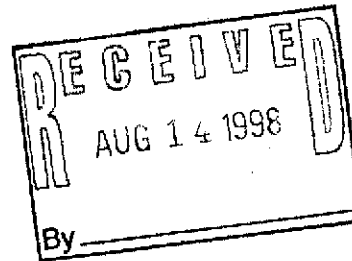


BLYMYER
ENGINEERS, INC.

SHC 6449

August 11, 1998
BEI Job No. 98078



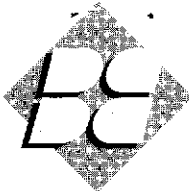
Ms. Susan Hugo
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

**Subject: Health Risk Assessment Letter Workplan
1372 Ocean Avenue
Emeryville, California
STID # 6449**

Dear Ms. Hugo:

Blymyer Engineers, Inc., on behalf of the Russell Vincent Construction, is pleased to present this letter workplan to perform a health risk assessment (HRA) evaluating the potential of site vicinity soil and groundwater contamination to adversely impact the health of residential occupants and potential construction workers (utility) at the above-referenced location. Blymyer Engineers proposes to use the model entitled *RBCA Tool Kit* by Groundwater Sciences, Inc. of Houston, Texas, that utilizes equations directly out of the American Society for Testing and Materials (ASTM) 1739-95 document entitled *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* and dated November 1995. As stated within the document, this ASTM guide, while emphasizing petroleum compounds, "...is not limited to a particular class of compounds..."; (Par. 1.1, op. cit.). The particular analytical fate and transport models used by the ASTM standard include the Box and Gaussian Models for onsite and offsite atmospheric modeling, respectively, Summer's Model for soil to groundwater modeling, and Domenico's Model for groundwater fate and transport modeling.

Blymyer Engineers will focus the HRA on the effects the chemicals which have been detected in soil and groundwater at the site would likely have on future residential occupants of the proposed live-work facility and on a work crew installing or repairing underground utilities. According to reports forwarded by International Geologic (IG), three quarters of groundwater monitoring data have been gathered from the single groundwater monitoring well (MW-1) located at the site. The well was placed within 9 feet of the former location of an underground storage tank (UST) emplacement, in the assumed downgradient groundwater flow direction. As you are aware, this would reasonably be anticipated to be in a "worst case" location with respect to contaminant concentrations. It is the understanding of Blymyer Engineers that, based upon verbal communications between IG and the Alameda County Health Care Services Agency (ACHCSA), the gathering of additional site-specific data will not be required to complete the proposed HRA. Blymyer Engineers will utilize the existing data including soil and groundwater analytical data, such as the detectable concentrations of benzene, toluene, ethylbenzene, and total xylenes, and a number of volatile organic compounds, assumed by IG and the ACHCSA to be from offsite sources, including the adjacent site, RIX Industries. Utility workers will be assumed to be exposed to dermal contact with impacted soil and groundwater,



Ms. Susan Hugo
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Page 2

inhalation of impacted soil dust and vapors, and groundwater vapors, and incidental ingestion of soil particles due to the potential to require dewatering during utility work immediately adjacent to the former UST excavation. Incidental ingestion of groundwater will not be assumed, nor modeled as it is an unlikely event to occur. Published, but conservative, chemical and soil parameter data will be assumed where such input is required by the modeling program.

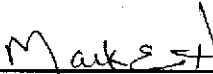
Blymyer Engineers will use an Hazard Quotient of 1.0 for cumulative health risks related to non-carcinogenic chemicals, and a total health risk of 10^{-6} for carcinogenic chemicals for potential residential receptors, and a total health risk of 10^{-5} for carcinogenic chemicals for potential commercial receptors (utility work crew). This is consistent with recent industry trends and previous ACHCSA requests.

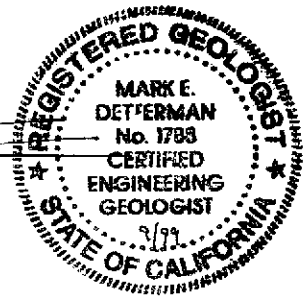
Blymyer Engineers will prepare a final report of the findings of the risk assessment, with a tabulation of existing data, and appropriate Worksheets provided in Appendix B of the *RBCA Tool Kit* package as necessary.


Please call Mark Detterman at (510) 521-3773 with any questions or comments regarding this project.

Sincerely,

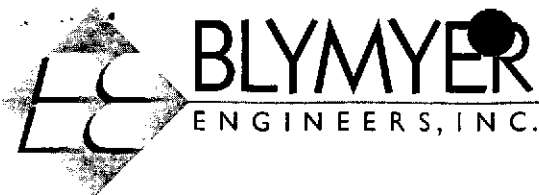
Blymyer Engineers, Inc.

By: 
Mark E. Detterman, C.E.G. 1788
Senior Geologist



And: 
Michael S. Lewis
Vice President, Technical Services

- c. Mr. Russell Vincent, Russel Vincent Construction
Ms. Madhulla Logan, ACHCSA



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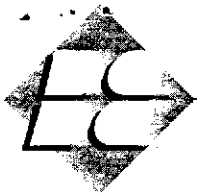
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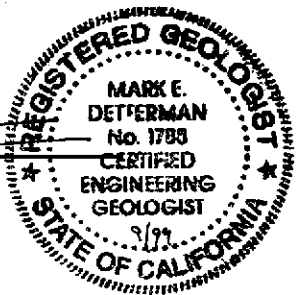
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