THE WELDON SPRING PROJECT

FACT SHEET

WATER QUALITY STUDIES

The following are summaries of the results of water quality studies performed at or around the Weldon Spring Site.

U.S. GEOLOGICAL SURVEY HYDROLOGY AND WATER QUALITY AT THE WELDON SPRING RADIOACTIVE WASTE-DISPOSAL SITES:

This regional study, which began in 1983, was conducted to determine the extent and magnitude of surface and groundwater contamination caused by radioactive and associated wastes present at the Weldon Spring Site.

Significant findings include:

*Groundwater from five monitoring wells adjacent to the raffinate pits had high nitrate concentrations, as well as high concentrations of other chemicals.

*Uranium concentrations as large as 250 micrograms per liter have been detected in water from Burgermeister Spring on the Busch Wildlife Area.

*Water sampled from 13 wells near the quarry and north of Femme Osage Slough (quarry side of the slough) had uranium concentrations ranging from 8.9 to 14,000 micrograms per liter.

USGS is currently conducting a study to better define the groundwater movement and quality in the vicinity of the Weldon Spring Chemical Plant.

U.S. DEPARTMENT OF ENERGY WATER QUALITY PHASE I ASSESSMENT REPORT:

This was the most comprehensive and extensive groundwater and surface water study conducted at the site to date. Future monitoring and characterization activities will be based on this report.

Significant findings include:

*Raffinate Pit No. 3 appears to be contributing nitrates and dissolved metals to the groundwater.

*Raffinate Pit No. 4 appears to be contributing sulfate to the groundwater.

*Nitroaromatics (TNT,DNT) are present in the groundwater at high concentrations (400 parts per billion) under the northeast corner of the Weldon Spring Chemical Plant. Low-level nitroaromatic contamination is present over most of the Chemical Plant and Raffinate Pit Area.

*Water with radiologic and nitroaromatic contamination is migrating from the Weldon Spring Quarry. The Femme Osage Slough is impacted by groundwater migration from the Weldon Spring Quarry.

U.S. DEPARTMENT OF ENERGY WATER QUALITY PHASE I ASSESSMENT REPORT (CONTINUED)

*Lakes 34,35,36 on the August A. Busch Wildlife Area directly or indirectly receive radiologically contaminated runoff from the Weldon Spring Site.

The report recommends that additional investigations be conducted to better define the horizontal and vertical extent of both chemical and radiological contaminants at the Weldon Spring Site.

MISSOURI DEPARTMENT OF NATURAL RESOURCES WELLFIELD MONITORING AT WELDON SPRING:

The Missouri Department of Natural Resources has required St. Charles County to monitor the raw and finished water at the St. Charles County Water Plant for gross alpha and gross beta levels since 1976. In addition, since 1984, MDNR has taken its own samples of the finished water and the production wells on at least an annual basis. Since 1986, MDNR has also taken its own samples from the four county monitoring wells which are located between the wellfield and the Femme Osage Slough.

The finished water must meet public drinking water standards which include a gross alpha level of 15 picocuries per liter and a combined radium level of 5 picocuries per liter. The monitoring results indicate that not only the finished water, but also the raw water from the production wells and the water in the county monitoring wells all meet public drinking water standards for radionuclides.

As a precautionary measure, the MDNR is also requiring the county to implement a complete wellfield baseline monitoring program which will include all relevant parameters, such as radionuclides, organic chemicals, inorganic chemicals, and metals. This will provide a complete and detailed picture of the water quality in the wellfield.

MDNR will also continue to take its own samples on selected parameters until the waste is removed from the quarry area.

MISSOURI DEPARTMENT OF HEALTH PRIVATE DRINKING WATER WELL SURVEILLANCE AT WELDON SPRING:

This study, which began in 1982, has tested for radiation in public drinking water supplies by measuring gross alpha and gross beta radiation levels. In 1987, MDOH increased its sampling effort to 50 wells around the Weldon Spring Site, twice as many as the 25 sampled previously, and the testing was expanded to include chemicals, such as nitrates, TNT, DNT, and total dissolved solids.

MDOH has not discovered any contamination of private wells caused by off site migration of chemicals from the Weldon Spring Site. A few wells have elevated levels of radioactivity, but this is due to naturally occurring radioactive rock present at the depths they were drilled. A few wells also had elevated levels of nitrates, but this was due to poor construction and/or shallow depth of wells, which allowed nitrates from agricultural fertilizer and feed-lot runoff to infiltrate through surface water.

Well owners with either of these problems have been contacted and remedial/preventive actions have been instituted. The Missouri Department of Health has committed to continue this monitoring program throughout the cleanup period of the Weldon Spring Project and beyond if necessary.

WATER QUALITY STUDIES AT THE ST. CHARLES COUNTY WELLFIELD:

St. Charles County has been testing for priority pollutants (pesticides, PCBs, volatile and semi-volitile organic chemicals, and heavy metals) and radiological parameters since April of 1987 in four monitoring wells along the Femme Osage Slough, all production wells, and the finished water at the Water Treatment Plant. Prior to this, the county tested four monitoring wells in August 1986.

Results from these tests indicate that there are no radionuclides or chemical from the Weldon Spring Quarry area that are appearing in the finished water, the production wells, or the four county monitoring wells.

WATER QUALITY STUDIES AT THE ST. CHARLES COUNTY WELLFIELD (CONTINUED)

St. Charles County will continue to monitor finished water, production wells and monitoring wells in the quarry area. Upon commencement of remedial action, the frequency of the testing will increase and will be continued beyond completion of the remedial action.

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For further information, please contact Martin Janowski or Sue Brotherton at (314) 441-8086.