

2394 Mariner Square Drive, Suite 2 Alameda, CA 94501
 phone: (510) 521-2684 fax: (510) 521-5078

TO: Juliet Shin

FROM: Gay Pischke

DATE: 10/4/96 TIME: 10:11am

SUBJECT: SFIA Tier 1

TOTAL PAGES INCLUDING THIS COVER SHEET 7 methodology

HARD COPY TO FOLLOW YES NO

COMMENTS/SPECIAL INSTRUCTIONS: As requested,

Site Cleanup Requirements for San Francisco International Airport.

Methodology for Tier 1 Standards for all protection zones - M2 & H2 are

comparable to Mariner Development 2203, 2240

**Site Cleanup Requirements
San Francisco International Airport et. al.**

standards for soil and groundwater remediation for each of the five RMZs and Westside Basin Protection Areas. Implementing the NAA concept, the cleanup goals for on-site polluted soils and groundwater have been based in part on consideration of criteria outlined in the two Task 3 submittals prepared by the Dischargers pursuant to the January 18, 1995, Board Order. The clean-up levels specified for each of the defined zones are contingent upon the discharger preparing and complying with a remedial action plan and a residual contamination risk management plan to manage and monitor remaining COCs in the soil and/or groundwater, and meeting specified water quality objectives at containment monitoring points.

The methodology used to derive the Tier 1 cleanup standards for each RMZ is presented below. The cleanup standards are listed in the Specification Section, Item 3, of this Order.

TIER 1 CLEANUP STANDARDS:

1. Saltwater Ecological Protection Zone

Due to the close proximity of the Airport to San Francisco Bay, and the likelihood of polluted groundwater discharging into the bay, protection of the beneficial uses of the adjacent surface water receptor is the objective of the Saltwater Ecological Protection Zone. The cleanup objectives for the soil and groundwater are such that when the groundwater reaches the bay it is protective of the beneficial uses and does not pose a significant risk to either the aquatic species or the people using the Bay. Upon examining the possible exposure risk scenarios, two major objectives were identified; 1) the protection of the aquatic and other species such that there is no acute or significant chronic toxicity affecting the species inhabiting the bay and wetlands adjacent to the Airport and 2) the protection of humans who may come in contact with or eat the organisms exposed to the contaminated water.

To evaluate the level protective of saltwater aquatic species, an extensive data search was performed for each of the chemicals of concern identified. The following applicable criteria documents were reviewed: USEPA ambient water quality criteria marine chronic criteria, California Water Quality Objectives for Saltwater Aquatic Life, San Francisco Bay Region Basin Plan's Shallow Water Effluent Limitations for Marine Water, USEPA Integrated Risk Information System (IRIS), and the National Toxics Rule. The values from each of the documents were compared and the lowest value was selected for each of the COCs. The most current information available was used when comparing values. In those instances where no chronic criteria were available, 10% of the acute value was used. These values are considered to be protective of the aquatic species.

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Since adopted aquatic standards do not currently exist for total petroleum hydrocarbons (TPH), the EC₁₀ (the level at which 90% of the organisms developed normally) was calculated using the bivalve and sea urchin development tests performed by United Airlines. The EC₁₀ value is the basis for the cleanup standard for both Ecological Protection Zones and is similar to toxicity requirements adopted by the Board in other shallow water effluent discharges. To verify the results of the studies conducted, additional bioassay testing will be required as a condition of this Order.

Several possible human receptors were identified who may come into contact with the contaminated groundwater upon discharge to surface water. They include recreational users (i.e. windsurfers, swimmers, etc.), recreational fisherman, and subsistence fisherman. A risk evaluation was performed for each category of human receptors and a set of values were calculated for each of the COCs. The values calculated for each scenario were compared and the most sensitive receptor group was identified and the lowest value was selected for each COC.

Finally, the human health levels were compared to the aquatic species levels and the limiting or lowest value was chosen for each COC. These Tier 1 standards are listed in Specifications, Item 4, Table 2 and are considered cleanup standards for the Saltwater Ecological Protection Zone. Dischargers identified within this zone must meet the Tier 1 standards for soil and groundwater. Dischargers may perform a Tier 2 evaluation as specified in the Tier 2 methodology for the Ecological Protection Zone for consideration and approval by the Executive Officer. (See Attachment 2). Election to perform a Tier 2 evaluation must take into account the Master Plan and other construction, and operation schedule requirements.

2. Freshwater Ecological Protection Zone

The objectives for this zone parallel that of the Saltwater Ecological Protection Zone in that there are two primary goals, the protection of the freshwater aquatic flora and fauna that have been identified on the western side of the Airport as well as people who may come in contact with the groundwater when discharged into the receiving surface water. The same approach was applied for the Freshwater Ecological Protection Zone as the Saltwater Ecological Protection Zone, except in place of the US EPA Marine Chronic Criteria, the US EPA Freshwater Chronic Criteria, California Water Quality Objectives, and the San Francisco Bay Region Basin Plan's Shallow Water Quality Effluent Limitations for Freshwater were used. Again, the same procedure was applied. The values for each COC that are considered protective of the aquatic and other species inhabiting the wetland area were compared to the human health protective values. Again, the lower of the two values were selected to ensure that both objectives were met for this zone. The Tier 1 standards for soil and

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groundwater for this zone are listed in Specifications, Item 4, Table 3 of this Order. Dischargers identified within this zone must meet the Tier 1 standards for soil and groundwater. Dischargers may perform a Tier 2 evaluation as specified in the Tier 2 methodology for the Ecological Protection Zone for consideration and approval by the Executive Officer. (See Attachment 2). Election to perform a Tier 2 evaluation must take into account the Master Plan and other construction, and operation schedule requirements.

3. Migration Management Zone 1 (MM1)

This zone is directly adjacent to the Ecological Protection Zones and is a minimum of 300 feet from any freshwater or saltwater surface water receptor. Although the area is not directly adjacent to any surface water receptor, the potential for contaminants in soil to leach into groundwater and migrate to the bay or wetland area via a preferential pathway (i.e. utility or storm drain backfill) is still likely. Therefore, this zone was established to ensure that any residual contamination left within the zone would be protective of the objectives once it reached the Ecological Protection Zone.

In order to evaluate the level of pollution that could be managed in place, a fate and transport model was used known as the Dilution Attenuation Factor (DAF) Model. This model evaluates the concentration of leachate as it moves from the source soils a set distance through the aquifer to the potential receptor. Since the DAF is contingent upon the distance that the chemical must travel, a distance of 500 feet (one half the zone distance of 1,000 ft.) was selected to calculate the DAF value. A DAF value of seven was computed based upon available site specific geologic parameters. The DAF value was then used to calculate the maximum groundwater concentration at the source area that will not exceed the objectives once it reached the Ecological Protection Zone. The groundwater concentration was then used to calculate a soil value based upon the equilibrium partitioning of the chemical between the soil and groundwater. The USEPA Organic Leaching Model (OLM) (Federal Register 1986) was used to calculate the Tier 1 soil standards (using chemical specific solubility concentrations) which would not exceed the Tier 1 groundwater standards as computed by the DAF Model. Since there is no solubility value available for TPH mixtures, a series of TCLP leachate analyses were performed to develop a site specific partitioning coefficient (K_{ow}). The K_{ow} values used for TPH-g and TPH-d/TPH-j are 160 and 686 respectively.

The Migration Management Zone 1 Tier 1 Standards for soil and groundwater are displayed in Specifications, Item 4, Table 4. The Dischargers identified within this zone must meet the Tier 1 standards for soil and groundwater. Dischargers may perform a Tier 2 evaluation as specified in the Tier 2 methodology for consideration and approval by the Executive Officer. (See

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Attachment 2). Election to perform a Tier 2 evaluation must take into account the Master Plan and other construction, and operation schedule requirements.

4. Migration Management Zone 2 (MM2)

This zone is directly adjacent to Migration Management Zone 1 and is a minimum of 1,300 feet from any freshwater or saltwater surface water receptor and 1,000 feet away from either Ecological Protection Zone. Again the same approach was utilized as was for Migration Management Zone 1 for calculating the acceptable concentrations of soil and groundwater contamination that could be left within the zone which would not cause an adverse impact to the nearby surface water receptors or exceed the Migration Management Zone 1 Standards. Since a DAF value of seven was calculated for MM1 which accounted for the pollution migrating a distance of 500 feet, and this zone is an additional 500 feet away, a DAF of seven was applied to the MM 1 Tier 1 Standards to compute the MM 2 Tier 1 groundwater standards. Again, the USEPA Organic Leaching Model was used to obtain the Tier 1 soil standards for this zone.

The Migration Management Zone 2 Tier 1 Standards for soil and groundwater are displayed in Specifications, Item 4, Table 5. The Dischargers identified within this zone must meet the Tier 1 standards for soil and groundwater. Dischargers may perform a Tier 2 evaluation as specified in the Tier 2 methodology for consideration and approval by the Executive Officer. (See Attachment 2). Election to perform a Tier 2 evaluation must take into account the Master Plan and other construction, and operation schedule requirements.

5. Human Health Protection Zone (HH)

The objective for the Human Health Protection Zone is to identify areas within the Airport that are occupied by Airport personnel and others and to establish cleanup objectives protective of the individuals identified. (See Finding 4d for zone description). A variety of human receptors were identified who may come in contact with either the residual contaminated soil and/or groundwater. These groups include Airport employees, construction workers, and children attending daycare. These were divided into six basic categories based upon possible exposure scenarios. They include the following: indoor worker, outdoor worker, maintenance workers, temporary earth workers, general construction workers, and daycare children. A risk evaluation (risk assessment) of exposure pathways for each scenario was performed to determine a Tier 1 cleanup standard protective of the human group identified. The Tier 1 soil and groundwater standards are listed in Specifications, Item 4, Table 6: Human Health Protection Zone Standards for each of the six scenarios. The selection of Tier 1 standards will be based on the scenario with the most stringent level chosen from only those exposure scenarios which are applicable within the

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Discharger's area. The Dischargers identified within this zone must meet the standards in Specifications, Item 4, Table 6 for soil and groundwater. Dischargers may perform a Tier 2 evaluation as specified in the Tier 2 methodology for the Human Health Protection Zone for consideration and approval by the Executive Officer. (See Attachment 2). Election to perform a Tier 2 evaluation must take into account the Master Plan and other construction, and operation schedule requirements.

6. Westside Basin Protection Areas

To allow for the uncertainties associated with the construction activities such as pile driving and subgrade structures on the integrity of the bay mud aquitard to prevent pollution migration, a special set of requirements will be applied within these areas to ensure protection of the drinking water aquifer underlying the airport. Since most, but not all, of the areas where these types of construction activities will occur have been identified, only a narrative description is provided for these areas. (See Finding 4d, Zone Boundary Definitions) Due to the threat of vertical migration associated with dense phase non-aqueous phase chlorinated hydrocarbons (DNAPL) from the A-Fill groundwater to the underlying drinking water zones, a maximum of concentration of 0.1% of the effective solubility for each of the following COCs will be allowed within these areas. The COCs include, tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1,2-trichloroethane (1,1,2-TCA), 1,1-dichloroethene (1,1-DCE), cis and trans 1-2 dichloroethene (1,2-DCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), vinyl chloride, methylene chloride, and chloroform. These values will be applied on a site specific basis considering the construction activities and bay mud thickness within each specific plot.

APPLICATION OF STANDARDS:

When more than one cleanup level is applicable for a particular constituent or contamination due to multiple receptor scenarios, the Discharger will be required to satisfy the most stringent level. The Discharger will also be required to prepare and comply with a plan for source removal and a residual risk management plan for containment, management, and monitoring of existing and/or remaining polluted soil and groundwater that is consistent with current and projected land and water uses. The residual contamination risk management plan should include an assessment of the residual risks to human health, water quality and the environment and measures to manage the risks (e.g., site operation, maintenance, construction and health and safety plans, worker notices, and other necessary agreements with the Airport or other affected parties needed to implement the plans, etc.), monitoring requirements and contingency options if the monitoring standards are not met. The receptor

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scenarios and remediation and residual risk management plans must be approved by the Executive Officer.

Tier 2 Evaluation : In the event it is proposed by the Discharger that the Tier 1 standards are not applicable to a given site for reasons that may include site specific conditions such as: unique conditions relating to contaminant types, levels and/or extent; unique conditions relating to human or ecological receptors; subsurface conditions unique to the site such as insufficient thickness of the Bay Mud; changes in current or future land-use scenarios, that necessitate application of alternate standards; etc, then the discharger may request to determine site specific clean-up standards through the application of a Tier 2 risk assessment methodology. The Discharger shall prepare a description of the methods by which they shall determine Tier 2 cleanup levels for their site. A copy of the Discharger's proposal shall be sent to the Executive Officer for review and approval. At the same time the proposal is submitted to the Executive Officer, a copy of the proposal shall also be sent to the Airport's staff and the adjacent tenants or potentially affected parties. Comments on the proposed Tier 2 analysis shall be submitted to the Executive Officer and to the Discharger within 30 days. The resulting Tier 2 evaluation and cleanup standards must be approved by the Executive Officer prior to implementation. Attachment 2 outlines the general procedures to be employed for the Tier 2 analysis.

Dischargers will remain responsible for any future source removal, containment, management and monitoring of existing and/or remaining polluted soil and groundwater that may be required as a result of changes in land use, applicable requirements or available information.

In addition, a long term airport wide monitoring program (surface, ground water, sediment) will be required as part of this Order to determine compliance with the non-attainment containment monitoring points as well as when to implement contingency measures to assure that the containment monitoring points are not violated. An airport wide monitoring network for both interior and along the airport boundary is required under Task 6 of this Order. The monitoring program will focus on the preferential pathways including but not limited to utility and storm drain conduits.

- f. **Subsequent Order(s)** This order will be followed by subsequent Order(s) which will revise, as necessary, the boundaries of the Human Health, Ecological, and Migration Management Zones, as well as revise any of the associated cleanup standards specified for Tier 1. Revisions or modifications to the RMZ boundaries and associated cleanup standards may be made by the Executive Officer. Board staff anticipate that the subsequent Order or revision of this Order will occur in approximately a two year period or may occur sooner at

Y. A. Salma & Co.

3058 Pierce Street, San Francisco, California 94123

FACSIMILE TRANSMISSION

Date October 3, 1996

TO Ms. Juliette Blake, Alameda County Environmental Health

FAX # 510 337-9335

FROM Y. (Sal) Salma

**THIS TRANSMISSION IS 1 PAGES INCLUDING THIS PAGE. SHOULD YOU
HAVE ANY QUESTIONS OR PROBLEMS, PLEASE CALL THE GENERAL LINE.**

**GENERAL LINE (415) 931-8259
FAX LINE (415) 929-1530**

THANK YOU.

COMMENTS: SUBJECT: Taqueria Amatlan 8919 MacCarthur Blvd. Oakland
I am the property owner of Taqueria Amatlan, 8919 MacCarthur Blvd. Oakland.
Your department has issued a restaurant permit for this location in Feb. 1996. I
would like to have an appointment to review the file and make copies if possible.
Sincerely,

Yasin A. Salma
Property Owner

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

August 1, 1996

Mr. John Beery
2236 Mariner Square Drive
Alameda, CA 94501

STID 5491

Re: Investigations at 2203 and 2227 Mariner Square Loop, Alameda, California

Dear Mr. Beery,

This office has reviewed HydroEnvironmental Technologies' (HET) Groundwater Monitoring Report, dated July 26, 1996. Based on the lab results of the initial soil samples and the groundwater samples collected from four monitoring events, it appears that the contaminant plume is limited in extent and that concentrations are slowly attenuating. However, before the site can be considered for closure, this office is requesting that you prepare a risk assessment addressing any potential threats to human health or the environment from an average of the groundwater concentrations observed at the site for naphthalene and benzo(a)pyrene, which are the PNAs of most concern, and for TPHd.

This office is also requesting that you either collect a groundwater sample and analyze it for Total Dissolved Solids (TDS) or procure any TDS information from the neighboring Navy site, in order to determine whether the groundwater beneath your site is potable and could potentially be used for drinking purposes in the future.

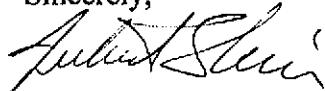
Additionally, per my conversation with Mr. Pischke, HET, on August 1, 1996, it may be feasible to submit a site plan with the tidal channel locations on it. This office is requesting that this site plan be submitted in order to better assess the future potential contaminant migration pathways at the site. Please submit the above risk assessment and additional information within 90 days of the date of this letter (i.e., by October 24, 1996).

Lastly, please submit an additional \$500.00 to cover the future oversight costs involving review of reports, future correspondence, and closure activities. The current oversight rate for this department is \$94.00/hour.

Mr. John Beery
Re: 2203 and 2227 Mariner Square
August 1, 1996
Page 2 of 2

If you have any questions or comments, please feel free to contact me at (510) 567-6763.

Sincerely,



Juliet Shin
Senior Hazardous Materials Specialist

cc: Gary Pischke
HydroEnvironmental Technologies, Inc.
2394 Mariner Square Drive, Ste 2
Alameda, CA 94501

Acting Chief-File

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

May 10, 1996

DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

John Beery
2236 Mariner Square Drive
Alameda, CA 94501

STID 5491

Re: 2203 and 2227 Mariner Square Loop, Alameda, California

Dear Mr. Beery,

This office has reviewed HydroEnvironmental Technologies' (HET) Fourth Quarter 1995 Monitoring Report. In an effort to try and more accurately identify which constituents are being detected in the TPHd and TRPH analysis, this office is requesting that you employ a silica gel cleanup on the next round of groundwater samples to eliminate any interference from any potential biogenic materials.

The first quarter monitoring event for 1996 should have been conducted in March 1996. This office has not yet received the report documenting this monitoring event. Please submit this report within 30 days of the date of this letter.

If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,

Juliet Shin
Senior Hazardous Materials Specialist

cc: Gary Pischke
HydroEnvironmental Technologies, Inc.
2394 Mariner Square Drive, Ste 2
Alameda, CA 94501

Susan Cohn
1625 Franklin Ave.
Santa Rosa, CA 95404

Acting Chief-File

MEETING
2203 & 2227 Mariner Square Loop
Alameda
February 6, 1996

Attending: Gary Pishke, Hydro Environmental consultants
John Beery, One of the property owners
Juliet Shin, ACDEH

This meeting was conducted to discuss the results of the last groundwater monitoring event and to get a better sense of what type of work will be required at the site in future, primarily because Mr. Beery's loan will be up soon, and he will need to seek a loan from a different bank and will as much information as possible to assist him in obtaining loan.

It is still unclear as to whether the contaminant levels being identified in groundwater at the site are attributable to past activities at the site or the neighboring Navy site. Mr. Pishke stated that he had a great deal of information that implied that the contamination was coming from the Navy property. Ms. Shin requested that this information and his rationale be submitted to support his statement.

Groundwater gradient has varied quite a bit at the site since the last sampling event. This may be due to the geology of the site, the shallow groundwater, and the depth of the two buildings on site that may be obstructing normal groundwater gradient flow.

Mr. Pishke stated that the constituents being identified as TPHd in groundwater could be another hydrocarbon constituent according to the lab's chromatogram. This would make sense, since the TRPH reading in the initial soil samples collected from the well locations was much higher than the levels of TPHg and TPHd combined in Well MW-5. Mr. Pishke will check chromatograms again and get back to the County if he can obtain more specific information.

Ms. Shin requested that Mr. Pishke include a discussion on the correlation between gw depth, which was much shallower this last quarter, and the lower concentrations of TPHg and BTEX observed and higher concentrations of TPHd observed in all wells except for MW-1.

MW-1 is the only well screening through clay and silt, while the other wells appear to be screening through a thick sand layer (~5.5 to 16-foot bgs). Ms. Shin requested that more information be submitted regarding the historical channels in the area, and a discussion as to whether these channels could be acting as a conduit for expedited migration of contaminants.

I mentioned that, since threshold levels for PNAs have not been established, that a RA discussion will eventually need to be offered to determine whether or not the existing levels could pose a threat to human health or the environment. The scenarios used should include the worst case potential for potential exposure to construction workers. This is reasonable since the

groundwater is very shallow at the site (as shallow as 1.9' bgs).

Well MW-2 should also be analyzed for chromium in the next sampling event, since it was identified in the initial gw sampling event exceeding MCL levels. Analysis for chromium was somehow overlooked in the previous sampling event.

The site is approximately 0.5 miles away from the Bay.

Due to the observed variations in the groundwater gradient, Ms. Shin requested that monthly water level measurements and gradient determinations be made for the next three consecutive months.

Overall, this office needs to establish the following in working towards closure:

- o The extent of the TPHd and PNA contamination, whether it poses a human health or environmental threat, whether it may migrate along the former channels which consist of well sorted sand, whether there could be concentrated areas of contamination due to geological or architectural obstructions, whether the source of the bulk of contamination is coming from the Navy property (if so, need to find a way to stop further impact onto this property), where the bulk of TPHg, BTEX, and TPHd are located (meaning which specific depths), and whether the existing shallow storm drains could also be altering the gradient due to potential leaks in the lines.

Lastly, Mr. Beery requested that our office check into whether the continued dismantling of batteries, vehicles, etc. at the Navy property was legal and being done properly to avoid future impacts to soil and groundwater.

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

February 1, 1995

Susan Cohn
1625 Franklin Ave.
Santa Rosa, CA 95404

ALAMEDA COUNTY CC 430-4510
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., RM.250
ALAMEDA, CAL. 94502-6577

STID 5491

Re: Investigations at Mariner Development Company, located at
2203 & 2227 Mariner Square Loop, Alameda, CA

Dear Ms. Cohn,

This office has reviewed Hydro Environmental Technologies' (Hydro) Subsurface Investigation Report, dated October 5, 1994, for the above site. Elevated levels of Total Petroleum Hydrocarbons as gasoline and diesel (TPHg and TPHd) have been identified in the soil sample collected from MW-2. Additionally, elevated levels of TPHg, TPHd, benzene, toluene, ethylbenzene, and xylenes (BTEX), metals, and a number of polynuclear aromatic hydrocarbons (PNAs) were identified in the ground water sample collected from MW-1.

Both Hydro and Versar, the consultants investigating the neighboring Navy property, have speculated that the observed contaminants at the site and on the Navy site are the result of past gas manufacturing and refineries operations in the former marshland area. These contaminants are believed to be flowing along the former tidal channels, whose flow directions don't necessarily correspond to the regional gradient determined from the monitoring wells. If this is the case, further research should be conducted into the locations and migration pathways of the tidal channels in the area in order to better characterize the extent of the contaminant problem on your site.

Quarterly ground water monitoring and reporting shall continue at the site. Future ground water samples shall be analyzed for TPHg, TPHd, BTEX, and PNAs, and samples collected from Well MW-1 shall continue to be analyzed for chromium. Previously, the chromium concentrations identified from Well MW-1 identified levels exceeding Maximum Contaminant Level (i.e., drinking water standard) concentrations. It is acceptable to this office to analyze future water samples from Well MW-1 for **dissolved** chromium, as opposed to Total Chromium, which may more accurately identify the impact of chromium to ground water. It was noted in the last sampling event that the turbidity of the water sample collected from Well MW-1 was moderate to high, and this could have skewed the chromium results.

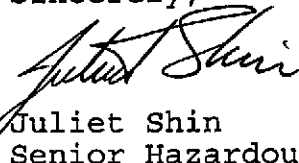
Ms. Susan Cohn
Re: 2203 & 2227 Mariner Sq.
February 1, 1995
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Please be reminded to include water level measurements and elevation contour maps in all quarterly reports. Additionally, all future reports shall be accompanied by a cover letter, signed by the Responsible Party, acknowledging review of and concurrence with the report. The last quarterly ground water gradient determination was shown to be fairly steep. This office looked into the possibility of any pumping on the adjacent Navy property that may be influencing the gradient. According to Versar, it appears that there is no pumping on the Navy property.

Considering the proximity of the Navy property to your property, and the tidal channels that appear to cross both your sites, it is advised that you keep apprised of the on-going investigations on the Navy property.

If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,



Juliet Shin
Senior Hazardous Materials Specialist

cc: Gary Pischke
Hydro Environmental Tech., Inc.
2363 Mariner Square Drive, Ste 243
Alameda, CA 94501

Edgar Howell

1/19/95

Susan Cohn (707)-575-7959
Limited Partner for site

1625 Franklin Ave.
Santa Rosa, CA 95404

Sent her copy of Dec 8 '94 letter.
She stated she will submit
deposit for oversight costs.

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

December 8, 1994

Mr. John Beery
2236 Mariner Square Drive
Suite 202
Alameda, CA 94501

ALAMEDA COUNTY CC4580
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577

Re: Investigations at the Mariner Development Company, located
at 2203 and 2227 Mariner Square Loop, Alameda, California

Dear Mr. Beery,

This office has received Hydro Environmental Technologies, Inc.'s (Hydro) Subsurface Investigation Report, dated October 5, 1994. Unlike your other site, located at 2415 Mariner Square Drive, the contaminants identified at this site do not appear to result from a petroleum underground storage tank. Therefore, this office cannot oversee the case under the Local Oversight Program, and must work the case off of a deposit.

Please submit a deposit of \$1,000.00 to cover the review of Hydro's report and any other future costs pertaining to this case. The deposit refund mechanism is authorized in Alameda County Ordinance Code Section 3-140.5. Any unused portion of these funds will be returned to you at the completion of this project. The fee rate for the County is \$90.00 per hour. You may call me with any questions or concerns at (510) 567-6763.

Sincerely,

Juliet Shin
Senior Hazardous Materials Specialist

cc: Edgar Howell

October 26, 1994

7-284

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502

Re: Subsurface Investigation Report
Mariner Development Company (a California Limited Partnership)
2203 and 2227 Mariner Square Loop, Alameda, California

Dear Ms. Shin:

On behalf of Mariner Development Company, Hydro-Environmental Technologies, Inc. (HETI) is providing the subsurface investigation report for the above-referenced site. The report summarizes field activities and results of the investigation. This report includes soil boring logs and well construction diagrams, tables of sampling data, and maps showing the ground water gradient, flow direction and contaminant distribution.

HETI observes and concludes that the concentrations of compounds reported in samples on-site are below regulatory limits, except for along the western boundary adjacent to the NSC. The laboratory results indicate possible impact from off-site sources associated with the Naval Supply Center (NSC). The observed contaminants on-site are similar type to those reported at the NSC and with former tideland marshes associated with the west end of the City of Alameda. The available reports from the NSC indicate higher concentrations of contaminants than those observed on-site. Additionally, the regional gradient on the NSC is south, which differs than that observed from the four wells on-site. Based upon the off-site parameters, HETI requests a regulatory evaluation of the above data and possible closure for the subject site.

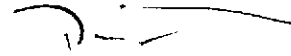
**HYDR
ENVIRONMENTAL
TECHNOLOGIES, INC.**

If you have any questions or require any additional information, please feel free to call us at (510) 521-2684.

Sincerely,
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.



Gary Pischke, C.E.G.
Senior Geologist



Thomas Lindemuth, P.E.
Western Regional Manager

attachments

cc: Mr. Ronald Doll, Mariner Development Company, Alameda, CA
Mr. Carl Lippenberger, Lippenberger, Thompson and Welch, San Francisco, CA