



NORTH AREA OF PHOENIX GOODYEAR AIRPORT SUPERFUND SITE

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • May 2001

UPDATE ON PGA NORTH ACTIVITIES

Introduction

This fact sheet provides an update on activities conducted at the north portion of the Phoenix Goodyear Airport Superfund site (PGA North) in Goodyear, Arizona to clean up soils, soil gas, and groundwater contamination. PGA North consists of the contamination related to the former Unidynamics Phoenix, Inc. (Unidynamics) facility located at the southwest corner of Van Buren Street and Litchfield Road in Goodyear, approximately fifteen miles west of downtown Phoenix. The PGA North site area is one portion of the larger Phoenix Goodyear Airport Superfund site which also includes a southern area (PGA South). The U.S. Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ) have issued other fact sheets in January 1999 and November 2000 about the larger site area. Please see contact information on page 5 to obtain copies of earlier fact sheets.



At a Glance...

- Groundwater treatment systems continuing to operate
- Alternative treatment technologies for groundwater cleanup under consideration
- Supplemental soils and soil gas investigation planned for 2001-2002
- Reevaluation of current soil gas cleanup technologies

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In an effort to save paper and reduce costs, EPA will continue mailing our Phoenix Goodyear Airport (PGA) North fact sheets to you only if requested. You may indicate your interest in being added to EPA's permanent mailing list by any of the following ways: mail in the coupon below; send your name and address (please indicate for "PGA North" via an e-mail to wilson.wenona@epa.gov; send a fax to Wenona Wilson at (415) 744-1796; or call EPA's toll-free message line, 1(800) 231-3075, and leave your mailing information.



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Please return to Wenona Wilson, Community Involvement Coordinator, U.S. EPA, 75 Hawthorne Street, San Francisco, CA 94105-3901.

SITE HISTORY

Unidynamics-Phoenix, Inc. (known as Crane Unidynamics, Inc. after the late 1980s) was established at Litchfield Industrial Park in 1963. The Unidynamics plant was located on a 24-acre plot in the center of an original 72-acre tract (see Figure 1). As a government subcontractor, Unidynamics supplied custom-designed component systems and subsystems to the defense industry. The company designed and developed components for defense and aerospace systems. On-site manufacturing included machining and assembly of mechanical and electrical components. Small operations included propellant manufacturing and heat powder blending. Until the late 1980s, Unidynamics was engaged in the research, development and manufacturing of ordnance, electronic electrochemical components, devices for weapons and weapon delivery systems. In 1985, Unidynamics was purchased by Crane Co. The facility has been vacant since July 1994 when the on-site operating company moved to Chandler, Arizona.

In the early 1980s, facility inspections by ADEQ and EPA identified Unidynamics as a potential source of both groundwater and soils contamination in the area. Volatile organic compounds (VOCs), chemical compounds commonly found in industrial solvents, were detected in the groundwater underlying the northern area of the City of Goodyear. In 1983, a portion of both the northern area and the southern area of Goodyear were identified as the Phoenix-Goodyear Airport Superfund Site and listed on the federal Superfund National Priorities List.

During the 1980s through the early 1990s, EPA issued a series of enforcement orders to Unidynamics-Phoenix, Inc. requiring investigation of the northern area of Goodyear, both within and adjacent to their facility. The purpose of the

investigation was to look for contamination in the surface soils, the subsurface soils, and the groundwater. The investigations primarily focused on installing groundwater monitoring wells, identifying groundwater contaminants, and delineating the extent of contamination. Unidynamics-Phoenix, Inc. also conducted a limited soils investigation of the facility.

In September 1989, EPA selected two cleanup remedies for the Unidynamics facility: (1) a groundwater extraction system to pump and treat the groundwater; and (2) a soil vapor extraction (SVE) system to extract and treat contaminated soil gas from the subsurface soils. Two groundwater treatment systems, fully operational since 1994, were designed and constructed by Crane Co.: one treatment plant at the vacated Unidynamics facility and the second wellhead treatment system at the northern end of

the plume. Crane Co. also operated a SVE system from 1994 until 1998.

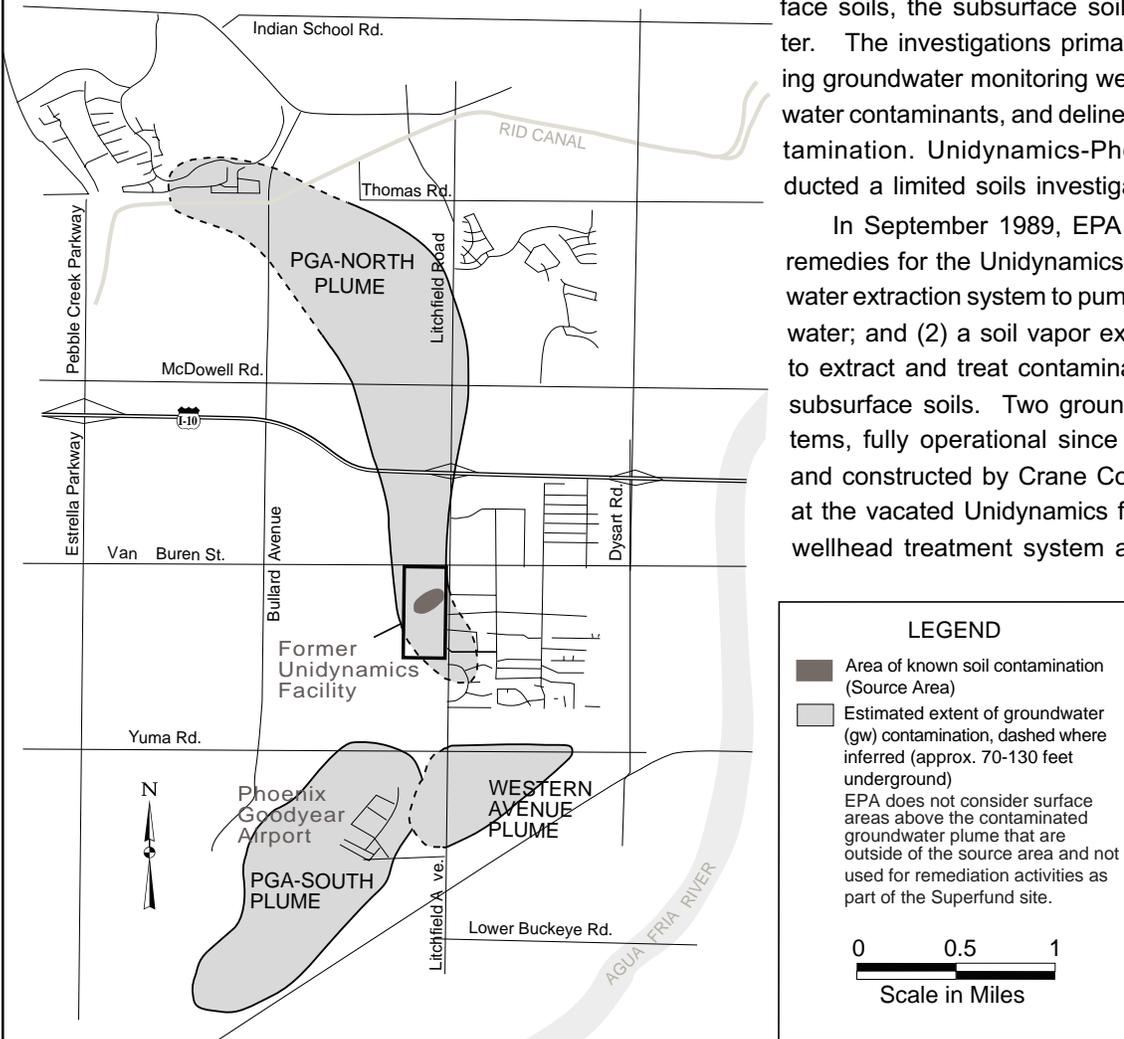


Figure 1. Phoenix Goodyear Airport Superfund Site Location Map

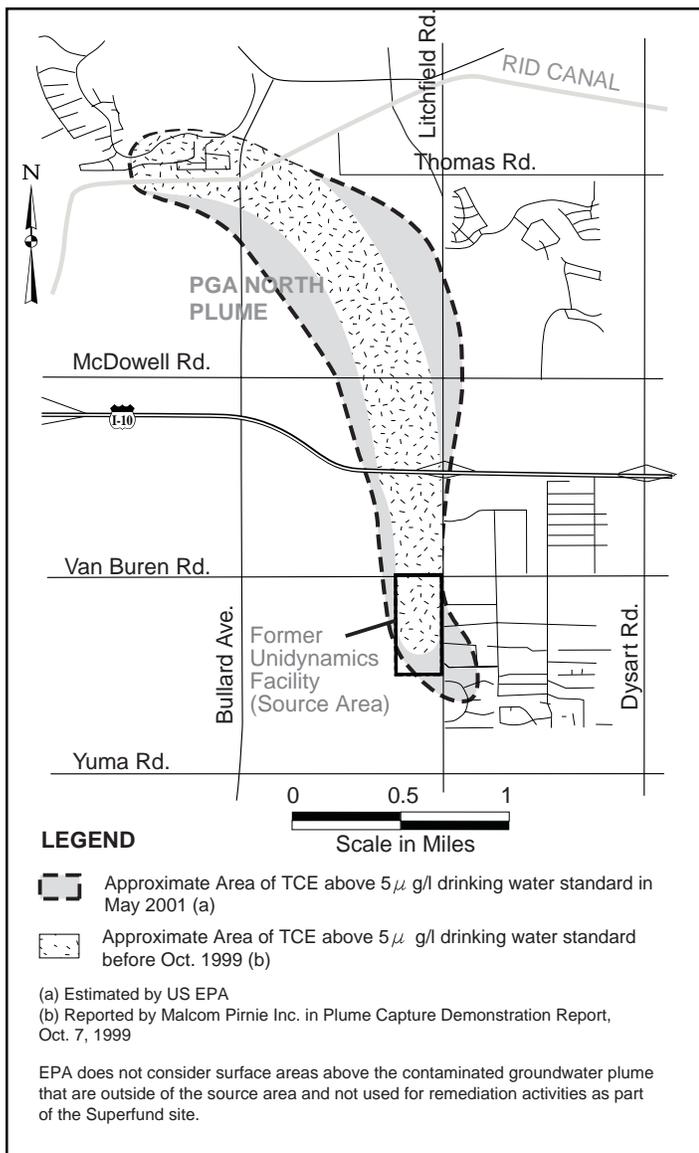


Figure 2. Extent of TCE groundwater contamination before 1999 versus 2001

STATUS OF CLEANUP

GROUNDWATER CLEANUP

As a result of waste disposal practices at the Unidynamics facility during the 1960s and 1970s, the shallow portion (identified as Sub-unit A) of the underlying aquifer at PGA North is contaminated with trichloroethylene (TCE), and perchlorate. Periodically, trace amounts of related compounds [e.g., methyl ethyl ketone (MEK), 1,1-Dichloroethylene (1,1-DCE), tetrachloroethylene (PCE)] have been detected in the groundwater at concentrations below levels of concern. The extent of groundwater contamination has been determined by collecting groundwater samples from more than 35 wells in the northern area of

Goodyear over 10 years (see Figure 3). EPA's primary focus in cleanup of the site has been on "pumping and treating" the groundwater to remove the contamination. Since 1994, approximately 31,100 pounds of TCE have been removed from the groundwater. The existing groundwater treatment system was not designed to treat perchlorate. EPA is researching other treatment technologies or design changes that may be needed in the future to address perchlorate removal.

Over several years, the shape of the contaminated groundwater plume has changed. Figure 2 compares the extent of contamination known in 1999 to what is known today in 2001.

The change in the plume shape could be attributable to one or more of the following recent events: (1) a valve malfunction at the Unidynamics facility groundwater treatment system allowed untreated groundwater to be unknowingly reinjected into the aquifer at the southern end of the facility for two to three years (this problem is now fixed); (2) extraction was discontinued from the irrigation well (Well 33-C) located in the center of the plume in Section 33 because of concern regarding the well construction; (3) pumping rates may have changed from agricultural or water supply wells located in surrounding areas; (4) changes in the amount of water used at ground surface that seeps back into the aquifer (i.e., recharge); (5) groundwater extraction as part of the Superfund cleanup; and (6) natural fluctuations in groundwater flow.

Although these individual events are not quantified, it is important to note that the change in plume shape has not affected drinking water. Continual groundwater monitoring is conducted on a quarterly basis to ensure that the contamination does not reach drinking water supply wells. To address the recent plume shift and discovery of perchlorate, the current groundwater treatment system is being reevaluated.

SOIL GAS CLEANUP

Soil gas refers to the contamination in the soil which is in vapor form. An SVE system was installed in 1994 to remove vapors from soils near three drywells that were used by Unidynamics as TCE disposal sites. Field studies have identified these wells as the primary source of the contaminants in the soil gas.

During the period of 1994 through 1998, the SVE system removed an estimated 9,700 pounds of TCE

from the subsurface soils adjacent to these drywells. The SVE system was shut down for evaluation in 1998, due to concerns regarding air emissions from the system. Additional sampling and investigation are necessary to determine the amount of soil gas remaining at the site. Because contaminated soil gas may pose a threat to groundwater quality, research is being conducted on new treatment technologies and cleanup options for eliminating or reducing the on-site, subsurface soil gas.

SOILS CLEANUP

The extent of soils contamination at the Unidynamics facility has not been fully determined. During the early 1980s, federal and state facility inspections were conducted under the Resource Conservation and Recovery Act (RCRA) hazardous waste management programs while the facility was still operating. As a result of soils investigations conducted in the late 1980s by Unidynamics, 13 separate potential source areas, some with contaminated surrounding soils, were identified. These areas, referred to as Solid Waste Management Units, include injection wells, drywells, sedimentation tanks, an explosive wastes collection area, a leach field, a solvent wastes collection area, and solvent collection vaults. Until 1998, soil efforts focused on addressing TCE contamination in soils around the three dry wells. In April 2001, EPA requested that Crane Co. conduct a supplemental investigation to ensure that the full extent and nature of soils contamination at the site is defined. Based on the results of these studies, further soils cleanup actions may be required at the facility.

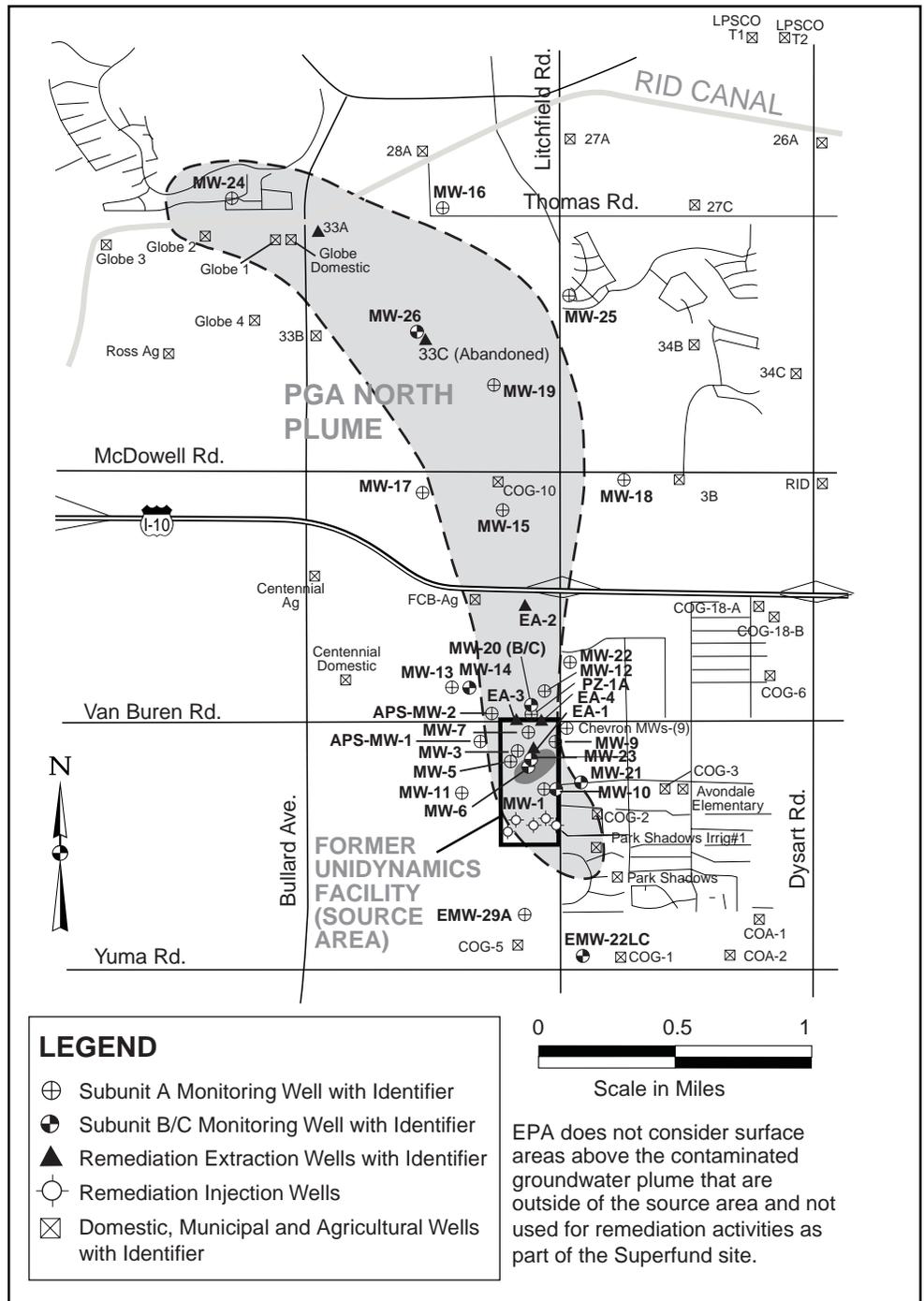


Figure 3. Location of area groundwater wells

FUTURE PLANS

The federal and state agencies and Crane Co. are currently examining each of the media areas at the PGA North site to reevaluate the full extent of contamination and identify additional methods to expedite site cleanup. Depending on the results of these supplemental investigations and other analyses, EPA may, in the future, present some proposed remedy changes for public review and comment.

FREQUENTLY ASKED QUESTIONS

Q. Could the contaminated groundwater affect my health?

A. If you are drinking water from a public water supply system, no. Pursuant to state and federal law, all public water supply wells are tested regularly to ensure that the drinking water meets the applicable drinking water quality standards. The Litchfield Park Service Company and the City of Goodyear public water system, the two main water providers in the vicinity, conduct regular testing and comply with these standards. The contaminated groundwater at the PGA North site area is limited to the shallower Sub-Unit A. Drinking water for the Goodyear area is pumped from deeper aquifers. Drinking water from these public water supply systems does not pose a risk to human health. However, if you are drinking water from a private well within the shaded areas indicating the contaminated plume (see Figure 3) you may be at risk. If you are using a private well in the area of any groundwater contamination, please contact an ADEQ or EPA representative shown on the back page of this fact sheet.

Q. Could the contaminated soils or soil gas affect my health?

A. The known contaminated soils and soil gas are contained within the fenced facility which prevents the public from any direct exposure or contact with contamination. The known contamination has been identified only in the subsurface soils. While the contaminated groundwater, located at a depth of at least 70 feet, may release some soil gas vapors into the deeper soils, the depths are at such a distance that any human activities (e.g., building a swimming pool, constructing a house foundation) should not open up or cause any potential pathway for exposure to these soil gas vapors.

Q. If I buy or own a house in the area, could I be liable to pay for the cleanup?

A. EPA has several published policies clarifying potential liability for nearby private property owners. EPA's "Policy Toward Owners of Residential Property at Superfund Sites," published in 1991, states that, subject to certain conditions, EPA will not consider a private residential owner a potentially responsible party under Superfund. EPA's 1995 "Policy Toward Owners of Property Containing Contaminated Aquifers" further clarifies that, again subject to certain conditions, EPA does not take actions against owners where contamination has migrated underneath their property from another source.

Q. When will the Superfund site be cleaned up?

A. The groundwater cleanup is expected to take at least 25 years. EPA and ADEQ are evaluating alternative treatment technologies that would potentially speed up the estimated cleanup time. The estimated cleanup time for the site may be affected by the outcome of the soon-to-be implemented soils and soil gas investigation.



INFORMATION REPOSITORIES

Additional copies of this fact sheet and other documents related to the Phoenix Goodyear Airport Superfund site are available for review at the Avondale Public Library at the address listed below or at EPA's Web site at <http://www.epa.gov/region09>. The public is also welcome to review site information at ADEQ. To arrange a review time, please call the ADEQ Records Center listed below. You may also visit the ADEQ's Web site at <http://www.adeg.state.az.us/environ/waste/sps/index/html>.

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UPDATE ON PGA-NORTH

COMMUNITY ADVISORY GROUP

ADEQ, with EPA participation, has established a Community Advisory Group (CAG) to address issues and concerns related to three sites in the Goodyear area: the PGA North and PGA South sites (under the federal Superfund law) and the Western Avenue Plume site (under the State of Arizona Water Quality Assurance Revolving Fund). The CAG, a group of interested citizens, serves as a focal point for the exchange of information among the local community, ADEQ, EPA, and other agencies involved in the cleanup and decision-making at the sites. The CAG was formed in February 2001 and meets regularly to receive briefings on site activities. For more information regarding CAG meetings, please contact an agency representative listed below.

FOR MORE INFORMATION

Your comments are invited and encouraged. If you have any questions or concerns about the cleanup activities at the north area of the PGA Superfund site, please contact:

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