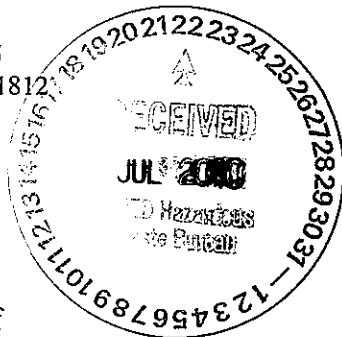




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Date: **JUL 22 2010**
Refer To: EP2010-0312

James Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Response to the Review of the Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Second Quarter Fiscal Year 2010

Reference: Letter, Mr. Bearzi to Messrs. Rael and Graham, dated 06/16/10

Dear Mr. Bearzi:

Los Alamos National Laboratory (the Laboratory) would like to take this opportunity to respond to the above-referenced letter from the New Mexico Environment Department (NMED) regarding vapor-sampling activities at Material Disposal Area (MDA) H.

Paragraph 5 of the above-referenced letter states the following:

“Table 4.0-2 indicates that there is significant variability in the reported results. Many of the values reported for VOCs are negative values, but no explanation is provided for these negative results. There does not appear to be any correlation between the field screening results and the fixed-laboratory analytical results. The Permittees conducted regression analysis between the B&K field-screening data and VOC analytical laboratory data in fiscal year 2009 and concluded that there was limited correlation between the two data sets; the analysis does not suggest a strong correlation. It is not clear why the Permittees continue to use the instrument that apparently generates unreliable data and what useful information is obtained from such analyses. Therefore, the Permittees must discontinue use of the B&K multi gas analyzer to screen for the presence of VOCs in the subsurface. The Permittees must instead use a photo ionization detector equipped with an 11.7 eV lamp or other appropriate alternate instrument to field screen for the presence of VOCs. This comment applies to all other vapor-sampling monitoring activities being conducted at the Laboratory that are utilizing B&K multi gas analyzer for VOC field screening analyses.”

Laboratory Response:

The Laboratory agrees there are significant limitations to using the Brüel and Kaejer (B&K) analyzer at MDA H because vapor-phase concentrations fall below the detection limits of the instrument. Further, the Laboratory currently collects discrete subsurface air samples at all sampling ports at MDA H, and there is no need for field screening. The Laboratory agrees with NMED that field screening with the B&K at MDA H is not useful and would like to discontinue all field screening at MDA H. (In addition, field screening with the B&K will not be performed at other sites with low vapor-phase concentrations or where analytical samples are collected at all sampling ports.) Minimal concentrations of volatile organic compounds (VOCs) have been detected at MDA H throughout the pore-gas monitoring program, whether the sampling was conducted through a packer system, FLUTE system, or the current stainless-steel monitoring system. The minimal concentrations of VOCs confirm the disposal history of MDA H, which was used as a disposal area for solid-form waste and not for solvent wastes.

The Laboratory disagrees, however, with NMED's assertion that the B&K field-screening data are unreliable for all vapor-sampling monitoring activities. As demonstrated previously at MDA G and MDA L, the B&K data provide a useful correlation between field-screening and analytical concentrations for 1,1,1-trichloroethane (TCA) and trichloroethene (TCE). Concentrations of these constituents are significantly higher at MDA G and MDA L, and B&K field screening provides useful information for TCA and TCE. B&K data have also proven useful for real-time data collection during demonstration experiments, such as the recent soil-vapor extraction pilot test conducted at MDA G. The Laboratory proposes that use of the B&K analyzer be continued at MDA G and MDA L to measure TCA and TCE because of the proven good correlation observed at those locations. (The correlation for Freon and tetrachloroethene has not proven to be reliable, and the Laboratory proposes to discontinue reporting field screening results for those analytes.) Additionally, the use of a photoionization detector provides only a positive or negative reading to the presence of VOCs. That detector would provide less useful information at MDAs G and L than provided by the B&K instrument.

The Laboratory proposes continued use of the VOC field screening analysis using the B&K multigas analyzer at MDAs G and L. The Laboratory proposes discontinuing all field screening at MDA H.

If you have any questions, please contact Jarrett Rice at (505) 665-3874 (wjrice@lanl.gov) or Ed Worth at (505) 606-0398 (eworth@doeal.gov).

Sincerely,



Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,



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MG/GR/AB/JR:sm

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