2053

R-009-208.14

# RESPONSES TO U.S. EPA COMMENTS ON WORK PLAN

XX/XX/XX

USEPA/DOE-FSO
5
COMMENTS
OU5

2053

Commenting Organization: U.S. EPA Commentor:
Pg. #1 Section # Paragraph #3 Sent./Line #
Original Comment #1

Comment: The work plan should document how an increase in uranium loading to the Great Miami River, resulting from the relocation of the extraction wells to the proposed northern location, can be offset by a equivalent mass of uranium removal from the production area.

Response: It was not our intention to address the impact of relocating the extraction wells on the equivalent mass uranium removal concept in the Part 5 Work Plan. This issue will be addressed in a future revision to the Parts 2/3 Work Plan when the information from the computer modeling is completed under Part 5. The increase in uranium loading resulting from the relocation of the extraction wells was proposed to be offset by treating an equivalent mass of uranium accomplished by installing three existing ion exchange vessels into the Biodenitrification (BDN) effluent scheme (BDN - effluent treatment facility). These vessels were recently used to demonstrate the use of ion exchange technology in treating FMPC wastewater. It is anticipated that an additional 300 lbs. U/yr. can be removed by these vessels when installed in a parallel arrangement. However, recent modeling has indicated that the additional 300 lb unit will probably not be sufficient to provide the equivalent mass required. Additional options are being investigated.

Action: Will add note indicating that the addressing of equivalent mass will be included in the revised Parts 2/3 Work Plan.

Commenting Organization: U.S. EPA Commentor:
Pg. #9 Section # Paragraph #1 Sent./Line #
Original Comment #2

Comment: The work plan should state which laboratory will conduct the inorganic analysis. In addition, the work plan should clearly state that samples will be analyzed for inorganic parameters listed on page 33 or 34 in Section 3 of the RI/FS sampling plan. The list of inorganic parameters listed in the RI/FS sampling plan is larger than the HSL inorganic list and will more accurately define the contaminants from the Albright and Wilson facility.

Response: The inorganic analyses will be conducted by NET Laboratory in Dayton Ohio under a contract with WMCO.

There is no need to analyze for all the parameters listed on page 33 of 34 in the RI/FS Sampling Plan. The HSL Metals list is sufficient for the intended investigation. The parameters that have been found in the Paddys Run Road Site plume are included in the HSL metals list. Samples collected from RI/FS wells in the area were analyzed for the parameters listed on page 33 of 34 in the RI/FS sampling plan and the results of those analyses do not indicate that parameters in addition to the HSL list are present. Sample results from RI/FS Well 2094 predicted the results from the Paddys Run Road Site investigation long before their data was available.

Action: None

Commenting Organization: U.S. EPA Commentor:
Pg. # 9 Section # Paragraph #2 Sent./Line #
Original Comment #3

Comment: The criteria to determine whether groundwater samples should be sent to a laboratory for volatile organic compound (VOC) analysis appear to be too loose, considering the objectives of the study as stated on page 5. The 5 parts per million (PPM) selection criterion may lead investigators to underestimate the extent of the eastern and northern edges of the plume. For example, under ideal equilibrium conditions there would have to be a concentration of approximately 375 ug/L of benzene in the groundwater to result in a 5 PPM concentration in the air. Because field conditions rarely exhibit ideal equilibrium conditions, is likely that the benzene concentration in the groundwater would have to be higher than those calculated for the ideal equilibrium condition.

Response: The screening method described is the standard screening method used for the FMPC RI/FS. The discussion of ideal conditions with benzene does not consider the presence of the other volatile organic chemicals in the documented plume. The HNu will be responding to a mixture of vapors. If a similar ideal condition analysis can be provided that shows which mixture will produce a 5 ppm response by the HNu, then there would be a basis for the argument.

Secondly, as stated in the Work Plan and agreed to in the May 22, 1991 meeting in Chicago, it is not the task of the FMPC RI/FS to fully characterize the PRRS plume and its boundary. The purpose of this investigation is to determine the approximate boundary so the impact of any pumping in the area can be modeled. With the relocation of the removal action wells to north of the PRRS plumes, it is anticipated that the PRRS investigation will define the plumes in detail in sufficient time to be used in the Operable Unit 5 Feasibility Study.

Since the water pumped from this area under the final remedial solution will likely go through some form of treatment before discharge to the river, the presence of trace amounts of organic chemicals is not of as great concern as it is for the removal action which will pump water directly to the river.

Action: None

Commenting Organization: U.S. EPA Commentor:
Pg. #10 Section # Paragraph #3 Sent./Line #
Original Comment #4

Comment: The work plan should state that groundwater samples collected from the multiple depth Hydro-punch sampling will also be measured for specific conductance in the field.

Response: All samples will be measured in the field for specific conductance. The work plan will be modified as requested.

Action: Modify text to clarify that specific conductance will be measured in all samples regardless of sample method.

Commenting Organization:U.S. EPA Commentor:
Pg. #10 Section # Paragraph #4 Sent./Line #
Original Comment #5

Comment: See comment 3 concerning the field screening of groundwater samples to determine if off-site laboratory analysis is required.

Response: The screening method described is the standard screening method used for the FMPC RI/FS. The discussion of ideal conditions with benzene does not consider the presence of the other volatile organic chemicals in the documented plume. The HNu will be responding to a mixture of vapors. If a similar ideal condition analysis can be provided that shows which mixture will produce a 5 ppm response by the HNu then there would be a basis for the argument.

Secondly, as stated in the work plan and agreed to in the May 22, 1991 meeting in Chicago, it is not the task of the FMPC RI/FS to fully characterize the PRRS plume and its boundary. The purpose of this investigation is to determine the approximate boundary so the impact of any pumping in the area can be modeled. With the relocation of the removal action wells to north of the PRRS plumes, it is anticipated that the PRRS investigation will define the plume in detail in sufficient time to be used in the Operable Unit 5 Feasibility Study.

Action: None

Commenting Organization:U.S. EPA Commentor:
Pg. #11 Section # Paragraph #1 Sent./Line #
Original Comment #6

Comment: When the source of contaminants in the soil gas is contaminated groundwater (as in this case), contaminant concentrations should be expected to increase as the probe is driven closer to the water table. Therefore, advancing the soil gas probe 2.5 feet below the land surface does not seem appropriate with a water table greater than 9 feet below the land surface. Advancing the soil gas probe only 2.5 feet below the land surface may result in false negatives, and could lead to the investigators to underestimate the extent of the VOC contaminated groundwater.

Response: The depth of the sampling point will be increased to five feet. Boring logs for existing wells indicate that there is less than three feet of silts or clays overlying the aquifer in the area where the soil vapor survey will be conducted.

Action: Modify the text to show the soil vapor probe will be driven to a depth of five feet.

Commenting Organization:U.S. EPA Commentor:
Pg. #11 Section # Paragraph #1 Sent./Line #
Original Comment #7

Comment: The proposed sampling approach may present two obstacles to the successful sampling and analysis of the soil gas. First, if the soil is "tight" and cannot sustain more than a 1 liter per minute pumping rate, the OVA will "flame out". Second, if oxygen levels are below 11 percent the OVA will again "flame out." Both of these conditions can be avoided if the sample is brought to the surface, collected in an appropriate sample container (such as a Tedlar gas sampling bag) and then introduced into the OVA.

Response: PRRS and FMPC RI/FS boring logs indicate that there is little or no clay in the alluvial deposits in the area along New Haven Road. In other parts of the investigation area there can be as much as seven to ten feet of silty clay to clay in the shallow alluvial deposits that overlie the Great Miami Aquifer. We are aware of the limitations of soil gas surveys as described in the comment. The plan calls for a test of the approach near Well 2701 is to determine if the proposed method will work. In the event that it does not, the recommended use of Tedlar bags could be an alternate approach. It is not the intent of this investigation to define in detail the nature of the PRRS plume.

Action: None

Commenting Organization:U.S. EPA Commentor:
Pg. #11 Section # Paragraph #1 Sent./Line #
Original Comment #8

Comment: The sampling approach does not allow for purging the soil gas probe. Several published articles discuss the need to purge the soil gas probe to obtain stable and accurate soil gas concentrations. The method of soil gas probe purging and documentation should be discussed.

Response: The sampling tubes will be purged with either bottled air or nitrogen between each use to prevent possible cross contamination by residual vapors.

Action: The QAPP procedure will include purging the sample equipment.

Commenting Organization:U.S. EPA Commentor:
Pg. #11 Section # Paragraph #3 Sent./Line #
Original Comment #9

Comment: In addition to testing the soil gas sampling approach in an area which has shown high VOC groundwater contamination (well 2701), the soil gas sampling approach should also be tested in an area that has shown relatively low VOC contamination. This will

demonstrate that the soil gas sampling approach is adequate to define the approximate limit of the VOC groundwater contamination.

Response: The survey itself is designed to extend outside the area of known contamination. The survey will be started in the area where no VOCs are expected since good investigation practice is to work from clean toward contaminated areas.

Action: None