UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

JUN 03 2011

MEMORANDUM

SUBJECT: General Services Administration – Kansas City Site
CERCLIS ID No. MO0470000530

FROM: Ronald King, Site Assessment Manager
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THRU: Cecilia Tapia, Director
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TO: Ronald Hammerschmidt, Ph.D., Director
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The technical team of Bill Pedicino, Dan Nicoski and Ronald King has collaborated on the following recommendations from the soil and groundwater investigations conducted around Buildings 50 and 52 for the General Services Administration – Kansas City site.

OBJECTIVE

The Site Reassessment was conducted in two phases. The first phase was to assess soil gas and groundwater contamination around Buildings 50 and 52 that may originate from a subsurface source (e.g., contaminated soil or groundwater). Vapors from these sources may migrate into the buildings via vapor intrusion, presenting a threat to health of the occupants. The first phase of the investigation consisted of the installation of passive soil gas modules and the collection of groundwater samples from existing monitoring wells near Buildings 50 and 52 of the site.

The second phase of the Site Reassessment was conducted to assess soil and groundwater contamination around Buildings 50 and 52 that may originate from a subsurface source (e.g., contaminated soil or groundwater). Vapors from these sources may migrate into the buildings via vapor intrusion, presenting a threat to health of the occupants. The second phase of the investigation consisted of the collection of soil and groundwater samples at select locations around Buildings 50 and 52. The sample locations were based on the results of soil gas sampling from the first phase. In addition, groundwater samples were again collected from existing monitoring wells.

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FINDINGS – Phase I Investigation

Soil Results

Seven of the 37 soil gas modules submitted for VOC/SVOC analysis did not contain any of these constituents above detection levels. The remaining 30 soil gas modules contained various VOCs/SVOCs above detection levels including the following: BTEX; undecane; tridecane; pentadecane, PCE, TCE, 1,3,5-TMB; 1,2,4-TMB; *cis*-1,2-DCE; *trans*-1,2-DCE; naphthalene; 2-methyl naphthalene; MTBE; octane; 1,2-DCB; 1,3-DCB; 1,4-DCB and chloroform.

Thirty-six of the 37 soil gas modules submitted for PAH analysis detected various PAHs above detection levels including the following: acenaphthene, anthracene, fluoranthene, fluorine, phenanthrene and pyrene.

Groundwater Results

Nine of the 15 groundwater monitoring well samples, including the trip blank, submitted for VOC analysis did not contain any VOCs above MCLs or RSLs. The remaining six samples contained at least one of the following analytes above its MCL or RSL: 1, 1-DCE, chloroform, *cis*-1, 2-DCE, TCE or vinyl chloride.

Ten of the 14 samples submitted for total metals analysis did not contain any metals above MCLs or RSLs. The remaining four samples contained at least one of the following analytes above its respective MCL or RSL: arsenic, cadmium and lead.

None of the 14 groundwater samples submitted for PCB analysis contained PCBs above the laboratory reporting level.

FINDINGS – Phase II Investigation

From December 6 through 10, 2010, the EPA contractor, with the EPA oversight, used a DPT rig to collect soil and groundwater samples. The contractor also collected groundwater samples from existing monitoring wells around Buildings 50 and 52. Past sampling has demonstrated that VOCs are present in the subsurface under and around the vicinity of Buildings 50 and 52. In addition, other analyses for SVOCs, metals and PCBs were conducted on the soil and groundwater samples to further assess any additional contamination that may be present in the areas around Buildings 50 and 52.

Soil Results

Forty-one soil samples were submitted for VOC, SVOC, RCRA metals and PCB congeners analyses. Groundwater samples were collected from 14 monitoring wells and five DPT temporary wells and submitted for VOC, SVOC, total metals and PCB analyses. Not all samples were analyzed for all compounds.

The majority of the soil samples contained various VOCs and SVOCs above detection levels; however, none of the samples contained any VOCs above their respective RSLs, and only two samples contained a SVOC (benzo[a]pyrene) above its industrial soil RSL.

Arsenic was the only RCRA metal detected above its RSL in the collected soil samples. Almost all of the soil samples contained arsenic above its industrial soil RSL of 1.6 mg/kg, at concentrations ranging from 2.1 mg/kg to 10.4 mg/kg. However, these arsenic concentrations were less than the USGS mean arsenic concentration of 16.603 mg/kg reported for Jackson County. It is believed the reported arsenic concentrations are naturally occurring levels.

All soil samples submitted for PCB congener analysis did not contain any of the 209 PCB congeners above RSLs.

Groundwater Results

Seven of the 14 groundwater monitoring wells contained at least one of the following VOCs above their respective MCL or RSL: 1,1-DCE; chloroform; *cis*-1,2-DCE; *trans*-1,2-DCE; TCE or vinyl chloride. Four RCRA metals (arsenic, cadmium, chromium and lead) were detected above MCLs in the monitoring well samples.

Arsenic, cadmium, chromium and lead were detected in all five DPT temporary wells above their respective MCLs. These metal concentrations were at a much greater concentrations than the monitoring wells. These greater concentrations in the DPT groundwater samples may be due to the high turbidity of the DPT temporary well samples.

RECOMMENDATIONS

1. Previous soil and groundwater investigations around Buildings 50 and 52 conducted by GSA failed to find a subsurface source (e.g., contaminated soil or groundwater). The investigation conducted by the EPA also failed to find a subsurface source.

   Part of the EPA Phase II investigation included the collection of subslab soil samples in Building 50. During the field activity, a field decision was made that the collection of these subslab samples would be delayed until after the data results were evaluated from the collected soil and groundwater samples. The main reason for this decision was that no elevated PID readings were measured in any of the soil samples.

   It is recommended that the subslab samples in Building 50 be collected to determine if a subsurface source exists under the subslab. The elevated concentrations of VOCs found in the groundwater monitoring wells is either coming from a source under this building or from another source.

2. Very high concentrations of metals were found in the DPT temporary wells around the playground of Building 52. Although these concentrations may be due to the high turbidity of the DPT temporary wells' samples, further groundwater sampling is warranted in this area to validate these sampling results.

   It is recommended additional groundwater sampling be conducted to determine if these metals are naturally occurring or could be the result of buried material in the area. We recommend the collection of two groundwater samples in the area previously sampled including a background groundwater sample. The groundwater samples will be analyzed in the filtered and unfiltered state.

3. Because this evaluation is part of the second phase of the site reassessment, the EPA should take lead on any further sampling activity.

   If the EPA is to conduct this additional work under the IAG with GSA, the findings would be consistent with the previous findings and could be completed prior to the end of the IAG's period of performance (September 30, 2011). A review of the remaining funds with the EPA's contractor will need to be evaluated. If funds are not adequate, it is possible to use some of the EPA oversight funds to supplement the contractor funds.