



## **Title**

Basics of Water Resources: Groundwater Contamination (RV-6849)

## **Agenda**

- Introduction – 2 minutes
- Hydrologic Cycle – 1 minute
- Natural State of Groundwater – 2 minutes
- Natural Contamination of Groundwater – 3 minutes
- Man-made Contamination of Groundwater – 1 minute
- Overview of Groundwater Contamination Categories – 16 minutes
- Descriptive Vocabulary of Groundwater Pollutants – 7 minutes
- Saltwater Intrusion – 1 minute
- Groundwater Law – 1 minute
- Changing State of Knowledge/Understanding – 1 minute
- Glossary of Terms – 25 minutes
- Conclusion – 2 minutes

## **Course Description**

Groundwater hydrology has traditionally focused on the analysis of flow through porous media, infiltration into soils, and flow prediction in various aquifer systems. Additionally, well mechanics has been part of the study. Since the 1970s there has been a disturbing discovery of hazardous wastes in groundwater. Early discoveries of sites such as Love Canal in New York and the Denver Arsenal in Colorado initiated a new era in groundwater studies. Throughout the 1980s numerous studies of abandoned waste sites, spills and leaking underground storage tanks became headline news. Groundwater hydrology is now critical to understand the mechanisms and rates of transport of physical, chemical and biological contamination below the ground, and the impact of those contaminants on the groundwater supply. While 94% of the Earth's water is contained in the oceans, the Earth stores more than two million cubic miles of fresh water beneath its surface (half of that within one half mile of the surface). It is important to remember that groundwater supplies (source: United States Geological Survey):

51% of the US daily drinking water

37 % of agricultural needs

99% of drinking water for the rural population of the US

It is critical to understand the sources of groundwater contamination. Depending on the industry or agency, contaminants will be classified or categorized into various groupings. This course will review and discuss some of the major sources and classifications of groundwater contamination.

## **Course Objectives**

After successfully completing this course, you will understand:

- The sources and classifications of groundwater contamination
- The variety of perspectives from which groundwater contamination is approached
- The terminology of groundwater contamination