



CAMBRIA

January 28, 1997

Mr. Dale Klettke
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502
Via Fax (510) 337-9335

STD
988

Re: Interim Remedial Action / Notice of Violation
Shell Service Station
1285 Bancroft Avenue
San Leandro, California
WIC # 204-6852-0703

Dear Mr. Klettke:

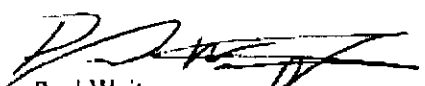

As we discussed this morning, Cambria Environmental Technology, Inc. (Cambria), on behalf of Shell Oil Products Company (Shell), is submitting this interim remedial action plan for the site referenced above by facsimile. A hard copy of this document is being sent in the mail.

Today we received a "Notice of Violation" from your office regarding this site. The notice addresses two items that need to be submitted in order to be in compliance with your agency: a copy of the Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report (Form 5) for this site, and the attached Interim Remedial Action Report that was requested on October 24, 1996. As we discussed this morning, you had been told by Weiss Associates approximately six months ago that the Form 5 would be submitted to your office, and this was the primary motivation for producing the Notice of Violation. Since we cannot find evidence that the Form 5 was submitted, we will prepare the form and submit it to your office by February 3, 1997.

Thank you for your continued assistance with this case. Please call if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE B
OAKLAND,
CA 94608
PH: (510) 420-0701
FAX: (510) 420-9170


Paul Waite
Project Engineer

N. Scott MacLeod, R.G.
Principal Geologist

Attachment: Interim Remedial Action Report

cc: Mr. R. Jeff Granberry, Shell Oil Products Company

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January 27, 1997

Mr. Dale Klettke
 Alameda County Health Care Services Agency
 1131 Harbor Bay Parkway
 Alameda, California 94502

Re: **Interim Remedial Action**
 Shell Service Station
 1285 Bancroft Avenue
 San Leandro, California
 WIC # 204-6852-0703

Dear Mr. Klettke:

On behalf of Shell Oil Products Company (Shell), Cambria Environmental Technology, Inc. (Cambria) is submitting this interim remedial action plan for the site referenced above, as requested by your October 24, 1996 letter. The objective of this report is to assess whether remedial action, interim remedial action, or a Tier II Risk Based Corrective Action (RBCA) is appropriate in response to hydrocarbon concentrations in ground water at the site. A site summary, a cost/benefit analysis for these three alternatives, and our proposed interim remedial action for this site are presented below.

SITE SUMMARY

Underground Storage Tank Information

The site is an active service station with three gasoline underground storage tanks (USTs) in use. One used oil tank was removed from the site in 1986. In 1990 Weiss Associates (Weiss) installed monitoring well MW-1 at the site. In 1992 Weiss installed monitoring wells MW-2 and MW-3, and in 1994 they installed MW-4 at the site. The location of the wells is shown on the attached figure.

CAMBRIA

ENVIRONMENTAL

TECHNOLOGY, INC.

1443 65TH STREET,

SUITE B

OAKLAND,

CA 94608

PH: (510) 421-0700

FAX: (510) 421-9170

Product Piping/Dispenser Replacement and Soil Excavation

In October 1995, Shell replaced product piping and dispensers at the site, as documented in Weiss's Dispenser Replacement Sampling report to the City of San Leandro Fire Department. Weiss collected soil samples from beneath the piping and dispensers. Only one of five soil samples collected from beneath the four former dispensers contained Total Petroleum Hydrocarbons as gasoline (TPHg) greater than 1.1 parts per million (ppm). No benzene was detected in any of the samples. Approximately 15 cubic yards of soil were over excavated from beneath this dispenser and disposed. A soil sample collected from the removed piping at the south end of the site contained 10 ppm TPHg and 0.31 ppm benzene. Approximately 57 cubic

Mr. Dale Klettke
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yards of soil were over excavated from this area and disposed. No TPHg or benzene were detected in the confirmation sample collected from beneath this over excavation.

Ground Water Flow Direction

Ground water monitoring since 1991 indicates that ground water flows generally to the west-northwest. The ground water elevation contour map from the fourth quarter 1996 monitoring event is attached. Hydrocarbon concentrations in ground water from downgradient well MW-1 have been consistently low, with minor fluctuations. Hydrocarbon concentrations in upgradient well MW-2, tank area well MW-3, and downgradient well MW-4 have recently been increasing.

COST/BENEFIT ANALYSIS

According to your October 24, 1996 letter, benzene contaminant concentrations in ground water exceed the California-modified Tier I Risk Based Screening Levels (RBSLs) for two risk exposure scenarios: Ground Water-Vapor Intrusion from Ground Water to Buildings at a target level of $1E-04$ for a commercial/industrial receptor scenario, and Ground Water-Volatilization to Outdoor Air at a target level of $1E-06$ for a commercial/industrial receptor scenario. Therefore, based on the ASTM E1739-95 RBCA documents, either remedial action, interim remedial action, or further tier analysis should be conducted. As you requested, a general cost/benefit analysis for each of these actions, without actual cost information, is presented below.

Further Tier RBCA Analysis

Until the state and local regulatory agencies develop a standardized RBCA protocol, we do not recommend conducting further Tier analysis at this time.

Remedial Action

As we discussed on January 22, 1997, full-scale remedial action is not warranted at this site until we obtain additional ground water monitoring data, or until we evaluate the effects of interim remedial action. Therefore, full-scale remedial action is not an appropriate alternative at this time.

Interim Remedial Action

As we agreed on January 22, 1996, placing oxygen releasing compounds (ORCs) into the two upgradient monitoring wells with the highest hydrocarbon concentrations (MW-2 and MW-3) is an appropriate, cost-effective way to reduce hydrocarbons in the source area. By oxygenating the ground water, the ORCs enhance natural hydrocarbon biodegradation and allow oxygenated water to flow down gradient across the site. Since

Mr. Dale Klettke
January 27, 1997

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ORC installation and monitoring is a low cost and effective interim remedial action technique, this is the most cost-effective alternative. Our interim remedial action plan is presented below.

INTERIM REMEDIAL ACTION PLAN

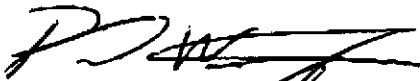
We propose installing ORCs in wells MW-2 and MW-3 and monitoring dissolved oxygen (DO) concentrations. On a quarterly basis, Cambria will coordinate DO measurement in all site wells and hydrocarbon monitoring of downgradient wells MW-1 and MW-4. To avoid the removal of oxygen-laden water, we do not propose purging and sampling of wells MW-2 and MW-3 until the DO concentrations decrease to pre-ORC concentrations. Quarterly monitoring data will be used to evaluate the effectiveness of the ORCs and to recommend appropriate future actions.


SCHEDULE

We will install the ORCs in monitoring wells MW-2 and MW-3 after receiving approval from your office. We will continue quarterly monitoring at the site and submit the results to the County. Each monitoring report will include a discussion of the ORC effectiveness.

Thank you for your assistance with this case. Please call if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.


Paul Waite
Project Engineer


N. Scott MacLeod, R.G.
Principal Geologist



Attachment: Fourth Quarter 1996 Ground Water Elevation Contour Map

cc: Mr. R. Jeff Granberry, Shell Oil Products Company

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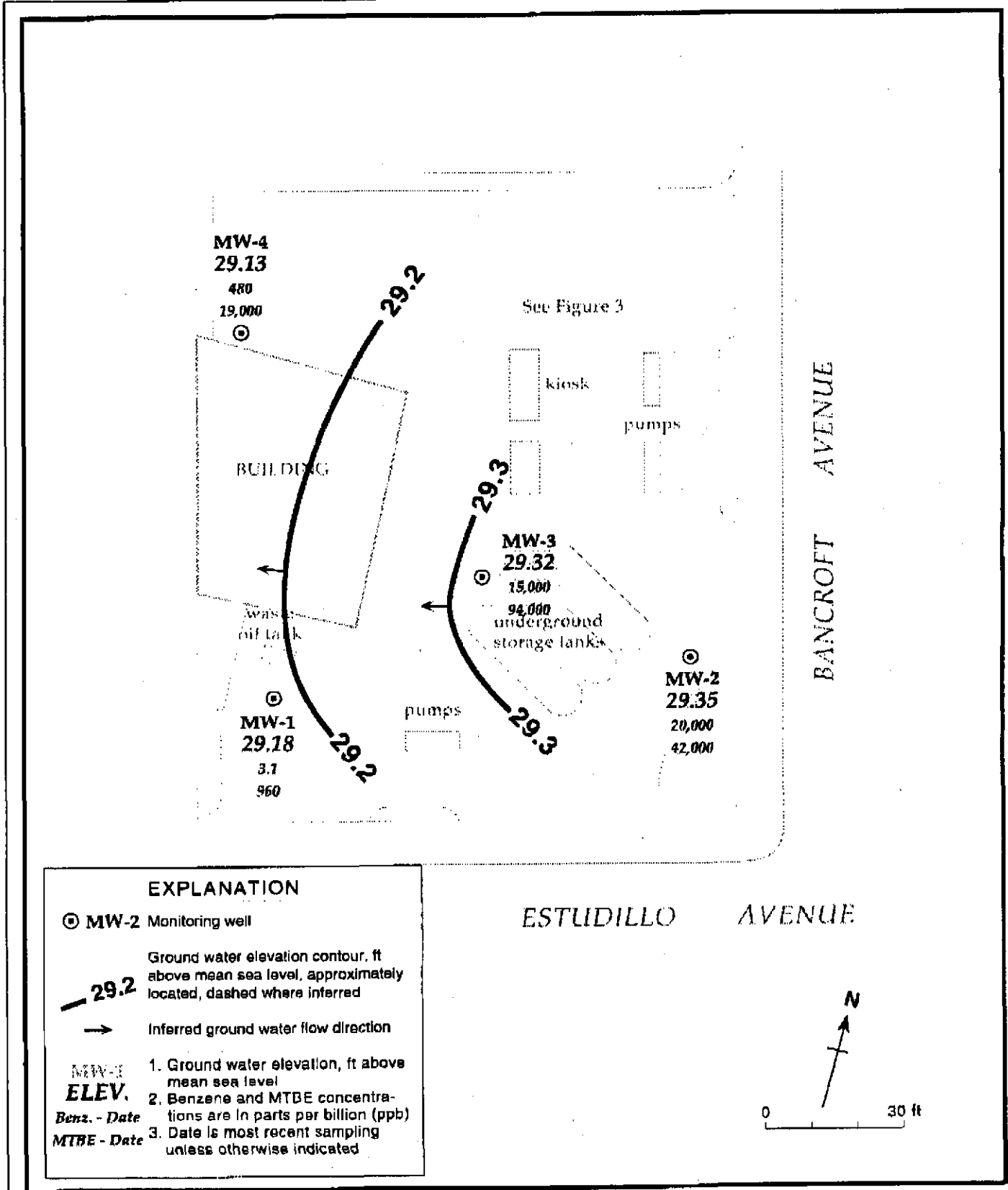


Figure 1. Ground Water Elevation Contours - October 2, 1996 - Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



STID 988

January 27, 1997

Mr. Jeff Granberry
Shell Oil Company
P. O. Box 4023
Concord, CA 94524

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

“NOTICE OF VIOLATION”

RE: SHELL SERVICE STATION, 1285 BANCROFT AVENUE, SAN LEANDRO

Dear Mr. Granberry:

I am in receipt of and have reviewed the Cambria “Fourth Quarter 1996 Quarterly Monitoring Report”, dated January 15, 1997.

Laboratory analysis of the groundwater samples collected from the four (4) on-site monitoring wells indicate that detectable levels of petroleum hydrocarbon compounds have increased dramatically over the last three groundwater sampling events. This is likely attributed to the unauthorized release of gasoline during the rupture of a product line during construction activities in November 1995. Laboratory results of groundwater samples collected from well MW-2 revealed TPHg, BTEX and MTBE at concentrations of 89, 20, 1.8, 32, 9.1 and 72 mg/L, respectively.

In an Alameda County Department of Environmental Health (ACDEH) letter, dated October 24, 1996, you were requested to have your consultant prepare a report which evaluates whether remedial action, interim remedial action, or further tier evaluation is warranted for this site. **This report was to be submitted to this office within 45 days of the date of this letter, or no later than January 9, 1997.** A copy of the October 24, 1996 ACDEH letter is enclosed for your review.

The following items need to be addressed in order to be in compliance with this agency:

- 1 A report evaluating whether remedial action, interim remedial action, or further Tier evaluation is warranted for this site must be submitted to this office, within 45 days of the date of this letter, or no later than March 10, 1997.**
- 2 A copy of the “Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report” (ULR) must be submitted to this office, within 10 days of the date of this letter, or no later than February 3, 1997.**

Mr. Jeff Granberry
RE: 1285 Bancroft Avenue, San Leandro
January 27, 1997
Page 2 of 2

Please be advised that this letter constitutes a formal request for technical reports pursuant to California Health & Safety Code (H&SC) Section 25185.6 and California Water Code Section 13267(b).

It is my understanding that Cambria wishes to schedule a meeting within the next few weeks to discuss this matter. Please feel free to contact Thomas Peacock directly at (510)567-6782, should you have any questions about the content of this letter.

Sincerely,



Dale Klettke, CHMM
Hazardous Materials Specialist

enclosure

c: Tom Peacock, Supervising Hazardous Materials Specialist--files
Mike Bakaldin, San Leandro Hazardous Materials Program
Scott MacLeod, c/o Cambria, 1144 65th Street Suite B, Oakland, CA 94608
Tom Fogut, c/o Weiss Associates, 5500 Shellmound Street, Emeryville, CA 94608-2411
Bob Chambers, Alameda County District Attorneys Office

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ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



STID 988

October 24, 1996

Mr. Jeff Granberry
Shell Oil Company
P. O. Box 4023
Concord, CA 94524

ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION (LOP)

1131 Harbor Bay Parkway, Suite 250

Alameda, CA 94502-6577

(510) 567-6700

FAX (510) 337-9335

RE: SHELL SERVICE STATION, 1285 BANCROFT AVENUE, SAN LEANDRO

Dear Mr. Granberry:

I am in receipt of and have reviewed the Cambria "Third Quarter 1996" quarterly groundwater monitoring report, dated October 18, 1996.

Laboratory analysis of the groundwater samples collected from the four (4) on-site monitoring wells indicate that detectable levels of petroleum hydrocarbon compounds have increased dramatically over the last two groundwater sampling events. This is most likely the result of the unauthorized release of gasoline during the rupture of a product line during construction activities in November 1995. Laboratory results of groundwater samples collected from well MW-2 revealed TPHg, BTEX and MTBE at concentrations of 100, 15, 1.7, 24, 9.9 and 70 mg/L, respectively.

The data was analyzed using a limited ASTM Risk-Based Corrective Action (RBCA) Tier 1 Risk Based Screening Level (RBSL) evaluation as referenced in the ASTM E 1739 - 95 document "Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites". The ASTM E 1739 - 95 document is a consistent decision-making process for the assessment and response to a petroleum release, and is based on the protection of human health and the environment. The Tier I risk assessment compares the chemicals of concern (COCs) documented at the site with Tier 1 RBSLs as presented in the published Look-up Table (ASTM E 1739-95 - Table X2.1 "Example Tier 1 Risk-Based Screening Level (RBSL) Look-up Table). *Note: Hazard Quotients (HQ) are used in the development of RBSLs for non-carcinogenic compounds only (examples: toluene, ethyl benzene, total xylenes, etc.), and are not used in determining RBSLs for carcinogens such as benzene.*

The evaluation determined that for the following risk exposure scenarios, benzene contaminant levels exceed the CA-modified Tier 1 RBSLs:

- Groundwater-Vapor Intrusion from Groundwater to Buildings at a target level of 1E-04 (1 in 10,000 excess cancer risk) for a commercial/industrial receptor scenario.
- Groundwater -Volatilization to Outdoor Air at a target level of 1E-06 (1 in 1,000,000 excess cancer risk) for a commercial/industrial receptor scenario.

Mr. Jeff Granberry
RE: 1285 Bancroft Avenue, San Leandro
October 23, 1996
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For your information, the following guidance is referenced in sections 6.7.1 of the ASTM E1739 - 95 document:

"6.7.1 If the concentrations of the chemical(s) of concern exceed the target levels at the point(s) of compliance, then either remedial action, interim remedial action, or further tier evaluation should be conducted".

Therefore, please have your consultant prepare a report which evaluates whether remedial action, interim remedial action, or further tier evaluation is warranted for your site. Please include a cost/benefit analysis for each action evaluated. **This report is due within 45 days of the date of this letter, or no later than January 9, 1997.**

Please be advised that this letter constitutes a formal request for technical reports pursuant to California Health & Safety Code (H&SC) Section 25185.6 and California Water Code Section 13267(b).

Please feel free to contact me directly at (510)567-6880, should you have any questions about the content of this letter.

Sincerely,



Dale Klettke, CHMM
Hazardous Materials Specialist

c: Tom Peacock, Supervising Hazardous Materials Specialist--files
Mike Bakaldin, San Leandro Hazardous Materials Program
Scott MacLeod, c/o Cambria, 1144 65th Street Suite B, Oakland, CA 94608

BC
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