



STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director

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January 15, 2010 (NOTE: This letter replaces letter incorrectly dated January 15, 2009)

General Services Administration  
 Attn: David Hartshorn (6PFB)  
 1500 E. Bannister Road  
 Kansas City, Mo. 64131

RE: Preliminary Assessment/Site Inspection Report, May 2008, GSA Managed Property  
 Bannister Federal Complex, Kansas City, Missouri, General Services Administration-  
 Kansas City Site, Kansas City, Missouri, CERCLIS ID No. MO0470000530

Dear Mr. Hartshorn:

The Missouri Department of Natural Resources is in receipt of a letter dated May 27, 2008, from SCS Engineers, which transmitted a copy of the subject document to the U. S. Environmental Protection Agency (EPA) Region VII for review and comment. A copy was also sent to this agency, and we are herein providing our initial comments. As previously noted, we request funds through the existing Memorandum of Understanding between the General Services Administration (GSA) and the Department for oversight and review of remediation activities at the Bannister Federal Complex. Please be advised that without these funds the level of detail of the comments may not address all of our agency's concerns or issues. In a similar vein, the timeliness of this review has been constrained by the funding issue. The Missouri Department of Health & Senior Services is also reviewing this document. We will forward their comments when we receive them.

We do note and agree with comments provided to you by the U. S. Environmental Protection Agency Region 7 (EPA), in a letter dated February 5, 2009. We strongly suggest and support any actions that would accelerate continued monitoring and investigation in the day care area. Similarly, in those areas identified as having contamination above or at the MRBCA risk levels, remediation and/or definition of the nature and extent should be put in place. The following are preliminary concerns or comments to the subject PA/SI:

1. There are several recommendations presented by the consultant that this office concurs with and we support having the GSA implement as soon as possible. These include: that any UST closures be noted on the property deed in accordance with MRBCA guidelines and MDNR solid waste regulation; any areas which have received remediation of a PCB spill which included an application of sealant (i.e. epoxy coating) should have a maintenance plan to ensure the seal is effective; and several areas (i.e. Building 1 utility tunnel, Building 4 crawl space, Building 28 battery storage area) of the investigation noted exceedances of MRBCA for lead, arsenic and Aroclor 1260, with a recommendation of cleaning the "small" amount of contamination. We also agree that additional groundwater monitoring near Building 50 is needed.
2. Excluding the former NARA/IRS and former IRS landfill areas from this PA/SI, does not necessarily exclude the need for a PA/SI for those areas separately. Please advise what

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- the plan or schedule is to have this investigation performed, or whether this has already been performed.
3. The history of Building 4 operations appears to support the need for a more thorough investigation, which should include analysis for solvents as well as petroleum products.
  4. The findings of the PA/SI clearly note contamination by TCE as well as its degradation products. A more thorough and extensive investigation and resultant removal/remedial action should be considered as soon as possible. Risk to GSA employees, as well as the noted population of children at the day care, needs to be addressed. Findings on figure 8 indicate excessive contamination of TCE at SP-10 (43,300 ug/l) as well as lesser elevated levels at other investigation locations, and include TCE degradation products at levels above risk based concentrations. Continued periodic air monitoring of the day care area should be maintained to ensure that risk to this population is minimized. The Department requests that the GSA develop a detailed sampling and analysis plan for indoor air sampling at the day care center. We would like to coordinate the finalization of that sampling plan with you.
  5. If or when the GSA elects to declare property under their control as "excess to their needs" and out of government ownership, appropriate land use control(s) must be included in all of the transfer documentation. Because of the historical uses at this site (i.e. heavy manufacturing and operations) and relatively small definition of the nature and extent of the multitude of contaminants used through out the site's history; either extensive remediation, Land Use Controls (LUC's) or a combination of the two are needed. Any proposed LUC's must be robust, effective and enforceable in order to maintain protection of human health and the environment.

Should you or your agency have any questions or comments regarding these review comments, please contact me at (573) 751-3907. If funding, for a more thorough review or oversight by this office, can be developed, we are available to discuss concerns associated with the site in more detail.

Sincerely,

HAZARDOUS WASTE PROGRAM



Branden B. Doster, Chief  
Remediation & Radiological Assessment Unit

BD:dd

- c: Mr. Jonathan Garoutte, Department of Health and Senior Services  
Mr. Ronald King, U.S. Environmental Protection Agency, Region VII  
Mr. Timothy Morales, Branch Chief, General Services Administration

**Missouri Department of Health and Senior Services**

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Margaret T. Donnelly  
Director



Jeremiah W. (Jay) Nixon  
Governor

January 22, 2010

Branden B. Doster  
Chief - Remediation and Radiological Assessment Unit  
Federal Facilities Section  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, Missouri 65102-0176

Re: DHSS comments on the *Preliminary Assessment / Site Inspection, GSA-Managed Property, Bannister Federal Complex, Kansas City, Missouri, PA/SI Report (May 2008)*.

Dear Mr. Doster:

The Department of Health and Senior Services (DHSS) received your request dated December 09, 2009 to review and comment on the PA/SI Report of the GSA-managed portion of the Bannister Federal Complex (BFC). DHSS comments, mainly in reference to *Appendix J - Addendum 1 to Preliminary Assessment/Site Inspection Report: High Voltage Line Investigation and Vapor Intrusion Assessment*, are presented below.

The PA/SI Report identified indoor inhalation of vapor emissions from chlorinated volatile organic solvents (CVOCs) detected in soil and groundwater as the primary pathway of concern. Based on the PA/SI Report, there is a potential for a ground water plume of CVOCs below Building 52, and possibly Building 50 as well. Investigations done so far have neither defined the source, nor delineated the nature and extent of the trichloroethylene (TCE) and other CVOCs contamination at or under Building 52. The PA/SI report therefore recommended that "an assessment of the indoor inhalation of vapor emissions pathway be conducted following U.S. Environmental Protection Agency (EPA) protocols." It is not clear therefore why the results were not screened against the EPA National Screening Levels. Instead they were screened against the Missouri Risk-Based Corrective Action Target Levels (MRBCA TLs) (Table 1, p. 2-3). The EPA National Screening Levels residential screening levels (carcinogenic) for TCE and tetrachloroethylene (PCE) are  $1.2E+00 \mu\text{g}/\text{m}^3$  and  $4.1E-01 \mu\text{g}/\text{m}^3$ , respectively.

Indoor air samples were collected in Buildings 50 and 52 in the months of January and March of 2008, virtually the same season. Deciding where and when to collect samples is important as indoor air and ambient air samples tend to exhibit considerable degree of variability over time. Sampling should ideally be done in a different season in order to account for seasonal and/or temporal transience. The statement that "the buildings have both commercial heating, ventilation and air conditioning (HVAC) systems, so seasonal variations were unlikely to affect sample results" may not therefore be strictly correct.

[www.dhss.mo.gov](http://www.dhss.mo.gov)

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On p. 2-1 of Bannister PA / SI Addendum 1, p. 2.1, it is stated that "indoor air monitoring was selected as the best method to evaluate vapor intrusion in this instance, primarily because the buildings are currently occupied..." The evaluation of vapor intrusion is often complicated by contaminant vapors from other sources present in most households or businesses as well as from outdoor sources. As a result, indoor air samples should be considered in conjunction with sub-slab samples from below the foundation and ambient air samples to help distinguish vapor intrusion from these background sources. Obvious sources of indoor air vapors should be removed from the building prior to sampling. Indoor air sampling alone may be misleading because it is difficult and sometimes impossible to eliminate or adequately account for contributions from "background" sources.

The one sample showing a concentration of  $110 \mu\text{g}/\text{m}^3$  could have come from numerous sources, but none of the products used in Building 52 were found to have PCE or TCE as a component (table 2), an indication of a source other than those products. At any rate, it is recommended that household/industrial chemicals suspected to contain volatile constituents should be cleared from the building prior to further indoor air sampling. It is not clear if this was done during previous sampling. Minor issues were also noted with data quality (Section 2.5, p. 2-5).

U.S. EPA guidance, in recognition of the complexity inherent in evaluating the vapor intrusion pathway, recommends that a comprehensive assessment of this pathway using all available lines of evidence be conducted before drawing conclusions about the risks posed by this pathway. The guidance encourages sequential steps, starting with the source of vapors (contaminated groundwater or unsaturated soils), proceeding to soil gas in the unsaturated zone above the source, and upward to the exposure point (e.g., subslab or crawlspace vapor). Then, if indicated by the results of previous steps, collect and evaluate indoor air data. Collection of indoor air quality data without evidence to indicate the potential for vapor intrusion from subsurface sources is not recommended for preliminary screening. However, if such data are available, they should be evaluated along with the available subsurface data (OSWER, 2002). Other than indoor air sampling, no other line of evidence was pursued for Buildings 50 and 52.

Section 5.4.1 and Section 5.5 both make references to high concentrations of a "relatively new source of TCE" and "a release of Trichloroethylene (TCE) and other CVOCs to groundwater occurring or having occurred from a source on the northeastern corner of Building 50 at the Site." Section 8.3 further makes it clear that "TCE, cis 1,2-Dichloroethylene (DCE), and Vinyl chloride (VC) were detected in soil and groundwater at concentrations exceeding residential and nonresidential TLs for indoor inhalation of vapor intrusion (Soil Type 1) at various locations during this and previous investigations." These and other TCE degradation products should be included in future sampling and analysis.

Based on our review of the data provided, DHSS is of the opinion that the vapor intrusion pathway, particularly as it relates to Building 52 was not properly evaluated. The conclusion that the high concentration of TCE detected in sample 52-1 is associated with "something that was present or used in that particular room" seems speculative as it is not supported by any data. At any rate, none of the products listed in the product inventory used in Building 52 (Table 2) were identified as a potential source of TCE or affecting the indoor air quality (Section 4.1, p. 4-1). Given the nature of the building's receptor population, the detection of TCE in Building 52 during the initial sampling at a concentration of  $110 \mu\text{g}/\text{m}^3$  does warrant further investigation, despite finding lower detections in the subsequent sampling event.

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1/22/10  
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Furthermore, an 8-hour sampling time frame would more likely be representative of an industrial/commercial scenario than the actual time that the children are occupying the building. We therefore consider 10 hours to be more representative of the time that the children are likely to spend inside the facility. Accordingly, DHSS recommends 10 hours as a reasonable sampling time frame in future sampling. EPA guidance recommends an integrated 24-hour time frame for a residential scenario.

Lastly, DHSS disagrees with the conclusion that "no further action is recommended regarding vapor intrusion....in the vicinity of Buildings 50 and 52." For proper characterization, a "multiple lines of evidence" approach is recommended for the two buildings. Sampling of at least near-slab soil vapor should have been done in addition to indoor/outdoor air. Groundwater samples, sub-slab soil vapor and air exchange rate estimates would present a better evaluation of vapor intrusion potential (Building 52 especially). Towards this end, multiple rounds of sampling may be more appropriate in characterizing the nature and extent of subsurface vapor contamination such that both potential and current exposures are properly defined.

For all of the reasons discussed, DHSS recommends that Buildings 50 and 52 should undergo a more comprehensive evaluation of the vapor intrusion pathway, preferably using more than one line of evidence. DHSS further recommends at the least, groundwater and subslab soil gas sampling be conducted, perhaps in combination with indoor air sampling during different seasons.

As for the operation of a day care in Building 52, this situation warrants careful and complete investigation. We will coordinate with the DHSS Division of Regulation and Licensure and with you to determine the best course of action.

We appreciate the opportunity to be of assistance. If you have any questions, please contact Jonathan Garoutte at (573) 751-6102.

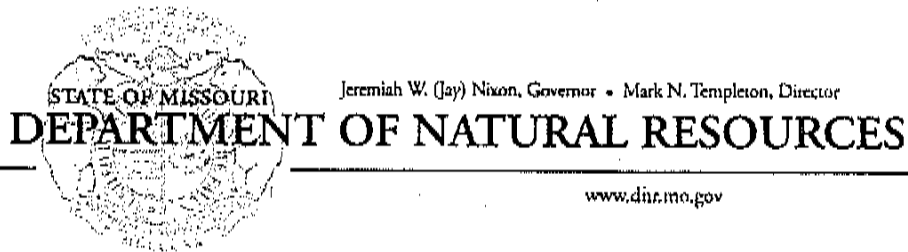
Sincerely,



for Cherri Baysinger, Chief  
Bureau of Environmental Epidemiology

CB/JG/DW

cc. Kathy Quick, DHSS, DRL



January 22, 2010

General Services Administration  
Attn: David Hartshorn (6PFB)  
1500 E. Bannister Road  
Kansas City, Mo. 64131

RE: Air Sampling Plan, Bannister Child Care Center, 20 January 2010 (revised), GSA Managed Property Bannister Federal Complex, Kansas City, Missouri, General Services Administration-Kansas City Site, Kansas City, Missouri, CERCLIS ID No. MO0470000530

Dear Mr. Hartshorn:

The Missouri Department of Natural Resources has finished its review of the above referenced sampling plan. Our comments are included as an enclosure to this letter. If you have any questions or comments regarding these comments, please contact me at (573) 751-3907. Direct any written correspondence to my attention at the Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65192-0176.

Sincerely,

HAZARDOUS WASTE PROGRAM

A handwritten signature in black ink, appearing to read "Branden B. Doster".

Branden B. Doster, Chief  
Remediation & Radiological Assessment Unit

BD:dd

Enclosure . . .

c: Mr. Jonathan Garoutte, Department of Health and Senior Services  
Mr. Ronald King, U.S. Environmental Protection Agency, Region VII  
Mr. Timothy Morales, Branch Chief, General Services Administration

**Missouri Department of Natural Resources****Comments on:**

**Air Sampling Plan, Bannister Child Care Center, 20 January 2010 (revised)  
GSA Managed Property Bannister Federal Complex, Kansas City, Missouri  
General Services Administration-Kansas City Site  
Kansas City, Missouri, CERCLIS ID No. MO0470000530**

**Comment #1** The sampling plan should reference appropriate sample collection and analytical methods and procedures. Also, appropriate guidance documents should be used and referenced within this sampling plan. This ensures the samples are collected and analyzed using what is currently considered acceptable procedure and methods. The Department recommends using the U.S. Environmental Protection Agency's (EPA) draft guidance on evaluating vapor intrusion (Ref 1) and EPA's compendium of methods including TO-15 (Ref 2).

**Comment #2** Samples must be analyzed by methods that can achieve minimum reporting limits to allow for comparison to background levels. The maximum limits (RLs) for each compound in the method must also be specified. For example, the maximum reporting limit for EPA Method TO-15 is  $\leq 0.5$  ppbv. The RL used by the laboratory must be greater than the clean canister certification level of 0.2 ppbv and  $\leq 0.2$  ppbv. Please address.

**Comment #3** Results of laboratory analysis (TO-14 or TO-15) are usually not available for several weeks. Is continued use or occupation of the building of concern in the interim? Is quick turnaround of results possible?

**Comment #4** The sampling plan should demonstrate the anticipated detection limits will meet the Data Quality Objectives (screening levels). The Environmental Protection Agency has developed screening levels (Regional Screening Tables) that are available at this web address: [www.epa.gov/reg3hwmd/risk/human/index.htm](http://www.epa.gov/reg3hwmd/risk/human/index.htm).

**Comment #5** Samples should be collected under conditions representative of the use of the building. The building should therefore be subjected to the typical conditions of use this time of the year, at least for 24 hours prior to the start of sampling (i.e. heating system in use - if those are the conditions that have been prevailing this season). In addition, samples should be collected near suspected source(s) and commonly used space(s) to assess worst-case exposures and distribution within the building.

**Comment #6** The Department recommends sampling be conducted under controlled monitoring conditions. This includes following appropriate sample collection and analytical methods and procedures. We also recommend the following and request these details be added to the sampling plan:

- Samples should be collected in the breathing zone. The plan currently specifies placing canisters on the floor. The Department accepts this collection location.
- The building should maintain "closed house" conditions 12-24 hours before measurements.

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- The use of appliances that induce large pressure differences (cloth dryer, fireplace) should be avoided during sampling.
- The placement of canisters near windows or air supplies should be avoided.
- We recommend operating the HVAC system as it is operated during typical building use.
- We recommend operating the HVAC system on Saturday (the day before anticipated sampling) as it is operated during typical building use.
- We recommend collecting the sample at the time of day the building is typically occupied.

**Comment #7** Outdoor air sample should be collected from an upwind location of the building, away from obvious VOC sources such as parked cars or garages.

**Comment #8** A survey should be conducted to identify any potential sources of VOCs (cleaners, glues, solvents) inside the building. Removal of such VOC emitting substances prior to sampling is preferable, where possible. Ambient air and potential indoor sources of VOCs are very important confounding factors that should be addressed when evaluating the VI pathway.

**Comment #9** It is important that appropriate QA/QC measures are followed during sample collection and laboratory analysis. Items that should be addressed in sampling protocols include sampling techniques, certified clean sampling apparatus, appropriate sample holding times, temperatures, and pressures. In addition, laboratory accession procedures must be followed including; field documentation (sample collection information and locations), chain of custody, field blanks, field sample duplicates and laboratory duplicates, as appropriate. Please address these issues.

**Comment #10** The Department recommends creating a duplicate sample by placing two canisters near each other with both canisters using the same inlet to document variability in sampling and analysis.

**Comment #11** If sampling results are found to be above action levels, we encourage the GSA to notify the occupants and take actions to address exposures immediately. The need for a background source determination and additional indoor air monitoring would also be recommended.

**Comment #12** The canisters used during previous sampling were not certified for tetrachloroethylene (PCE). Will the canisters used to perform this sampling be certified?

**Comment #13** The samples collected under this sampling plan are proposed to be collected in a manner somewhat different than the previous sampling. Please consider these differences when comparing data from previous events to this sampling.

**Comment #14** The Department previously recommended periodic sampling of indoor air. We would like to discuss the GSA's intentions of continued sampling at your earliest convenience.

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We propose quarterly sampling of indoor air to confirm conditions. Also, we recommend additional groundwater monitoring to assess the nature and extent of contaminant.

**Comment #15** Information from previous investigations suggests that other contaminants, like benzene, do not pose a potential indoor air concern. Please verify the list of contaminants is inclusive of all of concern.

**Comment #16** It is our understanding that polychlorinated biphenyls (PCBs) are a contaminant of concern near this area of interest. Some PCBs are volatile and potentially present an indoor air concern. We recommend that PCBs be considered for sampling.

**References:**

Ref 1: OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) November 2002 EPA530-D-02-004

Ref 2: Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, EPA/625/R-96/010b