From: pdking0000@aol.com
Sent: Tuesday, August 19, 2008 8:23 AM
To: Wickham, Jerry, Env. Health
Subject: RO357 Snow Cleaners Soil Gas Sample Risk Analysis Results

Attachments: 0298.R6 Soil Gas Model Results.xls; 0298.R6 fig 3 w_PCE in soil gas.pdf
Hi Jerry,

Several of the soil gas sample results for the Snow Cleaners subsurface investigation exceed their respective SFRWQCB ESL values for residential land use. Several sample results also exceed their respective CHHSL values. The May 2008 ESL guidance document section 2.7 references the DTSC 2004 vapor intrusion guide (Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, revised 2/7/05) for interpretation of sample results exceeding ESLs. The ESL guidance document indicates that the recommended approach of DTSC for sensitive land use scenarios (ie. residential) is appropriate. The recommended approach is performing an indoor air study if site-specific soil gas to indoor vapor intrusion models suggest that impacts to indoor air may exceed a cumulative excess cancer risk of one in a million or a noncancer hazard index greater than one. The DTSC guidance document recommends that if look up table screening levels are exceeded, that a site-specific evaluation of the site be conducted using appropriate fate and transport modeling (Step 7 in the guidance document). DTSC recommends that the USEPA version of the Johnson and Ettinger (1991) model be used (USEPA Vapor Intrusion Model, 2003). The DTSC has developed a California-specific spreadsheet for calculation of risk associated to exposure to the chemicals encountered at the Snow Cleaners site.

To determine if an indoor air study is warranted, the DTSC spreadsheet was used to calculate the risk and hazard index associated with the Snow Cleaner soil gas sample results. Exposure to occupants of the house at 2682 Coolidge Avenue was evaluated by using the highest concentration for each detected chemical from samples SG3, SG10, and SG11. Exposure to the occupants at the apartment building located at 3320 Davis Street was calculated using the highest concentration for each detected chemical from samples SG6, SG7, SG8 and SG9. The model output results are summarized in the attached spreadsheet (document 0298.R6 Soil Gas Model Results.xls). In addition, a draft figure showing the sample collection locations is attached (document 0298.R6 fig 3 w_PCE in soil gas.pdf). The results show that although the hazard quotient was less than one for each of the properties, the cancer risk exceeded one in a million for each property. Almost all of the risk is associated with the PCE. Based on these results, an indoor air study is warranted.

The next phase of soil gas sampling to define the extent of soil gas concentrations exceeding regulatory screening levels is scheduled to occur on Friday 8/29/08. The sample results should be received by 9/16/08. I recommend that an indoor air sampling plan be developed after receipt and evaluation of the next phase of soil gas samples, and after it has been determined that the extent of soil gas concentrations exceeding regulatory screening levels has been defined. We also have not yet received word from the City of Oakland regarding when our encroachment permit for well installation will be approved.

Please let me know if you have any questions or need additional information.

Best Regards,
Paul King
P&D Environmental, Inc.
510-658-6916

From: Wickham, Jerry, Env. Health
Sent: Tuesday, August 19, 2008 8:45 AM
To: 'pdking0000@aol.com'
Subject: RE: RO357 Snow Cleaners Soil Gas Sample Risk Analysis Results

Paul,

Your recommendation regarding indoor air sampling appears reasonable. Following evaluation of the next phase of soil gas sampling results , please present the soil sampling results and recommendations in a report for ACEH review and concurrence.

Regards,

Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510-567-6791
jerry.wickham@acgov.org

From: pdking0000@aol.com [mailto:pdking0000@aol.com]
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To: Wickham, Jerry, Env. Health
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