

SITE REGISTRY REPORT

PROPOSED WATER QUALITY ASSURANCE REVOLVING FUND (WQARF) SITE Miller Valley Road and Hillside Avenue Prescott, Yavapai County, Arizona December 2016

Site Location

The proposed Miller Valley Road and Hillside Avenue Water Quality Revolving Fund (WQARF) Registry site (the Site) consists of a contaminated groundwater plume located in the vicinity of the intersection of Miller Valley Road and Hillside Avenue, Prescott, Arizona. The site is generally bounded to the north by the Merritt Avenue alignment, to the south by Miller Creek, to the east by Division Street, and to the west by Miller Creek and Valley Street. The site is in an urban setting that includes a mixture of commercial businesses, light industrial, and residential neighborhoods. The site is located approximately 1.2 miles northwest of the center of Prescott and approximately one mile west of the Yavapai-Prescott Reservation.

Background

In 2005, MACTEC Engineering and Consulting, Inc. conducted an investigation that found releases of volatile organic compounds (VOCs) to soil and groundwater in the vicinity of the former Village Cleaners facility, formerly located west of Miller Valley Road on the north side of Fair Street, the current location of a Fry's Food and Drug store. During characterization activities, soil gas and groundwater with elevated volatile organic compounds (VOCs) were also found near the current Village Cleaners facility, located west of Miller Valley Road on the south side of Fair Street.

Site investigations of potential source areas in 2005 included passive soil gas surveys, shallow groundwater sampling, and private well sampling. The chemicals of concern (COCs) detected in groundwater samples included the VOCs tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (1,2-DCE). PCE and TCE were present in groundwater at levels that exceeded their Aquifer Water Quality Standards (AWQS) of 5 micrograms per liter ($\mu\text{g/L}$). Shallow groundwater closest to the former Village Cleaners location was found to contain PCE with concentrations up to 17,000 $\mu\text{g/L}$; this being within 1% of the solubility of PCE, this indicates that dense non-aqueous phase liquid (DNAPL) may be present at this Site.

A 2015 groundwater sampling event identified PCE, TCE and 1,2-DCE in several wells at the Site. In 2015, the concentrations of PCE exceeded the regulatory limits in two private irrigation wells. A 2016 investigation of a property on the southeast corner of Miller Valley Road and Hillside Ave also found TCE currently above its regulatory limits within the boundaries of the Site.

PCE concentrations in two private wells (currently used for irrigation) had increased between 2005 and 2015. In 2005, the concentrations of PCE in the two wells was 21 $\mu\text{g/L}$ and 270 $\mu\text{g/L}$, respectively. In 2015, the concentration of PCE in the two well was 34.5 $\mu\text{g/L}$ and 418 $\mu\text{g/L}$, respectively.

The hydrogeology at the Site consists of shallow groundwater occurring at approximately 7 - 20 feet below ground surface (bgs) in coarse-grained alluvial deposits, composed of interbedded sand, gravel, cobbles, and silt, with minor clay. The alluvium is underlain by a weathered granitic bedrock aquifer from approximately 15 – 20 feet bgs to at least 265 feet bgs. The City of Prescott does not get its drinking water from either of these aquifers, but instead from the neighboring

Chino Valley. However, records show as many as 65 private wells within one mile downgradient of the Site. Groundwater flow direction at the Site is to the southeast, generally following Miller Creek. Miller Creek is located south of the Site and flows into Granite Creek, which has a designated use of fish consumption. The potential for the Site COCs to discharge to Granite Creek is unlikely, but cannot be ruled out with current data.

The E&E score for the Site is 40 out of a possible 120. ADEQ proposes that the Site be added to the WQARF Registry established pursuant to Arizona Revised Statutes (ARS) § 287.01(D). This Site Registry Report (SRR) was prepared to meet the requirements of ARS § 287.01(B).

Rationale to list the Site on the WQARF Registry

- PCE in two private wells (currently used for irrigation) was detected at concentrations of 34.5 and 418 µg/L, respectively, above the AWQS of 5 µg/L.
- Concentrations of PCE in the suspected primary source zone area indicate that DNAPL may exist in the vadose zone/aquifer at this site, acting as a continuing source of PCE to groundwater.
- Possible impacts to multiple privately owned domestic water wells within the boundaries of the Site.
- Possible impacts to Miller Creek, which runs adjacent to the secondary suspected source zone.