

Nogales Grand Avenue Study Area

Boundaries:

The Nogales Grand Avenue Study Area includes properties surrounding a portion of Grand Avenue running along the Nogales Wash, in Nogales, Arizona. The Study Area is approximately bounded to the north by Ruby-Nogales Road, and to the south by West Mariposa Road.

The study area geographic boundaries depicted on the Site map represent the Arizona Department of Environmental Quality's (ADEQ) interpretation of data available at the time the map was constructed. The map is intended to provide the public with basic information as to the area ADEQ plans to investigate. Since the actual extent of contamination is unknown at this time, it may extend beyond the boundaries of the study area. Actual contaminant plume boundaries will be updated in the future as new information becomes available.

Site Status Update:

Valle Verde, under the management of Southwestern Utility Management (SWUM), entered into an agreement with ADEQ to operate a wellhead treatment system on Valle Verde Well #2. This treatment system consists of two [Granular Activated Carbon](#) (GAC) canisters that remove [volatile organic compounds](#) (VOCs) from the water. Operation of the treatment system began in October 2008. Additionally, ADEQ provided funding to upgrade the treatment system to meet Santa Cruz County floodplain specifications.

As of the end of April 2011, the GAC treatment system had treated over 117 million gallons of water and removed approximately 2.6 pounds of VOCs.

Thirty-two private and commercial wells were sampled in Spring 2011. Analytical results of this sampling showed continued presence of VOCs [[tetrachloroethene](#) (PCE)] in the groundwater in the area, but at lower levels than previous sampling results. None of the wells sampled exceeded the Arizona Aquifer Water Quality Standard of 5 ug/L. ADEQ also plans to install up to six more groundwater monitoring wells in Summer 2011.

Community Involvement Activities:

ADEQ conducted a public meeting on June 29, 2010 at the Santa Cruz County building. This meeting was to inform the community about the water quality from the treatment system and to provide an update on the investigation. A [Fact Sheet](#) developed for this meeting is available on the ADEQ Web site.

Site History:

Late 1980s - Low levels of PCE have been detected in the Nogales Wash area since the late 1980s. Initial investigations and groundwater sampling were initiated by the Santa Cruz County Health Department in late 1986 and early 1987.

1988 – Groundwater samples for VOCs were collected from 18 existing groundwater wells in the Nogales Wash area.

1993 – Two groundwater monitoring wells were installed just north of the international border and two rounds of samples for VOCs were collected.

1994 – A total of 32 groundwater samples were collected for VOCs from existing wells in the Nogales area during the summer of 1994. Wells sampled included groundwater monitoring wells, irrigation wells, public drinking water supply wells, and private drinking water wells.

1997 – 1998 – Under a binational agreement between the United States and Mexico, 13 wells in 12 different locations were sampled for VOCs on three separate events. All the wells were within 5 miles north or south of the international border.

2002 – 2003 – ADEQ periodically sampled nine wells located just north of the international border for VOCs .

2007 – 2008 - Customers of Valle Verde were informed by a public notice mailed on January 19, 2007 that the water system tested above the [maximum contaminant level](#) (MCL) for PCE in December 2006. The public notice stated that Valle Verde would test the water quality quarterly; inform the customers when the problem is remedied; provide the required health effects statement; and provide a phone number for customers to obtain a translated copy or to ask questions. Valle Verde stopped supplying water from four of its wells (wells #1, #2, #4 and #7) due to the presence of PCE.

ADEQ periodically sampled four wells located just north of the international border for VOCs in 2007 and 2008. After a December 2007 well survey of the area, 12 additional groundwater samples were collected from wells along the Nogales Wash in the northern part of the City of Nogales. These samples included irrigation wells, public drinking water supply wells, and private drinking water wells. This [limited well survey](#) did detect PCE in some private wells.

In Spring 2008, ADEQ signed an agreement with Valle Verde to provide financial assistance to build a treatment system at well #2. This treatment system, which uses granular activated carbon (GAC) to remove PCE, began operation in October 2008 and has been providing water treated to meet all drinking water standards.

In Summer 2008, ADEQ signed an agreement with the City of Nogales (CON) to provide financial assistance to complete a permanent connection between the Valle Verde water system and the CON waster system, which would be used as an emergency water supply if necessary.

2009 – 2010 – Southwestern Utility Management (SWUM) continued to operate the treatment system at Valle Verde Well #2. ADEQ continued to provide financial assistance to SWUM to cover operations and maintenance of the treatment system.

Contaminants:

The current contaminant of concern at the Site is PCE. Contaminants of concern at the Site may change as new data become available.

Public Health Impact:

There are potential health risks associated with exposure to PCE, and other VOCs, through drinking contaminated groundwater. A water treatment system is used by Valle Verde on Well #2 to ensure that drinking water meets the drinking water standards. Currently ADEQ is unaware of anyone drinking contaminated water in the study area; if you, or anyone you know, are using a groundwater well in the study area, please contact the ADEQ Project Manager below to get on a mailing list to receive information on any future activity in the area.

Site Hydrogeology:

The Nogales Grand Avenue Study Area is located within the Basin and Range Province of Arizona which is characterized by mountains comprised mostly of intrusive and metamorphic rock of various ages and basins of [alluvial](#) sediments.

Hydrogeologic units beneath the area of interest consist of three aquifer units; the Nogales Formation, the Older Alluvium, and the Younger Alluvium. The deepest formation, the Nogales Formation, generally has poor water-bearing characteristics and is not used as a source of water. In the Older Alluvium, well yields are often small. The Younger Alluvium, the shallowest formation, is the most productive aquifer in the region and may have various water bearing strata within the formation.

Groundwater occurs at depths of 30 to 40 feet below the ground surface; corresponding groundwater elevations are 3800 to 3600 feet above mean sea level. The groundwater flow direction is currently to the north-northwest.

Contacts:

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* In Arizona, but outside the Tucson area, call toll-free at (888) 271-9302.

Information Repository:

The complete official Site file is located in Phoenix at the ADEQ Central Office at 1110 W. Washington Street; however, select documents are also available in Tucson at the Southern Regional Office at 400 W. Congress, Suite 433. Files are available for review Monday through Friday from 8:30 a.m. to 4:30 p.m.

To arrange for a time to review the Site file at the main ADEQ Phoenix office, please call the ADEQ Records Management Center with 24-hour notice at (602) 771-4380 or (800) 234-5677. Please call (520) 628-6715 or toll-free (888) 271-9302 to arrange a file review appointment at the Southern Regional Office.