

MARK S. COLEMAN
Executive Director



FRANK KEATING
Governor

State of Oklahoma
DEPARTMENT OF ENVIRONMENTAL QUALITY

September 19, 1997

Mr. Jeff Lux
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City, OK 73125

Re: Shallow Groundwater Use
Kerr-McGee Cushing Refinery Site
Cushing, Oklahoma

Dear Mr. Lux:

The Nuclear Regulatory Commission (NRC) and Kerr-McGee Corporation (KMC) have requested that the Oklahoma Department of Environmental Quality (DEQ) Waste Management Division comment on the potential of the shallow groundwater as a drinking water source at the former KMC Cushing Refinery site.

The Cushing facility is underlain by residual soils (0 to 10 feet) derived from the weathering of the underlying Vanoss Group bedrock (10 to 175 feet). The Vanoss is predominantly composed of shale with isolated, thin beds of sandstone and limestone. The unconsolidated soils and the shallow Vanoss are hydraulically connected as evidenced from site conductivity tests. The shallow Vanoss Group is hydraulically separated from the deeper Vamoosa-Ada aquifer that occurs approximately 175 feet beneath the site surface.

Shallow groundwater generally occurs in the Vanoss Group 10 to 15 feet below the site ground surface. This unit yields low quantities of poor quality water. It is highly unlikely that future residential/commercial drinking water will be established from the shallow groundwater at this site. No known drinking water wells are screened in the Vanoss within a one-mile radius of the site.

Since the Vanoss should not be considered a viable drinking water source for the area, the DEQ would consider water quality standards other than maximum contaminant levels (MCLs) as set by the U.S. EPA as appropriate for the shallow groundwater at this site.

Should you have any further questions, please contact me at (405)271-7131.

Sincerely,

Darrell Shults
Darrell Shults
Senior Hydrologist
DEQ Waste Management Division

cc: Stewart Brown, NRC
Rick Reiley, Citizens Oversight Committee
Dennis Whitfield, DEQ Payne County

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