

**R-009-207.20**

**1573**

**COMMENTS - SOUTH PLUME GROUNDWATER  
REMOVAL ACTION WORK PLAN**

**06/25/91**

**OEPA/DOE-FMPC**

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**LETTER**

**OU5**



State of Ohio Environmental Protection Agency

**Southwest District Office**

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George V. Voinovich  
Governor

June 25, 1991

Re: **COMMENTS-SOUTH PLUME  
GROUNDWATER REMOVAL  
ACTION WORK PLAN**

Mr. Jack Craig  
U.S. DOE FMPC  
P.O. Box 398705  
Cincinnati, Ohio 45239

Dear Mr. Craig:

Attached are Ohio EPA's comments on the South Groundwater Contamination Plume Removal Action Work Plan. In these comments we recommend that DOE consider revising the removal action goals from addressing the 30 ug/l uranium to 20 ug/l which is the new U.S. EPA proposed MCL for uranium (06/19/91).

If you have any questions please contact me at (513) 285-6018.

Sincerely,

Graham E. Mitchell  
DOE Coordinator

GEM/mlf

cc: Kathy Davidson, Ohio EPA  
Catherine McCord, U.S. EPA  
Jim Saric, U.S. EPA  
Lisa August, Geotrans

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OHIO EPA COMMENTS ON:  
THE SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION  
WORK PLAN - PART 5

General Comment

1. An additional goal, which should be incorporated into this study, is the analysis of ground water for isotopic uranium in the vicinity of the Albright & Wilson facility. This will help delineate the source of uranium contamination in the area.

Specific Comments

1. Investigation Goals, Page 5, Last Paragraph: Recent U.S. EPA publications suggest the MCL for uranium will be 20 ug/L. DOE should consider incorporating the proposed MCL into this investigation and change the goal to defining the southern extent of the  $\geq 20$  ug/L uranium plume. Redefining this goal could reduce future efforts/requirements to define the boundary of the 20 ug/L plume.
2. Investigation Goals, Page 5, Last Paragraph: DOE needs to consider the rate of ground water flow and the proposed date for the operation of the extraction system when attempting to define the 30 ug/L uranium plume.
3. Investigation Goals, Page 5, Last Paragraph: A goal of the study is to facilitate final design of the recovery well system and the associated monitoring program. Based on prior discussions, there is concern that there may be great difficulty changing recovery well locations if the well system does not perform as expected. Given that the well recovery system design will be based on simulation analysis without conducting a substantial pumping test, what flexibility will be built into the program if alternative well locations are needed? The start-up of the system should be designed as a highly monitored aquifer test.
4. Figure 2, Page 6: DOE should be aware that an additional monitoring well has been installed by the Paddys Run Road Site (PRRS) companies at an intermediate depth in the vicinity of monitoring well 2701. This additional well should be added to those sampled under this investigation.
5. Investigation, Page 7: The section fails to discuss the modeling of the impact of the FMPC extraction wells on the two PRRS plumes. This must be a goal of the investigation in order to assure that minimal impact occurs on these two plumes.

6. Investigation, Page 7: Site specific hydrogeologic parameters (i.e., hydraulic conductivity and transmissivity) should be determined from slug tests or pump tests in the area of the proposed removal action to refine input parameters and calibrate the ground water model.
7. Investigation, Page 7: An additional bullet which should be added to the "Conclusions of the investigation ..." is the definition of the southern extent of the  $\geq 30$  or  $\geq 20$  ug/L uranium plume. The approved EE/CA was based upon capturing the  $> 30$  ug/L. DOE must consider the definition of at least the 30 ug/L plume, imperative under this investigation. This investigation must yield enough information to evaluate alternatives for capturing portions of this plume, which are already beyond the proposed locations of the extraction wells.
8. Field Investigation, Page 7: Upon completion of the field investigation work, geologic cross-sections should be prepared to accurately display the geology and hydrogeology of the removal area.
9. Conventional Groundwater Sampling, Page 9, 2nd Paragraph: DOE should detail how HNu screening will be conducted (over well pipe, etc.). VOC samples should be collected from wells at which above background HNu readings are sustained for  $\geq 10$  seconds.
10. Conventional Groundwater Sampling, Page 9: In addition to HSL metals and VOCs, other ground water indicator parameters should be analyzed from selected wells to characterize the ground water quality to ensure that a direct discharge of untreated water would be acceptable. Additional parameters to be analyzed should include Iron, TDS, TSS, Total Phosphorous, etc.
11. Hydropunch II Groundwater Sampling, Page 9: Continuous split spoon samples should be collected from all hydropunch locations to determine the specific geology of each boring and to verify the formation from which samples were obtained. Also, a detailed description along with the specifications for the Hydropunch II sampler should be submitted to the Ohio EPA for review prior to approval of its use in this investigation. The depth of hydropunch sampling should extend to at least 40 feet below the water table to verify the depth of contamination does not exceed the screen length of the recovery wells.
12. Hydropunch II Groundwater Sampling, Page 9, Last Paragraph: Will any QA/QC duplicate samples be sent to the IT Lab. for confirmatory analysis from the Hydropunch sampling? DOE should scrutinize volume requirements for total U at both WMCO and IT labs in an attempt to collect 10% duplicates for

confirmation.

13. Hydropunch II Groundwater Sampling, Page 10, 3rd Full Paragraph: VOC samples should be collected at locations where above background HNu readings are sustained for  $\geq 10$  seconds.
14. Soil Vapor Sampling, Page 11, First Paragraph: The depth of the soil vapor sampling should be dependent upon the thickness of lower permeable soils above the sand and gravel deposits. For example, the major soil type in the proposed soil vapor survey area is comprised of Martinsville silt loam and as described in the Hamilton County Soil Survey 1982, typically consists of a surface layer of dark silt loam about 9 inches thick above a subsoil about 35 inches thick. The upper and middle parts of the subsoil consist of silty clay loam and sandy loam. In some areas, the substratum has silty clay loam or silty clay lacustrine deposits which can greatly restrict the gas permeability of the sediments. Thus, the proposed depth of 30 inches may not encounter permeable sediments necessary for soil vapor sampling. In this area, a depth of 60 inches or more should be used. Also, the probe will need to be sealed to prevent drawing in atmospheric air into the sample.
15. Soil Vapor Sampling, Page 11, Last Paragraph: Total uranium samples should also be collected from these Hydropunch locations. Total uranium data from these locations will allow for determining uranium concentrations at the boundary of the VOC plume. Total conductivity should also be measured at these locations with collection of TCL metal samples when warranted.
16. Groundwater Modeling, Page 12: Additional bullets should be added to include; 1) modeling of the affect on PRRS plumes from placing the removal action wells north of the A&W Plant 2) modeling of the 30 and 20 ug/l isopleths using the most current data available.