

ICF KAISER

ENVIRONMENT & ENERGY GROUP

ICF Kaiser Engineers, Inc.
10 Universal City Plaza, Suite 2400
Universal City, CA 91608-1097
818/509-3100 Fax 818/509-3137

December 13, 1993

Mr. Samuel Yu
Environmental Specialist
California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754-2156

Subject: Report of Supplemental Site Investigation Work at the Former Graham Printing & Lithograph Facility at 17475 Gale Avenue, City of Industry, California
(RWQCB File No. 105.0113; ICF KE Project No. 41428)

Dear Mr. Yu:

ICF Kaiser Engineers (ICF KE), on behalf of The RREEF Funds (RREEF), is hereby submitting a report of the supplemental site investigation activities we conducted at the former Graham Printing & Lithograph facility located at 17475 Gale Avenue, City of Industry, California, pursuant to the Regional Water Quality Control Board's (RWQCB) letter to Mr. Greg Gilroy dated November 9, 1993.

This letter report addresses the results of the additional soil gas sampling performed by ICF KE at the subject property. The additional soil gas sampling activities were performed on November 24, 1993. A separate report will be submitted with the results from the groundwater quality sampling event, which was conducted on November 22, 1993.

Background

During August and September, 1993, ICF KE performed a soil gas investigation, as well as a historical chemical use audit and assessment, at the subject property. This work was conducted pursuant to the RWQCB's letter to RREEF dated April 6, 1993. As required by the RWQCB in that letter, the soil gas investigation addressed known areas of concern and other potential areas of concern identified in the site historical chemical use audit and assessment.

The focus of ICF KE's soil gas survey was to assess the presence of volatile organic compounds (VOCs) and ketones in soil gas. Previous investigations conducted by other consultants at the site revealed the presence of a halogenated VOC (1,1,1-trichloroethane) and ketones (i.e.,

acetone, methyl ethyl ketone (MEK), and 4-methyl-2-pentanone (MIBK) in soil samples at low concentrations.

The soil gas investigation conducted by ICF KE, reported to the RWQCB on October 13, 1993, indicated that the only areas of potential concern with respect to VOCs at the site were near the former drum storage area, located near the northwest corner of the property, and near the former printing press pads inside the building. The concentrations of 1,1,1-trichloroethane (1,1,1-TCA) and 1,1-dichloroethene (1,1-DCE) detected in soil gas samples collected near the former drum storage area and the former printing equipment pads were at very low levels ($<200 \mu\text{g/L}$). The lateral extent of the soil gas contaminants in these areas appeared highly localized and appeared to indicate a low likelihood of the contaminants migrating off-site. The depth to groundwater beneath the site was reported at approximately 36 feet below grade during a previous investigation. The probability of the soil gas contaminants migrating to the groundwater was presumed to be very low because of the low levels of contamination and the apparent low permeability of the clayey soil beneath the site.

Ketones were not detected in any of the soil gas samples collected during the investigation conducted by ICF KE in early September 1993. Data obtained during previous investigations may possibly have been subject to the effects of laboratory contamination of analytical equipment or possibly cross contamination during analysis with samples collected from another investigation at a separate, unrelated site. Acetone, MEK, and MIBK are commonly used in surrogate recovery tests during laboratory quality assurance/quality control procedures.

Based on the results of the soil gas investigation conducted by ICF KE in early September 1993, the soil gas contaminants present at the site at low level concentrations do not appear to warrant remedial efforts.

In a letter to RREEF dated November 9, 1993, the RWQCB recommended that, although existing data indicated that a VOC soil remediation may not be necessary, a limited supplemental soil gas investigation be conducted at the site to verify that higher concentrations of VOCs do not exist in the soil gas at depth in the two areas of potential concern identified in the soil gas survey conducted by ICF KE.

Scope of Work

Soil gas sampling was conducted in each of the two areas identified during the soil gas survey conducted by ICF KE in early September 1993 at the subject property, as requested by the RWQCB in its November 9, 1993 letter to RREEF. The two areas of interest are the former drum storage area and the printing press pads inside the building. Specifically, soil gas probes were installed immediately adjacent to the soil gas sampling locations SG-1 and SG-15, which were used in the September survey. These two locations correspond to the centers of the iso-

Mr. Samuel Yu
December 13, 1993
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concentration contours for 1,1-DCE and 1,1,1-TCA presented in ICF KE's "Summary of Findings for the Soil Gas Survey Conducted at 17475 Gale Avenue, City of Industry, California" dated October 1, 1993.

Work was performed in accordance with the "Soil Gas Survey Work Plan and Historical Chemical Use Audit and Assessment Plan" dated September 1, 1993, prepared by ICF KE, as agreed with Mr. Sam Yu of the RWQCB during our conference call held on November 4, 1993. ICF KE supervised Transglobal Environmental Geochemistry (TEG), who conducted the soil gas sampling and analysis.

During the soil gas survey conducted by ICF KE in early September 1993 at the subject property, the maximum depths at which soil gas samples were collected were 13 feet below ground surface (bgs) at SG-1 and 20 feet bgs at SG-15. The initial approach for the supplemental investigation was to collect, if possible, additional soil gas samples five and ten feet below the maximum depth previously reached (i.e., 18 and 23 feet bgs for SG-1 and 25 and 30 bgs for SG-15).

ICF KE verified the depth to groundwater at the existing on-site groundwater monitoring well prior to conducting the supplemental site investigation. During the groundwater sampling event conducted on November 22, 1993, ICF KE measured the static groundwater elevation at 32.42 feet below the ground surface.

Results

Soil gas samples were collected at the two supplemental sampling locations (i.e., SG-1S and SG-15S, adjacent to SG-1 and SG-15, respectively). At SG-1S it was possible to obtain samples at 18 and 23 feet bgs. At SG-15S it was only possible to collect a soil gas sample at 25 feet bgs, due to sampling probe refusal caused by a very dense clay layer.

The analytical results of the soil gas samples collected at SG-1S indicate that 1,1-DCE is not present at 18 feet bgs, but is present at a very low concentration (1.9 $\mu\text{g/L}$) at 23 feet bgs. The results indicated that 1,1,1-TCA is not present at 18 feet bgs or at 23 feet bgs. The results obtained from samples collected at SG-15S indicate that neither 1,1-DCE nor 1,1,1-TCA are present at 25 feet bgs. A summary of the analytical results from the supplemental soil gas investigation is presented in Table 1 in Attachment I. The complete data report from TEG is presented as Attachment II.

For the purposes of comparison, the results obtained during the previous soil gas survey conducted by ICF KE in September, 1993 are presented in Table 2 in Attachment I. During the September 1993 investigation, 1,1-DCE and 1,1,1-TCA were detected at 7 feet bgs at SG-1 (95.8 $\mu\text{g/L}$ and 198 $\mu\text{g/L}$, respectively). However, neither 1,1-DCE nor 1,1,1-TCA were detected at SG-1

at 13 feet bgs. The results obtained at SG-15 during the September 1993 investigation indicated that 1,1-DCE and 1,1,1-TCA were present at 5, 12, and 20 feet bgs. The concentrations of 1,1-DCE detected at SG-15 at 5, 12, and 20 feet bgs were 0.7 $\mu\text{g/L}$, 1.0 $\mu\text{g/L}$, and 0.9 $\mu\text{g/L}$, respectively. The concentrations of 1,1,1-TCA detected at SG-15 at 5, 12, and 20 feet bgs were 164 $\mu\text{g/L}$, 76.2 $\mu\text{g/L}$, and 55.7 $\mu\text{g/L}$, respectively.

Conclusions

In its letter to RREEF dated November 9, 1993, the RWQCB indicated that, if VOC concentrations at depth were found to be similar or lower than those of the shallow readings, VOC-guided soil remediation would not be required. The RWQCB also indicated that any necessary soil remediation required at the site would most likely be guided by total petroleum hydrocarbon (TPH) concentrations present in the soil and the case would be referred to the Los Angeles County Fire Department, Hazardous Materials Control Program (LACFD-HMCP) for oversight.

The results from the supplemental soil gas investigation confirmed that the VOC readings from deeper soil gas samples are similar or lower than the already relatively low VOCs concentrations detected in shallow soil gas samples.

Based on the results from the initial investigation and the data from the supplemental soil gas investigation of the two areas which had previously been identified as the only areas at the site that merited further investigation at the subject property, ICF KE concludes that no further action is required regarding soil contamination by VOCs.

On RREEF's behalf, ICF KE hereby respectfully requests that, if the RWQCB agrees with the above stated conclusion, the RWQCB issue a letter indicating that no further action is required at the subject site regarding soil remediation associated with VOCs, and that the RWQCB refer any further soil remediation action to the LACFD-HMCP.

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If you have any questions, please call me at (818) 509-3106 or Tom Watson at (818) 509-3100.

Sincerely,

ICF Kaiser Engineers, Inc.



Alejandro Fernández
Senior Environmental Engineer

Attachments:

cc: Greg Gilroy, RREEF
Kim Richards, Latham & Watkins
Gene Lucero, Latham & Watkins
Shahin Nourishad, LACFD-HMCP
Angelo Bellomo, ICF KE
Tom Watson, ICF KE

ATTACHMENT I

**SUPPLEMENTAL SITE INVESTIGATION
SUMMARY OF RESULTS**

**FORMER GRAHAM PRINTING & LITHOGRAPH FACILITY
17475 GALE AVENUE, CITY OF INDUSTRY, CALIFORNIA**

**TABLE 1
Supplemental Soil Gas Sampling Results
Sampling: November 1993**

Sampling Location	Sampling Depth feet bgs	1,1 DCE µg/L	1,1,1-TCA µg/L
SG-1S	18	<1.0	<1.0
SG-1S	23	1.9	<1.0
SG-15S	25	<1.0	<1.0

**TABLE 2
Initial Soil Gas Survey - Partial Results
Sampling: September 1993**

Sampling Location	Sampling Depth feet bgs	1,1 DCE µg/L	1,1,1-TCA µg/L
SG-1	7	95.8	198
SG-1	13	<1.0	<0.4
SG-15	5	0.7	164
SG-15	12	1.0	76.2
SG-15	20	0.9	55.7

ATTACHMENT II

SUPPLEMENTAL SITE INVESTIGATION

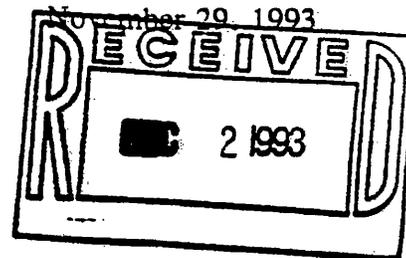
**FORMER GRAHAM PRINTING & LITHOGRAPH FACILITY
17475 GALE AVENUE, CITY OF INDUSTRY, CALIFORNIA**

DATA REPORT - SOIL VAPOR SURVEY

TRANSGLOBAL ENVIRONMENTAL GEOCHEMISTRY



**TRANSGLOBAL
ENVIRONMENTAL
GEOCHEMISTRY, INC.**



Mr. Alejandro Fernandez
ICF Kaiser
10 Universal City Plaza
Suite 2400
Universal City, CA 91608-1097

**SUBJECT: DATA REPORT - SOIL VAPOR SURVEY - 17475 GALE AVENUE,
INDUSTRY, CA**

TEG Project #931124CM

Mr. Fernandez:

Please find enclosed a data report for the soil vapor survey conducted by TEG at 17475 Gale Ave., City of Industry, CA for ICF Kaiser. Soil vapor was collected by TEG and analyzed on-site in TEG's DOHS certified mobile laboratory (CERT #1667). TEG personnel analyzed soil vapor from 3 points for:

- volatile aromatic hydrocarbons (BTEX) by EPA 8020.
- volatile halogenated hydrocarbons by EPA Method 8010.
- ketones (MEK & MIBK)

The results of the analyses are summarized in the attached tables.

Also enclosed are brief descriptions of TEG's soil vapor procedure and standard chromatograms of the analyses performed on the samples.

TEG appreciates the opportunity to provide analytical services to ICF Kaiser for this project. If you have any questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Dr. Blayne Hartman



SITE LOCATION:
17475 GALE AVE., CITY OF INDUSTRY

SAMPLES COLLECTED BY: MR. JEFF MARTINEAU

TEG Project #931124CM

SAMPLES ANALYZED BY: DR. BLAYNE HARTMAN

Sample ID	Depth (ft)	Purge (ml)	Sample Date	Collect Time	Analysis Time	Inject Vol (ml)	1,1 DCE Area (ug/l)	1,1 DCE 1,1 DCE Area (ug/l)	1,1,1 TCA Area (ug/l)	1,1,1 TCA 1,1,1 TCA Area (ug/l)	MEK Area (ug/l)	MEK Area (ug/l)	MIBK Area (ug/l)	MIBK Area (ug/l)	ACETONE Area (ug/l)	ACETONE Area (ug/l)
BLANK	--	60	11/24/93	7:59	7:59	1	0.0	ND	0.0	ND	0.0	ND	0.0	ND	0.0	ND
SG-1S	18	170	11/24/93	8:26	8:26	1	0.0	ND	0.0	ND	0.0	ND	0.0	ND	0.0	ND
SG-1S	23	120	11/24/93	9:18	9:18	1	11.4	1.9	0.0	ND	0.0	ND	0.0	ND	0.0	ND
SG-15S	25	180	11/24/93	10:24	10:24	1	0.0	ND	0.0	ND	0.0	ND	0.0	ND	0.0	ND

ND INDICATES NOT DETECTED AT 1.0 UG/L-VAPOR DETECTION LIMIT
ALL OTHER TARGET COMPOUNDS NOT REPORTED WERE NOT DETECTED

DATA MEASURED ON-SITE IN TEG'S DOHS CERTIFIED MOBILE LABORATORY (CERT #1667)

DATA REVIEWED BY: DR. BLAYNE HARTMAN

Shirley Hartman for BH



**TRANSGLOBAL
ENVIRONMENTAL
GEOCHEMISTRY**

TEG #931124CM

SOIL GAS DAILY CALIBRATION STANDARD REPORT

DATE: 11/24/93
SUPPLY SOURCE: CHEM SERVE 8010/8020 MIX
INSTRUMENT: CRUISEMASTER

COMPOUND	DETECTOR	AVE RF	MASS	RT	AREA	RF	%DIFF
BROMOBENZENE	PID	27.4	20	17.8	563	28.1	2.7%
CARBON TETRACHLORIDE	HALL	378.8	20	6.6	8470	423.5	11.8%
1,1 DICHLORO ETHANE	HALL	283.5	20	4.7	5312	265.6	6.3%
1,1 DICHLORO ETHENE	PID	6.0	20	3.2	120	6.0	0.3%
TETRACHLORO ETHENE	PID	10.4	20	12.0	204	10.2	1.8%
1,1,1 Trichloro ETHANE	HALL	311.5	20	6.4	6937	346.8	11.3%
Trichloro ETHENE	PID	12.1	20	8.1	246	12.3	1.7%
BENZENE	PID	21.3	20	6.8	430	21.5	0.9%
ETHYLBENZENE	PID	21.7	20	14.6	454	22.7	4.6%
TOLUENE	PID	21.1	20	10.8	434	21.7	2.8%
o-XYLENES	PID	20.4	20	16.0	411	20.6	0.8%

ANALYSES PERFORMED BY: DR. BLAYNE HARTMAN
DATA REVIEWED BY: DR. BLAYNE HARTMAN

Blayne Hartman
11-29-93



SOIL VAPOR SURVEY METHODOLOGY

Probe Construction

TEG's soil vapor probes are constructed of 5/8 inch outer diameter, stainless steel, equipped with a hardened, reverse-threaded steel tip. Nominal lengths are 6 feet although additional lengths may be added. An inert 1/8 inch polypropylene nylaflow tube runs down the center of the probe to sampling ports beneath the tip (refer to the attached figure).

Probe Insertion

The probe is driven into the ground by either an electric rotary hammer or with TEG's truck-mounted hydraulic/vibrational system. Once inserted to the desired depth, the probe is rotated 3 to 5 turns in a clockwise direction, which opens the tip and exposes the vapor sampling ports. This design prevents clogging of the sampling ports and cross-contamination from soils during insertion.

Gas Sampling

Soil vapor is withdrawn from the nylaflow tubing using a syringe connected via an on-off valve. The first 40 cc of gas are discarded to flush the dead volume of the probe and fill it with in-situ soil vapor. The next 20 cc of gas are withdrawn in a syringe, plugged, and immediately transferred to the mobile lab for analysis within 5 minutes of collection. Additional soil vapor may be collected and stored in gas-tight containers as desired.

Flushing & Decontamination Procedures

To minimize the potential for cross-contamination between sites, all probe parts are cleaned of excess dirt and moisture prior to insertion. The nylaflow tubing and sampling ports are flushed with hundreds of cc's of ambient air between samples. If water, dirt, or any material is observed in the tubing, the tubing is replaced with fresh tubing.

Analysis of Soil Vapor

To eliminate loss of gases during storage, collected gas samples are analyzed immediately after collection in TEG's state certified mobile laboratory. One cc of air is injected into a Shimadzu gas chromatograph equipped with megabore capillary columns and with flame ionization, HNU photoionization detector (10.2 ev lamp), and Hall electrolytic conductivity detectors (Tracor model 1000). These detectors enable on-site analysis for landfill hydrocarbons, petroleum hydrocarbons, volatile aromatics (BTEX), and volatile chlorinated compounds (DCE, TCE, PCE, DCA, TCA, PCA) using EPA approved analytical methodology outlined in methods 8010, 8015, & 8020. Output signals from each detector are processed by HP3393A computing integrators or computer chromatography software and the results entered into a laboratory computer for on-site processing and graphing.

Transglobal Environmental Geochemistry

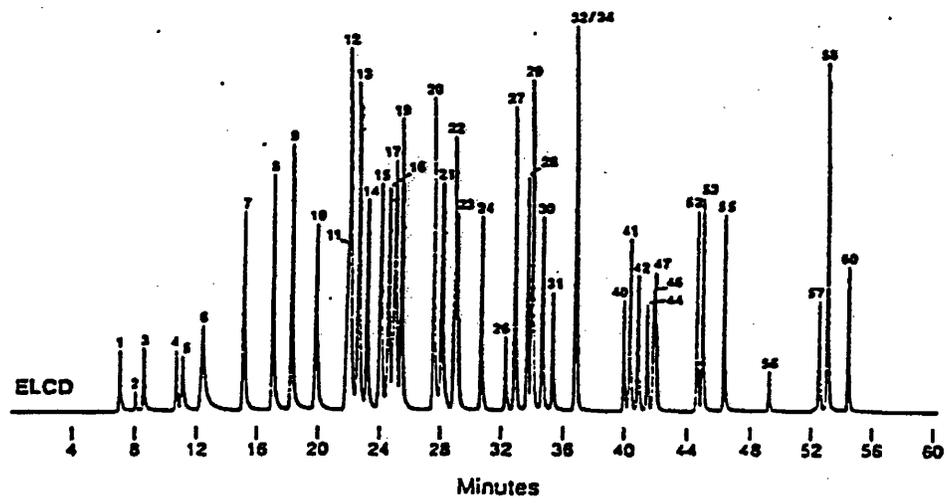
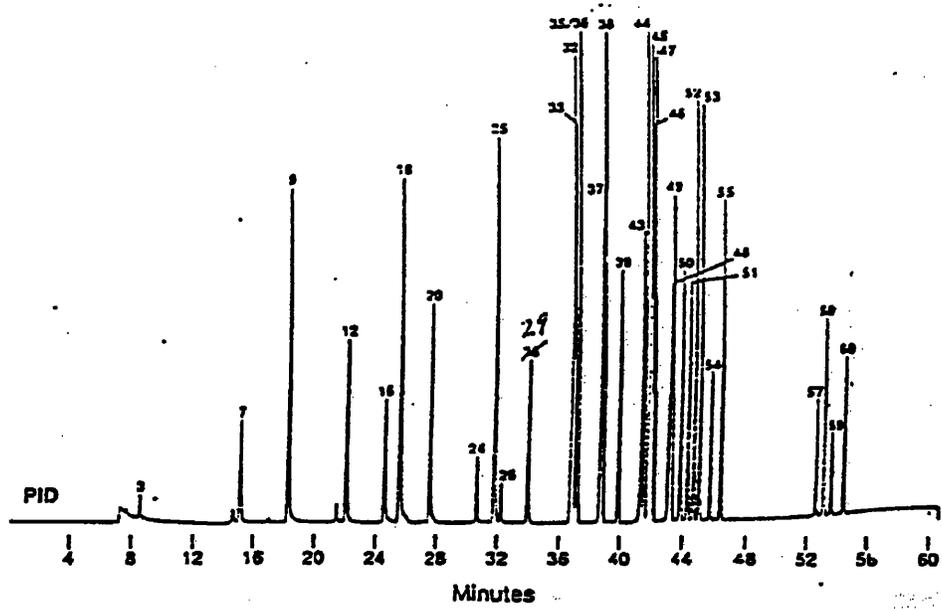
432 N. Cedros Ave., Solana Beach CA 92075 Ph: (619) 793-0401 Fax: (619) 793-0404



HALOGENATED & AROMATIC VOLATILE HYDROCARBONS

EPA 601/602 & 8010/8020

1. Dichlorodifluoromethane
2. Chloromethane
3. Vinyl chloride
4. Bromomethane
5. Chloroethane
6. Trichlorofluoromethane
7. 1,1-Dichloroethane
8. Methylene chloride
9. trans-1,2-Dichloroethane
10. 1,1-Dichloroethane
11. 2,2-Dichloropropane
12. cis-1,2-Dichloroethane
13. Chloroform
14. Bromochloromethane
15. 1,1,1-Trichloroethane
16. 1,1-Dichloropropene
17. Carbon tetrachloride
18. Benzene
19. 1,2-Dichloroethane
20. Trichloroethane
21. 1,2-Dichloropropane
22. Bromodichloromethane
23. Dibromomethane
24. cis-1,3-Dichloropropane
25. Toluene
26. trans-1,3-Dichloropropane
27. 1,1,2-Trichloroethane
28. 1,3-Dichloropropane
29. Tetrachloroethane
30. Dibromochloromethane
31. 1,2-Dibromomethane
32. Chlorobenzene
33. Ethyl benzene
34. 1,1,1,3-Tetrachloroethane
35. m-Xylene
36. p-Xylene
37. o-Xylene
38. Styrene
39. Isopropyl benzene
40. Bromobenzene
41. 1,1,2,2-Tetrachloroethane
42. 1,2,3-Trichloropropane
43. n-Propyl benzene
44. Bromobenzene
45. 1,3,5-Trimethylbenzene
46. 2-Chlorotoluene
47. 4-Chlorotoluene
48. tert-Butylbenzene
49. 1,2,4-Trimethylbenzene
50. sec-Butylbenzene
51. p-Isopropyltoluene
52. 1,3-Dichlorobenzene
53. 1,4-Dichlorobenzene
54. n-Butylbenzene
55. 1,2-Dichlorobenzene
56. 1,2-Dibromo-3-chloropropane
57. 1,2,4-Trichlorobenzene
58. Hexachlorobutadiene
59. Naphthalene
60. 1,2,3-Trichlorobenzene



07-18-1993 14:30

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RREEF

JUL 18 1994



COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

Refer reply to:
HEALTH HAZARDOUS MATERIALS
6826 Rickensbaeker Rd
Compton CA 90040

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

July 14, 1994

Greg Gilroy, District Manager
The RREEF Farms
1630 South Sunlight Street, Suite A
Anaheim, CA 92806

Dear Mr. Gilroy:

**SUBJECT: SITE CLOSURE - FORMER GRAHAM PRINTING AND LITHOGRAPH
COMPANY, 17475 GALE AVENUE, CITY OF INDUSTRY
CA 91743**

This Department has completed a review of the "Report of Remediation of the TPH Effected Soil and Quarterly Groundwater Monitoring", dated June 10, 1994, submitted by your consultant, ICF Kaiser for the above subject location.

Based on information provided in the report, we concur with your consultant that the known site contamination has been satisfactorily mitigated for the current use. This Department has no further requirement or restriction relating to this site at this time. Continued monitoring and/or abandonment of the monitoring well at the subject site will remain under jurisdiction of the Los Angeles Regional Water Quality Control Board.

This letter, however, does not relieve you of any liability under the California Health and Safety Code, the State Water Code, or other applicable laws and regulations for past, present or future operations at this site. Nor does it relieve you of responsibility for any additional or unidentified conditions at the site which could threaten public health or the environment.

If you have any questions, please feel free to call Shahin Nonrishaad at (213) 890-4119.

Very truly yours,

THOMAS W. KLINGER, SUPERVISOR
SITE MITIGATION UNIT
HEALTH HAZARDOUS MATERIALS DIVISION

TK:sa

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

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AZUSA
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BELL
BELLFLOWER
BELL GARDENS

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COLIMBERGE
CUDAHY

DIAMOND BAR
DUARTE
GLENDORA
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HIDDEN HILLS
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LAKEWOOD
LA MIRADA
LANCASTER
LA PUENTE
LAWDALE

LONGA
MALIBU
MAYWOOD
NORWALK
PALMDALE
PALOS VERDES ESTATES
PARAMOUNT

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ROSEMead
SAN DIMAS
SANTA CLARITA

Mr. Craig Gilroy
July 14, 1994
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c: R. Krummeyer
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Monterey Park, CA 91754

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