN BY	AK
CHECKED BY	JVM



LEGEND



0 5

SCALE IN FEET

NO VERTICAL EXAGGERATION

NOTE: SEE FIGURE 2 FOR LOCATION OF GEOLOGIC CROSS SECTION

TANK PROTECT ENGINEERING

GEOLOGIC CROSS SECTION A-A'

FIESTA BEVERAGES
966 89TH AVENUE
OAKLAND, CA 94621

DATE	9/16/93
FIGURE	4
FILE #	264-5
DRAWN BY	AK
CHECKED BY	JVN

TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
(ppm[1])

Sample ID Name	Date	Depth (feet)	TPHG	Benzene	Toluene	Ethyl-Benzene	Xylenes
MW-1	06/25/93	6.0-6.5	43	.900	.710	.700	3.8
MW-1	06/25/93	11.0-11.5	60	2.8	2.3	3.5	10
MW-2	06/24/93	6.0-6.5	260	7.9	30	6.3	49
MW-2	06/24/93	11.0-11.5	11	.097	.340	.440	1.6
MW-3	06/24/93	6.0-6.5	5	.150	.160	.180	.480
MW-3	06/24/93	11.0-11.5	22	.290	2.2	.290	5.6

[1] PARTS PER MILLION

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
(ppb[1])
MCL\ppb

Sample ID Name	Date	TPHG	Benzene	Toluene	Ethyl-Benzene	Xylenes
MW-1	08/06/93	17,000	7.1	8.4	9.2	53
MW-2	08/06/93	2,700	1.3	1.7	2.0	8.1
MW-3	08/06/93	5,200	2.1	2.9	3.6	17
MW-4	08/06/93	<50	<0.5	<0.5	<0.5	<0.5

[1] PARTS PER BILLION

TABLE 3
GROUNDWATER ELEVATION
(feet)

Well Name	Date	Elevation TOC[1] (feet MSL[2])	Depth-to-Water from TOC	Groundwater Elevation (feet MSL)
MW-1	08/06/93	18.72	8.96	9.76
MW-2	08/06/93	18.44	8.68	9.76
MW-3	08/06/93	19.01	9.07	9.94

[1] TOP OF CASING

[2] MEAN SEA LEVEL

APPENDIX A

- ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY, LETTER DATED DECEMBER 17, 1992
- ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY, LETTER DATED JUNE 11, 1993
- ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, WATER RESOURCES MANAGEMENT ZONE 7, DRILLING PERMIT

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

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

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

December ~~17~~ 23, 1992
STID # 4241

Mr. Ted Walley
Fiesta Beverage
966 89th Ave.
Oakland CA 94621

Re: Request for Work Plan for Subsurface Investigation at Fiesta Beverage, 966 89th Ave., Oakland CA 94621

Dear Mr. Walley:

Please be advised that the oversight of the remediation at the above site has been transferred to the Local Oversight Program, (LOP), section of Alameda County Environmental Health, Hazardous Materials Division. You have been made aware of this through a **Notice of Requirement to Reimburse** letter recently sent to you. Also, the case worker is now the undersigned, Hazardous Materials Specialist.

Our office has received and reviewed the documents dated February 5, 1991 prepared for you by Scott Co. These documents gave the results of soil and groundwater samples taken subsequent to the removal of the two underground tanks at the above site on August 24, 1990. As you are aware, considerable Total Petroleum Hydrocarbons as gasoline (TPHg) and BTEX (Benzene, Toluene, Ethylbenzene and Xylenes) was found in the soil samples originally taken from the excavation pit. As high as 4900 parts per million, (ppm), TPHg was found in soil sample 2 taken under the 1000 gallon tank. In addition, the water samples taken from the pits had 25 and 36 ppm TPHg and significant BTEX concentrations. Because of the soil and groundwater contamination found, you are required to perform a subsurface investigation which determines the extent of the soil and groundwater contamination. Enclosed please find a copy of **Appendix A, Workplan for Initial Subsurface Investigation**, a document provided by the Regional Water Quality Control Board (RWQCB) which you may use as a guide for your workplan. Please provide a work plan for this investigation **within 45 days** of receipt of this letter. In addition, please provide documentation for the final disposition of all stockpiled soils generated from this excavation. It was noted that the product piping was left in place due to their location beneath the building. Please verify that the piping was properly inerted and closed in place and that the piping was verified "tight" and not leaking.

Mr. Ted Walbey
STID # 4241
Fiesta Beverages
966 89th Ave.
December 17, 1992
Page 2.

You should consider this a formal request for technical reports pursuant to the Californin Water Code Section 13267 (b). All work plans, analytical results or reports should be sent to our office and to that of the RWQCB to the attention of Mr. Rich Hiett. Their address is 2101 Webster St., Suite 500, Oakland CA 94612. Be aware that failure to submit the requested documents may subject you to civil liabilities.

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

mailed 12/23 4:15

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

enclosure (Mr. Walley)

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
~~Fiesta Beverages~~, 7402 Hillview Ct., Pleasanton, CA 94588
E. Howell, files

WP-966-89

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

RAFAT A. SHAHID. ASST. AGENCY DIRECTOR

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

June 11, 1993
StID # 4241

Mr. Ted Walbey
Fiesta Beverages
7402 Hillview Ct
Pleasanton, CA 94588

Re: Evaluation of May 24, 1993 Work Plan for Soil and Groundwater Investigation at 966 89th Ave., Oakland CA 94621

Dear Mr. Walbey:

Our office has received the above referenced report as prepared by Tank Protect Engineering (TPE). We have also recently spoken with Mr. John Mrakovich of TPE and received the request to install two rather than three monitoring wells as stated in the May 24, 1993 work plan. After discussion, the two wells depicted on the June 3, 1993 fax to our office were approved on the condition that it is shown that the lithology of this site (966 89th Ave.) is similar to that at Lanaidor (925 89th Ave.) and it can be shown that the same groundwater bearing zone is being monitored. This is also based on the consistency of groundwater gradient at the Lanaidor site. Our office will be requesting the resumption of monitoring at this site as a separate issue in regards to their subsurface investigation. In the event that these conditions are not met, you will be required to install an monitoring well to establish your site specific gradient. A well in the location of the proposed boring (from June 3, 1993 fax) may be appropriate.

In addition, please be reminded that our office has yet to receive verification of the proper closure of the piping to these former tanks. Soil sampling or pressure testing of the piping will be required in addition to filling and capping of the line. Please detail the status of all stockpiled soils removed from the excavations.

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

Sincerely,

Barney M. Chan

Barney M. Chan
Hazardous Materials Specialist

cc: R. Hiett, RWQCB
J. Mrakovich, TPE, 2821 Whipple Rd., Union City, CA 94587-1233
E. Howell, files
wp966-89

ZONE 7 WATER AGENCY

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT FIESTA BEVERAGE
9666 - 88TH AVENUE
OAKLAND, CA 94621

CLIENT
Name TED WALBEY
Address 7402 HILLVIEW Voice (510) 846-6646
City PLEASANTON CA Zip 94588

APPLICANT
Name TANK PROTECT ENGINEERING
Fax (510) 429-8089
Address 2821 WHIPPLE RD Voice (510) 429-8088
City UNION CITY, CA Zip 94587

TYPE OF PROJECT
Well Construction
- Cathodic Protection ___
- Water Supply ___
- Monitoring X

Geotechnical Investigation
- General ___
- Contamination X
- Well Destruction ___

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

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

DRILLER'S LICENSE NO. C57 563305

WELL PROJECTS
Drill Hole Diameter 8 in.
Casing Diameter 2 in.
Surface Seal Depth 13 ft.
Maximum Depth 25 ft.
Number 3

GEOTECHNICAL PROJECTS
Number of Borings ___
Hole Diameter ___ in.
Maximum Depth ___ ft.

ESTIMATED STARTING DATE 6/24/93
ESTIMATED COMPLETION DATE 6/24/93

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

APPLICANT'S SIGNATURE [signature] Date 6/16/93

FOR OFFICE USE

PERMIT NUMBER 93331
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

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

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

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

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

E. WELL DESTRUCTION. See attached.

Approved [signature] Wyman Hong Date 16 Jun 93

91992

APPENDIX B

HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

APPENDIX B

HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

Undisturbed soil samples will be recovered from soil without introducing liquids into the borings. Soil samples as core will be taken at 5-foot depth intervals and changes in lithology from ground surface to termination depth, or through the aquifer zone of interest for lithologic logging.

Borings will be drilled with a hollow-stem auger and sampled with a California or modified California-type split-spoon sampler. Soil samples will be of sufficient volume to perform the analyses which may be required, including replicate analyses.

Soil from all borings will be described in detail using the Unified Soil Classification System and will be logged by a geologist, civil engineer, or engineering geologist who is registered or certified by the State of California and is experienced in the use of the Unified Soil Classification System.

All wet zones above the free water zone will be noted and accurately logged.

Soil samples will be collected in clean brass or stainless steel sampling tubes in the split-spoon. Sediment traps will be used when unconsolidated sands and gravels fall from the sampler during retrieval. The brass tubes will be cut apart using a clean knife. The ends of the tubes will be covered with a thin sheet of Teflon tape or aluminum foil beneath plastic end caps and sealed with electrical or duct tape and properly labeled. The samples will be stored on ice at a temperature of 4 degrees Celsius.

Drill cuttings will be stored on site in 55-gallon drums or covered with plastic sheeting. Analytical results will be submitted immediately to the site owner for determination of appropriate disposal procedures. The soil borings not completed as wells will be backfilled with a cement grout.

APPENDIX C

SAMPLE HANDLING PROCEDURES

APPENDIX C

SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination, and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.

- Samples will be secured in coolers to maintain custody, control temperature, and prevent breakage during transportation to the laboratory.

- A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.

- Ice, blue ice, or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.

- Each sample will be identified by affixing a pressure sensitive, gummed label, or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection, and the collector's initials.

- Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capped with plastic end-caps. The tubes will be labeled, sealed in quart size bags, and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples are to be identified with labels and all sample bottles are to be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used, and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample, site identification, sampling locations, station numbers, dates, times, sampler's name, designation of the samples as a grab or composite, notation of the type of sample (e.g. groundwater, soil boring, etc.), preservatives used, on-site measurement data, and other observations or remarks.

APPENDIX D

WASTE HANDLING AND DECONTAMINATION PROCEDURES

APPENDIX D

WASTE HANDLING AND DECONTAMINATION PROCEDURES

Decontamination: Any drilling, sampling or field measurement equipment that comes into contact with soil or groundwater will be properly decontaminated prior to its use at the site and after each incident of contact with the soils or groundwater being investigated. Proper decontamination is essential to obtain samples that are representative of environmental conditions and to accurately characterize the extent of soil and groundwater contamination. Hollow-stem auger flights and the drill bit will be steam-cleaned between the drilling of each well.

All sample equipment, including the split-tube sampler and brass tubes, will be cleaned by washing with tri-sodium phosphate detergent, followed by rinsing with potable water.

Waste Handling: Waste materials generated during site characterization activities will be handled and stored as hazardous waste and will be stored on site in appropriately labeled containers. Waste materials anticipated include excavated soil, drill cuttings, development and purge water, water generated during aquifer testing, water generated during decontamination, and used personnel protection equipment such as gloves and Tyvek. The site owner will be responsible for providing the storage containers and will be responsible for the disposal of the waste materials. Drill cuttings from individual borings will be stored separately in drums or covered by plastic sheeting and the appropriate disposal procedure will be determined by the site owner or TPE following receipt of the soil sample analytical results. Drums will be labeled to show material stored, known or suggested contaminant, date stored, expected removal date, company name, contact, and telephone number.

APPENDIX E

LOGS OF EXPLORATORY BORINGS AND WELL COMPLETION DETAILS

LOG OF EXPLORATORY BORING

PROJECT NUMBER 264

BORING NO. MW-1

PROJECT NAME 966 89TH AVENUE, OAKLAND CA

BY LNH

DATE 6/25/93

SURFACE ELEV. 19 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN
			▽ (approx. 9)			
1.5/1.5		11		5	■	
1.5/1.5		16		10	■	
1.5/1.5		12		15	■	
1.4/1.5		44		20	■	
.42/1.5		20		25	■	

DESCRIPTION

ASPHALT

AGGREGATE BASE (GW): brown, dry.

CLAY (CL): black, scattered sand, stiff, dry, slight odor.

CLAY (CL): grey, scattered sand, stiff dry, no odor.

CLAY (CL): brown, sandy, stiff, wet, no odor.

CLAYEY SAND (SC): brown, medium dense, wet, no odor.

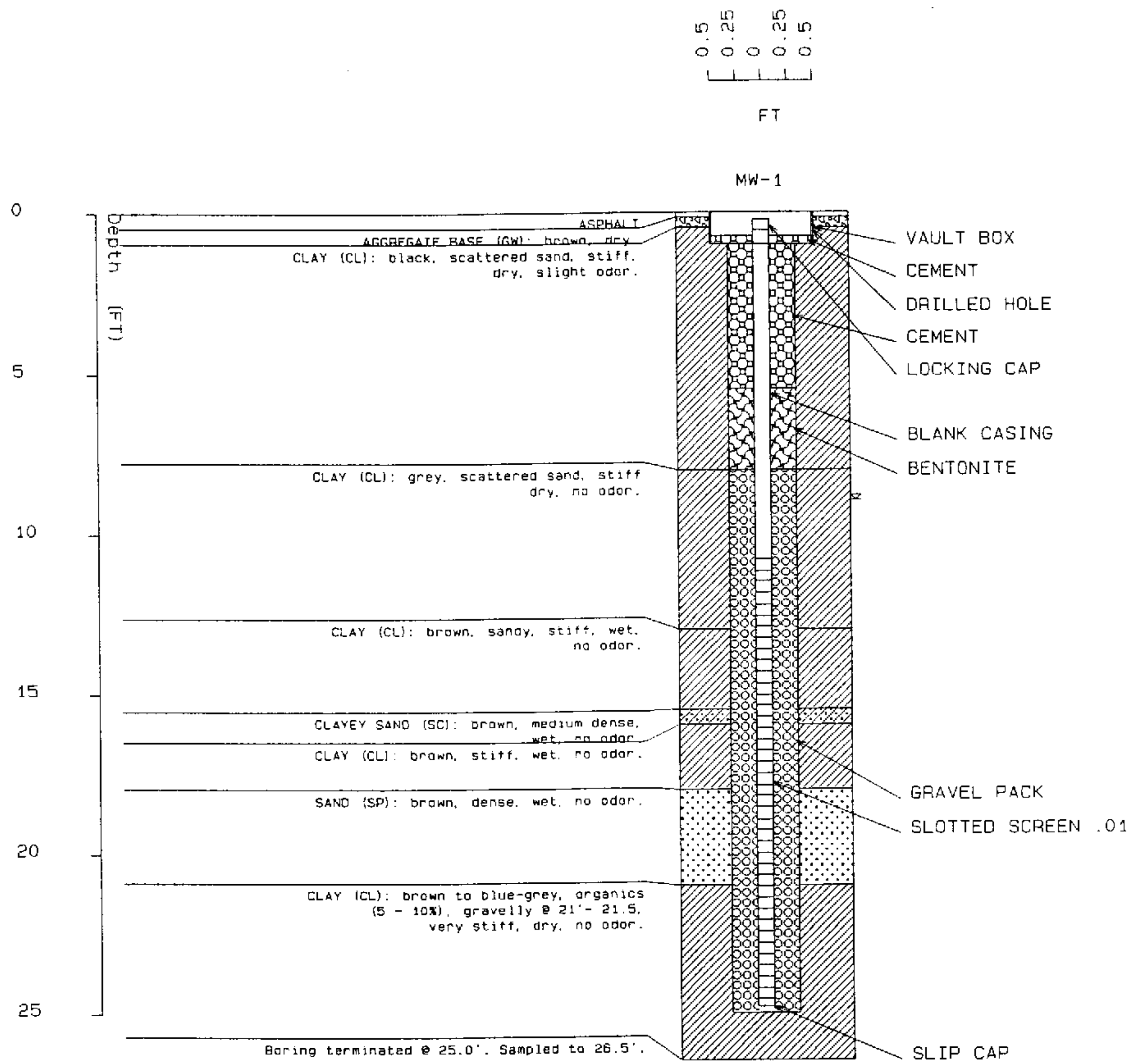
CLAY (CL): brown, stiff, wet, no odor.

SAND (SP): brown, dense, wet, no odor.

CLAY (CL): brown to blue-grey, organics (5 - 10%), gravelly @ 21'- 21.5, very stiff, dry, no odor.

Boring terminated @ 25.0'. Sampled to 26.5'. Hole caved from 25.0'to 26.5 .

REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O.D. augers. Samples collected in a 2.0-inch I.D. California sampler.



LEGEND ▽ Static Water Level

GW SP SC CL ASPHALT

WELL ID : MW-1	966 89TH AVENUE, OAKLAND CA

TANK PROTECT ENGINEERING Figure :

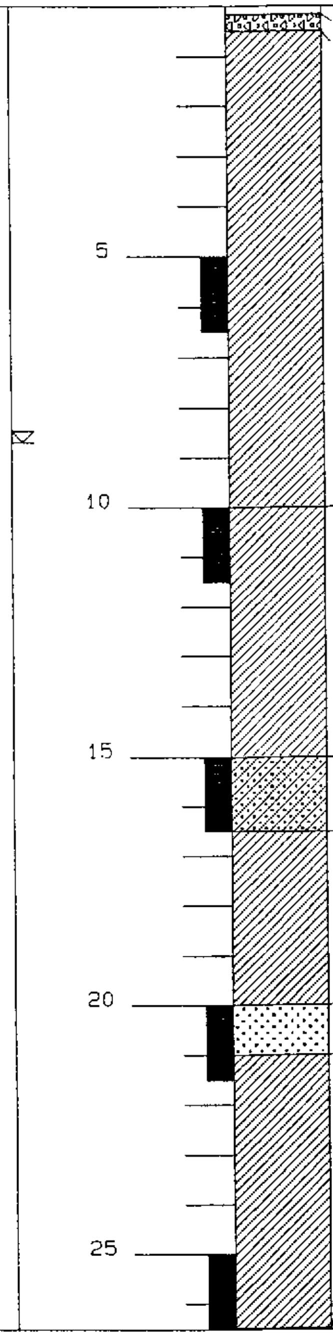
LOG OF EXPLORATORY BORING

PROJECT NUMBER 264 — BORING NO. MW-2

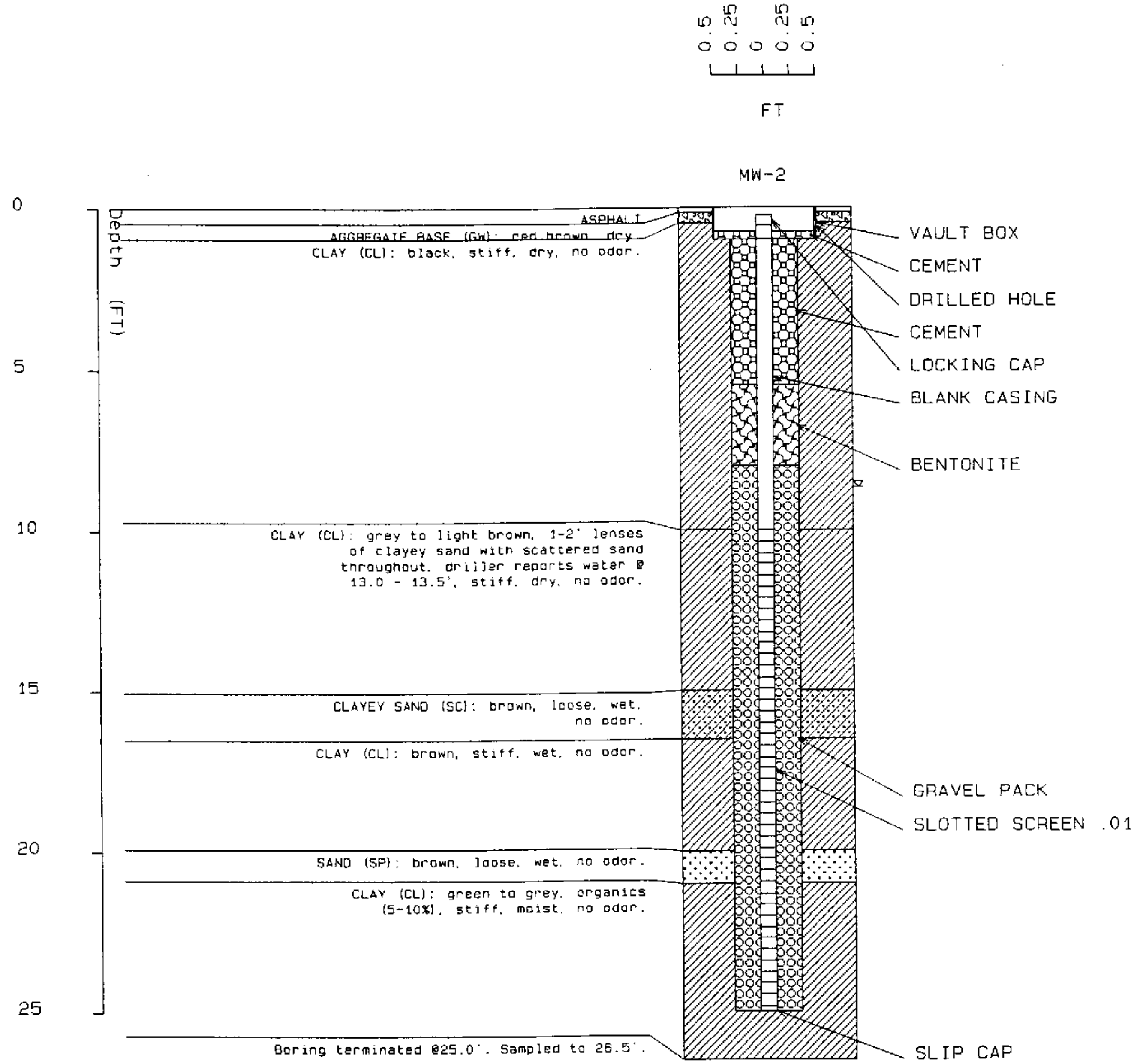
PROJECT NAME 966 89TH AVENUE, OAKLAND CA

BY LNH — DATE 6/24/93 — SURFACE ELEV. 18 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			ASPHALT
							AGGREGATE BASE (GW): red brown, dry.
							CLAY (CL): black, stiff, dry, no odor.
1.5/1.5		13		5			
			▽				
1.5/1.5		11		10			CLAY (CL): grey to light brown, 1-2" lenses of clayey sand with scattered sand throughout, driller reports water @ 13.0 - 13.5', stiff, dry, no odor.
1.0/1.5		8		15			CLAYEY SAND (SC): brown, loose, wet, no odor.
							CLAY (CL): brown, stiff, wet, no odor.
1.2/1.5		7		20			SAND (SP): brown, loose, wet, no odor.
							CLAY (CL): green to grey, organics (5-10%), stiff, moist, no odor.
							Boring terminated @25.0'. Sampled to 26.5'. Hole caved from 25.0' to 26.5'.
1.0/1.5		12		25			



REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O.D. augers. Samples collected in a 2.0-inch I.D. California samper.



LEGEND ▽ Static Water Level

GW SP SC CL ASPHALT

WELL ID : MW-2

966 89TH AVENUE, OAKLAND CA

TANK PROTECT ENGINEERING

Figure :

LOG OF EXPLORATORY BORING

PROJECT NUMBER 264 | BORING NO. MW-3

PROJECT NAME 966 89TH AVENUE, OAKLAND CA

BY LNH | DATE 6/24/93 | SURFACE ELEV. 19 FT

RECOVERY (FT/FT)	OVA (PPM)	PENETRATION (BLOWS/FT)
1.3/1.5		7
1.0/1.5		11
0/1.5		9
1.0/1.5		10
.75/1.5		8
1.2/1.5		6
1.3/1.5		6
1.2/1.5		4
1.2/1.5		8

GROUND WATER LEVELS | DEPTH IN FT. (5, 10, 15, 20, 25) | SAMPLES | LITHOGRAPHIC COLUMN

DESCRIPTION

ASPHALT

AGGREGATE BASE (GW) brown, dry.

CLAYEY SAND (SC): light brown, dry, no odor.

CLAY (CL): dark brown to black, firm, dry, slight odor @ 7.0'.

CLAY (CL): grey, sandy, 1-2" lenses of grey clayey sand, stiff, moist, no odor. Driller reports water @ 13.0'.

CLAY (CL): light brown, stiff, wet, no odor.

CLAYEY SAND (SC): light brown, moist, loose, no odor.

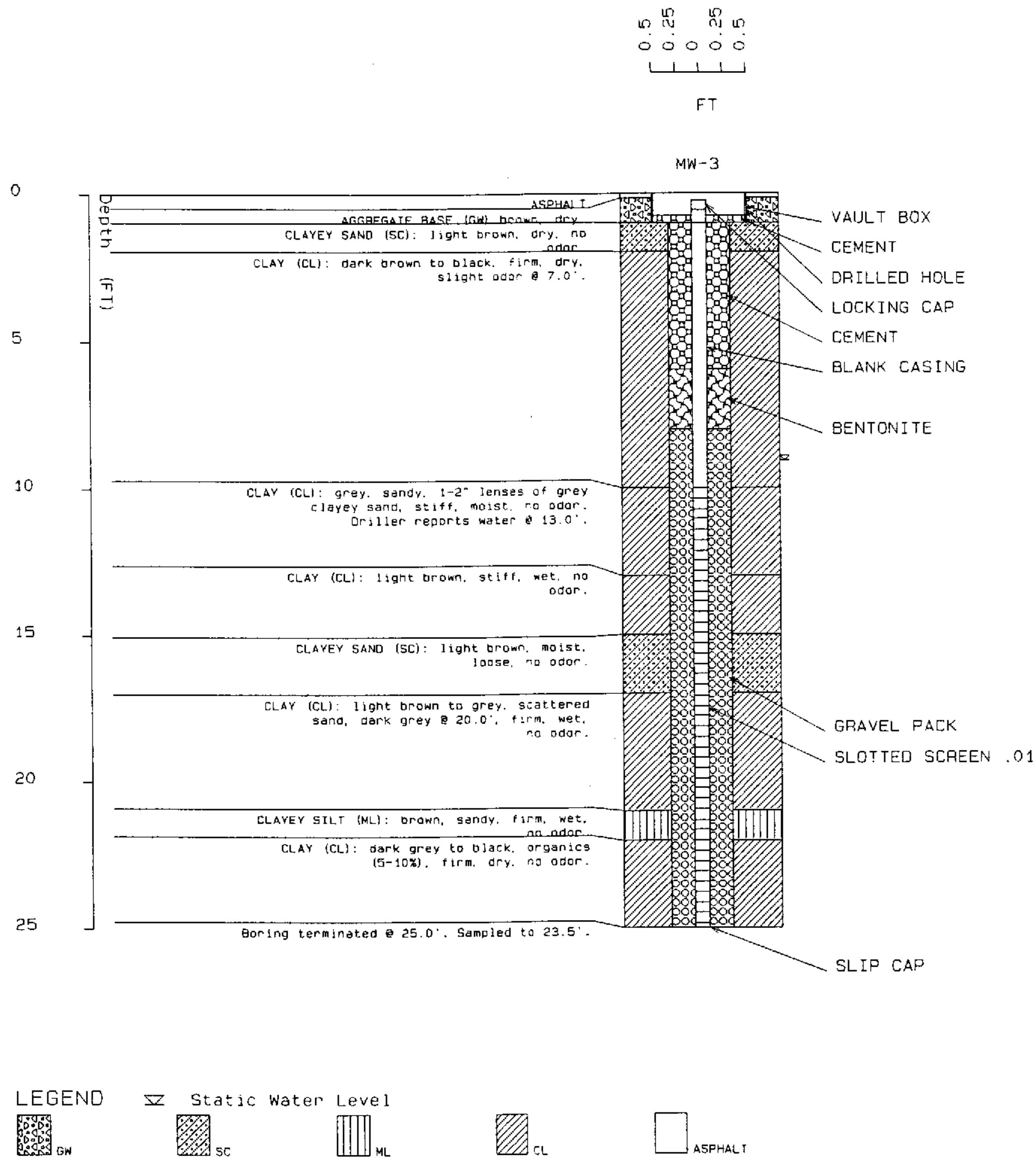
CLAY (CL): light brown to grey, scattered sand, dark grey @ 20.0', firm, wet, no odor.

CLAYEY SILT (ML): brown, sandy, firm, wet, no odor.

CLAY (CL): dark grey to black, organics (5-10%), firm, dry, no odor.

Boring terminated @ 25.0'. Sampled to 23.5'.

REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O.D. augers. Samples collected in a 2.0-inch I.D. California and standard penetration sampler.



WELL ID : MW-3	966 89TH AVENUE, OAKLAND CA

TANK PROTECT ENGINEERING

Figure :

APPENDIX F

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

July 6, 1993

Mr. Marc Zomorodi
Tank Protect Engineering
2821 Whipple Road
Union City, California 94587

Dear Mr. Zomorodi:

Trace Analysis Laboratory received six soil samples on June 28, 1993 for your Project No. 264B-062593, Fiesta Beverage (our custody log number 3364).

These samples were analyzed for Total Petroleum Hydrocarbons as Gasoline and for Benzene, Toluene, Ethylbenzene and Xylenes. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

For Scott T. Ferriman
Project Specialist

Enclosures

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 3364
DATE SAMPLED: 06/24/93 and 06/25/93
DATE RECEIVED: 06/28/93
DATE EXTRACTED: 06/28/93
DATE ANALYZED: 07/01/93
DATE REPORTED: 07/06/93

CUSTOMER: Tank Protect Engineering

REQUESTER: Marc Zomorodi

PROJECT: No. 264B-062593, Fiesta Beverage

Sample Type: Soil

Method and Constituent:	Units	MW-1 5.0-6.5' Concentration	MW-1 5.0-6.5' Reporting Limit	MW-1 10.0-11.5' Concentration	MW-1 10.0-11.5' Reporting Limit	MW-2 5.0-6.5' Concentration	MW-2 5.0-6.5' Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	43,000	1,500	60,000	3,000	260,000	3,000
Modified EPA Method 8020 for:							
Benzene	ug/kg	900	80	2,800	160	7,900	160
Toluene	ug/kg	710	73	2,300	150	30,000	150
Ethylbenzene	ug/kg	700	75	3,500	150	6,300	150
Xylenes	ug/kg	3,800	200	10,000	390	49,000	390

Method and Constituent:	Units	MW-2 10.0-11.5' Concentration	MW-2 10.0-11.5' Reporting Limit	MW-3 5.0-6.5' Concentration	MW-3 5.0-6.5' Reporting Limit	MW-3 10.0-11.5' Concentration	MW-3 10.0-11.5' Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	11,000	500	5,000	500	22,000	500
Modified EPA Method 8020 for:							
Benzene	ug/kg	97	20	150	20	290	8.0
Toluene	ug/kg	340	18	160	18	2,200	7.3
Ethylbenzene	ug/kg	440	19	180	19	290	7.5
Xylenes	ug/kg	1,600	49	480	49	5,600	20

Concentrations reported as ND were not detected at or above the reporting limit.

TAL Trace Analysis Laboratory, Inc.

LOG NUMBER: 3364
DATE SAMPLED: 06/24/93 and 06/25/93
DATE RECEIVED: 06/28/93
DATE EXTRACTED: 06/28/93
DATE ANALYZED: 07/01/93
DATE REPORTED: 07/06/93
PAGE: Two

Sample Type: Soil

Method and Constituent:	Units	Method Blank Concentration	Method Blank Reporting Limit
DHS Method:			
Total Petroleum Hydrocarbons as Gasoline	ug/kg	ND	500
Modified EPA Method 8020 for:			
Benzene	ug/kg	ND	5.0
Toluene	ug/kg	ND	5.0
Ethylbenzene	ug/kg	ND	5.0
Xylenes	ug/kg	ND	15

QC Summary:

% Recovery: 85
% RPD: 38

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

3364

TANK PROTECT ENGINEERING

TANK PROTECT ENGINEERING
Of Northern California
Environmental Management

2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

LAB: TAL

TURNAROUND: Normal

P.O. #: 639

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.: 264B062593

SITE NAME & ADDRESS: Fiesta Beverage, 966 89th Ave Oakland

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER: Lee Huckins, 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION	(1) TYPE OF CONTAINER	TOTAL LIGHT HC	AROMATIC HC (BTX)	TOTAL HEAVY HC	OIL & GREASE	VOC SCAN (624's)	OTHER	REMARKS
MW-1	6/25	9:05	X		5.0-6.5'	Brass	X	X					
MW-1	6/25	9:30	X		10.0-11.5'	Brass	X	X					
MW-2	6/24		X		5.0-6.5'	Brass	X	X					
MW-2	6/24		X		10.0-11.5'	Brass	X	X					
MW-3	6/24		X		5.0-6.5'	Brass	X	X					
MW-3	6/24		X		10.0-11.5'	Brass	X	X					

ANALYTES REQUESTED

Relinquished by : (Signature)	Date / Time	Received by : (Signature)	Relinquished by : (Signature)	Date / Time	Received by : (Signature)
Lee Huckins	6/28/93 10:54				
Relinquished by : (Signature)	Date / Time	Received by : (Signature)	Relinquished by : (Signature)	Date / Time	Received by : (Signature)
Relinquished by : (Signature)	Date / Time	Received for Laboratory by: (Signature) TAL Scott [illegible]	Date / Time 6/28/93 10:54	Remarks: M P/U, Soil, 6-BT, gt, Y-3, 5-Day	

DATE: ______

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 10, 1993 PEL # 9308034

TANK PROTECT ENGINEERING, INC.

Attn: Jeff
Re: Four water samples for Gasoline/BTEX analysis.

Project name: Fiesta Beverage
Project location: 966 89th Ave., - Oakland
Project number: 264080693

Date sampled: Aug 06, 1993
Date extracted: Aug 09, 1993
Date submitted: Aug 09, 1993
Date analyzed: Aug 09, 1993

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
MW-1	17000	7.1	8.4	9.2	53
MW-2	2700	1.3	1.7	2.0	8.1
MW-3	5200	2.1	2.9	3.6	17
MW-4	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	83.2%	80.9%	84.1%	82.8%	91.5%
Duplicate Spiked Recovery	86.7%	88.5%	90.4%	91.7%	98.0%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

David Duong
Laboratory Director

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

TANK PROTECT ENGINEERING
Of Northern California
Environmental Management

TANK PROTECT ENGINEERING
2821 WHIPPLE ROAD
UNION CITY, CA 94587
(415)429-8088
(800)523-8088
FAX(415)429-8089

PEL # 9308034

INV # 23874

LAB: Priority Env.

TURNAROUND: Normal

P.O. #: 668

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.: Z64080693

SITE NAME & ADDRESS: Fiesta Beverage, 966 89th Ave Oakland

SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER: Lee Huckins, 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088

ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION	(1) TYPE OF CONTAINER	TOTAL LIGHT HC	AROMATIC HC (BTX)	TOTAL HEAVY HC	OIL & GREASE	VOC SCAN (624's)	OTHER		REMARKS
mw-1	8/6	1405		x		2 40ml glass vial	x	x						
mw-2	8/6	1550		x		2 40ml	x	x						
mw-3	8/6	1455		x		2 40ml	x	x						
mw-4	8/6	1555		x		2 40ml	x	x						

Relinquished by : (Signature)	Date / Time	Received by : (Signature)	Relinquished by : (Signature)	Date / Time	Received by : (Signature)
Lee Huckins	8/9/93 8:00 AM	[signature]	[signature]	8/9/93 9:32	
Relinquished by : (Signature)	Date / Time	Received by : (Signature)	Relinquished by : (Signature)	Date / Time	Received by : (Signature)
	8/9/93 9:35	[signature]			
Relinquished by : (Signature)	Date / Time	Received for Laboratory by: (Signature) PEL	Date / Time	Remarks	

DATE: ______

APPENDIX G

GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

APPENDIX G

GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

BOREHOLE DESIGN

Casing Diameter: The minimum diameter of well casings will be 2 inches (nominal).

Borehole Diameter: The diameter of the borehole will be a minimum of 4 inches and a maximum of 12 inches greater than the diameter of the well casing. The minimum annular space will be 2.5 inches as measured from the outside diameter of the casing to the drill hole wall.

Shallow (Unconfined Zone) Wells: When unconfined groundwater is encountered the borehole will be advanced through the aquifer to an underlying clay layer or aquitard. The screened interval will begin a minimum of 5 feet above the saturated zone or above the anticipated seasonal high level of groundwater. The screen will extend the full thickness of the aquifer or no more than 15 feet into the saturated zone, whichever is reached first. The well screen will not extend into the aquitard, nor will the screened interval exceed 20 feet in length.

Deep (Confined Zone) Wells: Any monitoring well to be screened below the upper aquifer will be installed as a double-cased well. A steel conductor casing will be placed through the upper water-bearing zone to prevent aquifer cross-contamination.

The conductor casing will be installed in the following manner: a large diameter borehole (typically 18 inches) will be drilled until it is determined that the first competent aquitard has been reached. A low carbon steel conductor casing will be placed in the borehole to the depth drilled. Centralizers will be used to center the casing in the borehole. The annular space between the conductor casing and the formation will be cement-grouted from bottom to top by tremie pipe method. The grout will be allowed to set for a minimum of 72 hours.

Drilling will continue inside the conductor casing, with a drill bit of smaller diameter than the conductor casing. If additional known aquifers are to be fully penetrated, the procedure will be repeated with successively smaller diameter conductor casings.

The bottom of the well screen in a confined aquifer will be determined by presence or lack of a clay layer or aquitard as described above. The screened interval in a confined zone shall extend across the entire saturated zone of the aquifer or up to a length of 20 feet, which ever is less. The screened zone and filter pack will not cross-connect to another aquifer.

CONSTRUCTION MATERIALS

Casing and Screen Materials: Well casing and screen will be constructed of clean materials that have the least potential for affecting the quality of the sample. The most suitable material for a particular installation will depend upon the parameters to be monitored. Acceptable materials include PVC, stainless steel, or low carbon steel.

Casing Joints: Joints will be connected by flush threaded couplers. Organic bonding compounds and solvents will not be used on joints.

Well Screen Slots: Well screen will be factory slotted. The size of the slots will be selected to allow sufficient groundwater flow to the well for sampling, minimize the passage of formation materials into the well, and ensure sufficient structural integrity to prevent the collapse of the intake structure.

Casing Bottom Plug: The bottom of the well casing will be permanently plugged, either by flush threaded screw-on or friction cap. Friction caps will be secured with stainless steel set screws. No organic solvents or cements will be applied.

Filter Pack Material: Filter envelope materials will be durable, water worn, and washed clean of silt, dirt, and foreign matter. Sand size particles will be screened silica sand. Particles will be well rounded and graded to an appropriate size for retention of aquifer materials.

Bentonite Seal Material: Bentonite will be pure and free of additives that may affect groundwater quality. Bentonite will be hydrated with clean water.

Grout Seal Material: Cement grout will consist of a proper mixture of Type 1/11 Portland cement, hydrated with clean water. Up to 3% bentonite may be added to the mixture to control shrinkage.

CONSTRUCTION PROCEDURES

Decontamination: All downhole tools, well casings, casing fittings, screens, and all other components that are installed in the well shall be thoroughly cleaned immediately before starting each well installation. When available, each component shall be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components shall be cleaned with water and detergent or trisodium phosphate, rinsed in clean water, then rinsed in distilled water.

Soil and water sampling equipment and material used to construct the wells shall not donate to, capture, mask, nor alter the chemical composition of the soil and groundwater.

Drilling Methods: Acceptable drilling methods include solid and hollow-stem auger, percussion, direct circulation mud and air rotary, and reverse rotary. The best alternative is that which minimizes the introduction of foreign materials or fluids. If drilling fluid is employed, drilling fluid additives shall be limited to inorganic and non-hazardous compounds. Compressed air introduced into the borehole shall be adequately filtered to remove oil and particulates.

Casing Installation: The casing will be set under tension, when necessary, to ensure straightness. Centralizers will be used where necessary to prevent curvature or stress to the casing.

Sand Pack Installation: The sand pack will be installed so as to avoid bridging and the creation of void spaces. The tremie pipe method will be used where installation conditions or local regulations require. Drilling mud, when used, will be thinned prior to packplacement. The sand pack shall cover the entire screened interval and rise a minimum of 2 feet above the highest perforation.

Bentonite Seal Placement: A bentonite seal will be placed above the sand pack by a method that prevents bridging. Bentonite pellets can be placed by free fall if proper sinking through annular water can be assured. Bentonite slurry will be placed by the tremie pipe method from the bottom upward. The bentonite seal will not be less than 1 foot in thickness.

Grout Seal Placement: The cement grout mixture will be hydrated with clean water and thoroughly mixed prior to placement. If substantial groundwater exists in the bore hole, the grout shall be placed by tremie pipe method from the bottom upward. In a dry borehole, the grout may be surface poured to a depth of 30 feet. Below a depth of 30 feet grout will be placed by tremie pipe. Grout will be placed in 1 continuous lift and will extend to the surface or to the well vault if the well head is completed below grade. A minimum of 5 feet of grout seal will be installed, unless impractical due to the shallow nature of the well.

Surface Completion: The well head will be protected from fluid entry, accidental damage, unauthorized access, and vandalism. A watertight, locking cap will be installed on the well casing. Access to the casing will be controlled by a keyed lock.

Well heads completed below grade will be completed in a concrete and/or steel vault, installed to drain surface runoff away from the vault.

Well Identification: Each well will be labeled to show well number, depth, hole and casing diameter, and screened interval.

APPENDIX H

GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

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GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

INTRODUCTION

Newly installed groundwater monitoring wells will be developed to restore natural hydraulic conductivity of the formation, remove sediments from well casing and filter pack, stabilize the filter pack and aquifer material, and promote turbidity-free groundwater samples.

Wells may be developed by bailing, hand pumping, mechanical pumping, air lift pumping, surging, swabbing, or an effective combination of methods. Wells will be developed until the water is free of sand, silt, and minimum turbidity has stabilized.

In some cases where low permeability formations are involved or the drilling mud used fails to respond to cleanup, initial development pumping may immediately dewater the well casing and thereby inhibit development. When this occurs, clean, potable grade water may be introduced into the well, followed by surging of the introduced waters with a surge block. This operation will be followed by pumping. The procedure may be repeated as required to establish full development.

METHODOLOGY

Seal Stabilization: Cement and bentonite annular seals shall set and cure not less then 72 hours prior to well development.

Decontamination: All well development tools and equipment shall be thoroughly cleaned immediately before starting each well installation. When available, each component shall be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components shall be cleaned with clean water, then rinsed with distilled water.

Development equipment shall not donate to, capture, mask, nor alter the chemical composition of the soils and groundwater.

Introduction of Water: Initial development of wells in low permeability formations may dewater the casing and filter pack. When this occurs, clean, potable water will be introduced into the well to enhance development.

Bailing: Development will begin by bailing to remove heavy sediments from the well casing. Care will be taken to not damage the well bottom cap during lowering of the bailer.

Surging: Care will be exercised when using a surge block to avoid damaging the well screen and casing. When surging wells screened in coarse (sand/gravelly) aquifers, the rate of surge block lifting shall be slow and constant. When surging wells screened in fine (silty) aquifers, more vigorous lifting may be required. Between surging episodes, wells will be bailed to remove accumulated sediments.

Pumping: Development pumping rates shall be less than the recharge rate of the well in order to avoid dewatering.

Discharged Water Containment and Disposal: All water and sediment generated by well development shall be collected in 55-gallon steel drums. Development water will be temporarily contained on site, pending sampling and laboratory analysis. No hazardous development water will be released to the environment. Disposal of development water will be the responsibility of the client

APPENDIX I

GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

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GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 72 hours after well development. Groundwater samples will be obtained using either a bladder pump, clear Teflon bailer, or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity, and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% of its initial water level or more.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using a probe, clear Teflon, or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples shall be handled and preserved according to the latest EPA methods as described in the Federal Register (Volume 44, No.233, Page 69544, Table ll) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

Parameter	Units of Measurement
pH	None
Electrical Conductivity	Micromhos
Temperature	Degrees F or C
Depth to Water	Feet/Tenths
Volume of Water Discharged	Gallons
Turbidity	NTU

Documentation: All parameter measurements shall be documented in writing on TPE development logs.

APPENDIX J

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

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QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling, and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples, and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits, and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a QA/QC program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip samples, field blanks, and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and in the laboratory. Analytically confirmed organic-free water shall be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blank shall be numbered, packaged, and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is a water sample that remains with the collected samples during transportation and is analyzed along with the field samples to check for residual contamination. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water sample is poured into appropriate containers to simulate actual sampling conditions. Contamination for air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of field and trip blanks and a false identifying number will be put on the label. Full documentation of these collection and decoy procedure will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC test designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and EPA-certified standards), duplicates, replicates, and sample spikes. Internal QC also requires adherence to written methods, procedural documentation, and record keeping, and the observance of good laboratory practices.