

SITE REGISTRY REPORT
PAYSON PCE SITE
Payson, Gila County, Arizona
[ARS 49-287.01(B)(D)]
January 26, 1998

Site Description

The Town of Payson is in north-central Arizona along the Beeline Highway (Arizona Highway 87). It is approximately 65 miles northeast of Phoenix. A legal description of the site is the northwest ¼ of section 9, township 10 North, range 10 East of the Gila and Salt River Meridians. The United States Geologic Survey abbreviation for this is (A-10-10)9A.

The discovery of contamination in two municipal supply wells in Payson precipitated initial investigations at the site. Groundwater contaminants at the site consist of several volatile organic compounds (VOCs). These VOCs include trichloroethylene (TCE), tetrachloroethylene (PCE), benzene, toluene, ethyl benzene, and xylene. Levels of PCE and benzene in the aquifer are above Arizona Aquifer Water Quality Standards (AWQS). The approximate location of these wells within Payson is the intersection of Aero Drive and South Meadow Street. These wells have not been used for public supply, but they are intended to be used in the future. The town water supply is a single aquifer recharged by two drainages. This contamination is at the head of one of these drainages. Not all the residents are on the Town of Payson public supply system. Some residents have private wells for domestic and business purposes.

Groundwater exists at a depth of 10 to 15 feet from the surface in the immediate site area. Groundwater flow appears to trend to the west/southwest at a gradient of about 0.0065 ft/ft.

Site History

On May 11, 1990, Payson officials reported that two unused water supply wells were contaminated by PCE. One well had a concentration of 520 µg/l and the other had 13,600 µg/l. The AWQS for PCE is 5 µg/l. PCE is a common dry cleaning solvent.

The Arizona Department of Environmental Quality (ADEQ) investigated the situation and found that PCE has impacted a number of private wells. Private well owners in the immediate vicinity have been informed of the situation. Those whose wells contain PCE have elected to use bottled water, which is currently being supplied by the ADEQ on an interim basis, until the well owners connect to the Town of Payson's drinking water system.

Research into the history of the area by the ADEQ indicates that a source of the PCE is a dry cleaning

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operation conducted at 904 South Beeline Highway during the late 1970's and early 1980's. Groundwater testing near this site has shown concentrations up to 25,000 µg/L of PCE in groundwater.

Installation of two groundwater monitor/extraction wells were completed in 1994. A detailed source area characterization study and a geophysical survey were conducted by ADEQ in 1995 to help delineate the abandoned septic system leach field and buried piping, and any associated contamination at the site.

An interim removal action was initiated to remove the source of contamination. Active sources of PCE that were removed included the septic vault, associated fluids, and contaminated soil. Approximately 440 gallons of hazardous waste fluids from the septic vault, and 20 cubic yards of additional hazardous waste (septic vault debris, and highly contaminated soil) were successfully remediated. In addition, approximately 550 cubic yards of low level contaminated soil were removed and disposed of as solid waste. During the excavation of soil, a cesspool was discovered approximately 15 feet south of the septic vault. Results of analyses from water and sludge samples collected from the cesspool indicated PCE concentrations of 2,900 µg/l to 5,000 µg/l. These concentrations signify that this cesspool is a major source of soil and groundwater contamination. The Environmental Protection Agency (EPA) supplied a \$100,000.00 grant for the removal of the contaminated cesspool. On site activities for the cesspool removal were completed in April 1997.

The ADEQ submitted a proposed plan for an early response action to the community for review and comment in September 1994. The plan called for pumping approximately 100 gallons per minute of contaminated groundwater from near the suspected PCE source, treating the water to drinking water quality standards, and pumping the treated water into the municipal water delivery system or returning it to the aquifer. Construction of the treatment system was completed on August 22, 1997, on property currently owned by the Town of Payson.

In December 1997, ADEQ contractors completed the design and construction of a wellhead treatment system on a drinking water production well owned and operated by the Town of Payson. Testing of the system will be completed in late January 1998.

The Town of Payson agreed to operate and maintain the Interim Groundwater Treatment System (IGTS), if the treated water is directed to the Town's drinking water supply. The first draft of an Intergovernmental Agreement (IGA) between the Town of Payson and the ADEQ for operation of the IGTS and the Skinner wellhead treatment system is currently being negotiated.

The ADEQ conducted a down-gradient plume investigation during the months of October and November 1996. This investigation was designed to further delineate the extent of the PCE plume

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located down-gradient from the source of groundwater contamination within the upper portion of the aquifer. Nine monitoring wells were installed near the source area during the period from July to October 1997.

Public Health Response

The ADEQ and the Town of Payson have taken precautions to prevent public exposure to the contamination. The heavily contaminated municipal wells have not been put into production for public supply. The ADEQ informed the owners that drinking the well water could be unhealthful. The ADEQ provided bottled water for the owners' use until the owners could secure an alternative supply. Two wells which are being used for commercial operations in the area have been shown to exceed the AWQS for PCE. These two wells continue to be used. However, the water is not used for human consumption.

E&E Score

Based on the most current information, the current E+E score for the Payson site is 63.