

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



SENT
05-30-06
64

May 26, 2006

Mr. Dale Klettke
Port of Oakland
530 Water St.
Oakland, CA 94604-2064

Mr. Dan Tisoncik
United Airlines
1200 E. Algonquin Rd.
Elk Grove Township, IL 60007

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

Dear Messrs. Klettke and Tisoncik:

Subject: Toxics Leak Case RO0000414, MOIA United Airlines, 1100 Airport Drive,
Oakland, CA 94621

Alameda County Environmental Health (ACEH) staff has received the April 19, 2006 response letter from United, which provides an evaluation of indoor air exposure risk for chemicals of concern at the Oakland Maintenance Center (OMC). It appears that this letter attempts to respond to technical comment 2 in the County's March 29, 2006 letter. It does so, but only partially, therefore, we still request that the rest of our technical comments be addressed. We understand the Port of Oakland will be providing property maps and parcel numbers. Technical comment 2 also requested additional sampling of specific wells for specific contaminants to obtain current data. Since it appears that no further work is being recommended for the OMC, we also require a discussion of residual contaminant concentrations and site administrative controls ie deed restriction, etc.

Please provide the site boundary clarification, address, and APN information and groundwater sampling report to our office by **July 15, 2006**.

ELECTRONIC SUBMITTAL OF REPORTS

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic

submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.swrcb.ca.gov/ust/cleanup/electronic reporting](http://www.swrcb.ca.gov/ust/cleanup/electronic%20reporting)).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at barney.chan@acgov.org.

PERJURY STATEMENT

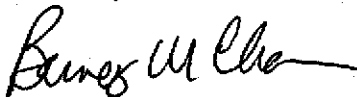
All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

If you have any questions, please call me at (510) 567-6765.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

cc: files, D. Drogos

5_26_06 1100 Airport Dr

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

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

March 29, 2006

Mr. Dale Klettke
Port of Oakland
530 Water St.
Oakland, CA 94604-2064

Mr. Dan Tisoncik
United Airlines
1200 E. Algonquin Rd.
Elk Grove Township, IL 60007

Dear Messrs. Klettke and Tisoncik:

Subject: Toxics Leak Case RO0000414, MOIA United Airlines, 1100 Airport Drive,
Oakland, CA 94621

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the subject site including the May 27, 2003 Weiss Associates Phase II Site Investigation and the June 2004 Former United Airlines Oakland Maintenance Center Site Investigation and Risk Assessment Report by Environmental Resources Management (ERM). As you are aware, the Port and United Airlines used these respective consultants who worked co-operatively to investigate the Identified Areas of Concern (AOC) located at this site as part of United Airlines' exit environmental investigation. The approach was to identify all known areas of potential environmental impacts, sample soil and groundwater, compare results with environmental screening levels and install monitoring wells as appropriate to confirm grab groundwater sample results. The County has previously provided oversight of three former locations of underground storage tanks at this site, those of former USTs MF-23 and 24, MF-25 and 26 and MF-35 and 36. Because of this additional investigation of other identified AOCs, the County has included our oversight of all the environmental concerns, UST and non-UST. The ERM report includes a risk assessment evaluation of the site data, Tier 1,2 and 3 as necessary. In general, it appears that most areas have been adequately characterized and would not pose a risk for future commercial/industrial use, however, we request that you address the following technical comments and submit the technical report requested below.

TECHNICAL COMMENTS

1. It appears that the area leased formerly to United Airlines does not include the area of the former USTs, MF-25 and 26. Our office has always included these USTs under the same address, which include all other AOCs and the other UST areas. Please clarify if we should separate the area of the former USTs MF-25 and 26. If possible, it would be "easier" to keep the area within the 1100 Airport Drive site. Either way, please provide a copy of boundary of the site in question and any parcel number(s) within this area. Please provide this information as requested below.

2. The presence of halogenated volatile organics (HVOCs) in groundwater is of potential concern. There is uncertainty as to the source(s), migration and current concentrations of the HVOCs in groundwater. Closure of solvent sites requires a greater understanding of the release, residual concentration, fate of contaminant and evaluation of risk. The need for administrative control should also be considered. We request that current data be provided for the areas identified as AOC 19 (former USTs MF-25 and 26, and AOC 7, former hazardous waste accumulation area. AOC 19 wells should be analyzed for TEPH, TPPH in addition to VOCs, while the AOC 7 well should be analyzed for VOCs only. Please provide an evaluation of potential risk to indoor air exposure to residual contaminants as this was not provided in the prior risk assessment. In respect to the former UST area, it is of interest to see what affect the series of ORC injections has had to groundwater concentrations. Please provide this information as requested below.

TECHNICAL REPORT REQUEST

- May 15, 2006- Site boundary clarification, address, and APN information
- May 15, 2006- Groundwater sampling report and evaluation and indoor air risk evaluation.

ELECTRONIC SUBMITTAL OF REPORTS

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at barney.chan@acgov.org.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

If you have any questions, please call me at (510) 567-6765.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: files, D. Drogos
Mr. Jim Warner, ERM, 1777 Botelho Drive, Suite 260, Walnut Creek, CA 94596

3_29_06 1100 Airport Dr

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



SENT
11-30-05

November 29, 2005

Mr. Dale Klettke
Port of Oakland
530 Water St.
Oakland, CA 94607

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

Dear Mr. Klettke:

Subject: Fuel and SLIC Case at MOIA, UNITED AIRLINES, RO0000414, 1100
Airport Drive, Oakland, CA 94621

Alameda County Environmental Health (ACEH) staff has received and reviewed the files for the referenced site including the May 30, 2003 ERM *Soil and Groundwater Investigation Results United Airlines Oakland Maintenance Center Oakland International Airport, Oakland, California* and the May 27, 2003 *United Maintenance Hangar Area, Metropolitan Oakland International Airport* by Weiss Associates. These reports detail the results of soil and groundwater samples taken at 19 areas of potential concern (AOCs), including and beyond the previously known UST areas of former USTs, MF23, MF24, MF25, MF26, MF35 and MF36. Halogenated volatile organics, TEPH, TPHg, MTBE and metals were reported in these samples exceeding environmental threshold limits ie EPA PRGs and RWQCB RBSLs. Based upon this data, additional investigation will be required.

ACEH has decided that in order to provide oversight for the UST and SLIC releases for the site, the entire site shall be overseen as a SLIC site. In order for ACEH to continue our review reports for your site, we require an oversight account for the above-referenced site. To set up your account, please send a check in the amount of \$6000.00 payable to Alameda County Environmental Health. Please send your check to the attention of our Finance Department.

This initial deposit may or may not be sufficient to provide all necessary regulatory oversight. ACEH will deduct actual costs incurred based upon the hourly rate specified below. If these funds are insufficient, additional deposit will be requested. Otherwise, any unused monies will be refunded to you or your designee.

The deposit is authorized in Section 6.92.040L of the Alameda County Ordinance Code. Work on this project is being debited at the Ordinance specified rate, currently \$166.00 per hour.

Please write "SLIC" (the type of project), the site address and the AR# 0315143 on your check.

If you have any questions, please contact me at (510) 567-6862.

Sincerely,

Arja Levi
Division Chief

cc: D. Drogos, J. Jacobs, B. Chan

UAL SLIC letter 10-12-05

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



04-24-01

20444

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

April 23, 2001
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

**Re: Underground Tank Investigation for UAL Building M-110, 1100 Airport Drive,
Oakland, CA 94621**

Dear Mr. Moulton:

This letter serves to notify you that no further work will be required from our office at this time regarding the underground tank investigation of the former 10,000 gallon gasoline and 10,000 gallon diesel tanks removed at the above site on January 1999. These tanks have been designated tanks MF35 and MF36 by the Port of Oakland. However, because this address, 1100 Airport Drive, has been used for two additional underground tank site investigations and one of these sites is still under County oversight, a formal "No Further Action" letter cannot be issued. In addition, our office cannot recommend monitoring well closure at this site since this is requested at the time of site closure.

We do not anticipate any additional work other than well closure for tanks MF35 and MF36, but we recommend waiting for site closure before well decommissioning.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827

Mr. D. Klettke, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland 94604-2064

Status: 100 Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



11-1-00

RO#414

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

October 31, 2000
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

**Re: Underground Tank Investigation at UAL Building M-110, 1100 Airport Drive,
Oakland CA 94621**

Dear Mr. Moulton:

In order to insure completeness of the on-going environmental investigation of the above referenced site, our office requests the additional information/action:

- As previously requested, please perform a utility and sensitive receptor survey. Part of this information may have been provided when clearing the utilities for the monitoring well installations. This information is required for understanding and closing MTBE impacted sites.
- Our office has been informed that an additional monitoring well has been located at this site at that its location is down-gradient of the former underground fuel tanks. Because of the uncertain gradient and the need for better site characterization, please determine the viability of sampling and testing this well for the same analytes as the existing three wells. If this well is viable, please survey this well and include its groundwater elevation in your next gradient map.

You may contact me at (510) 567-6765 if you have any comments or questions.

Sincerely,

A handwritten signature in cursive script that reads "Barney M. Chan".

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827

Mr. D. Klettke, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland 94604-2064

Addrq1100Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



SENT 10-27-99
including cc's

2044

October 26, 1999
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

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

Re: Underground Tank Investigation for UAL Building M-110, 1100 Airport Drive,
Oakland CA 94621

Dear Mr. Moulton:

Our office has received and reviewed the October 1999 Results Report Installation of Groundwater Monitoring Wells for the above site as prepared by ENSR, your consultant. This report details the installation of three monitoring wells to determine the extent of impact to groundwater from the release from the former diesel and gasoline fuel tanks. The most significant result of this investigation is presence of MTBE in monitoring wells MW-2 and MW-3. Although ENSR recommends the closure of this site, our office cannot concur. Please be aware that MTBE impacted sites require additional investigation per guidance from the Water Board. As you may be aware, MTBE poses a larger threat to groundwater than previously believed when it was initially added to gasoline to reduce air pollution. It possesses very unique characteristics, which cause it to persist in the environment and migrate quickly from its source of release. In addition, its toxicity as a potential carcinogen continues to be investigated. Because of these factors, the Regional Water Quality Control Board (Water Board) has requested a thorough understanding of MTBE affected sites before closure is granted.

The Water Board requires that all sites have a site conceptual model (SCM) which allows an understanding of what is happening in the subsurface and gives enough information to make a defensible judgment. The elements of the SCM include:

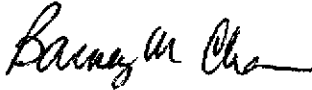
- Local and regional plan view maps with location of sources, extent of contamination, direction and rate of groundwater flow and location of receptors
- Geologic cross-section maps with subsurface geologic features and man made conduits
- Plots of chemical concentration vs. time
- Plots of chemical concentration vs. distance from source
- Summary tables of chemical concentrations in different media
- Well logs, boring logs and well survey map
- Prioritizing site

At this time, given the above requirements for all MTBE sites, our office requests additional quarterly groundwater monitoring. In addition, the above items should be provided in a quarterly report when all the points have been addressed.

Mr. Dennis Moulton
1100 Airport Drive, Oakland CA 94621
StID # 1049
October 26, 1999
Page 2.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827

Mr. D. Klettke, Port of Oakland Environmental Compliance, 530 Water St., P.O. Box 2064,
Oakland CA 94604-2064

1100Airport MTBE

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

RO 414

ENVIRONMENTAL HEALTH SERVICES

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

July 9, 1999
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

Re: Work Plan for United Airlines Building M-110, 1100 Airport Drive, Oakland CA 94621

Dear Mr. Moulton:

Our office has received and reviewed the July 2, 1999 Work Plan for additional investigation for the above referenced site as prepared by ENSR, your consultant. I have also discussed the contents of the work plan with Mr. Alan Klein of ENSR and Mr. Dale Klettke of the Port of Oakland. With the exception of the following modifications, the work plan is acceptable and work may proceed as soon as possible:

- The location of the monitoring wells should be moved slightly. I recommend that monitoring well MW-2 be moved near the former dispenser island, within the former excavated area. This data point is necessary to reflect the anticipated highest concentrations of petroleum contaminants. It is also of concern since it appears that a building expansion is proposed in this area. The other wells may also be moved slightly to maintain a triangular array for groundwater gradient determination. Please submit a modified Figure 2 map indicating the proposed new well locations.
- In regards to the water quality analytes proposed, both pH and dissolved oxygen should be run in the field as opposed to being sent to the laboratory since these measurements are sensitive to changes in temperature and handling.
- In regards to the geotechnical parameters proposed, please clarify how each of the specified test methods will be used in a potential Tier 2 risk-based corrective action (RBCA).

Please provide the above requested items **within 30 days or by August 10, 1999** and inform our office prior to this field work. You may reach me at (510) 567-6765.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827

Mr. D. Klettke, Port of Oakland, 530 Water St., Oakland CA 94607

Wpmod1100Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RO114

ENVIRONMENTAL HEALTH SERVICES

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

July 1, 1999
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

NOTICE OF VIOLATION

**Re: Request for Work Plan for Soil and Groundwater Investigation at United Airlines
Maintenance Facility, 1100 Airport Drive, Oakland CA 94621**

Dear Mr. Moulton:

After my onsite visit on April 7, 1999, I discussed the County's concern with you and Mr. Dale Klettke of the Port of Oakland. It was determined that because of the residual soil and groundwater concentrations detected, additional subsurface investigation would be required. This was particularly necessary due to the presence of the compound, MTBE and its uncertain health and regulatory status. We had discussed several options, which included the sampling of soil and groundwater and the installation of monitoring wells.

My April 8, 1999 letter requested that you submit a work plan for additional subsurface investigation by May 21, 1999. To date, our office has not received the requested work plan. Please submit your work plan to our office **within 30 days or by July 30, 1999.**

This is a formal request for technical reports pursuant to the Water Code and Title 23, California Code of Regulations. The failure to submit the requested report may result in civil liability.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827
Mr. D. Klettke, Port of Oakland, 530 Water St., Oakland CA 94607

NOV1100Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RO#414

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

April 8, 1999
StID # 1049

Mr. Dennis Moulton
United Airlines
1100 Airport Drive
Oakland CA 94621

Re: Underground Tank Removals at United Airlines Maintenance Facility, 1100 Airport Drive, Oakland CA 94621

Dear Mr. Moulton:

Thank you for the onsite visit on April 7, 1999 which allowed me to see the location of the recently removed underground storage tanks and the other United Airline underground tank site. I have received and reviewed the **March 1999 ENSR Underground Storage Tanks Closure Report**. The report includes the details of the removal of the 10k diesel and 10k unleaded gasoline tanks, in addition to the closure-in-place of the two 8,500 gallon fire suppression tanks. Also included is the Burns & McDonnell October 22 and 23, 1997 report of soil and groundwater samples taken around both of these tank areas. Based on the absence of the detection of ethylene glycol in the soil and groundwater samples next to the fire suppression tanks, no further action is necessary for these tanks.

However, our office does not agree with the ENSR report, which recommends no further action for the former diesel and gasoline tanks. We agree that no further soil excavation is practical but the impact to groundwater will need further investigation. As you may be aware, the Regional Water Quality Control Board (RWQCB) has requirements for the closure of low risk soil and groundwater cases. Those requirements, which may be questioned for closure of this site are:

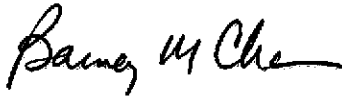
- The adequacy of site characterization
- Whether the contaminant plume is migrating and
- Whether water wells, surface water or other sensitive receptors are likely to be impacted

In addition, special concern is given in the presence of the chemical, MTBE, which has unique chemical properties, making it very difficult to remediate. Looking at the requirements in question, it is clear that residual soil and groundwater contamination exists and it likely extends beneath the existing building. Samples collected adjacent to the building indicate the presence of TPH and MTBE in soil and/or groundwater. Since the existing building limited the original investigation, the extent of the contamination was not fully delineated.

Because of the chemical properties of MTBE and the evolving Water Board policy, case closure of residual MTBE cases have additional requirements than that of petroleum. The site must not have any conduits, which could allow lateral or vertical migration. All potential receptors must be protective. Please submit a work plan for additional site characterization. Please submit your work plan **within 45 days or by May 21, 1999**. I recommend that you have your consultant contact me to discuss their recommendations.

Mr. D. Moulton
United Airlines, 1100 Airport Drive, Oakland 94621
StID # 1049
April 8, 1999
Page 2.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. D. Klettke, Port of Oakland, 530 Water St., Oakland CA 94607

Mr. A. Klein, ENSR, 10324 Placer Lane, Suite 200, Sacramento, CA 95827

Wprq1100Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



R0414

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

December 21, 1998
StID # 1049

Mr. Dale Klettke
Port of Oakland
530 Water St., 2nd Floor
Oakland CA 94607

Re: Work Plan for Installation of ORC at United Airlines Hangar Area-Economy Parking
Lot, MOIA, Oakland CA R0414

Dear Mr. Klettke:

Our office has received and reviewed the December 18, 1998 work plan from Harding Lawson Associates referenced above. This work plan responds to my November 10, 1998 letter requesting such a work plan. It calls for the installation of four borings for the injection of a total of 1000 pounds of ORC mixed with in about 300 gallons of water. After this application, quarterly monitoring and weekly and then monthly dissolved oxygen measurement of the wells will be performed. I understand that this work is scheduled for this week.

Our office approves of this work plan with the following observations/conditions:

- If you are not able to inject the full amount of ORC slurry in the given number of borings, please increase the number of injection points as necessary.
- Additional batch application of ORC is proposed if no DO is observed in the downgradient wells. Please consider additional application if the dissolved oxygen in the downgradient wells are not considerably higher than background concentration as represented by MW-8.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: Mr. Micheal Sides, Harding Lawson Associates, 382 4th St., 3rd Floor, Oakland CA 94607

wpapEconomy

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RO#414

November 10, 1998
StID # 1049

Mr. Dale Klettke
Port of Oakland
530 Water St.
P.O. Box 2064
Oakland CA 94604-2064

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

**Re: Results of Additional Site Investigation, United Airlines Hangar Area-Economy
Parking Lot MOIA, South Field, 1100 Airport Drive, Oakland CA**

Dear Mr. Klettke:

Our office has received and reviewed the October 21, 1998 report referenced above prepared by your consultant, ITSI. This report summarizes the results of field activities which occurred during the period of March through May 1998. This work included the installation of four additional monitoring wells to determine the extent of soil and groundwater contamination and the installation of a remediation well within the former tank backfill.

The results of this investigation indicate that the extent of soil and groundwater contamination appears limited to a confined area around the former underground storage tanks. ITSI estimates the affected area as being approximately 80' x 80' x 8'. In addition, soil contamination appears to be confined to the former excavation area. I agree that the source of volatile chlorinated solvents may be separate from the former fuel tanks.

Based on the limited extent of petroleum contamination and the intended use of this site, your consultant recommends the addition of oxygen to the groundwater to enhance natural bio-remediation. Our office agrees with this approach. Using the software from Regensis, an estimate for the amount of ORC necessary to treat the affected groundwater plume was derived. Approximately, 3100 pounds of ORC is calculated be necessary to treat the estimated residual mass of hydrocarbons, 12.9 pounds. This translates to 64 borings spaced on 10' centers each with 48 pounds of ORC slurry injected. This amount is very conservative. Our office has the following observations:

- The area extent of groundwater contamination is likely less than the estimated 80'x80'. Although we know that 80' down-gradient of the former tank pit TPH concentrations are ND, we do not know how quickly groundwater concentration attenuates.
- The estimated groundwater concentration is estimated as the sum of the TPH concentrations in the highest impacted well, MW-2. This concentration is likely an overestimation.
- The compliance point was entered as 35' with a hydrocarbon concentration of 0.633 ppm at this location. Because the site is limited in its future use and groundwater is not potable, these assumed compliance point values are not realistic. Site closure will be based upon stabilized trends in TPH concentration rather exact concentration.

Mr. Dale Klettke
1100 Airport Ave.
StID #1049
November 10, 1998
Page 2.

I agree that the most efficient method to realize the results of the addition of oxygen releasing compound would be to add it in the form of slurry injection into borings. I do believe, however, that the area extent of contamination is not nearly as large as estimated and the average TPH concentration is also not as high as assumed. Therefore, the amount of ORC needed to react with the residual amount of hydrocarbon is less than the original estimate. As a realistic estimate, I recommend that the area of the former tank pit be used for the treatment area. Even if all other estimates remain the same, this would mean 32 borings with the addition of 1500 pounds of ORC slurry. With the porous shallow soils found at the site, the spacing of the borings may not need to be as close, which could further reduce the number of borings.

Because of the groundwater at this site is not potable, the remediation requirement for both the petroleum and halogenated hydrocarbons do not require cleanup to MCLs. In addition, because the HVOCs are the less halogenated type, their bioremediation may occur under aerobic conditions which are proposed to be stimulated.

You may want to add ORC socks to MW-4 as an initial step to increase oxygen content within the tank pit. Please run dissolved oxygen on the monitoring wells prior to purging them. The reported DO results were post-purge and are likely high due to the introduction of air from the purging. Please submit a proposal for the introduction of ORC in the form of slurry injection.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files
J. Hess, ITSI, 1330 Broadway, Suite 1625, Oakland CA 94612
ORC-1100 Airport

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



1100 AIRPORT DR.
OAKLAND, CA

RO#414

December 29, 1997
StID # 1049

Mr. Dale Klettke
Port of Oakland
530 Water St.
Oakland CA 94607

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

**Re: Workplan for Additional Site Assessment for Former USTs MF25
and MF26 at MOIA, South Field, Oakland CA 94621**

Dear Mr. Klettke:

Our office has received and reviewed the December 16, 1997 ITSI workplan for additional site assessment for the above referenced site. This work plan is in response to the County's request for further site characterization due to the presence of free product in monitoring wells MW2 and MW3 over an extended period of time. The work plan includes the installation of four additional monitoring wells and the installation of a larger diameter extraction well within the former underground tank pit. As discussed, the existing wells may be used in the future as locations for the addition of ORC. It is anticipated that with the removal of free product and the stabilization of groundwater contaminant levels, this site may be eligible for closure as a "low risk groundwater" case.

Our office approves of this work plan with the following comments and conditions:

- * As mentioned in Task 4 of the workplan, an additional soil sample at the apparent fill/native soil interface may be taken. Because this sample is likely well below groundwater level, this sample should not be chemically analyzed.
- * The soil samples which will be analyzed for TEPH should be analyzed for both TPHd and TPHmo based upon past chemical results.
- * The groundwater samples will be analyzed for dissolved oxygen and other bioattenuation parameters. Included in these parameters should be oxidation-reduction potential, nitrate, sulfate and ferrous iron.
- * Task 8 states that your consultant will develop an ORC methodology and initiate placement into groundwater. Our office assumes this will be done using the software program provided by the ORC suppliers. Please describe your methodology if different from this.

Mr. Dale Klettke
StID # 1049
Former USTs MF25 and MF26
December 29, 1997
Page 2.

Please inform our office prior to your field work. You may
contact me at (510) 567-6765.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, file

Mr. J. Hess, ITSI, 1330 Broadway, Suite 1625, Oakland CA 94612
wpapMF25

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

RO#414

June 18, 1997
StID # 1049

Mr. Jeffrey Rubin
Port of Oakland
P.O. Box 2064
Oakland CA 94604-2064

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

**Re: Comment on Recommendations for Investigation/Remediation for
Tank Numbers MF25 and MF26 at OIA, 1100 Airport Drive, 94621**

Dear Mr. Rubin:

I have received and reviewed the recent February 28, 1997 monitoring report for the above referenced site plus ITSI's April 25, 1997 Findings and Recommendations report. This report proposes the following actions if the free product remains consistent or increases in monitoring wells MW-2 and MW-3:

- * Redevelop wells
- * Collect a sample of the free product for analysis
- * Select a free product removal system
- * Prepare a work plan for additional site investigation

The above approach is acceptable. Please keep in mind that the proposed additional site investigation should occur independent of the status of free product in the monitoring wells. To verify the conditions of a "low risk" groundwater site, you are required to determine the extent of contamination. I look forward to receiving a work plan for the additional site assessment.

Please contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, files
J. Hess, ITSI, 1330 Broadway, Suite 1625, Oakland CA 94612
wp1000

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

RO#414

October 24, 1996
StID #1049

Mr. Jeffrey Rubin
Port of Oakland
530 Water St.
P.O. Box 2064
Oakland CA 94604-2064

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

**Re: Tanks MF-23 and MF-24 at 1100 Airport Drive, Oakland
International Airport**

Dear Mr. Rubin:

Pursuant to our recent conversation regarding the above referenced tanks at the Oakland Airport site, this letter confirms that no further work will be required by our office in regards to the petroleum release from these two tanks. You should schedule the closure of the three monitoring wells at this site at your earliest convenience.

As you recall, since the above address also includes the site of former underground tanks MF-25 & MF-26, which have an on-going subsurface investigation, site closure and the Remedial Action Completion Certificate (RACC) will be withheld until the tank investigation for these tanks is complete.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, files
Mr. N. Werner, Port of Oakland, P.O. Box 2064, Oakland CA,
94604-2064

MF23&24

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



Ro# 414

ALAMEDA COUNTY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY, SUITE 250
ALAMEDA, CA 94502-6577 (cc 430-451)
Ph (510) 567-6700 FAX (510) 337-9335

May 6, 1996

Douglas Herman
Port of Oakland
Port Environmental Compliance
530 Water St.
Oakland, CA 94607

Dear Mr. Herman:

Subject: United Airlines, 1100 Airport Drive, Oakland,
CA 94621, STID #1049

The two (2) underground tanks for the storage of fire fighting foam need to be regulated as underground storage tanks because the foam is a hazardous substance.

Please submit the information indicated on the "Application for Permit" letter within 30 days.

If you have any questions, please contact me at 510-567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist

DH:cmb

c: Dennis Moulton

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RO#414

STID# 1049

DATE: 5/6/96

ALAMEDA COUNTY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY, SUITE 250
ALAMEDA, CA 94502-6577 (cc 430-451)
Ph (510) 567-6700 FAX (510) 337-9335

DOUGLAS HERMAN, PORT ENVIRONMENTAL COMPLIANCE
PORT OF OAKLAND
530 WATER ST.
OAKLAND, CA 94607

Subject: Application for permit to operate underground storage tank(s) at:
UNITED AIR LINES
1100 AIRPORT DR, OAKLAND, CA 94621; STID # 1049

According to our records, you are the owner/operator of the above facility. The following information is needed to complete the application for underground tank(s) permit(s). To complete the process, please forward the following to this office:

- 1) An accurate and complete plot plan (see attached sheets)
- 2) A written spill response plan (see attached sheets)
- 3) A written monitoring plan, indicating the proposed procedure for tank monitoring. (see attached sheets)
- 4) Results of precision tank test(s) (initial annual).
- 5) Results of (annual) precision pressure pipeline tests and loss of pressure flow restrictor test.
- 6) A completed form "A" (enclosed).
- 7) A completed form "B" (enclosed) for each tank, numbered in accordance with the locations shown on the plot plan.
- 8) A completed form "C" (enclosed).
- 9) Submit state surcharge fee in the amount of \$56.00 per tank (check or money order) payable to Alameda County (~~fee schedule enclosed~~).
- 10) Submit your financial responsibility Certification form.

Other:

ANNUAL FEE TO OPERATE 2 UNDER-
GROUND TANKS, \$298.

Note:

Please return a copy of this checklist with the requested documents and payment, if required to facilitate processing of your forms. Failure to respond within 30 days may result in legal enforcement action by this office.

If you have any questions or require further information, please call DON HWANG at 567-6700.

Forms enclosed: 1) Forms A,B,C, plot plan, spill response plan, monitoring plan and fee schedule.

Sincerely,



Haz Mat Specialist

C: file

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



R0414

RAFAEL L. SHARPE, Assistant Agency Director

December 28, 1993

CERTIFIED MAILER #: P 422 218 204

United Airlines
1100 Airport Dr.
Oakland, 94621
UGTID:1049

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
50 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

**Re: FIVE-YEAR PERMITS FOR OPERATION OF UNDERGROUND STORAGE TANK(S)
1100 Airport Dr. Oakland, 94621**

Dear Owner/Operator:

According to our records your facility referenced above has not received a five-year permit to operate UST's. In order to obtain a permit you must complete the following items marked below and return them within 30 DAYS. The necessary forms are enclosed. You may complete a "Consolidated Underground Tank Management Plan" which will assist you in preparing a monitoring plan, site plot plan and spill response plan for your tank(s). If supplemental information or forms are required, please submit it to this office with the completed questionnaire and application forms:

- ___ 1. An accurate and complete plot plan.
- ___ 2. A written spill response plan. (enclosed)
- ___ 3. A written tank monitoring plan. (enclosed)
- ___ 4. Results of precision tank test(s), (initial and annual).
- ___ 5. Results of precision pipeline leak detector tests (initial and annual).
- ___ 6. Complete UST PERMIT FORM A-one per facility. (enclosed)
- ___ 7. Complete UST PERMIT FORM B-one per tank. (enclosed)
- ___ 8. Complete UST PERMIT FORM C-one per tank if information is available. (enclosed)
- ___ 9. Letter stating how the tank is to be maintained during one year closure.

Be advised that Title 23 of the California Code of Regulation prohibits the operation of "ANY" UST without a permit. If our records are in error, you must contact this office immediately TO AVOID POSSIBLE ENFORCEMENT ACTION. Please feel free to contact this office at (510) 271-4320; to answer any questions which may arise in completing the mandatory five-year permit process. Be prepared to provide your zip code to speak with the Hazmat Specialist handling your case.

Sincerely,

A handwritten signature in cursive script that reads "Paul M. Smith".

PAUL SMITH
HazMat Specialist

c: Edgar Howell, Chief, Hazardous Materials Div. (files)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



R0415

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

August 27, 1992
STID 113

Shell Oil Co.
ATTN: Dan Kirk
P.O.Box 5278
Concord, CA 94520-9998

RE: Marvin Shell, 4411 Foothill Blvd., Oakland, CA 94601

Dear Dan Kirk,

This office has received and reviewed your letter dated August 19, 1992 concerning the above site. You acknowledge that a soil/groundwater investigation is required and you cite the following mentioned document. In recently reviewing the files for the above site, this office noted that the laboratory results for the native soil samples collected from beneath the tank, the soil samples collected from the excavated soil, and the numerous holes in the tank as reported by our inspector during the removal reveal inconsistent results. Furthermore, the 8270 analysis was not done at all, although a requirement for waste oil tanks.

According to the Regional Water Quality Control Board's **Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks**, if there are nondetectable results in the native soil when obvious contamination was present in the backfill, an assessment of the site in accordance with the factors in **Table 3**, of the above guidelines, must be completed and submitted to the Regulatory Agencies for evaluation (Please refer to the attached Table 3). Please respond to the questions in Table 3 and submit it to this office **within 45 days** of the receipt of this letter.

Thank you for your cooperation. If you have any questions or comments, please contact this office at (510) 271-4530.

Sincerely,

Thomas Peacock, Supervising HMS
Hazardous Material Division

cc: Richard Hiett, RWQCB
James and Walter Watters, 600 Caldwell Rd., Oakland, 94611