



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

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Administrative
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OCT 16 1992

David Adler
Former Sites Restoration Division
U.S. Department of Energy,
Oak Ridge Field Office
P.O. Box 2001
Oak Ridge, TN 37831-8723

Dear Mr. Adler:

We have completed our review of the Draft Final Field Sampling Plan (FSP) and the Draft Final Quality Assurance Project Plan (QAPP), dated August 1992, for the St. Louis Site. With respect to the QAPP, we have no additional questions or comments, and accept the draft final QAPP as final under the terms of the IAG. With respect to the FSP, we are unable to accept the draft final document as final pending a DOE response to questions raised during our review of the revised document. Note that the comment/question identification numbers appearing below are those used in our June 17, 1992 letter. Also note that our comments and questions related to geology/hydrogeology issues appear as a separate section:

General Comment 1 - We note that subsequent to our receipt of the draft final FSP we were provided the data package "Supplemental Sediment Data - Radiological Characterization Report for the St. Louis Site", dated August 27, 1992. The data contained in that package were not included in the 1990 Radiological Characterization Report for FUSRAP properties. Those data indicate radiological contamination has been identified in Coldwater Creek sediment intervals below the surface. The maximum "at depth" concentration identified in the data package is 200 pCi/g in the 1.0 to 2.0 foot interval.

Based on our telephone conversations, it is my understanding that DOE intends to submit for EPA review a plan for retrieving selected archived soil samples from Coldwater Creek and submitting them for analysis. The primary focus of the analytical effort will be to better define the extent of contamination in the deeper sediments of Coldwater Creek, particularly in depositional areas. It is also my understanding that the plan will be submitted for EPA review within the next few weeks.

Based on our review of the August 1992 data package, we have the following comments for DOE to consider when preparing the archival "workplan":

- a) there appear to be essentially no data on contamination at depths below 0.5 ft for approximately the first 1 1/2 mi downstream from the SLAPS, i.e., from the SLAPS to Pershall Road;
- b) there are very few creek sediment sample results, for any depth, south of Pershall Road and north of a point somewhere in the vicinity of Latty Avenue;
- c) the 1990 Characterization report appears to be in error (eg., Figure 6-3 and accompanying text) when reporting the number and locations of samples. For example, Figure 2 of the August data package identifies several locations which don't appear in the 1990 report. Figure 6-3 is also inconsistent with the data presented in the tables contained in the August package;
- d) based on the data package there are several areas where contamination is present in the deepest samples taken. Thus there is a need to determine the maximum depth of contamination at several locations in the creek;
- e) the data for the 2.0 to 3.0 foot interval at the 7500 foot distance appear to be erroneous (duplicative);
- f) in order for us to evaluate the adequacy of the archival workplan we will need to have access to the computer model used to identify potential sampling locations, as well as the assumptions used in the development of the model for Coldwater Creek.

General Comment 3 - It appears to us that none of the proposed SLDS TCLP locations are in areas that formerly showed trichloroethylene. Please clarify.

p. 63 - We agree that a primary focus of the Futura Studies is to refine the information on exposure to present or future Futura Coatings workers. However, there is also a need to assure that substantial pockets of contamination have not been encapsulated in the process of remodeling and incorporating buildings or portions of buildings that were present when residue drying was carried out. Will the surveys to be conducted by DOE provide sufficient information with respect to the encapsulation question?

p. 87, paragraph 1 - We fail to see the reason for such a measured response to our comment. We reiterate that EPA will expect to be involved in reviewing the plans for any additional characterization work which might be legitimately construed to fall under the auspices of the FFA. In those instances where DOE questions the need to provide information for our review, DOE should contact the EPA RPM to discuss those questions.

1. We will consider June 31, 1993, as the submittal date for the draft report which will result from the implementation of the FSP. We note however, that the draft FS and Proposed Plan are to be submitted in March 1993. Please be advised that we will require sufficient information to adequately evaluate the FS and Proposed Plan. In those instances where our evaluation of the FS and Proposed Plan may be significantly influenced by data gathered from the FSP, it will be necessary for DOE to provide us that data prior to our approval of those documents.

6. We will reserve further comment on the issue of soil mixing until our review of the FS. Note that we still have not received DOE's rationale for assuming the regulatory acceptability of that activity.

Significant revision of the FSP has taken place with respect to geological/hydrogeological investigations. This revision of the document has prompted the following comments/questions:

1. Page 16, Section 2.2.1; Page 26, Section 2.2.3; Page 76, Section 2.2.8; Page 104, Section 6.1.1: The plan states that a surveyor will establish soil sampling locations to a precision of $\pm 0.3\text{m}$ (1 ft.). It is recommended that soil sampling locations remain approximate, to be located by the sampling crew as close as possible to the locations shown in Figures 2-1, 2-2, and 2-3. After the borings are backfilled, the crew can mark the boring locations using labeled hubs or stakes to be surveyed upon the completion of each boring. By using this approach, if sampling locations must be adjusted by the sampling crew because of underground or overhead utilities or other drilling obstacles, the crew can make the necessary adjustments and only one post-sampling survey will be necessary to accurately locate the actual sampling points.

2. Page 16, Section 2.2.1; Figure 2-2, Page 18; Table 2-1, Page 19: The text states that seventeen boreholes will be drilled and sampled at the City of St. Louis Property, while Figure 2-2 shows two additional sampling locations (123 & 124), and Table 2-1 lists two additional sampling locations (123 & 126). These discrepancies should be corrected.

3. Page 20, Section 2.2.1: For each soil boring, the plan proposes collection of samples from four discrete intervals (0-0.5, 0.5-1, 1-2, and 2-3 ft.) in order to define the vertical extent of contamination.

The plan should propose measures to prevent cross contamination during the soil sampling effort either through decontamination of the soil sampling equipment between vertical intervals, or by sub-coring the soil sample.

4. Page 36, Section 2.2.3, Table 2-4: Soil boring 103 and its coordinates should be added to Table 2-4 under the Thomas & Proetz Lumber Co. Property.

5. Page 34, Section 2.2.3: The text does not explain soil borings 128 and 129 at the PVO Foods, Inc. Property. These borings are shown in Figure 2-11 and listed in Table 2-4.

6. Page 43, Section 2.2.7, First Paragraph: The text should be changed to state that the maximum number of proposed monitoring wells is 22, and that 5 wells may not be necessary at HISS.

7. Pages 43-57, Section 2.2.7: The text does not provide details regarding the drilling, sampling, and installation of well B16W06S as is done for the other seven wells proposed for the SLDS.

8. Page 49, Figure 2-17: Monitoring well B16W04S, installed in March 1988, is not shown on this map of SLDS.

9. Page 57, Section 2.2.7: The last paragraph describing work proposed at SLDS refers to monitoring well B16W13S, which is not identified in Figure 2-17 or Table 2-8.

10. Page 59, Section 2.2.7 (SLAPS Groundwater Characterization): The plan states that proposed deep monitoring well B53W12D will not be continuously sampled and logged because it is being installed near previously logged well B53W09D.

The boring for well B53W12D should be continuously sampled and a detailed log prepared. Existing well B53W09D is approximately 500 feet north of the location of proposed well B53W12D and therefore too distant for extrapolation of stratigraphic information. Additionally, the location of proposed well B53W12D will be in an area where knowledge of the presence or absence of the clay layer (Subunit 3M) is not currently available. Continuous sampling is also needed in order to identify the contact between the upper water-bearing zone and the clay layer so that the 16-inch surface casing can be properly installed in order to prevent the potential for inter-aquifer transfer of contaminants.

11. Pages 61-63, Section 2.2.7 (SLAPS Groundwater characterization): The plan states that borings for proposed monitoring wells B53W17S, B53W18S, B53W19S, and B53W20S will not be continuously sampled because each of these will be located adjacent to previously-logged boreholes. The plan should identify these earlier borings.

12. Pages 64, 67, 68, and 69, Section 2.2.7 (HISS Groundwater Characterization): The plan states that proposed wells HISS17S, HISS18S, HISS19S, and HISS20S will not be continuously-sampled during drilling because each well will be located near a previously logged boring; EPA could not locate these previous borings; the plan should identify them.

The entire boring for proposed monitoring well HISS5D should be continuously sampled in order to accurately locate the clayey silt/silty clay interface so that the 16-inch surface casing can be properly installed in order to prevent potential inter-aquifer transfer of contaminants.

The plan states on page 70 that the boring for proposed well HISS5D will be advanced to a maximum depth of 120 feet or until a water-bearing zone is encountered; the plan should explain the rationale for limiting the maximum depth to 120 feet.

Considering the geology of the area and the fact that a shallow water-bearing zone exists at HISS, EPA believes that a lower water-bearing zone will likely be encountered during drilling at HISS5D. If or when this zone is identified, the plan calls for the drilling and installation of five additional deep wells (HISS17D, HISS18D, HISS19D, and HISS20D) to be screened in this lower zone. It is recommended that these additional deep wells be continuously sampled from the ground surface to terminal depth since no other deep borings exist at HISS; after these additional deep wells are installed, the shallow wells for these clusters (HISS17S, HISS18S, HISS19S, and HISS20S) may be then be drilled and installed based on the logs from the deep well borings, making continuous sampling for the shallow well borings unnecessary.

13. Page 70, Section 2.2.7: The plan should provide a description of the referenced CME screw-type sampler, along with a brief description of its operation and capabilities.

14. Page 71, Section 2.2.7: EPA believes that the method proposed to control the release of methane gas during drilling will not be effective. If pockets of methane are encountered during drilling, the gas will rise up through the water column due to the difference in density between the water and the gas. Field personnel should be cautioned not to rely on the water to

prevent migration of the methane to the surface, and they should perform constant air monitoring for methane close to the borehole during drilling.

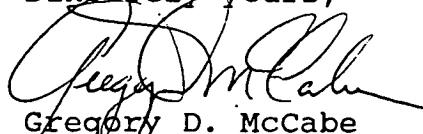
15. Pages 57, 64, and 70, Section 2.2.7: The plan should explain the purpose of collecting the samples of fine and coarse materials from the drill cuttings for mineralogic and grain-size analyses.

16. Page 75, Section 2.2.7: Groundwater transport of the radionuclides listed on page 75 can take place via adsorption of the contaminants onto mobile, colloidal-sized particles. For this reason, the plan should specify that groundwater samples for the radionuclides will not be field-filtered.

17. Our review has found that the nomenclature used to identify wells and boreholes on each of the St. Louis sites is somewhat inconsistent throughout the various documents which have been produced. In the June "FSP report" please be sure that all wells and boreholes are consistently located and identified.

Should you have any questions regarding our review, please contact me at (913) 551-7709.

Sincerely yours,



Gregory D. McCabe
Site Assessment and
Federal Facilities Section
Superfund Branch

cc: David Bedan, MDNR