

Kansas Department of Health and Environment

Bureau of Environmental Remediation, Remedial Section

State Water Plan Contamination Remediation Program



KDHE Assistance Helps Portis Locate New PWS Well

Background:

The U.S. Environmental Protection Agency issued an Administrative Compliance Order to the City of Portis for elevated nitrate levels exceeding the safe drinking water standard in both of the town's public water supply (PWS) wells. A Kansas Geological Survey nitrogen-isotope analysis study of nitrate in groundwater in the north central region of Kansas, including Portis, was inconclusive in identifying likely sources for Portis' contamination. Portis has no municipal sewer system and individual residences and businesses rely on septic tanks for waste control. The KGS study followed the 1993 period of heavy rainfall and flooding in the region and it was suggested that super-saturation of soils during the flooding may have contributed to the migration of septic wastes into the groundwater.

Solution:

In 1998 the State Water Plan program directed a Comprehensive Investigation to identify potential nitrate source area(s) for the contamination affecting the City's wells. Results indicated an area of very high nitrate in soil and ground water at the Co-op but it was not clear if this contamination impacted the city wells.



KDHE staff collect ground water samples.



Soil staining indicates fertilizer spillage and leakage that contributed to ground water contamination.

A separate area of elevated nitrate in soil and ground water identified near the wells was considered a more likely source area affecting the PWS wells. Portis decided its only cost-effective solution to the nitrate problem was to seek a new public water supply well field. The KDHE State Water Plan Contamination Remediation Program assisted Portis by conducting a regional ground water quality sampling survey to identify areas of good quality water. The program then provided matching funds to the town's Community Development Block Grant application, for construction of new PWS wells. The grant was awarded in September 1996. Two new PWS wells went into service in February 1999. Portis' two older wells were disconnected from the PWS system, and one was kept by the city for emergency use.

Benefits:

- **129 residents provided with a safe drinking water supply**