

How Can I Contact EPA and Get Involved?

EPA and ADEQ work hard to promote meaningful community involvement and our shared goal is to keep the community informed of current and planned Site activities. As previously mentioned, on November 1, 2018, the CAG will hold their next meeting at the City of Goodyear Justice Center, 6:00 – 8:30 pm. Meetings are open to the public, and residents of Goodyear, Avondale and Litchfield Park are encouraged to attend.

EPA recently launched Facebook pages for the PGA-North and PGA-South Superfund sites. EPA is using this third-party site to share information in a different format that may be useful or interesting and is being provided for informational purposes only. Please share your thoughts and ideas. We will review comments according to our comment policy:

<https://www.epa.gov/home/epa-comment-policy>.

<https://www.facebook.com/PGANorth>

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Want to know what's happening at the Phoenix-Goodyear Airport Superfund Site?
Scan this QR-Code to find out!



HOW TO USE

A QR-Code is a barcode that a Smart-phone camera can scan to show specific information. To use, download a free QR-Code Scanner/Reader from your Smart-phone App Store. The above QR-Codes is for the Phoenix-Goodyear Airport Superfund Site. The direct link is:

<http://epa.gov/superfund/phoenix-goodyearairport>

Site Contacts

Catherine Brown
Superfund Project Manager
USEPA Region 9
75 Hawthorne Street SFD 8-1
San Francisco, CA 94105
(415) 947-4137
brown.catherine@epa.gov

John Peterson
ADEQ Project Manager
1110 W. Washington St.
Phoenix, AZ 85007
(602) 771-2234
Fax (602) 771-4272
Toll free (800) 234-5677
Ext: 771-2234
peterson.john@azdeq.gov

Wendy Flood
ADEQ Community Involvement Coordinator
1110 W. Washington St.
Phoenix, AZ 85007
(602) 771-4410
Toll free (800) 234-5677
Ext: 771-4410
Flood.wendy@azdeq.gov



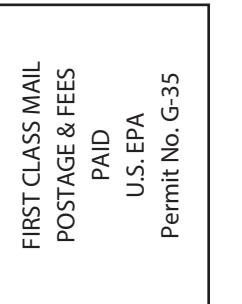
Site Repositories

City of Goodyear Library
14455 West Van Buren St.
Suite C-101
Goodyear, AZ 85338
(602) 652-3000

<http://epa.gov/superfund/phoenix-goodyearairport>
<http://www.azdeq.gov/node/3739>



EPA Superfund
Records Center MC SFD7-C
95 Hawthorne St. Suite 403S
San Francisco, CA 94105
(415) 820-4700



United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD 8-1)
San Francisco, CA 94105
Attn: Catherine Brown (PGA 10/16)

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Phoenix-Goodyear Airport Superfund Site: North and South Areas Update

October 2018

Groundwater cleanup activities at Phoenix-Goodyear Airport (PGA) Superfund Site, North and South Areas, continue. The U.S. Environmental Protection Agency (EPA), in conjunction with the Arizona Department of Environmental Quality (ADEQ), continues to oversee the enhanced groundwater cleanup activities for both areas. This fact sheet provides an update on progress so far, as well as announces the next open public meeting of the PGA Community Advisory Group (CAG), which will be held on November 1, 2018 at the City of Goodyear Justice Center from 6:00 to 8:30 pm.

About the Site

The PGA Superfund Site was originally listed on the National Priorities List in September 1983 as the Phoenix-Litchfield Airport Area Superfund Site. After the airport was transferred to the ownership of the City of Phoenix, the Site was renamed the Phoenix-Goodyear Airport (PGA) Area Superfund Site. Based on groundwater investigations which later identified two different sources of contamination, the Site was divided into two areas, PGA-North and PGA-South with different parties responsible for the cleanups.

PGA-North – Phase I Main Dry Wells Source Area Remedial Action (RA) Ongoing

Phase I of the Main Dry Wells Source Area Remedial Action is still ongoing. The Swette Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (ASU) has completed the microcosm study (an artificial, simplified ecosystem that is used to simulate and predict the behavior of natural ecosystems under controlled conditions), and is currently conducting the second phase of the laboratory treatability study, the aquifer sediment column study (evaluation of experimental conditions testing the reduction of TCE and perchlorate in Source Area soil and groundwater).

The study is expected to be completed by the end of October 2018. The primary purpose for conducting the laboratory treatability study is to provide needed design-related insights for the remedy approved by EPA and contained in the 2014 Record of Decision (ROD) Amendment. Sixty days after the treatability study is completed, the results will be presented. Based on these results, recommendations will be made for the next step in the cleanup process. Recent groundwater level measurements and groundwater monitoring continue to be conducted within the Source Area to ensure the Van Buren Street hydraulic barrier is effective and the Subunit A TCE plume on site is hydraulically contained and captured.

Additional Source Area Characterization

In an effort to address the TCE mass in Subunit B and matrix back diffusion in the fine-grained intervals, additional Source Area Characterization (SAC) at the Phoenix-Goodyear Airport North Superfund site is needed. The purpose of additional SAC will help provide a better understanding of how TCE and perchlorate is partitioned and distributed in the Source area in Subunits A, B, and upper Subunit C.

To help achieve this goal, up to eight soil borings will be drilled and sampled in the fall of 2018. The first four borings will evaluate contaminant distribution and hydrogeologic conditions along the north to south axis of the Subunit A TCE plume where contaminant concentrations have been highest. The remaining four soil borings will quantify the occurrence of ‘source’ TCE. In addition, in the fall, and/or winter 2018, up to eight multi-level groundwater monitor wells have also been planned to be installed for additional groundwater characterization in the area and potential remediation performance monitoring. A Quality Assurance Project Plan Addendum has been prepared to document the quality assurance/ quality control procedures to be followed during implementation of the SAC. A Field Sampling Plan has been prepared to document the methods and procedures that will be used for the SAC drilling and sampling (soil and groundwater) and managing the associated investigation of derived waste.

PGA-North Superfund Site Extraction and Injection Well Installations

Southern Area Investigation & Remediation

Historical detections of TCE in monitor wells in the area indicated there was a need to address the southern migration of the Subunit A TCE plume. As such, to enhance containment and hydraulic capture in the area between the former Unidynamics Phoenix Inc. (UPI) southern property boundary and Yuma Road (southern area) of the Subunit A TCE plume, two remediation wells have been installed: extraction well EA-11 and vadose zone injection well IA-16. The installation of these two new wells and associated pipelines has been completed and the wells have been connected into the Main Treatment System (MTS). The primary objectives of the two remedial wells are to: 1) address and mitigate southern migration of the Subunit A TCE plume toward COG drinking water supply well COG-01 and the PGA-South Site, 2) provide hydraulic containment and capture of the TCE impacts related to the unintentional reinjection of untreated water in the southern area of the PGA-North Subunit A TCE plume, 3) reduce TCE concentrations that have been identified in certain Subunit A monitor wells, and 4) help expedite the reduction of TCE in the areas of certain Subunit A monitor wells. Recent groundwater monitoring and samplings events show that hydraulic capture of the TCE plume in this area is occurring as evidenced by decreasing TCE concentrations in key groundwater monitoring wells near Yuma Road.

Lower Subunit C Investigation & Remediation

Lower Subunit C extraction well EC-03 was installed in the second quarter of 2018. This extraction well was installed to enhance hydraulic containment and capture in the Lower Subunit C TCE plume to prevent further plume migration towards downgradient City of Goodyear water production wells and PGA-South extraction well E-103, and to reduce TCE concentrations that have been identified in Lower Subunit C monitor wells. The additional flow from extraction well EC-03 has been conveyed for treatment at the MTS, and treated water has been used for reinjection in Subunit A to facilitate plume containment and aquifer flushing to expedite remediation. EC-03 began operation in April 2018 using a temporary power supply. Recent groundwater monitoring and samplings events show that hydraulic capture of the TCE plume in this area is occurring as evidenced by decreasing TCE concentrations in key Lower Subunit C groundwater monitoring wells in the area.

Subunit A Injection Well IA-17 to Protect City of Goodyear Production Well COG-03

Subunit A vadose zone injection well IA-17 and associated pipeline is currently being installed, and is expected to be completed by the end of September 2018. Soil boring SWE-1 was drilled and sampled to ensure that no TCE was present in Subunit A prior to the installation of injection well IA-17; it wasn’t. The injection well will protect

the City of Goodyear production well #3 (COG-03), and also build a hydraulic barrier to help to contain the plume in the vicinity. Elevated concentrations of TCE in monitor well EPA MW-58A and the location of COG-03 determined the need to address TCE mass in Subunit A near COG-03. The objectives are to, 1) enhance hydraulic containment of the PGA-North Subunit A TCE plume, 2) to prevent the possibility of the PGA-North Subunit A TCE plume from further migrating towards supply well COG-03, and 3) to help expedite the reduction of TCE near EPA MW-58A.

PGA-North Superfund Site Monitor Well Abandonment

Three monitoring wells were recently abandoned; EPA MW-15A, MW-22 and EPA MW-6A:

- Monitor well EPA MW-15A was abandoned as the well was screened across multiple aquifer units and had the potential of acting as a conduit.
- Monitor well MW-22 was abandoned per the request of the new property owner. This well was originally installed in 1992 however the screened interval of the well was not deep enough to accurately reflect water quality. As such a replacement well EPA MW-48A was installed within the City of Goodyear Right of way in 2010.
- Monitoring well EPA MW-6A was abandoned per the request of the property owner. This well was originally installed in 2008 to define the southern extent of the Subunit A TCE plume, characterize the vertical distribution of impacted groundwater, and provide groundwater investigation data for modeling. Based on historical TCE concentrations, TCE has never been detected in this well. TCE and perchlorate samples collected in November 2017 were also non-detect, therefore the well was abandoned.

Soil Vapor Extraction (SVE) Optimization

The 1989 ROD required that an SVE remedy for impacted soils in the vadose zone be designed, installed, and operated at the former Unidynamics Phoenix Incorporated (UPI) property for remediation of unsaturated soils. The SVE system consists of a network of ten extraction wells piped to a treatment system, which includes an air-to-air heat exchanger, knock-out tank, two 2,000-pound vapor-phase granular activated carbon (VGAC) adsorbers, and a positive displacement (PD) blower. Soil vapor extraction optimization activities were conducted at PGA North between 2011 and 2016 using a two-region model that was used to assess future operational strategies of the SVE system. Results of the SVE optimization testing concluded that the SVE system should be shut down. The decision for permanent SVE system shutdown is pending EPA approval.

PGA-North and South Superfund Sites Vapor Intrusion Investigation Framework

EPA developed a framework for both sites to develop an approach for a vapor intrusion (VI) evaluation. The VI investigation framework has been divided into two types (residential buildings/structures and commercial/industrial buildings/structures) to account for both structural and property use differences. Existing VI data will be evaluated in lieu of intrusive investigations.

All added activities are intended to shorten the time necessary to complete the cleanup.

PGA-South

The cleanup at PGA-South has been operating for over 30 years. While there are no remaining contaminated source areas at PGA-South and the contaminant plume has long been contained through groundwater pump and treat (since 1994), groundwater monitoring and pump and treat optimization continues at the Site.

Monitoring well GMW-39A is planned to be installed to support additional characterization in an area near the plume core in the middle portion of the Subunit A TCE plume to evaluate the potential location of a new Subunit A optimization extraction well. Three new Subunit C groundwater monitoring wells, GMW-40C, GMW-41C, and GMW-42C have been installed. They were installed to help delineate the elevated TCE and total/dissolved chromium concentrations observed in groundwater at upper Subunit C monitoring well GMW-36UC

and further refine interpretation and understanding of the northern Subunit C plume. These wells fill data gaps in the monitoring well network and will provide better definition of the northern Subunit C plume, which also will set the foundation for future Subunit C remedy optimization. New upper Subunit C monitoring well GMW-43UC was installed to replace production well GAC-03 for groundwater monitoring. The new monitoring well will help to further refine interpretation and understanding of the northern Subunit C plume.

Subunit A extraction well E-22 was installed in June 2018 to increase contaminant mass removal and reduce the dissolved TCE mass flux within the plume head that is contributing to the downgradient portion of the Subunit A plume. Groundwater extracted from well E-22 is transferred to the existing Subunit A system air stripper compound via a new, short pipeline that connects to the existing E-17 pipeline.

In May 2018, a new granular activated carbon (GAC) vessel was installed to replace Vessel B at the Subunit C groundwater treatment system.

PGA South Superfund Site Well Abandonments

Subunit C monitoring well GMW-02 was abandoned because it was screened across lower Subunit B and upper Subunit C, and acted as a potential conduit well. The water level and water quality data from this well may therefore represent a blend of both subunits, which could result in a misinterpretation of the Subunit C groundwater level and/or water quality. Nearby wells in the area should provide sufficient water level and water quality data.

Subunit C Extraction Well E-101 was abandoned because it was non-functional due to the well casing/screen being in poor condition, and could no longer be used as an extraction well or monitoring point. Monitoring well GMW-09MC will be used as a replacement monitoring point for E-101.

Subunit C monitoring well GMW-26LC was abandoned because it was located within the footprint of a recently constructed large building. This well was replaced with new upper Subunit C monitoring well GMW-26UC.

A plan was submitted to replace four Subunit A injection wells, I-02, I-05, I-14, and I-16 with new injection wells, I-02R, I-05R, I-14R, and I-16R. These new injection wells were installed within 50 feet of the existing injection wells. The existing injection wells had diminished injection capacities that were restored via additional acid treatment prior to installing the new wells, therefore the existing wells will serve as backup wells, and not be abandoned.

What Are the Next Steps in 2019?

PGA-North: The laboratory treatability study conducted by ASU will be completed. Additional source area characterization will be completed in 2018/ early 2019. The results will be used to direct the source area treatment implementation. Groundwater monitoring will continue.

Current groundwater remedial activities are focused on an alternative remedial approach that expands on the current remedial systems and optimizes aquifer flushing kinetics by using focused extraction and injection. This optimization approach will accelerate the cleanup of the offsite plume and thereby mitigate potential risks to local water supplies. New groundwater extraction wells and injection wells are planned, and treated water from the MTS will be piped to north of I-10 where injection will take place. Planning, permitting and logistics are currently underway for Subunit A remedy optimization near I-10 area.

PGA-South: Monitoring, extraction and treatment of groundwater will continue with efforts to optimize mass removal in both Subunit A and Subunit C, concentrating on the northern Subunit C plume and the northern portion of the Subunit A plume.