



# State Water Resources Control Board



Winston H. Hickox  
Secretary for  
Environmental  
Protection

Division of Clean Water Programs  
1001 I Street • Sacramento, California 95814 • (916) 341-5714  
Mailing Address: P.O. Box 944212 • Sacramento, California • 94244-2120  
FAX (916) 341-5806 • Internet Address: <http://www.swrcb.ca.gov/cwphome/ustcf>

Gray Davis  
Governor

JAN 25 2001

Deborah Pryor % Equiva Services LLC  
Shell Oil Company  
P O Box 7869  
Burbank, CA 91510-7869

UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF ELIGIBILITY DETERMINATION: CLAIM NUMBER 016169; FOR SITE ADDRESS: 1601 WEBSTER ST, ALAMEDA

Your claim has been accepted for placement on the Priority List in Priority Class "D" with a deductible of \$10,000.

We have completed our initial review. The next step in the claim review process is to conduct a compliance review.

Compliance Review: Staff reviews, verifies, and processes claims based on the priority and rank within a priority class. After the Board adopts the Priority List, your claim will remain on the Priority List until your Priority Class and rank are reached. At that time, staff will conduct an extensive Compliance Review at the local regulatory agency or Regional Water Quality Control Board. During this Compliance Review, staff may request additional information needed to verify eligibility. Once the Compliance Review is completed, staff will determine if the claim is valid or must be rejected. If the claim is valid, a Letter of Commitment will be issued obligating funds toward the cleanup. If staff determine that you have not complied with regulations governing site cleanup, you have not supplied necessary information or documentation, or your claim application contains a material error, the claim will be rejected. In such event, you will be issued a Notice of Intended Removal from the Priority List, informed of the basis for the proposed removal of your claim, and provided an opportunity to correct the condition that is the basis for the proposed removal. Your claim will be barred from further participation in the Fund, if the claim application contains a material error resulting from fraud or intentional or negligent misrepresentation.

Record keeping: During your cleanup project you should keep complete and well organized records of all corrective action activity and payment transactions. If you are eventually issued a Letter of Commitment, you will be required to submit: (1) copies of detailed invoices for all corrective action activity performed (including subcontractor invoices), (2) copies of canceled checks used to pay for work shown on the invoices, (3) copies of technical documents (bids, narrative work description, reports), and (4) evidence that the claimant paid for the work performed (not paid by another party). These documents are necessary for reimbursement and failure to submit them could impact the amount of reimbursement made by the Fund. ***It is not necessary to submit these documents at this time; however, they will definitely be required prior to reimbursement.***

Compliance with Corrective Action Requirements: In order to be reimbursed for your eligible costs of cleanup incurred after December 2, 1991, you must have complied with corrective action requirements of Article 11, Chapter 16, Division 3, Title 23, California Code of Regulations. Article 11 categorized the corrective action process into **phases**. In addition, Article 11 requires the responsible party to submit an

CONFIDENTIAL  
PROTECTION  
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Shell Oil Company

-2-

*investigative workplan/Corrective Action Plan* (CAP) before performing any work. This phasing process and the workplan/CAP requirements were intended to:

1. help the responsible party undertake the necessary corrective action in a cost-effective, efficient and timely manner;
2. enable the regulatory agency to review and approve the proposed cost-effective corrective action alternative before any corrective action work was performed; and
3. ensure the Fund will only reimburse the most cost-effective corrective action alternative required by the regulatory agency to achieve the minimum cleanup necessary to protect human health, safety and the environment.

In some limited situations *interim cleanup* will be necessary to mitigate a demonstrated immediate hazard to public health, or the environment. Program regulations allow the responsible party to undertake interim remedial action after: (1) notifying the regulatory agency of the proposed action, and; (2) complying with any requirements that the regulatory agency may set. Interim remedial action should only be proposed when necessary to mitigate an immediate demonstrated hazard. ***Implementing interim remedial action does not eliminate the requirement for a CAP and an evaluation of the most cost-effective corrective action alternative.***

Three bids and Cost Preapproval: Only corrective action costs required by the regulatory agency to protect human health, safety and the environment can be claimed for reimbursement. You must comply with all regulatory agency time schedules and requirements and you must obtain three bids for any required corrective action. Unless waived in writing, you are required to obtain preapproval of costs for all future corrective action work. ***If you do not obtain three bids and cost preapproval, reimbursement is not assured and costs may be rejected as ineligible.***

If you have any questions, please contact me at (916) 341-5714.

Sincerely,

**ORIGINAL SIGNED BY**

Shari Knieriem  
Claims Review Unit  
Underground Storage Tank Cleanup Fund

cc: Mr. Steve Morse  
RWQCB, Region 2  
1515 Clay Street, Ste. 1400  
Oakland, CA 94612

Mr. Thomas Peacock  
Alameda County EHD  
1131 Harbor Bay Pkway, 2nd Fl.  
Alameda, CA 94502-6577

STID#  
3014

# C A M B R I A

closed COB November 23, 1999  
ST ID 3014

Ms. Eva Chu  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

**Re: Certified List of Record Fee Title Owners for:**

1601 Webster  
Alameda, CA  
Incident No. 98995139



Dear Ms. Chu:

In accordance with section 25297.15(a) of Chapter 6.7 of the Health Safety Code and on behalf of Equiva Services LLC, we certify that the following is a complete list of current record fee title owners and their mailing addresses for the above site.

Equilon Enterprises LLC c/o Stewart Title Guaranty Company, 1980 Post Oak Blvd.,  
Suite 110, Houston, TX 77056

Sincerely,

Ailsa S. Le May, R.G.  
Senior Geologist

cc: Karen Petryna, Equiva Services LLC, P.O. Box 6249, Carson, California, 90749-6249

Oakland, CA  
Sonoma, CA  
Portland, OR  
Seattle, WA

**Cambria  
Environmental  
Technology, Inc.**

1144 65th Street  
Suite B  
Oakland, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

LOP - RECORD CHANGE REQUEST FORM

printed:  
03/15/99

Mark Out What Needs Changing and Hand to LOP Data Entry  
(Name/Address changes go to Annual Programs Data Entry)

Insp: EC

AGENCY # : 10000      SOURCE OF FUNDS: F      SUBSTANCE: 8006619  
 StID : 3014      LOC:  
 SITE NAME: Kin Shell Station      DATE REPORTED : 06/01/87  
 ADDRESS : 1601 Webster St      DATE CONFIRMED: 06/01/87  
 CITY/ZIP : Alameda 94501      MULTIPLE RPs : N

SITE STATUS

CASE TYPE: O    CONTRACT STATUS: 4    PRIOR CODE:1C4    EMERGENCY RESP:  
 RP SEARCH: S      DATE COMPLETED: 01/06/92  
 PRELIMINARY ASMNT: C    DATE UNDERWAY: 09/13/87    DATE COMPLETED: 10/24/96  
 REM INVESTIGATION:    DATE UNDERWAY:    DATE COMPLETED:  
 REMEDIAL ACTION:    DATE UNDERWAY:    DATE COMPLETED:  
 POST REMED ACT MON:    DATE UNDERWAY:    DATE COMPLETED:

ENFORCEMENT ACTION TYPE: 1      DATE ENFORCEMENT ACTION TAKEN: 01/06/92  
 LUFT FIELD MANUAL CONSID: 3HSCGWA  
 CASE CLOSED: Y      DATE CASE CLOSED: 03/15/99  
 DATE EXCAVATION STARTED : 06/01/87      REMEDIAL ACTIONS TAKEN: ED

RESPONSIBLE PARTY INFORMATION

RP#1-CONTACT NAME: Karen Petryna  
 COMPANY NAME: Equiva Services  
 ADDRESS: P. O. Box 6249  
 CITY/STATE: Carson, C A 90749

INSPECTOR VERIFICATION:

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

DATA ENTRY INPUT:

Name/Address Changes Only      Case Progress Changes

ANNPMS \_\_\_\_\_ LOP \_\_\_\_\_ DATE \_\_\_\_\_ || LOP \_\_\_\_\_ DATE \_\_\_\_\_

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

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

StID 3014

November 3, 1998

Mr. Alex Perez  
Shell Oil  
P.O.Box 8080  
Martinez, CA 94553

**RE: Well Decommission at 1601 Webster Street, Alameda, CA**

Dear Mr. Perez:

This office and the San Francisco RWQCB have reviewed the case closure summary for the above referenced site and concur that no further action related to the underground tank release is required at this time. Before a remedial action completion letter is sent, the onsite monitoring wells (MW-1, MW-2, MW-3 and S-1) should be decommissioned, if they will no longer be monitored. Please notify this office upon completion of well destruction so a closure letter can be issued.

Well destruction permits may be obtained from Alameda County Public Works. They can be reached at (510) 670-5575.

If you have any questions, I can be reached at (510) 567-6762.

Sincerely,

A handwritten signature in black ink, appearing to read 'eva chu'.

eva chu  
Hazardous Materials Specialist

LOP - RECORD CHANGE REQUEST FORM

printed:  
09/28/98

Mark Out What Needs Changing and Hand to LOP Data Entry  
(Name/Address changes go to Annual Programs Data Entry)

Insp: EC

AGENCY # : 10000      SOURCE OF FUNDS: F      SUBSTANCE: 8006619  
 StID : 3014      LOC:  
 SITE NAME: Kin Shell Station      DATE REPORTED : 06/01/87  
 ADDRESS : 1601 Webster St      DATE CONFIRMED: 06/01/87  
 CITY/ZIP : Alameda 94501      MULTIPLE RPs : N

SITE STATUS

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CASE TYPE: O      CONTRACT STATUS: 4      PRIOR CODE:1C4      EMERGENCY RESP:  
 RP SEARCH: S      DATE COMPLETED: 01/06/92  
 PRELIMINARY ASMNT: U      DATE UNDERWAY: 09/13/87      DATE COMPLETED:  
 REM INVESTIGATION:      DATE UNDERWAY:      DATE COMPLETED:  
 REMEDIAL ACTION:      DATE UNDERWAY:      DATE COMPLETED:  
 POST REMED ACT MON:      DATE UNDERWAY:      DATE COMPLETED:

ENFORCEMENT ACTION TYPE: 1      DATE ENFORCEMENT ACTION TAKEN: 01/06/92  
 LUFT FIELD MANUAL CONSID: 3SWG  
 CASE CLOSED:      DATE CASE CLOSED:  
 DATE EXCAVATION STARTED : 06/01/87      REMEDIAL ACTIONS TAKEN: ED

RESPONSIBLE PARTY INFORMATION

-----

RP#1-CONTACT NAME: Alex Perez  
 COMPANY NAME: Shell Oil Co.  
 ADDRESS: P.o. Box 8080  
 CITY/STATE: Martinez Ca 94553

INSPECTOR VERIFICATION:

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

DATA ENTRY INPUT:

Name/Address Changes Only      Case Progress Changes

ANNPMS \_\_\_\_\_ LOP \_\_\_\_\_ DATE \_\_\_\_\_ || LOP \_\_\_\_\_ DATE \_\_\_\_\_

### III GROUNDWATER LEVEL MEASUREMENTS

A level survey, using an assumed elevation reference, was performed to determine the top of casing (TOC) elevation of each of the monitoring wells. The depth to groundwater, below the top of each casing, was periodically measured using a well sounder. The direction and gradient of groundwater flow was determined, based upon this data. The flow direction for the June 22, 1990 reading is shown on the Site Plan. The results of the readings to date are summarized in Table 1.

Table 1. Summary of Groundwater Data

Date	MW-1		MW-2		MW-3	
	TOC Elev. 101.13 ft.		TOC Elev. 101.49 ft.		TOC Elev. 100.20 ft.	
	Depth (ft.)	Elev. (ft.) <sup>1</sup>	Depth (ft.)	Elev. (ft.)	Depth (ft.)	Elev. (ft.)
6/6/90	5.33	95.80	7.15	94.34	6.22	93.98
6/11/90	5.52	95.61	6.98	94.51	6.50	93.70
6/18/90	5.50	95.63	7.04	94.45	6.49	93.71
6/22/90	6.18	94.95	7.60	93.89	7.11	93.09

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<sup>1</sup> Elevation reference: Top of curb at fire hydrant on 43rd Street (see Site Plan), is assumed to be at elevation 100.00 feet

**Fugro West, Inc.**

1050 Melody Lane, Suite 160  
Roseville, CA 95678

Tel: (916) 782-2110  
FAX: (916) 786-7830



Fax Message No. \_\_\_\_\_

Date 1-31-95

Page 1 of 2

Fax No. 510/837-9335

To Alameda County

Attn Eva Chee

CC To \_\_\_\_\_

File No. 9527-0061

Attn \_\_\_\_\_

From Nan Johnson

File No. \_\_\_\_\_

Subject #1601 Webster St, Shell

The bubble was installed in the well on 1-30-95

The compressor is to be installed on 2-1-95

Trenching and Electrical are being scheduled

The original of this letter will follow in the mail.

Hard Copy Will Follow via Mail.  Yes  No

FOR OFFICE USE ONLY				
<input type="checkbox"/> Return to Originator	<input type="checkbox"/> To be Filed	<input type="checkbox"/> Mail to Addressee	<input type="checkbox"/> Discard	<input type="checkbox"/> Return to Word Processing for copying, then mail



ALCO  
HAZMAT

**FUGRO**

FUGRO WEST, INC.

95 FEB -1 PM 3: 37

January 26, 1995  
Project No. 9547-0061

1050 Melody Lane, Suite 160  
Roseville, California 95678  
Tel: (916) 782-2110  
FAX: (916) 786-7830

Ms. Eva Chu  
Alameda County Department of Environmental Health  
Hazardous Materials Division  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502-6577

**Subject:** Installation of Groundwater Oxygenation System (GWOS) at  
Shell Station, 1601 Webster St.  
Alameda, California.

Dear Ms. Chu:

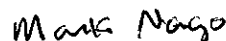
In reference to your letter to Dan Kirk of Shell Oil Company dated December 5, 1994, Fugro West, Inc. (Fugro) is pleased to announce that installation of the groundwater oxygenation system (GWOS) at 1601 Webster St. has begun. Fugro was awarded the contract to install the GWOS at the site. We have contacted the Bay Area Air Quality Management District and the Alameda Building Department to ensure that there will be no permitting delays. Field activities will commence by January 30, 1995.

If you have any questions please call us at 916/782-2110.

Sincerely,



Dan Johnson P.E.  
Engineer



DJ:sh

cc: Dan T. Kirk, Shell Oil Company  
D. Poulsen, Fugro West, Inc.



95470061.ALT



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HAZMAT

95 JAN -5 PM 2:53

P O Box 4023  
Concord CA 94524

1390 Willow Pass Road  
Suite 900  
Concord CA 94520

January 4, 1995

Consultant Name  
Consultant Address  
Consultant Address  
Attn: Consultant Contact

Re: Request for Proposal to Install Ground Water Oxygenation System  
(GWOS) at Shell Station, 1601 Webster St., Alameda, CA

Dear Consultant:

You are invited to submit a proposal for the following scope of work:

- \* Prepare appropriate drawings and obtain **all** necessary permits to install the Ground Water Oxygenation System.
- \* Supply all necessary equipment for the GWOS, no exceptions.
- \* Start the installation of the GWOS by January 30, 1995.

Your proposal should include the following options:

- \* Install the air compressor approximately 120 feet from MW-2 and adjacent to the main station building (not adjacent to the kiosk).
- \* The electric service for the system will need its own meter and the monthly bill needs to be sent directly to Shell Oil Company.

The workplan for the system is attached for your reference. An attached cost breakdown sheet needs to be used when preparing your proposal. Sufficient detail should be provided in your proposal to evaluate the technical approach, cost effectiveness, and estimated duration to achieve Shell's objectives. **Two copies of your proposal are due to our office by noon on January 18, 1995, no exceptions.** Late proposals and faxes will not be evaluated.

Please direct any questions to me via facsimile at (510) 675-6172.

Good Luck,

D. T. Kirk  
Environmental Engineer

Attachments

✓cc: eva chu, Alameda County Health Care Services (w/o attachments)

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY  
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

StID 3014

October 25, 1994

Mr. Dan Kirk  
Shell Oil Co  
P.O. Box 4023  
Concord, CA 94524

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

**RE: Groundwater Oxygenation at 1601 Webster St, Alameda 94501**

Dear Mr. Kirk:

I have completed review of Weiss Associates' September 1994 workplan for groundwater oxygenation at the above referenced site. The plan proposes to introduce a low flow rate of air into well MW-2 to enhance biodegradation of petroleum hydrocarbons in groundwater. However, the effectiveness of the system cannot be properly evaluated without additional well(s) in close proximity to well MW-2. Additional wells will determine the radius of influence from the introduced air, as well as to delineate the extent of the contaminant plume. Please submit an amended workplan for the additional well(s) required to complete the groundwater oxygenation system **within 30 days of the date of the letter.**

If you have any questions or comments on the contents of this letter, I can be reached at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

cc: James Carmody, Weiss Assoc, 5500 Shellmound St, Emeryville  
94608-2411  
files

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

August 1, 1994

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY  
DEPARTMENT OF ENVIRONMENTAL HEALTH  
1131 HARBOR BAY PARKWAY, 2ND FLOOR  
ALAMEDA, CA 94502-6577

STID 3014

Re: Investigations at 1601 Webster St., Alameda, California

Dear Mr. Kirk,

This office has reviewed Weiss Associates' (Weiss) Quarterly Ground Water Monitoring Report, dated July 12, 1994. In this report, Weiss proposes to switch the frequency of sampling for Wells MW-1 and S-1 from quarterly to annual monitoring. However, due to the fact that ground water samples collected from Well MW-1 have identified levels of cis-1,2-dichloroethene exceeding CAL-EPA's Maximum Contaminant Levels in the past, quarterly sampling for chlorinated hydrocarbons must continue for Well MW-1. Annual sampling for the other constituents of concern from Well MW-1 is acceptable, and annual sampling for all constituents of concern from Well S-1 is acceptable.

Weiss concluded that, based on the dissolved oxygen concentrations, natural biodegradation is occurring at the site. Please submit a more detailed discussion providing the basis of or reasoning for Weiss' conclusion. Please provide a list of references and publications used, and if possible, copies of the relevant references/information on dissolved oxygen as an indicator for biodegradation.

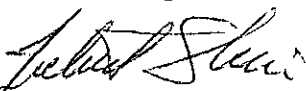
Based on the dissolved oxygen count, Weiss has proposed to conduct no further investigations at the site, aside from the required quarterly (or annual) ground water monitoring, based on their conclusion that contaminant concentrations are attenuating due to natural biodegradation. However, based on the elevated, erratic contaminant levels identified in Well MW-2 and Article 11 Title 23 California Code of Regulations, which requires the full delineation of a ground water contaminant plume, you are still required to delineate the extent of the contaminants observed in Well MW-2, with at least one additional permanent monitoring well. With the "zero-line" defined, continued monitoring of the delineating wells would determine the rate of plume migration, and may help to assure that the plume will not migrate any further and impact unaffected ground water in the future.

Mr. Dan Kirk  
Re: 1601 Webster St.  
August 1, 1994  
Page 2 of 2

You are required to submit a work plan, addressing the delineation of the contaminant plume to the southeast, **within 60 days of the date of this letter**. This work plan should address research into the potential for any utility lines along Webster Street or Lincoln Avenue to act as conduits for plume migration.

If you have any questions or comments, please contact me at (510) 567-6700 (new general phone number) or (510) 567-6763 (my new direct phone number).

Sincerely,



Juliet Shin  
Hazardous Materials Specialist

cc: James W. Carmody  
Weiss Associates  
5500 Shellmound St.  
Emeryville, CA 94608-2411

Edgar Howell-File(JS)

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

April 13, 1994

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

STID 3014

Re: Investigations at 1601 Webster St., Alameda, California

Dear Mr. Kirk,

This office has received and reviewed Weiss Associate's (Weiss) Quarterly Monitoring Report, dated March 28, 1994. In this report, Weiss states that it will submit a work plan addressing the implementation of ground water oxygenation as a remedial option at the site. You are required to address investigations, within this work plan, concerning the potential migration of the ground water contaminant plume to the east, onto Webster Street. A permanent monitoring well may not be necessary, however, some investigations are needed to confirm the extent of the ground water contaminant plume to the east, since the ground water gradient has periodically migrated to the east and since the highest contaminant levels have been detected from the eastern most well on the site, MW-2.

In preparing the work plan, please consider the potential for utility lines acting as conduits along Webster Street.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

Juliet Shin  
Hazardous Materials Specialist

cc: James W. Carmody  
Weiss Associates  
5500 Shellmound St.  
Emeryville, CA 94608-2411

Edgar Howell-File(JS)

**Weiss Associates**

5500 Snellmound Street, Emeryville, CA 94608-2411

Environmental and Geologic Services

Fax: 510-547-6043 Phone: 510-450-6000

**FAX TRANSMITTAL****CONFIDENTIALITY NOTICE**

This facsimile transmission contains confidential information intended only for use by the individual or entity named below. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or action taken in reliance on the contents of this transmittal is strictly prohibited. If you have received this transmittal in error, please call us immediately to arrange for the return of the original document.

**TO: Juliet Shin****FAX PHONE: 569-4787****COMPANY: Alameda County Department of  
Environmental Health****BUSINESS PHONE:****DATE: November 11, 1993****FROM: Joyce Adams****PROJECT #: 81-434-103****SUBJECT: 1601 Webster  
Alameda****\* OF PAGES: 5  
(including this cover)  
 Hard Copy in the Mail****COMMENTS & ACTIONS REQUIRED:****Ms. Shin,**

Here is the letter in response to your October 7, 1993 letter to Shell Oil Company. A hard copy is in the mail. Please call if you have any questions or comments.

Please call Mike at (510) 547-5420 if you do not receive all pages.



**Weiss Associates**

5500 Shellmound Street, Emeryville, CA 94608-2411

Environmental and Geologic Services

Fax: 510-450-4443 Phone: 510-450-6000

ALCO  
HAZMAT

93 NOV 15 PM 3: 30

November 10, 1993

Ms. Juliet Shin  
Alameda County Department of  
Environmental Health  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

Re: STID #3014  
Shell Service Station  
1601 Webster Street  
Alameda, California  
WA Job #81-434-103

Dear Ms Shin:

As you requested, Weiss Associates (WA), on behalf of Shell Oil Company, is submitting this summary of our October 28, 1993 meeting regarding the site referenced above. The meeting and this letter respond to your October 7, 1993 letter to Shell Oil Company. During our meeting we discussed three potential remedial options for the site. Presented below are a brief site summary and the three potential remedial options.

#### SITE BACKGROUND

**1987 Waste Oil Tank Removal:** In June 1987, a 550-gallon underground waste oil tank originally installed in 1962 was removed (Figure 1). Blaine Tech Services (BTS) of San Jose, California reported that the tank contained more than 77 holes and that a hydrocarbon sheen was observed on the water in the excavation.<sup>1</sup> Soil sampled from 9.5 ft depth in the excavations contained 133 parts per million (ppm) petroleum oil and grease (POG), 14 ppm total petroleum hydrocarbons (TPH) and 29 ppm 1,1,1-trichloroethane (TCA).<sup>2</sup> A grab water sample collected

<sup>1</sup> BTS, June 26, 1989, Consultant's letter-report presenting a summary of previously unpublished notes from the 1987 waste oil tank removal at the Shell service station at 1601 Webster Street in Alameda, California, prepared for Shell Oil Company, 19 pages.

<sup>2</sup> BTS, July 16, 1987, Field Sampling at Shell Station, 1601 Webster Street, Alameda, California, consultant's letter-report prepared for Shell, 3 pages plus attachments.



from the subsurface at about 12.5 ft depth contained 244 ppm POG, 132 ppm TPH, 11 ppm TCA and 59 ppm methylene chloride.

**1987 Well Installation:** In September 1987, Pacific Environmental Group (PEG) of Santa Clara, California installed ground water monitoring well S-1 (Figure 1) immediately downgradient of the former waste oil tank to assess whether hydrocarbons detected during the excavation were in ground water.<sup>3</sup> Soil from the boring for the well between 3.5 and 15.5 ft depth contained POG at a maximum of 130 ppm at about 5 ft depth. No halogenated volatile organic compounds (HVOCs) were detected.

**1990 Well Installation:** In April 1990, WA installed wells MW-1 and MW-2.<sup>4</sup> TPH as gasoline (TPH-G) were detected at a maximum of 32 ppm in the boring for well MW-2, with the highest concentrations detected below the water table. Unsaturated soil from the two borings contained less than 0.1 ppm benzene, ethylbenzene, toluene and/or xylenes (BETX). No POG or HVOCs were detected in soil from either boring.

**1993 Borings and Wells:** In October 12 and 22, 1992 and February 19, 1993, WA drilled borings BH-C through BH-J to assess the source and extent of hydrocarbons in soil and ground water. WA also installed well MW-3 at the downgradient property boundary to monitor hydrocarbon concentrations in ground water leaving the site. The investigation results indicated that hydrocarbons detected in ground water from well MW-2 apparently originated near the former pump islands at the south end of the site. Based on the soil and water samples collected during this investigation and in subsequent quarterly sampling, hydrocarbons do not appear to be migrating downgradient of the site (Figure 1).

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<sup>3</sup> PEG, October 23, 1987, Consultant's letter-report regarding a well installation at the Shell service station at 1601 Webster Street in Alameda, California, prepared for Gettler-Ryan, Inc., 3 pages plus attachments.

<sup>4</sup> WA, July 6, 1990, Subsurface Investigation at Shell Service Station, 1601 Webster Street, Alameda, California, consultant's report prepared for Shell Oil Company, 17 pages and 3 appendices.

## REMEDIAL OPTIONS

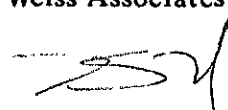
The three remedial options that we agreed to consider during our meeting include:

- Installing a well down and crossgradient of well MW-2 and monitoring natural hydrocarbon degradation.
- Conducting a soil vapor extraction (SVE) test to assess whether SVE is a viable option for this site; and
- Investigating whether ground water oxygenation is a viable option by sampling the ground water for dissolved oxygen (D.O.) concentrations prior to installing a ground water oxygenation system.

We will be sampling all site wells for D.O. during the upcoming ground water sampling event. Based on the hydrocarbon and D.O. concentrations detected during the upcoming sampling, we will assess which of these remedial options appear most likely to provide cost-effective case closure for this site. Once a remedial option is selected, we will submit a schedule for the implementation of the remedial approach. If the SVE option is chosen, then we would likely wait until after the end of this year's rainy season to maximize the amount of unsaturated soil available for SVE and to dry out the vadose zone to increase the effectiveness of SVE.

We appreciate this opportunity to provide hydrogeologic consulting services on behalf of Shell Oil Company. Please call if you have any questions or comments.

Sincerely,  
Weiss Associates



N. Scott MacLeod, R.G.  
Project Geologist

NSM/:nm

J:\HC\_ENG\SHELL\ALAM-434\434LINO3.WP

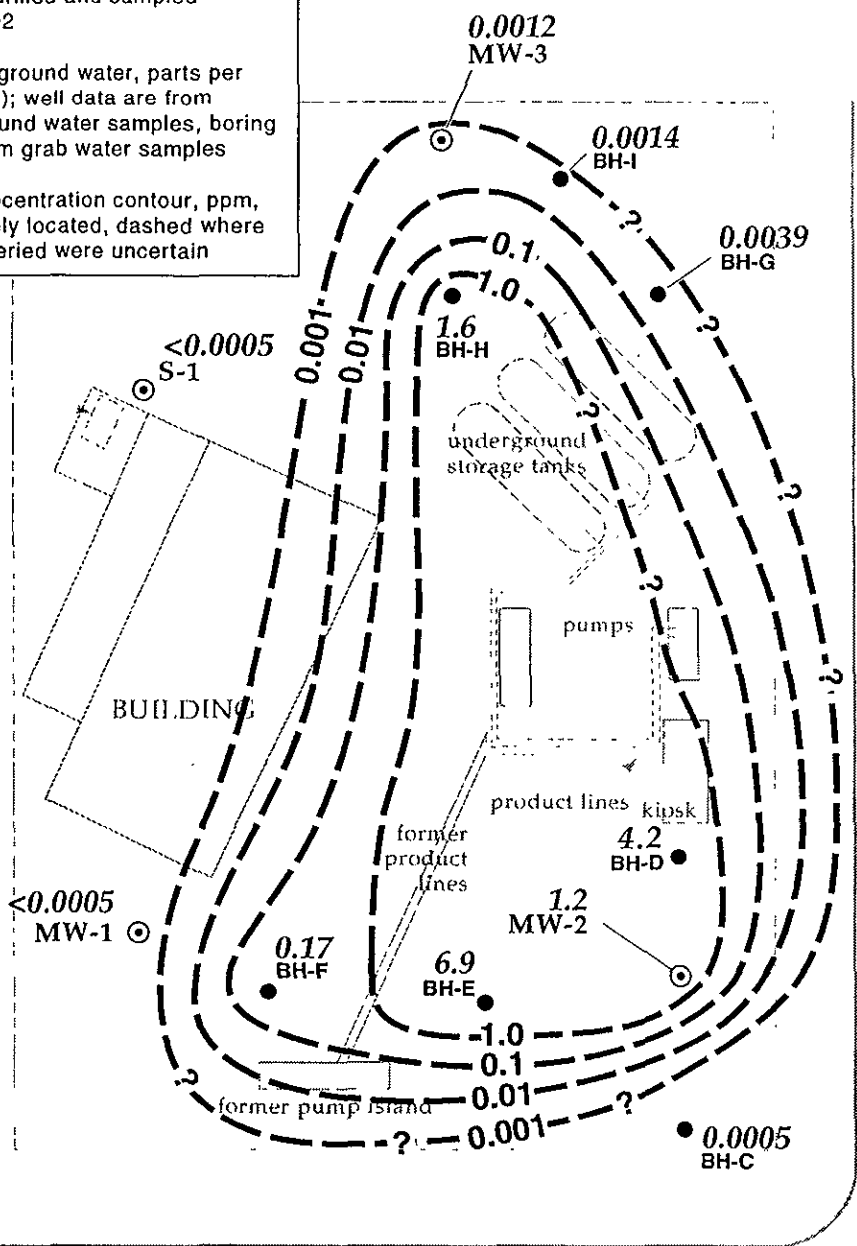
cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998  
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

**EXPLANATION**

- ⊙ MW-1 Ground water monitoring well
- BH-C Soil boring drilled and sampled October 1992
- 0.17 Benzene in ground water, parts per million (ppm); well data are from discrete ground water samples, boring data are from grab water samples
- 0.01 Benzene isocentration contour, ppm, approximately located, dashed where inferred, queried were uncertain

former waste oil tank

Approximate Ground Water Flow Direction



WEBSTER STREET

LINCOLN AVENUE

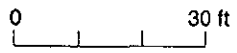


Figure 1. Benzene Concentrations in Ground Water - July 20, 1993 - Shell Service Station  
 WIC #204-0072-0403, 1601 Webster Street, Alameda, California



CONVERSATION CONFIRMER

pg. 1 of 1

FROM: Joyce Adams
Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608

PROJECT: Shell Alameda
1601 Webster Street
Alameda, CA

WA JOB #: 81-434-103

TO: Juliet Shin
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

93 OCT 26 AM 11:50

This memorandum confirms the conversation of October 22, 1993 between Juliet Shin and Joyce Adams in which it was said:

Juliet Shin (ACDEH), Dan Kirk (Shell Oil Company), Scott MacLeod (Weiss Associates) and Joyce Adams (Weiss Associates) would meet on October 29, 1993 at 10:00 to discuss the above mentioned site. Also a one week extension from November 7, 1993 was granted for the workplan addressing the further delineation of hydrocarbons in ground water at the site. We requested this extension in order to have sufficient time to draft a work scope after our meeting.

Date: October 25, 1993

Firm Name: Weiss Associates

cc: Dan Kirk, Shell Oil Company

By: Joyce Adams (signature of person sending confirmer)

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

October 7, 1993

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

STID 3014

Re: Required investigations at 1601 Webster St., Alameda,  
California

Dear Mr. Kirk,

This office has received your response to our July 27, 1993 request for further delineation of the ground water contaminant plume at the site. Although you have recommended that no additional work be conducted to delineate the extent of the ground water contaminant plume at the site, this office feels that further delineation is necessary and required.

Very elevated levels of TPHg and BTEX have consistently been identified in Well MW-2 at the above site. The ground water flow directions have fluctuated from flowing northwest to northeast in the past quarterly monitoring events. The extent of this ground water contaminant plume downgradient of MW-2 to the northeast and upgradient of MW-2 have not yet been delineated. **Per Section 2725, Article 11, Title 23 California Code of Regulations**, you are required to assess the extent of ground water contamination at the site.

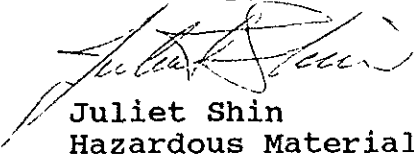
Your consultants have speculated that the levels of contamination identified in MW-2 was the result of an off-site source. However, insufficient evidence has been established for this office to support this argument. The ground water contamination identified in Well MW-2 and the soil contamination identified in borings BH-F, BH-E, and BH-D could be attributable to the former pump island at the site.

You are required to submit a work plan, **within 30 days** of the date of this letter, addressing the further delineation of the ground water contaminant plume at the site.

Mr. Dan Kirk  
Re: 1601 Webster St.  
October 7, 1993  
Page 2 of 2

If you have any questions or comments, please contact me at (510)  
271-4530.

Sincerely,



Juliet Shin  
Hazardous Materials Specialist

cc: Joyce Adams  
Weiss Associates  
5500 Shellmound St.  
Emeryville, CA 94608-2411

Edgar Howell-File(JS)

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

July 27, 1993

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

STID 3014

Re: 1601 Webster St., Alameda, California

Dear Mr. Kirk,

In June 1992, this office requested that you conduct further investigations at the above site, primarily to address the elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) identified from Well MW-2. In response to this request, Shell drilled eight borings out at the site and collected soil and ground water samples from these eight locations.

Soil samples collected from the borings located in the vicinity of the former pump island identified levels of TPHg and BTEX. Of these borings, the highest levels of soil contamination were identified from Boring BH-E, the boring located downgradient from and nearest to the former pump island.

It appears that the elevated contaminant concentrations identified in Well MW-2 and the soil contamination identified in the borings near the former pump island could possibly be resulting from the former pump island. According to the files available to this office, there appears to be no other possible sources within three blocks and upgradient of the site. Additionally, the elevated levels of BTEX in Well MW-2, indicates that there is probably a local source. As you know, BTEX is known to be very volatile, and if levels of BTEX travelled a good distance, one would expect these concentrations to have significantly attenuated.

You are required to submit a work plan, addressing further investigations associated with this contamination **within 60 days** of the date of this letter. Quarterly ground water monitoring shall continue at the site.

Mr. Dan Kirk  
Re:1601 Webster St.  
July 27, 1993  
Page 2 of 2

If you have any questions or comments, please contact me at (510)  
271-4530.

Sincerely,



Juliet Shin  
Hazardous Materials Specialist

cc: Richard Hiett, RWQCB

Scott MacLeod  
Weiss Associates  
5500 Shellmound Street  
Emeryville, CA 94608-2411

Edgar Howell-File(JS)



ALAMEDA COUNTY  
HEALTH CARE SERVICES  
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

February 5, 1993

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

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

STID 3014

RE: 1601 Webster St., Alameda, California

Dear Mr. Kirk,

This office has received and reviewed your letter, dated February 2, 1993, proposing the installation of an additional monitoring well. The proposed location for this well is acceptable to this office. It is the understanding of this office that this well will be installed within the next 60 days. A work plan, documenting the details of the work performed, shall be submitted within 45 days after completing field activities.

This well shall be installed, developed, and sampled in the same manner as the existing wells have been. This includes the requirement for soil samples to be collected at 5-foot intervals and lithologic changes, with a minimum of one soil sample being analyzed.

Weiss Associates has proposed to conduct a literature search to identify any existing off-site monitoring wells nearby the site. If no existing wells are identified and accessible for sampling south of the former pump island, you will be required to address the further delineation, of the contamination identified in MW-2, BH-F, BH-E.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

  
Juliet Shin  
Hazardous Materials Specialist

Mr. Dan Kirk  
Re: 1601 Webster St.  
Page 2 of 2  
February 5, 1993

cc: Richard Hiett, RWQCB

Scott MacLeod  
Weiss Associates  
5500 Shellmound Street  
Emeryville, CA 94608-2411

Edgar Howell-File(JS)

*EBA*



CONVERSATION CONFIRMER

pg. 1 of 1

FROM: SCOTT MACLEOD, WEISS
5500 SHELLMOUND ST
EMERYVILLE, CA 94608

PROJECT: SHELL STATION
1601 WEBSTER
ALAMEDA
81-434-100

TO: JULIET SHAN, ALDEIT
HAL. MAT. DIV. 80 SWANWAY, RM 200
OAKLAND, CA 94621

This memorandum confirms the conversation of 12/22/92 between

JULIET SHAN and SCOTT MACLEOD in which it was said:

SUMMARY REPORT FOR INVESTIGATION AT SUBJECT SITE DUE ON
JAN. 8, 1993 INSTEAD OF 45 DAY) AFTER FIELD WORK AS INITIALLY
STIPULATED

Date: 12/22/92 (date memo written)

Firm Name: WEISS ASSOCIATES

By: [Signature] (signature of person sending confirmer)



**Weiss Associates**

5500 Shellmound Street, Emeryville, CA 94608-2411

Environmental and Geologic Services

Fax 510-547-5043 Phone 510-547-5420

1430773 8-10026

October 7, 1992

Marty Chan  
Shell Service Station  
1601 Webster Street  
Alameda, CA 94501

Re: Drilling Soil Borings  
WA Job #81-434-100  
Shell Wic #204-0072-0403

Dear Mr. Chan,

As we discussed on October 7, 1992, this letter notifies you that Shell Oil Company has retained Weiss Associates to conduct a soil and ground water investigation at the Shell Service Station, at 1601 Webster Street, Alameda, CA 94501. This investigation will require the drilling of six to ten 3-inch diameter soil borings at the station on Tuesday, October 13, 1992. We will be using a small drill rig and will attempt to minimize the disruption of service at your station while still obtaining the objectives of our investigation.

As we discussed we will store several drums filled with rinseate water and a small stockpile of soil near the air and water station.

We appreciate your cooperation in this matter. Please contact me if you have any questions or comments.

Sincerely,  
Weiss Associates

Joyce Fremstad  
Senior Staff Geologist

NSM/jf

E:\SHELL\434L10C2.WP

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998  
Scott O. Seery, Alameda County, Department of Environmental Services, 80 Swan Way,  
Oakland, California 94621

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

August 19, 1992

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

STID 3014

RE: Response to work plan for the site located at 1601 Webster Street, Alameda, California

Dear Mr. Kirk,

This office received the work plan, dated August 17, 1992, regarding the proposal for drilling six to ten soil borings at the site to investigate the extent of soil and ground water contamination near the trench and to determine whether or not this area is the possible source of observed ground water contamination at the site. Locations for only three out of the six to ten proposed soil borings were given in the work plan. These three boring locations are acceptable for evaluating whether the re-paved area is a source of contamination. However, pursuant to Section 2724 and 2725 of Article 11, Title 23 California Code of Regulations, you are also required to determine the full vertical and lateral extent of all soil and ground water contamination resulting from the site. Therefore, it is advised that some of the additional three to seven proposed soil borings be placed in areas that may aid in determining the full extent of soil and/or ground water contamination. Areas that would appear to warrant further investigations, other than the trench area, would appear to be the area around MW-1, the area downgradient of the current pumps, product lines, and underground storage tanks, and the area near the former pump island.

The soil and ground water samples collected must be analyzed for cis-1,2-dichloroethene, methylene chloride, 1,1,1-trichloroethane, and 1,2-dichloroethane, in addition to Total Petroleum Hydrocarbons as gasoline, Total Oil and Grease, and benzene, toluene, ethylbenzene, and xylenes. The above VOCs were observed in ground water samples formerly collected from on-site monitoring wells.

This office has understood the proposed soil borings to be an intermediate step in the soil and water investigation phase of the required corrective action at the site. Please keep in mind that additional monitoring wells will be required for the delineation of the ground water contaminant plume.

Mr. Dan Kirk  
Re: 1601 Webster St.  
August 19, 1992  
Page 2 of 2

Additionally, you were requested by this office in a previous letter, dated June 17, 1992, to address the remediation of the contaminant plume and to include a timetable giving the schedule of work events. These points were not addressed in the above work plan. You are required to submit a work plan addressing these points and proposals for additional investigative work to delineate the extent of soil and ground water contamination resulting from the site. This work plan will be due within 60 days after implementing the soil boring proposal and obtaining the sampling results. In this way, the soil boring investigation can aid in determining a strategy for subsequent investigative and remedial activities.

Field work should commence within 60 days of the receipt of this letter. Please be reminded that a report documenting the results from work performed is due to this office within 45 days of completion of field activities. Quarterly monitoring and reporting is to be continued for all three monitoring wells.

If you have any questions or comments, please contact Ms. Juliet Shin at (510) 271-4530.

Sincerely,



Scott O. Seery, CHMM  
Senior Hazardous Materials Specialist

cc: Richard Hiett, RWQCB

Robert La Grone, Alameda Fire Dept.

Scott MacLeod  
Weiss Associates  
5500 Shellmound Street  
Emeryville, CA 94608-2411

Mark Thompson, Alameda County District Attorney's Office

Edgar Howell-File (JS)



Geologic and Environmental Services

5500 Shellmound Street, Emeryville, CA 94608  
92 110-4 11 6: 33

CONVERSATION CONFIRMER

pg. 1 of 1

FROM: SCOTT MACLEOD  
(Name)  
  
(Address)  
  
(City, State and Zip)

PROJECT: SHELL STATION  
(Name)  
1601 WEBSTER  
(Address)  
ALAMEDA  
(City, State and Zip)  
81-434-100  
(Project Number)

TO: SCOTT SEELY / JULIET SHAN, ACDEN  
(Name)  
80 SWAN WAY ROOM 200  
(Address)  
OAKLAND, CA 94621  
(City, State and Zip)

This memorandum confirms the conversation of <sup>3</sup> 8/9/92 (date the conversation) between

SCOTT MACLEOD (insert name) and SCOTT SEELY (insert name) in which it was said:

SCOTT SEELY APPROVED OR A TWO WEEK EXTENSION FOR  
(describe the conversation)  
A WORKPLAN ~~AT~~ FOR INVESTIGATION AT THE SHELL  
STATION REFERENCED ABOVE. WEISS ASSOCIATES, ON BEHALF  
OF SHELL OIL COMPANY, WILL SUBMIT A WORKPLAN BY  
WED., AUGUST 19, 1992.

Note: Actually, I told Mr. MacLeod that I didn't think  
such an extension was unreasonable, but that it  
would be up to Juliet to approve. I told him  
that I would ask Juliet to call him and discuss.

S. Seely  
8/4/92

Date: <sup>3</sup> 8/9/92 (date memo written)

Firm Name: WEISS ASSOCIATES

By: (signature of person sending confirmer)

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

June 17, 1992

Mr. Dan Kirk  
Shell Oil Company  
P.O. Box 4023  
Concord, CA 94524

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

STID 3014

RE: Investigations at the currently active Shell Service Station,  
located at 1601 Webster Street, Alameda, California

Dear Mr. Kirk,

In 1987, a 550-gallon waste oil tank was removed from the site. A soil sample collected from the native soil beneath the tank identified 113 parts per million (ppm) Total Oil and Grease (TOG). Additionally, a ground water sample collected from the tank pit exhibited 132 ppm Total Petroleum Hydrocarbons (TPH) and 244 ppm TOG.

Since the time of the tank pull, a total of three wells have been installed at the site and monitored quarterly for over two years. Although ground water samples collected from Well S-1, located immediately downgradient of the former tank pit, has never exhibited concentrations of contaminants above detection limits, ground water samples collected from Well MW-2, located upgradient of the former tank pit, has consistently identified elevated concentrations of TPH as gasoline and benzene as high as 8,100 ppb and 450 ppb on site. Additionally, Well MW-1, another upgradient well, has consistently exhibited concentrations of 1,2-dichloroethene as high as 7.9 ppb.

You are required to submit a work plan to this office within 45 days of the receipt of this letter addressing the delineation and remediation of the contaminant plume beneath the above site. Please include a timetable giving the schedule of work events. These proposals must adhere to the Regional Water Quality Control Board's (RWQCB) Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks, the State Water Board's LUFT manual, and be consistent with the corrective action requirements set forth under Article 11, Section 2670 et seq., of Title 23, California Code of Regulations. Copies of all plans and proposals should be sent to this office for approval.

Please be aware that you must continue to prepare quarterly ground water monitoring reports and submit them to this office.

Please be advised that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Any



Dan Kirk  
RE: 1601 Webster St.  
June 17, 1992  
Page 2 of 2

extensions of the stated deadlines or modifications of the required tasks must be confirmed in writing by either this agency or RWQCB.

If you have any questions or comments, please contact Ms. Juliet Shin at (510) 271-4320.

Sincerely,



Scott O. Seery, CHMM  
Senior Hazardous Materials Specialist

cc: Richard Hiett, RWQCB

Richard Quarante, Alameda Fire Dept.

David Elias  
Weiss Associates  
5500 Shellmound Street  
Emeryville, CA 94608-2411

Ed Howell-File (JS)

WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER QUALITY - UST CLEANUP PROGRAM  
SITE SPECIFIC QUARTERLY REPORT  
01/01/92 THROUGH 03/31/92

AGENCY # : 10000      SOURCE OF FUNDS: F      SUBSTANCE: 8006619  
StID : 3014  
SITE NAME: Kin Shell Station      DATE REPORTED : 06/01/87  
ADDRESS : 1601 Webster St.      DATE CONFIRMED: 06/01/87  
CITY/ZIP : Alameda 94501      MULTIPLE RPs : N

SITE STATUS  
-----

CASE TYPE: G	CONTRACT STATUS: 1	EMERGENCY RESP:
RP SEARCH: S		DATE COMPLETED: 01/06/92
PRELIMINARY ASMNT: U	DATE UNDERWAY: 09/13/87	DATE COMPLETED:
REM INVESTIGATION:	DATE UNDERWAY:	DATE COMPLETED:
REMEDIAL ACTION:	DATE UNDERWAY:	DATE COMPLETED:
POST REMED ACT MON:	DATE UNDERWAY:	DATE COMPLETED:

ENFORCEMENT ACTION TYPE: 1      DATE ENFORCEMENT ACTION TAKEN: 01/06/92  
LUFT FIELD MANUAL CONSID: 3SWG  
CASE CLOSED:      DATE CASE CLOSED:  
DATE EXCAVATION STARTED : 06/01/87      REMEDIAL ACTIONS TAKEN: ED

RESPONSIBLE PARTY INFORMATION  
-----

RP#1-CONTACT NAME: Kurt Miller  
COMPANY NAME: Shell Oil Co.  
ADDRESS: P O Box 4023  
CITY/STATE: Concord, Ca 94524

---

03/31/92

## UNDERGROUND STORAGE TANK CLEANUP SITE

AGENCY#: 10000 SOURCE OF FUNDS: F-FEDERAL INSPECTOR: SS  
 ID: 3014 SUBSTANCE: 8006619 -Gasoline  
 SITE NAME: Kin Shell Station DATE REPORTED : 06/01/87  
 ADDRESS : 1601 Webster St. DATE CONFIRMED: 06/01/87  
 CITY/ZIP : Alameda, CA 94501 MULTIPLE RP's : N

CASE TYPE: G CONTRACT STATUS: 1 EMERGENCY RESPONSE: -0-

RP SEARCH	: S	DATE END:	01/06/92
PRELIM ASSESSMENT	: U	DATE BEGIN:	09/13/87
REMEDIAL INVESTIG	: -	DATE BEGIN:	-0-
REMEDIAL ACTION	: -	DATE BEGIN:	-0-
POST REMED MONITOR:	-	DATE BEGIN:	-0-
		DATE END:	-0-

TYPE ENFORCEMENT ACTION TAKEN: 1 DATE OF ENFORC. ACTION: 01/06/92

## UNDERGROUND STORAGE TANK CLEANUP SITE - SCREEN #2

LUFT FIELD MANUAL CONSIDERATION: 3SWG CASE CLOSED: - on: -0-

DT EXC START: 06/01/87 REMEDIAL ACTIONS TAKEN: ED

RP #1: CONTACT: Kurt Miller RP COST: -0-  
 RP COMPANY NAME: Shell Oil Co. Ph: -0-  
 ADDRESS: P O Box 4023  
 CITY/STATE: Concord, Ca 94524

-0-

**TABLE 1.4** Summary of Equations for Cutting Operations

Operation	Figure	Machining time $t_m$	Metal-removal rate $Z_w$ or $Z_{w_{max}}$	Mean undeformed chip thickness, $a_{c_{av}}$	
Turning	1.7(a)	$\frac{l_w}{fn_w}$	$\pi f a_p n_w (d_m + a_p)$	$f \sin \kappa_r$	
Boring	1.7(c)		$\pi f a_p n_w (d_m - a_p)$		
Facing	1.7(b)	$\frac{d_m}{2fn_w}$	$\pi f a_p n_w d_m$		
Parting	1.7(e)				
Shaping and planing	1.20	$\frac{b_w}{fr \kappa_r}$	$f a_p v$		
Drilling	1.23	$\frac{l_w}{fn_t}$	$\frac{\pi f d_m^2 n_t}{4}$	$\frac{f}{2} \sin \kappa_r$	
Slab milling	1.28	$\frac{l_w + \sqrt{a_e(d_t - a_e)}}{v_f}$	$a_e a_p v_f$	$\frac{v_f}{N n_t} \sqrt{\frac{a_e}{d_t}}$	
	1.29				
Face milling	1.33	$\frac{l_w + d_t}{v_f}$		$a_e a_p v_f$	$\frac{v_f}{N n_t}$
	1.34				
Side and face milling	1.33	$\frac{l_w + 2\sqrt{a_e(d_t - a_e)}}{v_f}$	$a_e a_p v_f$		$\frac{v_f}{N n_t} \sqrt{\frac{a_e}{d_t} \left(1 + \frac{a_e}{d_t}\right)}$
	1.34				
Broaching	1.37	$\frac{l_t}{v}$		$f a_p v$ per engaged cutting edge	$f$

Key:  $a_e$  = working engagement;  $a_p$  = back engagement;  $b_w$  = width of surface to be machined;  $d_m$  = diameter of machined surface;  $d_t$  = diameter of tool;  $f$  = feed;  $l_t$  = length of tool;  $l_w$  = length of surface or hole to be machined;  $n_r$  = frequency of reciprocation;  $n_t$  = rotational frequency of tool;  $n_w$  = rotational frequency of workpiece;  $N$  = number of teeth on cutter;  $v$  = cutting speed;  $v_f$  = feed speed;  $\kappa_r$  = major cutting edge angle.

DATE: 12/27/91  
TO : Local Oversight Program  
FROM: Scott  
SUBJ: Transfer of Eligible Oversight Case

Site name: Kins Shell Station  
Address: 1601 Webster St. City Alameda zip 94501  
Closure plan attached? Y  N  DepRef remaining \$ 100.50  
DepRef Project # 2014 STID #(if any) 3014  
Number of Tanks: 1 removed?  N  Date of removal 6/87  
(4 still on site)  
Samples received?  N  Contamination: yes - soil + GW  
Petroleum  N  Types: Avgas Jet leaded unleaded Diesel  
fuel oil waste oil kerosene solvents  
Monitoring wells on site 3 Monitoring schedule?  N   
LUFT category 1 2  \*     R   O  
Briefly describe the following:  
Preliminary Assessment began in 1987 (SEE BELOW)  
Remedial Action NA  
Post Remedial Action Monitoring NA  
Enforcement Action NA

*Discovery -  
June 87*

Waste oil tank (550 gal - steel) removed/replaced 6/87. Tank had >70 through-going holes. Soil and GW both impacted by TPH, TOG. Soil additionally had 0.029 ppm 1,1,1-TCE; GW additionally had low conc. of BTX. One (1) well installed 9/87. TPH/TOE detected in soils. No TPH/TOG/BTEX detected in GW. Acetone detected, but reasoned this could have been laboratory-induced cross contamination. Two (2) more wells installed 4/90, located South and SE of first well (S-1). Subsequent gradient determinations place these wells (mw-1, -2) up gradient of S-1, and UST cluster, dispensers + piping. Since this time 1,2-DCA and 1,2-DCE have been found in mw-1 and mw-2, respectively, above state MCLs. TPH-G has been also found in mw-2 (up to 8100 ppb) and benzene (up to 430 ppb). Site needs to have more up gradient and down gradient wells installed - find solvent source



TRANSMITTAL LETTER

FROM: Karen C. Sixt

DATE: August 20, 1990

TO: Mr. Ariu Levi  
Alameda County Department of  
Environmental Health  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

VIA:  First Class Mail  
 Fax  pages  
 UPS (Surface)  
 Federal Express  
 Courier

SUBJECT: SHELL SERVICE STATIONS JOB: 81-425-01  
3750 E. 14TH ST., OAKLAND 81-429-01  
2160 OTIS DR., ALAMEDA, AND 1601 Webster St., Alameda 81-434-01

AS:  We discussed on the telephone on \_\_\_\_\_  
 You requested \_\_\_\_\_  
 We believe you may be interested  
 Is required

WE ARE SENDING:  Enclosed  
 Under Separate Cover Via \_\_\_\_\_

Deposit/refund checks for review of reports pertaining to the subject Shell Service Stations.

FOR:  Your information PLEASE:  Keep this material  
 Your use  Return within 2 weeks  
 Your review & comments  Acknowledge receipt  
 Return to you

MESSAGE: Please have your office send us receipts for the checks. Thank you.

- Enc.: (1) Check No. 6917 Co. of Alameda, dated August 16, 1990/\$375.00  
Weiss Associates #81-429-01  
(2) Check No. 6918 Co. of Alameda, dated August 16, 1990/\$375.00  
Weiss Associates #81-434-01  
(3) Check No. 6919 Co. of Alameda, dated August 16, 1990/\$375.00  
Weiss Associates #81-425-01

WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER QUALITY - USE CLEANUP PROGRAM  
SITE SPECIFIC QUARTERLY REPORT  
10/15/91 THROUGH 12/31/91

8006619

AGENCY # : 10000 SOURCE OF FUNDS: F SUBSTANCE: 12035  
StID : 3014  
SITE NAME: Kin Shell Station DATE REPORTED : 06/01/87  
ADDRESS : 1601 Webster St. DATE CONFIRMED: 06/01/87  
CITY/ZIP : Alameda 94501 MULTIPLE RPS : N

SITE STATUS 7

CASE TYPE: G CONTRACT STATUS: 1 EMERGENCY RESP:  
RP SEARCH: S DATE COMPLETED: 1/6/92  
PRELIMINARY ASMNT: u DATE UNDERWAY: 9/13/87 DATE COMPLETED:  
REM INVESTIGATION: DATE UNDERWAY: DATE COMPLETED:  
REMEDIAL ACTION: DATE UNDERWAY: DATE COMPLETED:  
POST REMED ACT MON: DATE UNDERWAY: DATE COMPLETED:  
ENFORCEMENT ACTION TYPE: L DATE ENFORCEMENT ACTION TAKEN: 1/6/92  
LUFT FIELD MANUAL CONSID: S S W G  
CASE CLOSED: DATE CASE CLOSED:  
DATE EXCAVATION STARTED : 06/01/87 REMEDIAL ACTIONS TAKEN: ED

RESPONSIBLE PARTY INFORMATION

RF#1-CONTACT NAME: Kurt Miller  
COMPANY NAME: Shell Oil Co.  
ADDRESS: P.O. Box 4023  
CITY/STATE: Concord, CA 94524

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