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Subject: Summary and Evaluation of Environmental Conditions and Recommendations for Future Actions, 750-107th Avenue, Oakland, California

Dear Mr. D'Aiuto:

As you requested, Levine·Fricke has prepared the following summary and evaluation of environmental conditions for the property located at 750-107th Avenue, Oakland, California ("the Site"). The Site is located in a mixed commercial/residential area of Oakland according to the information provided to Levine·Fricke.

This summary of environmental investigations and conditions is primarily based on the following reports and other documents provided by you:

- Alameda County District Attorney's Office. 1987. Letter from Norm Healy, Inspector, to Lowell Miller, Hazardous Materials Program, Alameda County Health Care Services Agency. January 7.
- Assemblyman Johan Klehs, 14th Assembly District. 1986. Letter to the Honorable John J. Meehan, Alameda County District Attorney. December 11. ✓
- BSK & Associates (BSK). 1992. Preliminary Environmental Characterization, Property Leased by Hard Chrome Engineering, Inc., 750-107th Avenue, Oakland, California. September 29.
- BSK. 1993. Environmental Activities, Dee M. McLemore Trust Property, 750-107th Avenue, Oakland, California. March 17.
- Department of Toxic Substances Control, Berkeley, California. Records of Hard Chrome Engineering (13608-500).
- Simon Environmental Engineering. ("Simon"). 1991. Phase II Environmental Site Assessment, Hard Chrome Engineering, Inc., 750-107th Avenue, Oakland, California. September 23.

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The Dee McLemore Trust, the current property owner, purchased the property in 1972. The current tenant at the Site, Hard Chrome Engineering (HCE), has operated a hard-chrome plating facility in the existing building since 1972.

Based on our review of ground-water data collected for the Site, shallow ground water beneath the building has been affected by metals, low concentrations of volatile organic compounds (VOCs), and low pH. Based on the types, concentrations, and distribution of contaminants present (e.g., elevated hexavalent chromium concentrations detected in ground water near the chrome plating area), and review of documents that were provided to Levine·Fricke, it is likely that plating operations performed by HCE are the source for contaminants in shallow ground water.

Although additional soil and ground-water investigations appear appropriate for the Site, we recommend that your client first gather additional historical information clarifying historical property ownership and site use for the property and surrounding area. This information can be used to establish that HCE is the most probable source for contaminants in ground water (i.e., that there were no previous tenants or adjacent property owners who may have been sources of the contaminants present in ground water).

Once it has been established that HCE is the most probable source, your client may want to present the data to HCE and request that it continue environmental investigations at the property. If HCE refuses to comply with your request, your client may want to discuss with legal counsel options to recover costs from HCE for work conducted by the Dee McLemore Trust. Alternatively, the property owner may want to request a meeting with the San Francisco Regional Water Quality Control Board (RWQCB) to present a summary of available site data. The objective of such a meeting would be to suggest to the RWQCB that HCE be requested to conduct investigation/remediation activities. However, you should be aware that if the RWQCB issues a Site Cleanup and Abatement Order for the property, both HCE and the property owner will likely be listed as Responsible Parties.

ENVIRONMENTAL INVESTIGATION CONDUCTED IN 1991

In August 1991, Simon was retained by the Dee McLemore Trust to perform a Phase II Environmental Assessment that included a site inspection, an interview with the facility manager, and a limited soil and ground-water investigation. According to the report prepared by Simon, a Phase I Assessment was not conducted for the Site.

Based on review of Simon's investigation report, hard-chrome plating is the only process performed at the facility. Chemicals used in the process include chromic acid (in the primary plating baths), sulfuric acid (used in parts cleaning bath), soda ash (used in caustic parts cleaning bath), and a petroleum naphtha (used in metal machining operations). A concrete sump built into the floor in the central portion of the building provides secondary containment for the plating

baths. The floor and walls of the sump are 18 and 10 inches thick, respectively. It is noted in Simon's report that the remainder of the building is constructed over a 6-inch thick concrete slab, which was apparently in good condition at the time of Simon's inspection. - There is one floor *drain*, located in the restroom, which is connected to the sanitary sewer. A ground-water well located on the east side of the building, which according to the facility manager is approximately 60 feet deep and screened from approximately 40 to 60 feet bgs, was apparently installed by HCE *well* in the mid-1970s to provide process water for the plating process. The facility manager indicated that the well has not been used for several years.

To assess soil and ground-water quality conditions, Simon drilled five soil borings and collected one soil and four grab ground-water samples for chemical analysis. Soil and ground-water samples were analyzed for CAM 13 metals, pH, and cyanide. One of the borings, soil boring SB-5, was located inside the building near the concrete containment sump. The four remaining borings were located outside the building. Analytical results for the soil sample (SB5-5-9.0) collected at 9 feet below the ground surface (bgs) from boring SB-5 did not indicate elevated concentrations of metals. Results for grab ground-water samples collected from boring SB-5 indicated elevated concentrations of total chromium (180 milligrams per liter [mg/l]) and a low pH value (5.68). Lower concentrations of chromium (0.045 mg/l or less) were also detected in grab ground-water samples collected from borings located on the east and south sides of the building. Cyanide was detected in all ground-water samples analyzed at concentrations of 0.103 mg/l or less.

INVESTIGATIONS CONDUCTED IN 1992 *Scott*

In June 1992, BSK was retained by the Dee McLemore Trust to prepare a preliminary environmental characterization report for the property. The objective of the study was to further assess the extent of chromium in ground water reported by Simon and to investigate the possible presence of VOCs. Work conducted by BSK included a site inspection, an interview with the facility manager, and chemical analysis of soil and ground-water samples collected from three monitoring wells (MW-1, MW-2, and MW-3) installed at the Site. Monitoring wells MW-2 and MW-3 were installed inside the building. Well MW-2 is located near Simon boring SB-5 next to the concrete containment sump. Well MW-3 is located approximately 40 feet southeast of the sump, and well MW-1 is located outside the south side of the building.

Soil samples were collected for chemical analyses from borings MW-1 and MW-2. Analytical results did not indicate elevated concentrations of metal with the exception of beryllium, which was detected at a concentration of 130 milligrams per kilogram [mg/kg] in a soil sample collected at 10 feet bgs from boring MW-1.]

The depth to shallow ground water beneath the Site in 1992 was approximately 20 feet bgs. Ground-water samples collected from wells MW-1 and MW-3 did not indicate the presence of chromium. However, chromium was detected at elevated concentrations (650 mg/l) in the sample

collected from well MW-2, located near the containment sump. The well was resampled and ground-water samples were again analyzed approximately two weeks after the initial sampling. Results of the second round of sampling suggest that chromium in ground water is present as hexavalent chromium, a known carcinogen. A low pH (5.7) was measured for samples collected from well MW-2, which is consistent with the pH measurement reported by Simon for soil boring SB-5.

Arsenic and selenium were also reported at elevated concentrations (0.03 and 0.17 mg/l, respectively) for the ground-water sample collected from well MW-2. Tetrachloroethylene (PCE) was detected at low concentrations (0.0088 mg/l or less) in all three wells.

Based on the results of their investigations, BSK concluded that chrome plating operations are the likely source for hexavalent chromium detected in ground water from well MW-2, but that the sources for arsenic, selenium, and PCE in ground water, and for beryllium in soil (boring MW-1), are not clear.

REGULATORY INVOLVEMENT

A letter report summarizing investigation results and presenting a proposal for additional investigation activities was prepared by BSK and dated March 17, 1993. The letter report was apparently submitted to the RWQCB with a copy sent to the Alameda County Environmental Health Department. It does not appear that this report was submitted in response to a request from a regulatory agency, and based on our review of the documents provided, there does not appear to have been a response from either agency. It should be noted that the document prepared by BSK is not addressed to a specific individual or case officer at either the RWQCB or Alameda County Environmental Health Department.

Based on review of records provided to Levine-Fricke, the Department of Health Services in Berkeley conducted a site inspection on July 30, 1984, in response to a complaint filed by a former employee of HCE (Notice of Violation sent on August 6, 1984). Violations noted during that inspection included stripping tanks located outside the building that were not bermed, and evidence that the stripping tanks were leaking. On June 17, 1986, an inspection was conducted by Alameda County Health Care Services Agency (First Notice of Violation sent July 24, 1986; Second Notice of Violations sent on January 14, 1987). The June 17, 1986 inspection noted violations concerning labeling, manifesting, and storage of hazardous wastes.

Based on review of letters prepared by the Alameda County District Attorney's Office and by a former employee of HCE, past and possible current operating procedures at the facility may be questionable with regard to waste handling procedures and possible air emissions. Inspections were apparently conducted by the Bay Area Air Quality Management District (BAAQMD), but no violations were filed. According to the report prepared by BSK, HCE was operating under a Zero

Waste Discharge Order (East Bay Municipal Utility District) and an Air Quality Permit (BAAQMD).

EVALUATION OF ENVIRONMENTAL CONDITIONS

Analytical data for soil and ground-water samples collected from the property indicate that shallow ground water in the vicinity of the concrete sump contains elevated concentrations of hexavalent chromium, arsenic, and selenium. Low pH values measured for ground-water samples collected from the well (MW-2) and soil boring (SB-5) located near the containment sump also suggest that the water in this area may have been affected by plating operations. Analytical data for ground-water samples collected from monitoring wells located in an apparent upgradient (southeast) and crossgradient (south) direction from the sump area do not indicate the presence of chromium, further suggesting that the source for chromium in ground water is likely associated with the plating operations at the HCE facility.

Based on our review of the information provided, it is our opinion that additional investigation work will eventually be requested by the regulatory agencies, and would be required as part of any property transaction. The immediate concern would likely be to assess the extent of arsenic and selenium present in ground water at concentrations that exceed the Maximum Contaminant Levels (MCLs) for those compounds, and the extent of hexavalent chromium in ground water. Although there is no MCL for hexavalent chromium, the California MCL for total chromium in ground water is 50 micrograms per liter ($\mu\text{g}/\text{l}$).

RECOMMENDED ACTIONS

We recommend that your client gather additional information concerning historical site use at the property and surrounding sites to identify potential sources (other than HCE) for contaminants in ground water. The results of this historical review will likely indicate that the source of contaminants in ground water is the plating operations performed at Site by HCE. This information will strengthen your client's position with regard to responsibility for future costs associated with additional investigations and potential remedial actions.

Historical information can be obtained by reviewing state and local regulatory agencies' records pertaining to the use, storage, disposal, and/or release of hazardous substances at the Site and properties immediately surrounding the Site. Historical aerial photographs for the property and sites surrounding the property should also be reviewed.

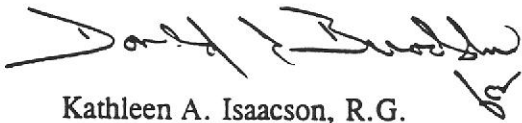
It is then recommended that ground-water data and historical information be discussed with HCE to assess HCE's willingness to conduct additional site investigation/remediation activities or to inform HCE that your client will continue investigation activities with the intent of recovering investigation and cleanup costs from HCE. Alternatively, your client may wish to request a

meeting with the RWQCB to discuss soil and ground-water quality data gathered to date, and to suggest that the RWQCB request HCE to conduct additional investigations. The objective of gathering additional historical information before the meeting is to assist in the RWQCB's assessment of potential sources for contaminants detected in soil and ground water beneath the property and to expedite followup actions. It should be understood, however, that if the RWQCB issues a Site Cleanup and Abatement Order for the property, both HCE and the property owner will likely be named on the Order as Responsible Parties.

Finally, it is possible that if this matter is not brought to the attention of the RWQCB and if no additional investigation activities are conducted, your client may appear negligent because data indicating degradation to ground water were obtained four to five years ago. During the meeting with the RWQCB, the regulatory history can be reviewed, including discussion of the letter report submitted to the RWQCB in 1993 by BSK on behalf of the Dee McLemore Trust. Before 1993, local agencies should have been aware of the potential for environmental problems based on complaints filed by a former HCE employee and violations noted during site inspections.

Thank you for the opportunity to review these documents and provide recommendations. Please call either of the undersigned if you would like to discuss this matter further.

Sincerely,



Kathleen A. Isaacson, R.G.
Principal Hydrogeologist



Jenifer J. Beatty
Senior Hydrogeologist