

Wickham, Jerry, Env. Health

From: Wickham, Jerry, Env. Health
Sent: Tuesday, May 10, 2011 2:37 PM
To: 'Jeff Adams'
Cc: Shawn Munger
Subject: RE: 1000 N. Vasco Road - Soil gas sampling

Jeff,

I have reviewed the facts regarding the detection of leak compound in soil vapor samples for 1000 N. Vasco Road. I believe that re-sampling of all the soil vapor sampling points is required since re-sampling only a subset of the points (6 of 11) does not provide a definitive answer regarding sample quality. Since the detection of elevated concentrations at any of the 11 locations would be critical information, a decision based on statistical results using a portion of the points is not sufficient. Therefore, we request that each of the soil vapor sampling points be re-sampled.

Regards,
Jerry Wickham
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From: Jeff Adams [<mailto:jadams@engeo.com>]
Sent: Tuesday, May 10, 2011 9:56 AM
To: Wickham, Jerry, Env. Health
Cc: Shawn Munger
Subject: 1000 N. Vasco Road - Soil gas sampling

Good morning, Jerry:

As we discussed last week, we have completed our field exploration at the 1000 North Vasco Road site in Livermore (Case RO3073). The analysis and review of the soil and groundwater sampling has preliminarily indicated isolated areas of soil and groundwater impact. These impacts are limited both in spatial extent, as well as magnitude of detected concentrations.

Our soil gas sampling supports the soil and groundwater data with respect to expected detected analytes, as well as concentrations. However, we had a systemic issue with respect to leak detection. Although our pressure leak testing indicated that the equipment was functioning properly, our use of a leak tracer (1,1-difluoroethane, or "keyboard duster") consistently resulted in significant breakthrough and detection of the leak compound. At first glance, the leak compound was present at concentrations that would indicate leakage and would therefore result in questioning of the validity of the data. However, the concentrations were so elevated that, in our opinion, major leakage would have to have been occurring such that the equipment would have to be non-functional. Simply put, we would not have been able to draw a sample or pass the pressure leak testing if the leakage were to have been occurring to the degree suggested by the detected leak compound.

In our discussions with the analytical laboratory, it appears that our leak detection method, while having been successfully applied to other soil gas equipment, was incompatible with the setup used in the field for this program. As a result, we believe that the elevated leak compound was not indicative of leaking or faulty equipment; rather, the excessive application of tracer compound "broke through" the connections/lines and was drawn into the samples.

We believe the data is correct and useable, but we acknowledge that our opinion is based on theory and opinions. Instead of collecting all new data, we would request that we collect a total of six samples randomly selected from the existing wells to compare to the existing data set. If the target analyte concentrations are similar (with acceptable leak

detection concentrations using a more appropriate method), we would consider this supporting evidence that the soil gas had been previously adequately characterized and that the data is usable.

Please let me know if this is an acceptable augmentation of the work plan, as well as any other questions or comments you may have.

Best regards,
Jeff Adams

Jeffrey A. Adams, PhD, PE, REA I
Associate



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