North and South Indian Bend Wash Superfund Sites Superfund Site

U.S. Environmental Protection Agency | Region 9 | Scottsdale and Tempe, AZ | April 2017

EPA Begins Vapor Intrusion Sampling in Scottsdale and Tempe

Last summer, Environmental Protection Agency (EPA) conducted a Five Year Review of its cleanup plans, or "remedies," to address contaminated groundwater and soil at the North Indian Bend Wash (NIBW) Superfund site in Scottsdale and the South Indian Bend Wash (SIBW) Superfund site in Tempe, Arizona. The Five Year review identified the need to conduct a vapor intrusion investigation of the former industrial sites where contaminants were released to the ground.

Figure 1:
Vapor intrusion into a residence.

What is Vapor Intrusion?

Vapor intrusion refers to a process by which chemicals make their way through the ground into indoor air via cracks and other openings in the foundation slabs of buildings. These chemicals are referred to as "volatile organic compounds (VOCs)," which can produce vapors or gases that may travel through the soil.

There are two reasons the re-assessment is needed:

1. Vapor Intrusion is a relatively new concern that was not known at the time the remedies to address soil and groundwater at Indian Bend Wash sites (NIBW and SIBW) were selected in the early 1990s. New information now requires a re-assessment of these areas to ensure the remedies remain protective.
2. Scientists' understanding of the toxicity of the primary chemical of concern at the site, trichloroethylene (TCE), has changed and has been found to be more toxic than previously thought.

Vapor Intrusion Work to Occur February - October 2017

EPA will start work to evaluate the vapor intrusion risk in mid-April 2017 at SIBW and the SIBW subsite "DCE Circuits" in Tempe. At NIBW, EPA has already begun working in the Scottsdale area with the Participating Companies responsible for cleaning up the contamination.

Once the vapor intrusion investigation is completed, EPA will update the 2016 2nd Five Year Review for both sites and will issue a supplemental Five Year Review report. Depending on what EPA finds during its investigation, the remedies for both sites may need to be revised. Regardless, EPA will respond as appropriate to circumstances that arise during the course of investigation.

Contact Information

For more information on cleanup work since the late 1980s, please visit the site webpage listed on page 3 or contact Community Involvement Coordinator, Carlin Hafiz (contact information on page 3)

Five-Year Review Process

Under the Superfund law, EPA is required to review remedies selected for the sites to ensure they are consistent with current health and regulatory standards and remain protective of human health and the environment.

The September 2016 Five Year Review for both sites concluded that while the remedies are still protective of groundwater**,** indoor air near where soil was contaminated will need to be re-evaluated. Indoor air will be evaluated for the potential of chemicals from the cleanup areas evaporating, or "vaporizing," entering overlying structures. This process is known as "vapor intrusion." (See **Figure 1** for additional information on the vapor intrusion process.)

Note: All drinking water in the Indian Bend Wash Area of Scottsdale and Tempe meets or exceeds all state and federal drinking water standards. In Scottsdale, all impacted ground water is treated to drinking water standards prior to delivery to a distribution system.

How Does EPA determine if vapor intrusion is a concern?

Step 1: Sampling Soil

First, vapor samples are collected from shallow soil 5 to 15 feet below the ground surface, preferably in areas covered by asphalt or concrete and in locations close to underground utility lines. (These lines are of special interest because they may provide an easy route for chemical vapors to travel into buildings.)

The soil gas data will then be evaluated against EPA's health standards to determine if there is a potential risk. If necessary, taking second round of soil vapor samples may be necessary.

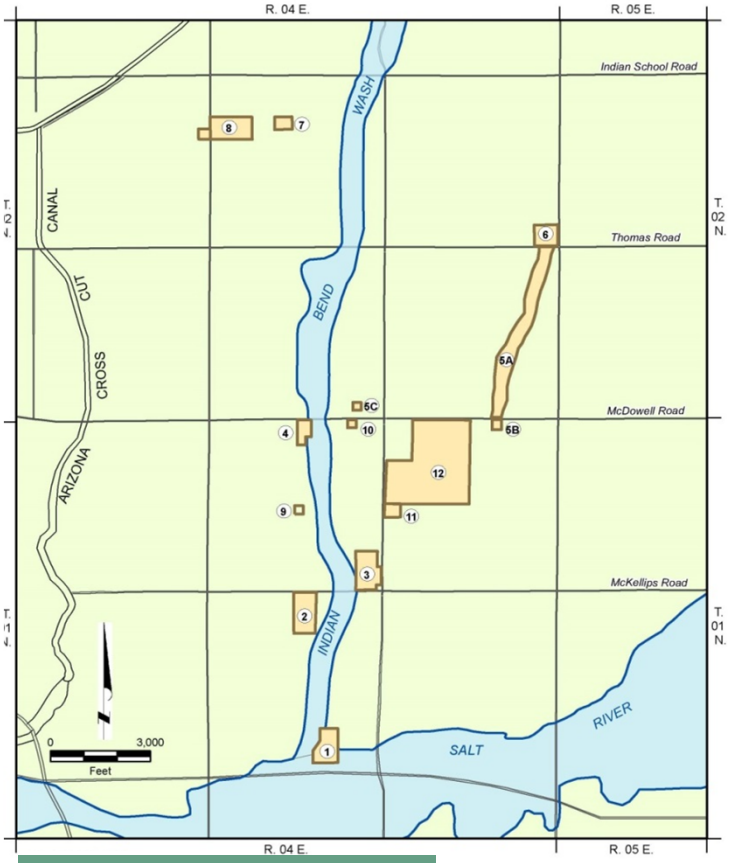
If concentrations of the chemicals EPA are sampling for are found above EPA's health standards, EPA will then collect indoor air samples from residential or commercial buildings to determine what contaminants may be present.

Step 2 (if necessary): Sampling Indoor Air

The indoor air sampling process will be designed to minimize any inconvenience to property owners and tenants. The first step is a walk-through with the residents to collect information on the building and select sampling locations. We will then collect indoor air, possibly vapor samples below the foundation or crawl space and outdoor air samples. Air samples may be collected in canisters that are left in place for up to 24 hours. EPA may also use its Trace Atmosphere Gas Analyzer (TAGA) bus, a mobile laboratory which can provide instantaneous and continuous sampling results.

(See **Figure 2** below for a picture of an air sampler and **Figure 3** for a picture of the TAGA bus.)

There is no cost to property owners or tenants for any sampling activities.

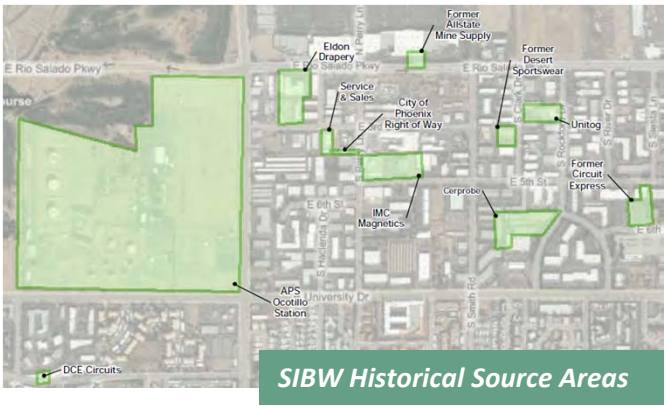


NIBW Historical Source Areas

Area 1: City of Scottsdale (COS) Sewage Treatment Facility; Area 2: COS Sewage Treatment Plant; Area 3: Marro Plating, Genesis II Electronics Inc., Beckman Instruments, Comtech, Fairchild Data, Sperry Information, Hainey's Machine Tool Co., Inc.; Area 4: Ames Meat, Golf Driving Range, Gas Station, Race Track, Multifamily Housing Display Division; Area 5A: Granite Reef Wash; Area 5B: Salt River Project Granit Reef Well; Area 5C: K-Mart; Area 6: Siemens Components, Inc., Dickson Electronics, Micro Semiconductor; Area 7: Rolamech, Dickson Electronics, COS; Area 8: Dickson Electronics, The Strip Joynt, Bells of the West, COS, Arizona Public Service, Frontier Motors, Marro Plating; Area 9: Salt River Project Well; Area 10: Advance Auto Supply; Area 11: Dickson Electronics, Union 76, Motorola; Area 12: Motorola Government Electronics Group

Figure 2:
SUMMA Canister used for sampling indoor air

Figure 3:
EPA's Trace Atmospheric Gas Analyzer Bus



SIBW Historical Source Areas

APS Ocotillo Station, DCE Circuits, Eldon Drapery, Service & Sales, City of Phoenix Right of Way, IMC Magnetics, Former Allstate Mine Supply, Cerprobe, Former Desert Sportswear, Unitog, Former Circuits Express

What if EPA Finds Chemical Vapors Have Entered a Building?

If EPA finds high concentrations of chemicals inside homes or commercial buildings due to vapor intrusion from the Site, EPA will work with the property owners and tenants to identify the best solution. EPA may recommend the installation of a mitigation system to reduce indoor air levels. Air purifiers may be employed on a temporary basis until permanent solution is in place.

Information Repositories

EPA maintains site information at the following repositories. These repositories contain the Administrative Record, project documents, fact sheets, and reference materials.

A copy of the 2nd Five Year Reviews (2016) of both sites and other site-related documents can be found on EPA's web page at:
https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/North+Indian+Bend+Wash+Superfund+Site

https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/South+Indian+Bend+Wash+Area

EPA Superfund Records Center
95 Hawthorne Street, Room 403
San Francisco, CA 94105
(415) 820-4700

ADEQ Records Center
1110 W. Washington
Phoenix, AZ 85007
(602) 771-4380

North Indian Bend Wash
Civic Center Library
3839 N. Drinkwater Blvd.
Scottsdale, AZ 85251
(480) 312-2320

South Indian Bend Wash
Tempe Public Library
3500 Rural Road
Tempe, AZ 85282
(480) 350-5511

For information in Spanish, please call toll-free
Para información en español, por favor llama al número a continuación: 1 (800) 231-3075

EPA Contacts

For more information, please contact EPA staff listed below:

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EPA Toll-Free Line: 1-800-231-3075

From: "Biesemeyer, Brian K" <BBiesemeyer@Scottsdaleaz.gov>
To: "City Council" <CityCouncil@scottsdaleaz.gov>
Cc: "Thompson, Jim" <JThompson@Scottsdaleaz.gov
Subject: EPA Work in Scottsdale - Area 7 of the North Indian Bend Wash Superfund Site

Honorable Mayor and Council,

A recent development with the NIBW Superfund Site has occurred of which you should be aware. A summary is provided for your benefit and to assist you in the event you receive resident inquiries. Please feel free to contact me for additional information and be aware that the USEPA Community Involvement Coordinator, Carlin Hafiz at (213) 244-1814 is prepared to answer questions from the public. In addition USEPA has a press contact, Margot Perez-Sullivan (415) 947-4149 who will be available for questions from the press.

As you know, the 1981 discovery of groundwater contamination along the Indian Bend Wash area resulted in the United States Environmental Protection Agency (USEPA) creating the North Indian Bend Wash (NIBW) Superfund Site, a site at which significant cleanup and monitoring work has been ongoing ever since. You may recall that the NIBW Site is believed to have been caused by historic industrial use of solvents such as Trichloroethylene (TCE) which then migrated to the groundwater underlying the Indian Bend Wash area.

USEPA monitors Site cleanup progress in multiple ways including conducting Five-Year Reviews to assess remedial objectives, treatment facility operations, and remedy protectiveness. Most recently, in its 2016 Five-Year Review, USEPA determined that all of the objectives are on track and treatment is being achieved. The site is continually moving toward full cleanup. Contaminants within the groundwater plume have dropped considerably with full groundwater cleanup projected to occur in about 50 years.

The 2016 Five-Year Review, however, was not officially completed because USEPA identified a new issue needing further work and study – vapor intrusion. Vapor intrusion is a process by which chemicals in soil (or groundwater) move up to the indoor air. Though USEPA reviewed the potential for vapor intrusion during its 2011 Five-Year Review and determined it was not a threat, the TCE toxicity criteria has since been lowered, leading USEPA to defer completing its most recent Five-Year Review until additional work is done.

During January through March of this year, USEPA required the NIBW Participating Companies (led by Motorola Solutions) to install multiple temporary shallow wells to monitor soil gas at most of the Site's source areas including Area 7. Area 7, located directly across from the City Court Building at 75th Street and 2nd Street (see attached map), is the source area that historically had the highest contamination levels and remains an active groundwater remediation site today. The ongoing Area 7 groundwater remediation, operated and funded by Motorola Solutions on behalf of the NIBW Participating Companies, draws contaminated groundwater into a small treatment plant where it is cleaned and then recharged back into the groundwater aquifer. **Please note that the City's drinking water system does not receive water from Area 7.**

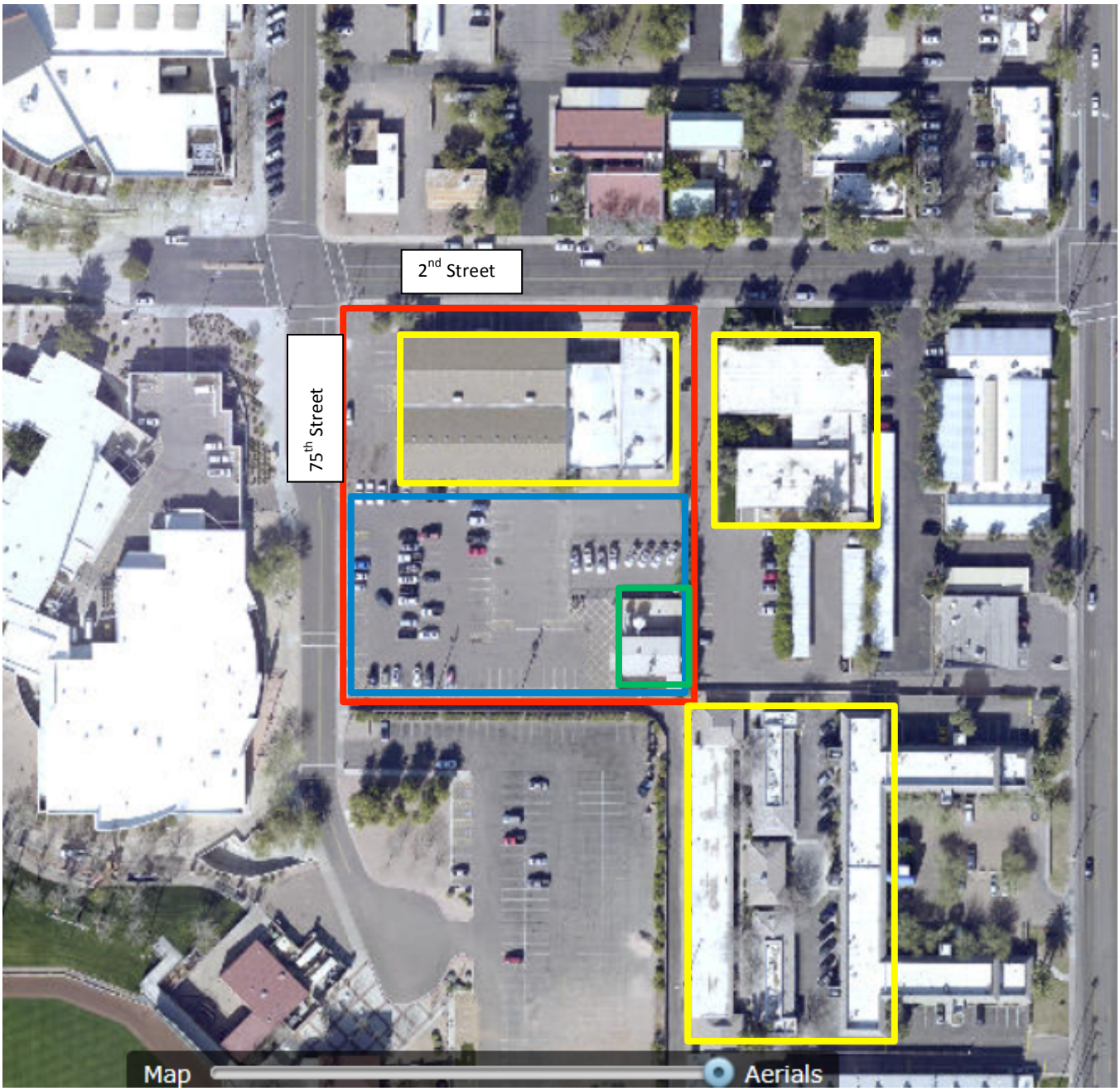
Data from the Area 7 soil gas wells are showing TCE levels in soils above the new toxicity criteria. Ambient air samples were also taken in the area surrounding the site and showed levels well below the limits. Although most of Area 7 is covered by an asphalt and concrete cap which is hoped to contain vapors to the subsurface, the USEPA is now requiring that samples be taken within occupied buildings adjacent to the site to monitor for vapor intrusion.

Parcels within Area 7 were previously owned by Siemens, Rolamech and the City with much of the City-owned land sold in recent years to Mr. Tom Frankel. Properties at which USEPA plans to request monitoring include 3719 N. 75th Street which is owned by Mr. Frankel; 7531 E. 2nd Street which is a single-story office space; and 3620 N. Miller Road which is the Estancia Apartments. During the week of April 17, 2017 USEPA has arranged for a mobile laboratory to be onsite to take samples at each of these locations. USEPA will determine the necessary next steps after reviewing the sampling data which will be generated in real time. The day before sampling will begin, the USEPA is planning a media event to showcase the mobile laboratory and explain its use in the vapor intrusion investigation.

Today, the USEPA and the NIBW Participating Companies will be discussing building access for monitoring with the property owners. Attached is a Fact Sheet that the USEPA will be providing to them. Though this does not involve the City's water supply, staff from Water Quality who are engaged in NIBW issues are coordinating with the USEPA and the Participating Companies. In addition, the City Attorney's office is being kept apprised of all developments. All questions or concerns from citizens should be referred to USEPA Community Involvement Coordinator, Carlin Hafiz at (213) 244-1814 and all press contacts should be referred to USEPA press contact Margot Perez-Sullivan (415) 947-4149.

Please let me know if you have any questions or require additional information. As this is an evolving situation, we will update you as we obtain additional information.

Brian K. Biesemeyer
Director, Scottsdale Water
(480) 312-5683
"Water Sustainability through Stewardship, Innovation and People"



Area 7

Area 7 treatment plant

Property owned by City within Area 7

Buildings to be monitored for vapor intrusion

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