

1993
ENVIRONMENT & TECHNOLOGY SERVICES

93 NOV -2 PM 3: 23
2081 15TH STREET, SAN FRANCISCO, CA 94114 USA
TELEPHONE 415-861-081 FAX 415-861-3269

NOVEMBER 1, 1993

Mr. Brian Oliva
Alameda County Health Care Services
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Subject: REQUEST FOR CONDITIONAL CLOSURE
5800 CHRISTIE AVENUE,
EMERYVILLE, CALIFORNIA

Dear Mr. Oliva:

This letter presents our recommendation for the conditional closure of the subject site. ETS is the consultant retained by the property owners, Croley and Herring Investment Company. The subject facility is currently leased to an electronic merchandise retailer. Prior to leasing, soil contamination was identified at the subject facility. The contaminated soil was removed with the exception of that which was underlying the building because of safety concerns. The removed soil was remediated on-site and properly disposed of with the approval of the regulatory agencies.

A vapor extraction system(VES) was installed immediately adjacent to the northeastern side of the building to mitigate the residual volatile hydrocarbons contained in the soil. The residual volatile organic chemicals(VOCs) were remediated from an average VOCs concentration of about 660 ppm to a satisfactory level at an average of 0.82 ppm in soil. A soil closure plan was submitted(11/15/91) and approval of closure was received on 1/21/92 after submittal of confirmation soil sampling results. The soil vapor extraction system was decommissioned and the Bay Area Air Quality Management District was notified on 12/16/91. The final VES closure report was completed on August 29, 1992. An indoor vapor monitoring system Sierra Monitor Model 5000 was installed by the "Good Guys" electronic store in 1989 through March, 1993. No significant level of methane was detected for the monitoring period. The vapor monitoring system was disconnected in March, 1993 with the concurrence of Mr. Brian

Oliva of Alameda County Health Care Services, March 15, 1993 correspondence.

As part of the site activities, a total of 17 quarterly groundwater monitoring program has been implemented. The groundwater flow direction remained in the same direction, flowing towards south/southwest (Figure 1). Data of flow direction and hydraulic gradient are summarized in Table 1.

ETS field personnel has also collected water samples from monitoring well EW1 and MW4 for laboratory analysis. These groundwater samples were analysed for halocarbons using EPA method 601, total petroleum hydrocarbons (TPH) as gasoline and gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA method 602.

From the results of the laboratory analyses, water sample taken from well EW1 contained some volatile organic compounds. The VOCs detected in well EW-1 are presented in Table 2.

Groundwater quality results of well MW4 are included in Table 3. Traces of chlorinated solvents were detected. The BTEX detected was not related to gasoline compounds. They may be associated with asphaltic material found near MW-4. This monitoring was installed as per request from the Bay Area Regional Water Quality Control Board and is located immediate downgradient of the source of spill area.

It is obvious that there is no sign of downgradient or off site migration of the chlorinated solvents as indicated by many NDs in Table 3.

MW4 detected elevated levels of BTEX compounds in the two rounds of sample and analysis. The suspected sources of the BTEX compounds may have been originated from upgradient closed underground storage tank or from upgradient asphalt manufacturing plant. Well MW4 is located very close to underground utility lines along Powell Street which may serve as migration conduits from upgradient sources. During the construction of well MW4, asphaltic material of unknown origin (may be from upgradient asphalt manufacturing plant) was detected between 2 to 6 feet below grade.

RECOMMENDATIONS

ETS recommends that Alameda County Health Care Services and the Bay Area Regional Water Quality Control Board consider conditional closure for this site for the following reasons:

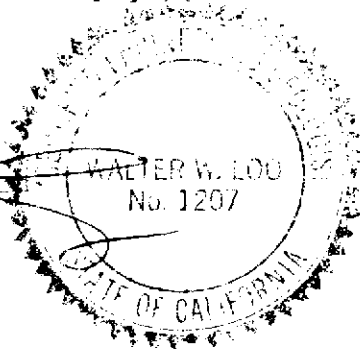
- * **The soils at the source spill area were successfully remediated. Organic vapor readings in the site building were all negative. This indicates that the subsurface condition no longer pose any health risks to occupants in the site building.**
- * **The groundwater quality downgradient of the spill area showed insignificant quantity of chlorinated solvents. This indicates that the contaminated groundwater on-site does not pose any health threat to any downgradient user if any. The chlorinated solvents detected on site appeared to be well contained any had not migrated off site.**

Please let me know if you have any question. Thanks!

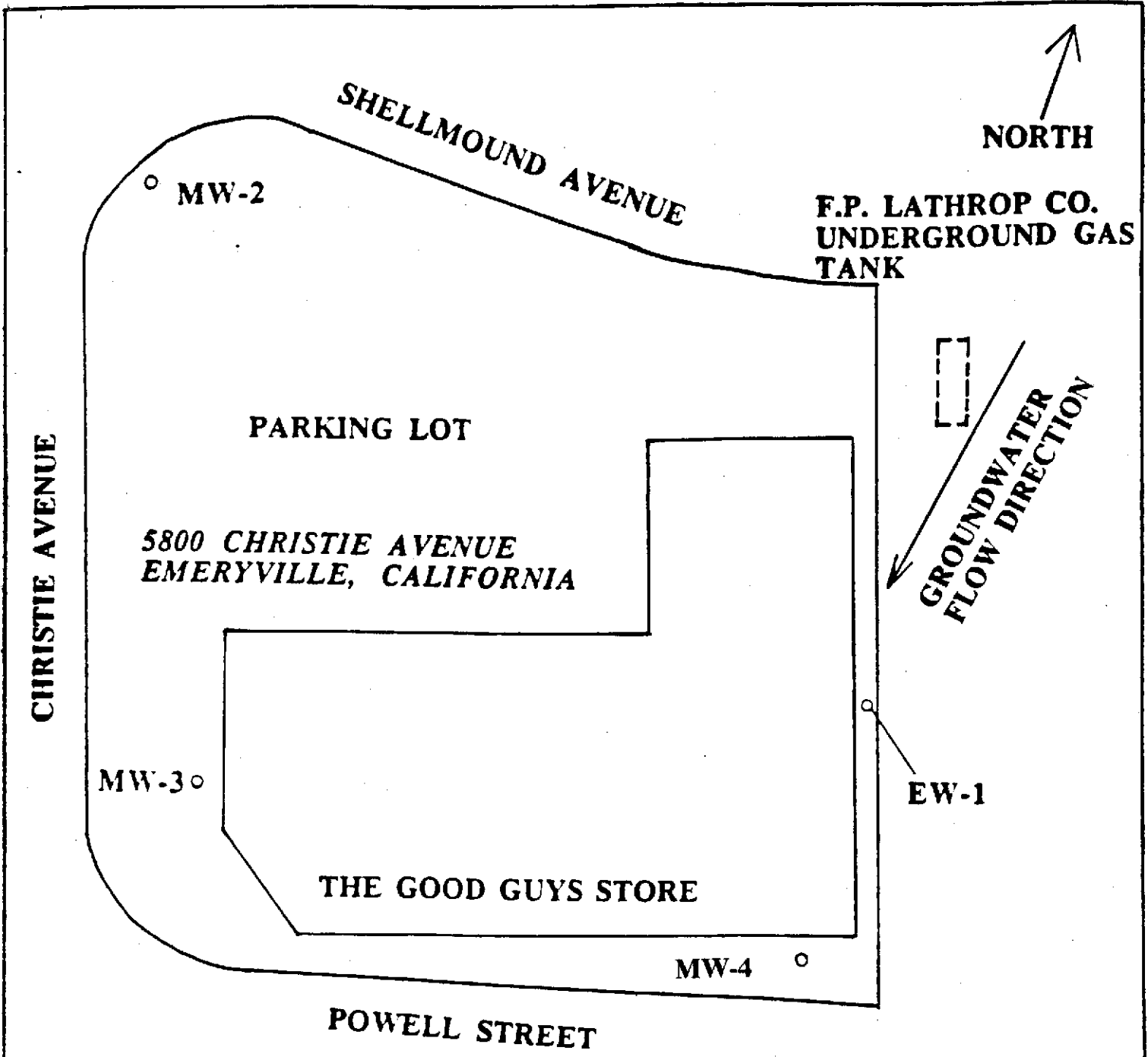
BEST REGARDS,



Walter W. Loo. CEG
President



CC: Mr. Rich Hiatt, Bay Area RWQCB
Mr. Dick Herring, Croley and Herring Investment Company



LEGEND

○ MONITORING WELLS



ETS
 ENVIRONMENT & TECHNOLOGY SERVICES

FIGURE 1
 LOCATION MAP

TABLE 1**GROUNDWATER MOVEMENT ANALYSIS**

Date	4/25/89	11/6/89	2/20/90	5/31/90	9/7/90	12/4/90
Flow Towards	SW	S	S	S	S	S
Gradient	0.001	0.012	0.016	0.0125	0.0115	0.045
Date	4/16/91	7/3/91	10/14/91	1/9/92	7/15/92	10/19/92
Flow Towards	S	S	S	SW	S	S
Gradient	0.014	0.013	0.011	0.0238	0.013	0.0127
Date	1/11/93	4/19/93	7/7/93	10/15/93		
Flow Towards	S	SW	SW	S		
Gradient	0.011	0.013	0.013	0.0153		

TABLE 2

SUMMARY OF QUARTERLY GROUNDWATER QUALITY RESULTS OF WELL EW-1
5800 CHRISTIE AVENUE,
EMERYVILLE, CALIFORNIA

CONCENTRATIONS IN MG/L

COMPOUNDS	5/8/89	11/6/89	2/20/90	5/31/90	9/7/90	12/4/90	4/6/91	7/3/91	10/12/92	1/8/92	4/8/92
TPH as GASOLINE	NA	0.74	12.0	24.0	25.0	7.4	51.0	23.0	39.0	<5.0	12.0
BENZENE	ND	0.18	1.3	0.056	1.1	0.18	3.0	0.65	ND	ND	4.0
TOLUENE	0.19	0.039	3.6	6.1	0.8	3.2	12.0	8.7	1.3	0.58	ND
XYLENES	0.17	0.067	0.047	0.14	0.042	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	0.0008	0.0071	0.017	ND	ND	ND	ND	ND	ND	ND
HALOCARBONS	0.718	1.1861	4.701	6.876	6.661	3.762	10.6	6.49	2.794	4.459	6.8
TCE	0.64	0.74	1.1	0.83	0.49	1.5	1.3	0.13	0.73	1.7	2.8
1,1 DCE	0.078	0.0023	0.014	0.069	0.036	ND	ND	ND	ND	ND	ND
1,2 DCE	ND	0.35	2.5	0.11	2.4	1.5	3.7	2.0	0.62	1.52	ND
1,1,1 TCA	ND	0.026	0.55	1.2	0.51	0.072	2.9	0.2	0.47	0.089	ND
1,1 DCA	ND	0.034	0.46	1.9	1.3	0.46	1.8	2.0	0.63	0.42	1.3
1,2 DCA	ND	0.0048	0.034	0.033	0.053	ND	ND	ND	0.12	0.25	2.7
VINYL CHLORIDE	ND	0.029	ND	2.6	1.7	0.23	0.9	1.99	0.17	0.48	ND
CHLOROETHANE	ND	ND	0.029	0.094	0.15	ND	ND	0.17	0.054	ND	ND
MET. CHLORIDE	ND	ND	0.014	0.04	0.022	ND	ND	ND	ND	ND	ND
TOTAL VOCs	1.078	1.9261	16.701	30.876	31.661	11.162	61.6	29.49	41.794	<9.459	18.8

NA NOT ANALYSED

ND NOT DETECTED OR BELOW DETECTION LIMITS

VOCs VOLATILE ORGANIC COMPOUNDS (TPH PLUS TOX)

TABLE 2(CONTINUE)

SUMMARY OF QUARTERLY GROUNDWATER QUALITY RESULTS OF WELL EW-1
5800 CHRISTIE AVENUE,
EMERYVILLE, CALIFORNIA

CONCENTRATIONS IN MG/L

COMPOUNDS	7/15/92	10/19/92	1/11/93	3/29/93	7/7/93	10/8/93
TPH as GASOLINE	100.0	26.0	20.0	15.0	40	12
BENZENE	ND	ND	ND	ND	ND	ND
TOLUENE	4.7	12.5	7.5	12.0	3.6	11
XYLENES	ND	ND	0.075	ND	ND	0.081
ETHYLBENZENE	ND	ND	ND	ND	ND	ND
HALOCARBONS	2.461	5.07	0.065	2.5	1.7	1.81
PCE	ND	ND	0.042	ND	ND	ND
TCE	0.68	0.27	0.023	2.0	ND	ND
1,1 DCE	ND	4.8	ND	0.5	ND	ND
1,2 DCE	0.6	ND	ND	ND	ND	ND
1,1,1 TCA	0.42	ND	ND	ND	ND	0.21
1,1 DCA	0.6	ND	ND	ND	1.7	1.6
1,2 DCA	0.11	ND	ND	ND	ND	ND
VINYL CHLORIDE	0.15	ND	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND	ND	ND
MET. CHLORIDE	ND	ND	ND	ND	ND	ND
TOTAL VOCs	102.461	31.07	20.065	17.5	41.7	13.81

NA NOT ANALYSED

ND NOT DETECTED OR BELOW DETECTION LIMITS

VOCs VOLATILE ORGANIC COMPOUNDS (TPH PLUS TOX)

TABLE 3

SUMMARY OF QUARTERLY GROUNDWATER QUALITY RESULTS OF WELL MW-4
 5800 CHRISTIE AVENUE,
 EMERYVILLE, CALIFORNIA

CONCENTRATIONS IN MG/L

COMPOUNDS	7/13/93	10/8/93
TPH as GASOLINE	<100.0*	2.2*
BENZENE	0.8	0.290
TOLUENE	0.28	0.22
XYLENES	0.3	0.2
ETHYLBENZENE	0.27	0.12
HALOCARBONS(TOX)	ND	0.06
PCE	ND	ND
TCE	ND	ND
1,1 DCE	ND	ND
1,2 DCE	ND	ND
1,1,1 TCA	ND	0.005
1,1 DCA	ND	ND
1,2 DCA	ND	0.055
VINYL CHLORIDE	ND	ND
CHLOROETHANE	ND	ND
MET. CHLORIDE	ND	ND
TOTAL VOCs	<100*	2.26*

* BTEX DO NOT MATCH GASOLINE PATTERN
 NA NOT ANALYSED
 ND NOT DETECTED OR BELOW DETECTION LIMITS
 VOCs VOLATILE ORGANIC COMPOUNDS (TPH PLUS TOX)