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July 8, 2005 Certified #: 7000 1670 0007 2729 9724

Mr. Eddie Fisher, President
LaBarron Investments
2020 East Orangethorpe
Fullerton, California 92831

APPROVAL OF THE REVISED RCRA FACILITY INVESTIGATION REPORT FOR THE FORMER TRENT TUBE FACILITY, FULLERTON, CALIFORNIA

Dear Mr. Fisher:

In May 2000 a RCRA Facility Assessment (RFA) was completed for the subject site. The RFA concluded that remedial actions completed during site closure were insufficient to determine whether potential for significant impacts to human health and the environment remain at the site. Specifically, groundwater in the area has been contaminated with the same types of solvents as those used at the facility.

On December 27, 2001 a Draft Corrective Action Consent Agreement was sent to you outlining the corrective action that was needed to evaluate the findings of the RFA. Since an agreement wasn't reached between La Barron Investments and the Department of Toxic Substances Control (DTSC), an Enforcement Order for Corrective Action (CAO) was sent on June 10, 2002. On June 30, 2002 the CAO became effective.

After much deliberation, a RCRA Facility Investigation (RFI) workplan was conditionally approved on October 18, 2002 with field activities commencing on October 22, 2002. A RFI Report was submitted to DTSC on December 26, 2002. DTSC's Human and Ecological Risk Division performed a screening level human health risk evaluation on the data presented in the RFI Report and reported their findings in a memorandum to Ms. Leona Winner dated February 10, 2003. The results indicated that the risks and hazards posed by the chemicals detected at the former site of Trent Tube are below the target levels of concern. With respect to those chemicals considered carcinogens (trichloroethylene, tetrachloroethylene, 1, 1-dichloroethane, 1, 1, 1, 2-tetrachloroethane, hexavalent chromium, and nickel) the cumulative risk is 8×10^{-6} assuming a conservative residential exposure scenario. This is within the acceptable range of 10^{-4} to 10^{-6} cancer risk. For non-carcinogenic effects, the cumulative hazard index is less than the target hazard index of one. For lead, the measured soil lead would not be expected to cause adverse health effects in children living on site.

However, a separate memorandum from the Northern California Geological Services Unit, dated January 15, 2003, recommended that further investigation was needed to define the vertical and horizontal extent of Volatile Organic Compounds (VOCs) contamination in soil gas in the vicinity of both the Former Degreasing Pit and Southern Property Boundary Line.

Additional fieldwork was conducted on June 11, 2003 in accordance with a DTSC approved RFI workplan Addendum dated April 25, 2003. DTSC review of the results from the additional sampling indicates that the calculated health risks remain at acceptable levels.

Based on the above, DTSC hereby approves the RFI Report which concludes that no further investigation is necessary. Relevant memorandums from Dr. Kimiko Klein and Mr. Paul Carpenter are attached with this letter, for the record.

If you have any questions, please contact Ms. Leona Winner of my staff, at (916) 255-6679.

Sincerely,

Mohinder S. Sandhu, P.E., Chief
Standardized Permitting and Corrective Action Branch

Enclosures

cc: See Next Page.

cc: Mr. Evan Privett
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Agency Secretary
California
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Gray Davis
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MEMORANDUM

TO: Leona Winner
Standardized Permits and Corrective Action Branch
8800 Cal Center Drive
Sacramento CA 95826

FROM: Kimiko Klein, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: August 19, 2003

SUBJECT: Soil and Soil Vapor Assessment
LABARRON INVESTMENTS, FULLERTON CA
PCA: 22120 SITE: 400390-00 MPC: 38

Background

The site comprises about 5.2 acres with one building that formerly housed a stainless steel tubing manufacturing plant. The site is located in a commercial/industrial area. There are five areas where chemicals were either used or stored, including a drum storage area, an area where aboveground waste oil tanks were located, aboveground pickle liquor tanks, a degreasing pit, and an area where soil containing organic solvents were aerated.

The Human and Ecological Risk Division (HERD) has been requested to provide technical support in the review of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) carried out for this former facility. On February 10, 2003, the HERD provided comments on a soil and soil vapor assessment report and performed a preliminary endangerment assessment for the facility using the data contained in that report.

Document Reviewed

"Additional Soil Vapor Assessment, LaBarron Investments, 2100 East Orangethorpe Avenue, Fullerton, California". This document, dated July 22, 2003, was prepared for LaBarron Investments by FREY Environmental, Inc., and was received by the HERD on August 4, 2003.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

General Comments

This assessment describes additional soil vapor sampling carried out to define the extent of the soil gas volatile organic chemical (VOC) plume. Although the HERD read the entire document, the HERD understands that other Department of Toxic Substances Control (DTSC) staff have both overseen the work described in this assessment and reviewed this document with respect to its accuracy in describing the sampling collection, analysis methodology, and data quality.

In the previous soil and soil vapor assessment of December 4, 2002, seven VOCs were detected in soil vapor samples. The maximum concentration for each VOC was evaluated in a preliminary endangerment assessment (PEA) performed by the HERD (memorandum, February 10, 2003). In that PEA, the cumulative cancer risk from potential indoor air exposure to VOCs by future residents was 5×10^{-6}, and the total cancer risk from all exposure pathways and all chemicals of concern was 8×10^{-6}. These are within the acceptable range of one in 10,000 to one in a million (10^{-4} to 10^{-6}) cancer risk, as defined by the US Environmental Protection Agency (US EPA).

In the subject sampling event, six VOCs were detected in soil vapor samples, and the maximum concentrations for three (tetrachloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane) were less than the previously reported maximum concentrations. The maximum concentrations of the remaining three VOCs (cis-1,2 dichloroethylene, trichloroethylene, 1,1 dichloroethane) were virtually identical to maximum concentrations previously reported. The VOC responsible for the highest risk in the PEA was 1,1,1,2-tetrachloroethane (4×10^{-6} risk), which was not detected in the subject sampling event. Therefore, the cumulative cancer risk posed by inhalation exposure to vapors intruding into indoor air from soil at concentrations measured in this sampling event will be close to one in a million, or at *de minimus*.

Specific Comments

1. In Section 7.0 Discussion of Results, soil gas concentrations are compared to chemical-specific maximum contaminant levels (MCLs) for drinking water. This comparison is totally inappropriate, and all mention of MCLs in this document in such a context must be eliminated. A MCL is established by calculating a safe drinking water concentration based on the toxicity of the chemical via ingestion and assumptions of how persons can be exposed to the chemical via ingestion and considering the cost and effectiveness of methods for removing the chemical from potential drinking water supplies. On the other hand, calculating an acceptable soil gas concentration for a chemical is based on the fate and transport of the chemical

through the sub-surface to air, with subsequent exposure to soil gas via inhalation and the toxicity of the chemical via that exposure route.

2. On February 10, 2003, the HERD provided comments on the soil and soil vapor assessment, dated December 4, 2002. A formal response to those comments and an assessment report revised to address those comments should be submitted to the DTSC for review.

Conclusions

If the site is now considered to be adequately characterized, then the risks calculated in the PEA remain applicable, represent very conservative estimates and are within the range of acceptable risks. If there are no preferential pathways in the subsurface by which soil vapors may migrate relatively unimpeded to the surface, then the vapor intrusion model utilized by the HERD to simulate the migration of soil vapors into indoor air may be considered a reasonably conservative approach to evaluating the risks posed by this pathway at this site. Therefore, the HERD believes that no further action should be considered with respect to potential health risks. The evaluation performed by the HERD focuses only on human health risks and does not address the potential of contaminants in soil to affect groundwater quality.

If you have further questions, please do not hesitate to contact me at 916 255 6643, 510 540 3762 or via electronic mail at kklein@dtsc.ca.gov.

Reviewed by: David Berry, Ph.D.
Senior Toxicologist
Human and Ecological Risk Division

cc: Paul Carpenter, C.H.G.
Geology and Corrective Action Branch

Department of Toxic Substances Control

Edwin F. Lowry, Director
8800 Cal Center Drive
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Winston H. Hickox
Agency Secretary
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Gray Davis
Governor

MEMORANDUM

TO: Leona Winner
Hazardous Substances Scientist
Standardized Permits and Corrective Action Branch

FROM: Paul Carpenter, CHG
Engineering Geologist
Geology and Corrective Action Branch
Geological Services Unit – Northern California

CONCUR: Brian Lewis, CEG, CHG
Engineering Geologist Supervisor I
Geology and Corrective Action Branch
Geological Services Unit – Northern California

DATE: August 27, 2003

SUBJECT: ADDITIONAL SOIL VAPOR ASSESSMENT, FORMER TRENT TUBE FACILITY, FULLERTON, CALIFORNIA
Codes: 22120/ 400390-00 / 36-PER

Document Reviewed

Additional Soil Vapor Assessment, La Barron Investments, Fullerton California, prepared by FREY Environmental Inc., dated July 22, 2003 (Additional Soil Vapor Assessment).

The Geological Services Unit (GSU) of the Department of Toxic Substances Control (DTSC) has reviewed above document, and provides the following recommendations. If you have any questions, please contact Paul Carpenter at (916) 255-6534.

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BACKGROUND

On December 4, 2002, La Barron Investments submitted a Resource Conservation and Recovery Act (RCRA) Facility Investigation Report (RFI) for the former Trent Tube stainless steel tube manufacturing facility in Fullerton, California. The GSU reviewed this document in a memorandum dated January 15, 2003, and recommended that additional investigation be performed to complete the vertical and horizontal characterization of volatile organic compound (VOC) releases at the facility. An RFI Workplan Addendum (dated April 25, 2003) for this investigation was reviewed by GSU, and recommendations were provided in a memorandum dated May 8, 2003. Field work was conducted on June 11, 2003, and the Additional Soil Vapor Assessment Report reviewed in this memorandum documents the results of this investigation.

COMMENTS

1. The Additional Soil Vapor Assessment has addressed the recommendations set forth in GSU's May 8, 2003 Memoranda reviewing the RFI Workplan Addendum (dated April 25, 2003).

2. The vertical and horizontal extent of volatile organic compounds (VOCs) in soil have been adequately defined by the June 11, 2003 investigation. No significant data gaps are present to be addressed.

3. The June 11, 2003 soil gas investigation was performed using the proper investigative and analytical methods, and in adherence with the April 25, 2003 RFI Workplan Addendum. GSU staff were onsite to observe sampling activities, and are in agreement with the methods used and the conclusions presented in the report based upon the field investigation.

RECOMMENDATIONS

1. The Additional Soil Vapor Assessment has adequately defined the extent of VOC's in soil vapor beneath the facility. It is therefore GSU's conclusion that no further investigation of soil pore vapor VOCs is merited at the site.

2. The completion of the soil gas investigation has addressed the final outstanding subsurface investigative issue from the RFI Report, dated December 4, 2002.

Keywords: RFI, soil vapor, VOC

cc: Dr. Kimi Klein, DTSC Human Ecological Risk Division

Department of Toxic Substances Control

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MEMORANDUM

TO: Leona Winner
Standardized Permits and Corrective Action Branch
8800 Cal Center Drive
Sacramento CA 95826

FROM: Kimiko Klein, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: February 10, 2003

SUBJECT: Soil and Soil Vapor Assessment
LABARRON INVESTMENTS, FULLERTON CA
PCA: 22120 SITE: 400390-00 MPC: 38

Background

The site comprises about 5.2 acres with one building that formerly housed a stainless steel tubing manufacturing plant. The site is located in a commercial/industrial area. There are five areas where chemicals were either used or stored, including: a drum storage area, an area where aboveground waste oil tanks were located, aboveground pickle liquor tanks, a degreasing pit, and an area where soil containing organic solvents were aerated.

The Human and Ecological Risk Division (HERD) has been requested to provide technical support in the review of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) carried out for this former facility.

Document Reviewed

"Soil and Soil Vapor Assessment, LaBarron Investments, 2100 East Orangethorpe Avenue, Fullerton, California". This document, dated December 4, 2002, was prepared for LaBarron Investments by FREY Environmental, Inc., and was received by the HERD on January 13, 2003.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

General Comments

The HERD read the entire document but focused its review on the subjects that could affect an evaluation of human and ecological health risks. The HERD understands that other Department of Toxic Substances Control (DTSC) staff have reviewed this document with respect to its accuracy in describing the sampling collection and analysis methodologies and assumes that all data have met data quality and assurance objectives. The HERD also understands that data collected to date do not fully define the extent of the soil gas volatile organic chemical (VOC) plume, and, therefore, the site is not adequately characterized. Typographical and editorial errors have not been expressly identified, unless they affect the meaning of the text. The HERD has the following specific comments on the document. In addition, the HERD used the data provided in the document to perform a preliminary endangerment assessment for this facility.

Specific Comments

1. Page 1, Section 2.2 Chemical/Chemical Waste Storage Areas; and Figure 2 Site Sketch Showing Soil Boring and Soil Vapor Probe Locations: A) The terms used in the text to describe the five areas where chemicals were used or stored are not congruent with the terms used in Figure 2. Either the text or the figure should be revised in order to clarify the locations of these areas of concern. B) The text states that soil was excavated from the area of the waste oil tanks, The location of that excavation should be given on the figure, as well as the locations of any other previous on-site removal actions.

2. Page 2, Section 2.2 Chemical/Chemical Waste Storage Areas, Item 5; and Figure 2 Site Sketch Showing Soil Boring and Soil Vapor Probe Locations: The approximate location of the area where soils were aerated should be shown on Figure 2 in order to justify the soil vapor and boring locations at the southern property boundary.

3. Page 2, Section 2.3 Current Site Configuration; and Figure 2 Site Sketch Showing Soil Boring and Soil Vapor Probe Locations: A) The text describes the facilities or features currently bounding the site. However, these are not all depicted on the figure. For example, the BASF facility to the north and Carbon Creek to the south are not shown. On the other hand, the commercial/retail stores shown on the figure are not discussed in the text. The figure and text should be revised to be consistent with each other.

4. Page 5, Section 5.2 Advancement and Sampling of Soil Borings: Please provide an explanation why no soil or soil gas samples were taken in the area of the former maintenance building.

5. Page 10, Section 5.3.1 Soil Samples: Soil samples were analyzed for VOCs and hexavalent chromium, nickel and lead. There is no discussion of the rationale for analysis of only these metals and the rationale for excluding other metals of potential concern. A section should be added to the text that describes the manufacturing process, the chemicals used in that process, the chemicals reported to have been in the waste stream, and other evidence supporting the inclusion and exclusion of chemicals of potential concern.

6. Page 13, Section 7.1 Soil: Maximum detected soil concentrations were compared to the US Environmental Protection Agency (US EPA) Region 9 Preliminary Remediation Goals (PRGs) assuming an industrial scenario. None of the metals were detected at concentrations equal to or greater than their respective industrial PRGs. The HERD does not recommend the routine use of PRGs as a health risk evaluation tool. In addition, showing that maximum soil concentrations are below industrial PRGs is not necessarily protective of future residential receptors. Therefore, the future use of this site may still have to be restricted, unless these concentrations also represent an insignificant risk to potential residents. In the section below the HERD has performed a preliminary endangerment assessment (PEA) for the metals detected at this facility.

7. Table 1 Chemical Analyses of Soil Vapor Samples: In order to estimate the risk from potential exposure to VOCs in the subsurface, the maximum concentration shown in this table for each of the VOCs detected was converted from the concentration given in units of µg/liter (or parts per billion, ppb) to $\mu g/m^3$ using the formula: ppb/24.5 * Molecular Weight = $\mu g/m^3$. Then the Johnson and Ettinger Model, as published by the US EPA and revised by the DTSC, was used to evaluate the intrusion of soil vapors into indoor air. The parameters used in the model and the results of this evaluation are given in Table 1 in the next section. The model runs are attached to this memorandum.

Preliminary Endangerment Assessment

Volatile Organic Chemicals. For this class of chemicals, the most pertinent exposure pathway is the intrusion of vapors from the subsurface into indoor air. In this evaluation, the following input parameters were used in the Johnson and Ettinger Model.

Table 1 Input Parameters

Depth below grade to bottom of enclosed space	15 cm
Average soil temperature	20° C
Soil type	Sandy
Vadose zone soil dry bulk density	1.5 g/cm3
Vadose zone soil total porosity	0.43
Vadose zone soil water-filled porosity	0.15

The Johnson and Ettinger model was run assuming a residential exposure scenario and utilizing the maximum soil vapor concentrations measured at the facility. The results are shown in Table 2 below. No toxicity criteria were available for 1,1,1,2 tetrachloroethane, therefore, toxicity criteria for 1,1,2,2-tetrachloroethane were used as surrogate values.

Table 2 Residential Risk from Potential Indoor Air Exposure to Volatile Organic Chemicals

Chemical	*µg/L*	*µg/m^3*	*Risk*	*Hazard*	*Comments*
Cis-1,2 Dichloroethylene	16	63.3	ND	ND	No toxicity criteria
Trichloroethylene	38	203.8	1×10^{-8}	0.00003	
Tetrachloroethylene	130	879.9	9×10^{-7}	0.01	
1,1 Dichloroethylene	80	316.6	NA	0.001	Not a carcinogen
1,1 Dichloroethane	9.5	38.4	1×10^{-8}	0.00003	
1,1,1 Trichloroethane	86	468.3	NA	0.0001	Not a carcinogen
1,1,1,2 Tetrachloroethane	*56*	*383.7*	*4×10^{-6}*	*0.0007*	Used 1,1,2,2 PCA

ND: Not done
NA: Not applicable

Metals. The maximum concentrations of metals in soils were evaluated assuming a residential scenario and complete exposure pathways for inhalation of dusts, incidental soil ingestion, and soil dermal contact. The parameters used are those published in the DTSC Preliminary Endangerment Assessment (PEA) guidance manual (1994/1998), except that the default respirable dust particulate concentration is changed from 0.050 mg/m^3 to 0.0015 mg/m^3 to be consistent with current US EPA guidance (Soil Screening Guidance, 1996).

Table 3 Residential Risk from Potential Direct Exposure to Metals

Metal	Maximum Concentration mg/kg	Risk	Hazard	Comments
Total chromium	381	NA	0.004	Not a carcinogen
Hexavalent Chromium	1.15	3×10^{-6}	0.110	
Lead	25.7	NA	NA	See below
Nickel	71.2	1×10^{-8}	0.05	

NA: Not applicable

Lead. Exposure to lead is evaluated by using the DTSC lead spreadsheet, version 7. In this spreadsheet lead exposure is expected to result in an increase in lead levels in blood. The current policy of the HERD assumes that a blood lead level of less than 10 µg/100 ml blood in the most sensitive child receptor would not result in a significant adverse health effect and that a safe soil lead level is one in which 99 percent of the exposed population of children would be expected to have a blood lead level of less than 10 µg/100 ml blood. The maximum soil lead concentration measured at this facility is 26 mg/kg. Although this concentration is higher than local background concentrations that ranged from 2 to 8 mg/kg, it is considerably lower than a soil concentration that could cause a rise in blood levels above levels of concern. Using default assumptions, a soil lead level of 26 mg/kg would result in an increase as high as 5.5 µg lead/100 ml blood in children. The spreadsheet is attached to this memorandum.

Conclusions

There are some deficiencies identified in the document that should be corrected. The HERD has performed a screening level human health evaluation on the data presented in this report. The results indicate that the risks and hazards posed by the chemical detected at this former facility are, for the most part, below target levels of concern. With respect to those chemicals considered carcinogens (trichloroethylene, tetrachloroethylene, 1,1-dichloroethane, 1,1,1,2-tetrachloroethane, hexavalent chromium, nickel) the cumulative risk approaches one in 100-thousand (8×10^{-6}) assuming a conservative residential exposure scenario. This is within the acceptable range of 10^{-4} to 10^{-6} cancer risk. For non-carcinogenic effects, the cumulative hazard index is less than the target hazard index of one. For lead, the measured soil lead would not be expected to cause adverse health effects in children living on site.

The HERD stresses that this screening health evaluation is based on current data and, thus, is preliminary in nature. The HERD concurs that additional site investigation is necessary, with particular emphasis on defining the sub-surface VOC plume. Once the site has been adequately characterized, another health evaluation will be carried out.

If you have further questions, please do not hesitate to contact me at 916 255 6643, 510 540 3762 or via electronic mail at kklein@dtsc.ca.gov.

Reviewed by: David Berry, Ph.D. Kimiko Klein for David Berry
Senior Toxicologist
Human and Ecological Risk Division

Attachments

cc: Paul Carpenter, C.H.G.
Geology and Corrective Action Branch