



NORTH AREA OF PHOENIX GOODYEAR AIRPORT SUPERFUND SITE

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • June 2006

SITE PROGRESS AT PGA-NORTH

Since our last fact sheet in October 2004, the following activities have occurred at the Phoenix Goodyear Airport (PGA) North **Superfund*** Site (the Site):

- Installation of 14 **monitoring wells** (in the first year), including a new **extraction well**, began in March 2006 as part of an extensive **groundwater** investigation
- Removal of more than 37,500 pounds of **trichloroethylene (TCE)** from groundwater by the use of pump-and-treat systems in operation since 1994
- Installation of a new on-site **perchlorate** removal treatment process in 2005 and removal of more than 58 pounds of perchlorate from groundwater since 2003
- Removal of more than 1,500 pounds of contaminants from soils since the **soil vapor extraction (SVE) system** operation began in May 2004
- Completion of a study in the main drywell area to evaluate the extent of soil contamination at the north end of the Unidynamics facility
- Settlement reached between U.S. EPA, U.S. Department of Justice, and Unidynamics/Crane Co. which covers past and future oversight costs, and requires future investigation and cleanup.

Well Installation Underway as Part of Groundwater Investigation

In March 2006, Crane Company, under the oversight of EPA, began installation of numerous groundwater monitoring wells and an extraction well. The work is planned to be completed over a three-year period. During the first year, March 2006 thru March 2007, a total of 14 of these wells are scheduled to be drilled and sampled (see figure on page 2 for all initially proposed well locations). These monitoring wells will help EPA determine the extent of TCE and perchlorate in groundwater at the Site. The number of wells and their locations will be adjusted as needed based on data received during the study.

Groundwater beneath the plume occurs at a depth ranging from 90 to 110 feet below ground surface (bgs). Most groundwater in the Goodyear area flows in four different zones or subunits:

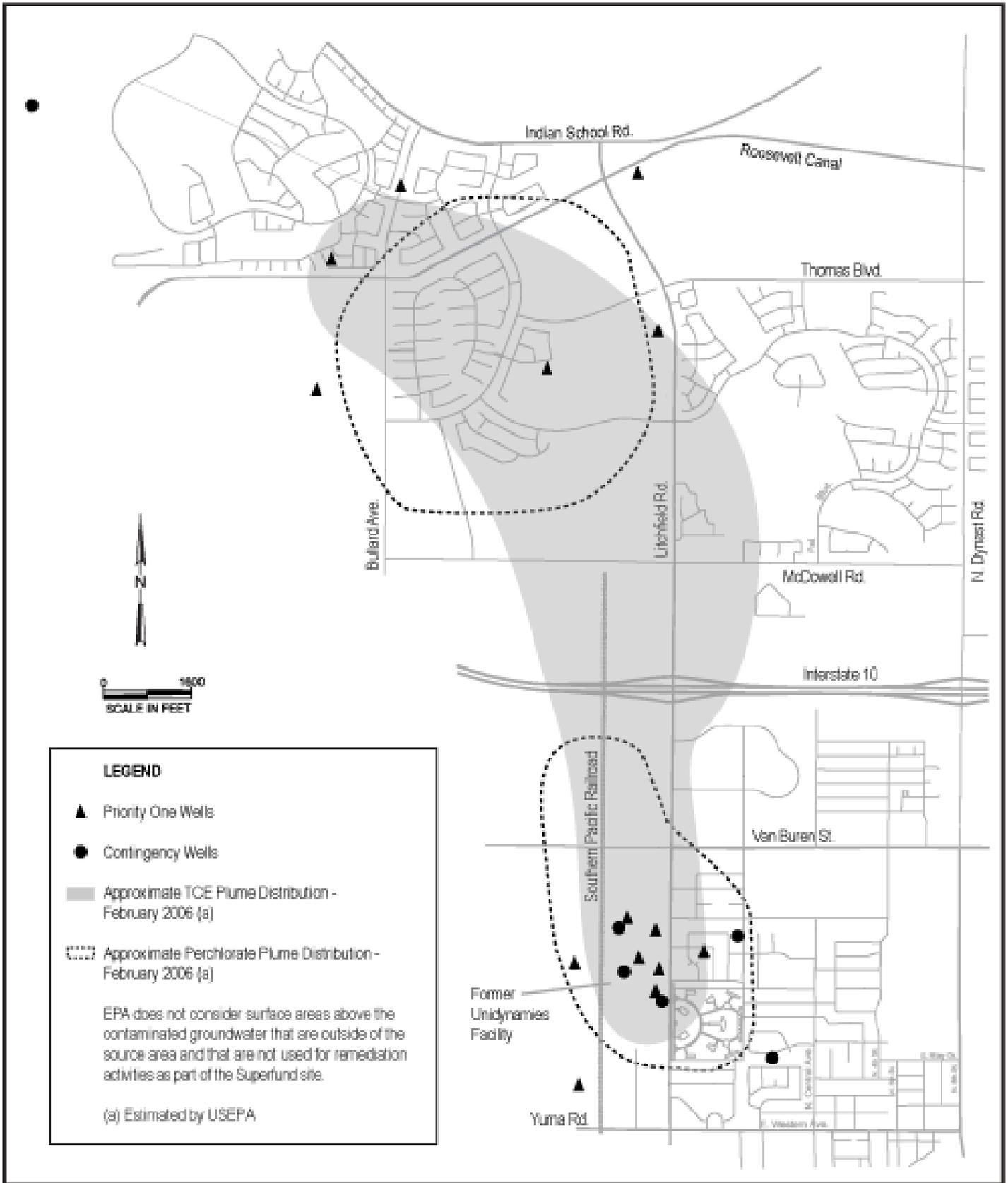
- Subunit A extends from the surface to approximately 160' bgs

- Subunit B extends from 160' to approximately 220' bgs
- Subunit C extends from 220' to 360' bgs
- The Middle Alluvial Unit (MAU) extends from 360' to several hundred feet bgs.

The majority of the TCE and perchlorate contamination resides within Subunits A and C. The wells will be drilled within the different zones and will be sampled regularly to test groundwater quality, track plume movement, and provide data to help determine possible cleanup activities.

In some cases, wells will be drilled within city right-of-ways. Crane Co. is working with the City of Goodyear Water Resources Department, Engineering Department, Streets and Traffic Department, and Public Information Office to ensure that all appropriate permits and traffic control plans are implemented in accordance with City standards. Crane Co. will ensure that all affected residents are notified in a timely manner through public meetings and mailings.

*Words in **bold** are defined in the Glossary on page 4.



Groundwater Investigation Priority One and Contingency Wells

Ion Exchange System Enhances Groundwater Treatment

In April 2005, Crane Co. installed **Ion Exchange** equipment for perchlorate removal from groundwater at the Site to augment the Main Treatment System (MTS). This Ion Exchange system was implemented to allow reinjection of the treated groundwater back into the **aquifer**.

The original aquifer reinjection process had been suspended upon discovery of perchlorate in groundwater in 2001, and the groundwater was discharged to the City of Goodyear Wastewater Treatment Plant (WWTP). However, due to the population growth within the City of Goodyear over recent years, the WWTP could not handle both the increased water from the City and water from the Site, and EPA allowed for the return of the treated groundwater to the aquifer. Implementation of the new Ion Exchange treatment technology has removed perchlorate from groundwater to below detectable levels and has helped resolve a water resource problem for the City.

The Ion Exchange treatment occurs prior to the air stripping treatment that removes TCE from the extracted groundwater. TCE continues to be removed through air stripping at the on-site MTS and carbon filters at the Well 33A system located north of the Site. Since the beginning of groundwater treatment in 1994, more than 37,500 pounds of TCE have been removed from groundwater.

Protection of Drinking Water Supplies

EPA and Crane Co. continue to monitor all potentially impacted drinking water supply wells to ensure that Site contaminants do not exceed EPA's cleanup levels or State and Federal drinking water standards. Crane Co. continues to sample key drinking water supply wells and sentinel wells monthly, as directed by EPA, and continues to sample other groundwater monitoring wells on a monthly and quarterly basis.

Soil Vapor Extraction System Operation Ongoing

In May 2004, Crane Co. began a soil vapor extraction (SVE) study to evaluate the ability of the system (extraction wells, piping, and blower) to recover soil gas from the Site. The SVE system operation and evaluation is currently ongoing. SVE is a process that extracts soil vapors from the ground using a large blower through wells above the water table. The wells are plumbed to a central treatment unit. The treatment unit destroys or contains the soil gas contaminants. At PGA North, the contaminants are treated in a treatment unit containing **granulated activated carbon (GAC)**, which contains the contamination in carbon filters and prevents it from escaping into the air.

The study results to date indicate that soil vapors are concentrated in the vicinity of four main dry wells that were used for solvent disposal. Additional SVE (extraction) wells were installed in 2005 and will be added to the system by late 2006. Since the SVE system start-up in May 2004, more than 1,500 pounds of TCE and other **volatile organic compounds (VOCs)** have been removed from the Site.

Current and Future Investigations in Source Area

In 2005, Crane Co. completed a study of the main drywells area of the Site. This area is suspected of being a primary source of contamination to groundwater, based on historical disposal of spent solvents through four drywells in the area. Crane Co. completed several soil borings and monitoring wells in the area; some of the soil borings were converted to SVE wells. The results showed that elevated levels of TCE exist in the area. Plans are being made to connect the new SVE wells to the existing SVE system.

Activities to be conducted in 2006 include completion of the Site Evaluation Report (SER). The SER will provide a thorough description of historical operations, including chemicals used and chemical disposal locations. After the SER is complete, Crane Co. will submit a detailed work

plan for a study of the other potential source areas (beyond the main drywells area) at the Site to progress toward cleanup of additional areas of contamination.

Consent Decree Finalizes Agreement Between EPA and Crane Co.

In April 2006, Unidynamics/Phoenix, Inc. and its parent company, Crane Co., reached an agreement with EPA. The **Consent Decree** requires Crane Co. to continue current cleanup at the Site and conduct supplemental site investigation and future cleanup at

the PGA Superfund Site. Crane Co. has also agreed to reimburse EPA \$6.7 million in past costs, pay all future EPA oversight costs, in addition to \$500,000 in penalties.

The settlement also requires the Crane Co. to spend \$1 million on an environmental project that includes the inventory and assessment of up to 25 possible **Brownfields** sites in the City of Goodyear, complete four more extensive site assessments, and conduct cleanups at three of those sites.

GLOSSARY

Aquifer is an underground geologic formation containing groundwater.

Brownfields are abandoned, idled, or under used industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination. They can be in urban, suburban, or rural areas. EPA's Brownfields initiative helps communities mitigate potential health risks and restore the economic viability of such areas or properties.

Consent Decree is a legal document often used for agreements negotiated between EPA and one or more Potentially Responsible Parties and is subject to approval by a federal court.

Extraction Wells are used to pump groundwater to the surface for cleanup or water supply purposes.

Granulated Activated Carbon (GAC) is a water treatment technology that uses pure carbon to remove various contaminants from water.

Groundwater is the supply of water found below the ground surface, usually in an aquifer.

Ion Exchange is a water treatment technology used to remove perchlorate and other inorganic contaminants from water.

Monitoring Wells are used to measure groundwater levels and collect water samples.

Perchlorate is a component of ammonium perchlorate and other inorganic salts used in rockets and other applications.

Soil Vapor Extraction (SVE) is a cleanup technology used to remove VOCs. A vacuum is applied through wells near the source of contamination, allowing the volatilization (or evaporation) of contaminant to be treated usually through carbon adsorption.

Superfund is the common name of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), to investigate and clean up abandoned or uncontrolled hazardous waste.

Trichloroethylene (TCE) is a VOC used primarily as a solvent to remove grease from metal parts.

Volatile Organic Compounds (VOCs) are carbon-containing chemical compounds, some of which evaporate readily at room temperature.

Technical Assistance Grant Program

EPA values your input and wants to help you understand the technical information relating to the cleanup of Superfund sites in your community so that you can make informed decisions. Under the Superfund law, EPA may award a Technical Assistance Grant (TAG) of up to \$50,000 per site. TAGs allow communities to hire independent experts to help them understand technical data and become more knowledgeable about the different technologies that are being used at the Site. You can obtain more information about the TAG program by calling Viola Cooper, EPA's Community Involvement Coordinator (see contact information below).

Community Involvement and Outreach

EPA and the Arizona Department of Environmental Quality (ADEQ) will continue to update residents about the PGA North Site through fact sheets, public meetings, and regularly scheduled community advisory group (CAG) meetings. Please feel free to call or write EPA or ADEQ using the contact information found below. Also, if you have an interest in becoming a potential CAG member please contact one of the community involvement staff members. The CAG meetings are open to the public and meet on a quarterly basis to collect information about Site cleanup activities and serve as a focal point for the exchange of information among the local community. Meeting agendas and their corresponding minutes may be accessed through ADEQ's web site at: www.adeq.state.az.us/environment/reg.html.

For More Information

U.S. EPA Contacts

Remedial Project Manager

Mary Aycock (SFD-8-2)

(415) 972-3289

aycock.mary@epa.gov

Community Involvement Coordinator

Viola Cooper (SFD-3)

(415) 972-3243

or toll free: **(800) 231-3075**

cooper.viola@epa.gov



Information Repositories

Avondale Public Library

328 W. Western Avenue

Avondale, AZ

(623) 932-9415

U.S. EPA Records Center

95 Hawthorne Street

Suite 403S

San Francisco, CA 94105

(415) 536-2000



ADEQ Contacts

Community Involvement Coordinator

Linda Mariner

(602) 771-4294

or toll free within AZ **(800) 234-5677 x4710**

Mariner.Linda@azdeq.gov

Remedial Project Manager

Cathy O'Connell

(602) 771-4260

or toll free within AZ **(800) 234-5677 x4260**

O'Connell.Cathy@azdeq.gov

Information is also available on U.S. EPA's websites at:

<http://www.epa.gov> (EPA headquarters home page),

<http://www.epa.gov/region09> (EPA Region 9 home page), and

<http://www.epa.gov/region09/wastes/sfund/index.html>

(Superfund Site overviews).

Under Programs & Resources click on "Superfund Sites," click on "Site Overviews," click on "Phoenix-Goodyear Airport Area."

Documents and Web pages are generally in English only, but are sometimes translated into other languages.



EPA Reports Site Progress at North Area of Phoenix Goodyear Airport Superfund Site

Una versión en español adentro

Printed on 30% Postconsumer Recycled / Recyclable Paper



 U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105-3901
Attn: Viola Cooper (PGA North 6/06)

Official Business
Penalty for Private Use, \$300

Address Service Requested

FIRST-CLASS MAIL
POSTAGE & FEES
PAID
U.S. EPA
Permit No. G-35