



SP ENVIRONMENTAL SYSTEMS, INC.

9719 LINCOLN VILLAGE DR., SUITE 310 SACRAMENTO, CA 95827 (916) 369-8971 FAX (916) 369-8370

September 6, 1991

Mr. Don Cox
California Environmental Protection Agency
Department of Toxic Substance Control - Region 2
700 Heinz Avenue - Building "F"
Berkeley, CA 94710

Subject: Pesticide-Affected Soil
Southern Pacific Transportation Company
5th & Kirkham Streets Property
Oakland, California
SPEvS Project No. 05032

Dear Mr. Cox:

SP Environmental Systems Inc. (SPEvS), on behalf of Southern Pacific Transportation Company (SPTCo), has prepared the enclosed report (Attachment A) describing the discovery of soil affected with DDT and its degradation products, DDE and DDD. This soil is located on SPTCo property at 5th & Kirkham Streets in Oakland, California. As discussed in our telephone conversation on August 20, 1991, the origin of this soil is not known.

If there are any questions, please give Mr. Walter Floyd a call at (916) 369-8971.

Sincerely,

A handwritten signature in black ink, appearing to read 'Walter Floyd', written over a horizontal line.

Walter Floyd
Project Geologist

A handwritten signature in black ink, appearing to read 'R. Webb Garey', written over a horizontal line.

R. Webb Garey
Project Manager

Attachment

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cc: Mr. Dave W. Long, Esq.
Mr. Randy Smith
Mr. John Spisak
Mr. Dennis Byrne

ATTACHMENT A

BACKGROUND

A property owned by Southern Pacific Transportation Company (SPTCo), referred to as the 5th & Kirkham Street Property, is being considered for purchase by the Bay Area Rapid Transit (BART). To prepare the site for possible sale, the known environmental concerns are being addressed. This work includes the treatment of approximately 600 cubic yards (cy) of hydrocarbon-affected soil originating from underground storage tanks (USTs) that were removed from the property in 1990. Alameda County Health Care Services Agency (ACHCSA) has been the lead agency providing regulatory oversight for the clean up.

Four USTs were removed from the property in February, 1990 by SPEvS. A detailed report of the tank removal operation and findings was presented to ACHCSA in the SPEvS report, "Removal of Underground Storage Tanks, 330 Cypress Street, Oakland, California" dated March 23, 1990. A proposal to excavate and stockpile the affected soil identified in the vicinity of the USTs was presented to ACHCSA in the SPEvS "Work Plan for Soil and Groundwater Investigation" dated September 27, 1990. ~~During the implementation of this work plan, approximately 600 cy of soil were excavated and stockpiled on-site.~~ This phase of work was presented in a report to ACHCSA entitled "Phase II Environmental Site Assessment, Southern Pacific Transportation Company, 5th & Kirkham Streets Property, Oakland, California" dated March 1, 1991. A proposal to bioremediate the soil was presented to ACHCSA in a letter dated May 16, 1991.

~~Approximately 50 cy of stockpiled soil, from an unknown source, was found on a portion of the property that was formerly leased to DC Metals, Inc. in March 1991.~~ Representatives of DC Metals claim this soil has been there since at least the time that they leased the property. The stockpile was sampled on March 22, 1991, for analysis of total petroleum hydrocarbons (TPH) using EPA Method 418.1. The results of analyses indicated a ~~TPH concentration of 800 mg/Kg.~~ Therefore, SPEvS proposed to ACHCSA, in the above referenced bioremediation proposal dated May 16, 1991, that the stockpile be bioremediated with the soil from the UST removals. ~~The ACHCSA approved the workplan in a letter dated June 21, 1991.~~ *missing*

The approved process of preparing hydrocarbon-affected soil for bio-composting entailed the addition of compost to the soil, in a ratio of 3-parts soil to 1-part compost. The soil-compost

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matrix was then watered and covered with plastic sheeting. The treatment beds were formed atop an asphalt surface.

During preparation of the 50 cy soil stockpile for bioremediation, in accordance with the work plan, debris atypical of the debris normally encountered on SPTCo sites was observed in the stockpile. At this point, SPEvS decided to treat the soil in a separate treatment bed than the soil generated during the UST removals. In addition, one discrete soil sample was collected and analyzed for polychlorinated biphenyls (PCBs) and chlorinated pesticides using EPA Method 8080.

ANALYTICAL DATA

One discrete sample was collected at random from the approximate 50 cy of soil. This sample was analyzed for chlorinated pesticides and PCBs using EPA Method 8080. The results indicated **22 parts per million (ppm) of DDD, 3.1 ppm DDE, 2.1 ppm of DDT, and 1.8 ppm of Dieldrin.** The analytical laboratory report is attached as Appendix A.

CONCLUSIONS

The concentrations of DDD, DDE, and DDT are above the Total Threshold Limit Concentration (TTLC) of 1 ppm for the cumulative total of these compounds. Therefore, the soil is considered a hazardous waste under Title 22 of the California Code of Regulations (CCR). The concentration of Dieldrin is below the TTLC of 8 ppm.

The presence of DDD and DDE are likely biotransformation products resulting from sequential dehalogenation of DDT.

PROPOSED SCOPE OF WORK

Since the material currently is being bioremediated, it is proposed to assess the effectiveness of bioremediation for reducing the pesticide concentrations. This would be accomplished by sampling the treatment bed containing the pesticide-affected soil in late October, approximately 120 days after the initiation of the bioremediation project. The results of analyses will indicate whether bacterial activity is effectively reducing the pesticide

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concentrations. After the analytical data is available, a workplan addressing the treatment or disposal of the soil will be prepared and submitted to the appropriate regulatory agencies.