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SOUTH PLUME GROUNDWATER RECOVERY SYSTEM EVALUATION REPORT

05/08/95

USEPA DOE-FN

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COMMENTS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

I-2363

11 AM '95

REPLY TO THE ATTENTION OF:

MAY 0 8 1995

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: South Plume Groundwater Recovery System Evaluation Report

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) South Plume Groundwater Recovery System Evaluation Report, covering the period from March 1, 1994, through December 31, 1994.

Although the report adequately presents data collected from the groundwater monitoring period, it appears the recovery system is not meeting its primary objective of providing a hydraulic barrier to prevent the further migration of uranium concentration in the south plume. The southwestern portion of the uranium plume is presented as being outside the capture zone of the recovery wells.

U.S. EPA has attached comments to further clarify this issue. U.S. DOE must submit analytical data concerning the presence of uranium outside the capture zone of the recovery wells to U.S. EPA within thirty (30) days receipt of this letter and/or a plan to address this issue. If uranium exist,above 20 ppb, outside the zone of capture, U.S. DOE must take immediate actions to ensure the objectives of Removal Action 3 are being met.

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Please contact me at (312) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager
Technical Enforcement Section #1
RCRA Enforcement Branch

Enclosure

cc: Tom Schneider, OEPA-SWDO
Jack Baublitz, U.S. DOE-HDQ
Don Ofte, FERMCO
Terry Hagen, FERMCO
Paul Clay, FERMCO

TECHNICAL REVIEW COMMENTS ON "SOUTH PLUME GROUNDWATER RECOVERY SYSTEM DESIGN, MONITORING, AND EVALUATION PROGRAM PLAN SYSTEM EVALUATION REPORT, REPORTING PERIOD: MARCH 1, 1994 - DECEMBER 31, 1994"

GENERAL COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Exec. Summary Page #: E-1 Line #: NA
Original General Comment #: 1
Comment: The executive summary states that despite operational problems and changes in pumping configurations, the system appears to be meeting the goals of the removal action because the extraction well field is preventing the southern migration of the uranium plume and minimizing the impact on the Paddys Run Road Site Plumes. It appears that the system is successfully minimizing the impact on the Paddys Run Road Site Plumes and is successfully minimizing the southern migration of the uranium plume, and that the highest concentration of the uranium plume is captured by the extraction well system; however, it does not appear that the extraction well system is a complete hydraulic barrier preventing all southern migration of the uranium plume. The southwestern-most edge of the uranium plume near monitoring wells 2552 and 3552 is outside of the capture zone (flow divide) of the extraction system in all of the recovery well scenarios shown (see Figures 3.2-5 through 3.2-7). Also, the report states in Section 3.1.1 on Page 3-3 that the tip of the plume is an area of increasing uranium contamination (see Figure 3.1-3). Although, the report states that uranium concentration increases in the southwest tip of the plume, neither analytical data nor a discussion of why the increase may be occurring are presented.

The system evaluation report should be revised to provide a discussion that addresses this issue. Information regarding the plume migration rate, rate of uranium contamination increase in the southwestern-most edge of the plume, analytical data to support the observation of the increase in uranium concentration, and potential measures that can be employed to capture the tip of the plume should be included.

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SPECIFIC COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2 Page #: 2-6 Line #: NA
Original Specific Comment #: 1
Comment: The report states that the integrity of the well screens in recovery wells 3924, 3926, and 3928 were compromised by holes. The report further states that a determination is pending on whether to redrill these wells or repair the well screens. Any decision made regarding repair or replacement of the well screens should be reviewed by the U.S. EPA prior to actions being taken in the field. The report should be revised to specify this requirement.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3 Page #: 2-9 Line #: NA
Original Specific Comment #: 2
Comment: Figure 2.3-2 shows the cumulative gallons pumped per month per recovery well. The figure labels the recovery wells as wells 1 through 5; however, the text of the report refers to the recovery wells as wells 3924 through 3928. This discrepancy should be resolved.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1.1 Page #: 3-3 Line #: NA
Original Specific Comment #: 3
Comment: The report states that an increase in uranium concentration occurred along the northwest boundary of the plume near Wiley road, the southern tip of the plume, and the center of the plume north of well 2061 and near recovery well 3925. An explanation for the increased concentration in all areas except the southern tip of the plume is given. An explanation for the increase of uranium contamination in the southern plume tip should also be provided. The southern tip appears to be outside of the capture zone (flow divide) of the recovery well system. General Comment # 1 discusses this issue further.

Also, analytical data should be included to support the observation that uranium contamination increases in concentration in the southern tip of the plume.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1.3 Page #: 3-10 Line #: NA
Original Specific Comment #: 4
Comment: This section discusses variable concentrations of potassium in well 2128. A detection value of "16,000" was reported for this well; however, no unit value (for example, milligrams per liter) is provided. This omission should be corrected.