Community Involvement Plan

Phoenix-Goodyear Airport (PGA) Superfund Site

Western Avenue Water Quality Assurance Revolving Fund (WQARF) Site

Goodyear, Arizona

U.S. Environmental Protection Agency – Region 9
Arizona Department of Environmental Quality

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Phoenix-Goodyear Airport Superfund Site
Community Involvement Plan

Introduction

The U.S. Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ) "the Agencies" recognize that members of the public have the right to be involved in the government decisions which affect their communities. The Agencies' experience shows that when the public is involved in the cleanup process, it results in a better outcome and a more robust remedy. At the PGA Superfund Site and at ADEQ's Western Avenue Water Quality Assurance Revolving Fund (WQARF) Site, the respective Community Involvement Programs are designed to help community members participate throughout the cleanup process, including the investigation phase and the remedy selection phase.

Roles & Responsibilities by Cleanup Agencies

ADEQ works with EPA at the PGA Superfund Site (Site) to comment and support cleanup activities. Additionally, a smaller plume of contamination just east of the Site is being addressed by ADEQ's WQARF Program (see page 9). As required, ADEQ hosts a Community Advisory Group (CAG) for the smaller plume. At those meetings EPA is invited to discuss activities at the Site.

See figure 1 to see the coordination.

Figure 1: Cleanup Sites

ADEQ's Western Avenue WQARF Site has a separate project team involved with cleanup activities (contact information may be found in Appendix 1). As the lead regulator for cleanup at the Western Avenue WQARF Site, ADEQ must meet cleanup and community involvement requirements under the WQARF program, including, but not limited to convening a CAG that meets quarterly, has co-chairs, and is conducted following all State of Arizona meeting requirements. More about the Western Avenue WQARF site requirements can be found in Appenidx 19.

EPA's community involvement process is complemented by separate community involvement activities outlined in this plan. In addition, information about the Western Avenue WQARF Site and activities are also included.

Community Involvement Goals

The Agencies drew upon several information sources to develop this Plan. Examples include community interviews from residents in Goodyear, Avondale and Litchfield Park elected officials, other stakeholders, and historical Site files in 2010-2011. The Plan addresses interrelationships among the Site, the surrounding communities, and EPA.

The goals of the Community Involvement Plan (CIP) are to:

- Provide opportunities for the public to become actively involved in Site decisions.
- Meet the community's information needs.
- Incorporate issues and concerns into cleanup decisions.
- Give feedback to the public on how their issues and concerns were incorporated into the cleanup work.

The Agencies will achieve these goals through various means, including published documents, public meetings, and community interviews.

Cleanup Goals

Public Participation efforts support cleanup decisions made by the Agencies. Cleanup goals are to protect human health and the environment, and use science and cost-effective methods to do so. Secondly, cleanup decisions must consider public input, be sensitive to community values, and find common ground among conflicting views to the

The Community Advisory Group

ADEQ hosts a Community Advisory Group that meets Quarterly to discuss Site issues regarding the Western Avenue WQARF Site.

EPA participates in these meetings by providing updates on the cleanup activities at the federal PGA Superfund Site.

Historically, meetings are held the first Thursday of February, May, August, and November. The meeting location changes, however, most meetings are held at the:

Goodyear Justice Center
185 N 145th Ave, Goodyear, AZ

The CAG was historically established by both Agencies in 2001, and has been instrumental in helping move progress forward, by helping Agencies and Responsible Parties commit to timelines, ensuring other community members are aware of cleanup, as well as providing feedback throughout the cleanup process. At ADEQ's WQARF Sites, under Arizona Revised Statues, a Community Advisory Board is required to operate. At the Western Ave. Site, the CAG serves that purpose and follows rules and regulations surrounding that type of group due to the close proximity of the sites.

More information about the Community Advisory Group and membership details on how to become a co-chair can be found at: **http://www.azdeq.gov/environ/waste/sps/community.html#inv**

maximum extent possible. The Agencies will ultimately make final decisions that satisfy the Agencies necessary requirements and responsibilities.

CIP Organization

The purpose of the CIP is to show how, when, and where the Agencies will provide information that the public needs to understand cleanup work, and to show how the stakeholders (e.g., Agencies, responsible parties, local government representatives, and members of the community) can be actively involved in the cleanup process.

CHAPTER ONE of the CIP identifies the issues and concerns that were expressed during the community interviews. Chapter One also provides a discussion of how each issue has been addressed and/or will continue to be addressed.

CHAPTER TWO describes the Community Action Plan based on community feedback and recommendations, as well as the resources available. The plan relies both on tools and techniques developed over the years, and on specific techniques developed for this Site based on the community's feedback.

CHAPTER THREE charts the Agencies current schedules for the investigation and cleanup activities. Where appropriate, it lists possible or required community involvement activities.

APPENDICES provide additional information, such as a detailed Site history, a community profile, an overview of the federal Superfund cleanup program, a glossary and key contacts.

The CIP is a "living document," meaning that it will be updated or revised as Site conditions change over the course of the cleanup of the Site. Current information, such as information gained from community interviews and recent Site activities, is included in this CIP.

Community Involvement Regulations

Community Involvement is regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. This CIP follows the community involvement requirements found under the Superfund Amendment and Reauthorization Act of 1986 (SARA) §117 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.430.

The CIP also fulfills the requirements for community involvement under Arizona Revised Statutes §49-287.03 (B) and §49-289.03.

Additional information on community involvement for Superfund sites can be found in EPA's official guidance for Community Involvement, which is available on the Internet at:
http://www.epa.gov/superfund/community/cag/pdfs/ci_handbook.pdf

More information on ADEQ's community involvement at WQARF Sites can be found at:
http://www.azdeq.gov/environ/waste/sps/community.html#inv

CHAPTER 1
COMMUNITY ISSUES, CONCERNS & DISCUSSION

To better understand the communities associated with PGA North and PGA South Superfund Site and the Western Avenue WQARF EPA conducted a series of stakeholder interviews. EPA met with local residents, property owners, activists, CAG members, City and state officials. Questions were prepared by EPA and ADEQ and each interviewee was asked approximately 20 questions. In addition, as part of the Second Five-Year Review for the PGA Site in 2010, interviews were conducted with a similar group of stakeholders. The community members interviewed have lived or worked in the area for periods ranging from less than 10 years to more than 50 years. Most respondents were generally familiar with the project Site and the origins of the contamination. Most had learned of the contamination by word-of-mouth and/or through neighborhood association meetings, newspapers, their jobs, information distributed by EPA, or public meetings.

In general, these interviewees indicated that Site cleanup at PGA North was not successful in containing the contaminant plumes within or near the former facility boundaries (Figure 2 and Figure 3) whereas interviewees felt that the Site cleanup at PGA South appears to be progressing well and has shown success in containing the contaminant plumes at or near the facility boundaries (Figure 4 and Figure 5). Specific responses are included in the categorized summaries in Sections 1.1 through 1.6.

In late 2011, nine community interviews were conducted during which residents and other stakeholders expressed a wide range of issues and concerns. Their responses showed varying levels (low to high) of knowledge about the Site history, and about EPA's current and planned activities at the Site.

In addition to the personal interviews, EPA's Technical Assistance Services for Communities Program (TASC) conducted a Technical Assistance Needs Assessment for the Environmental Community Outreach Association (ECO) and the citizens of Avondale, Goodyear, and Litchfield Park. The assessment was designed to provide a better understanding of the needs of the communities surrounding the PGA Superfund Site and the Western Avenue WQARF Site and to get information about activities at the Sites. The primary recommendations of this assessment for the enhancement of community outreach for general citizens were:

1. Develop a strong on-line presence.
2. Increase information distribution via flyers and representation at events.
3. Create a network of ECO or outreach representatives.
4. Increase CAG meeting accessibility to general citizens and newcomers.

Although many of the responses to the surveys and interviews noted above varied in topic, they are grouped for discussion into six categories:

1. Environmental Concerns
2. Superfund Cleanup Activity Concerns
3. Human Health Concerns
4. Cleanup Cost and Financial Impacts Concerns
5. Communications and Public Education Concerns
6. Relationship/Level of Confidence with Agency Personnel

PGA Site Map

EPA has found groundwater contamination in the shallow (subunit A) groundwater at depths of approximately 100 to 200 feet. Near the source areas EPA has found that shallow groundwater contamination has moved to deeper (subunit C) groundwater at depths of approximately 280 to 370 feet. EPA is working with ADEQ to remove and cleanup contamination at all depths.

PGA North – Shallow Groundwater Plume

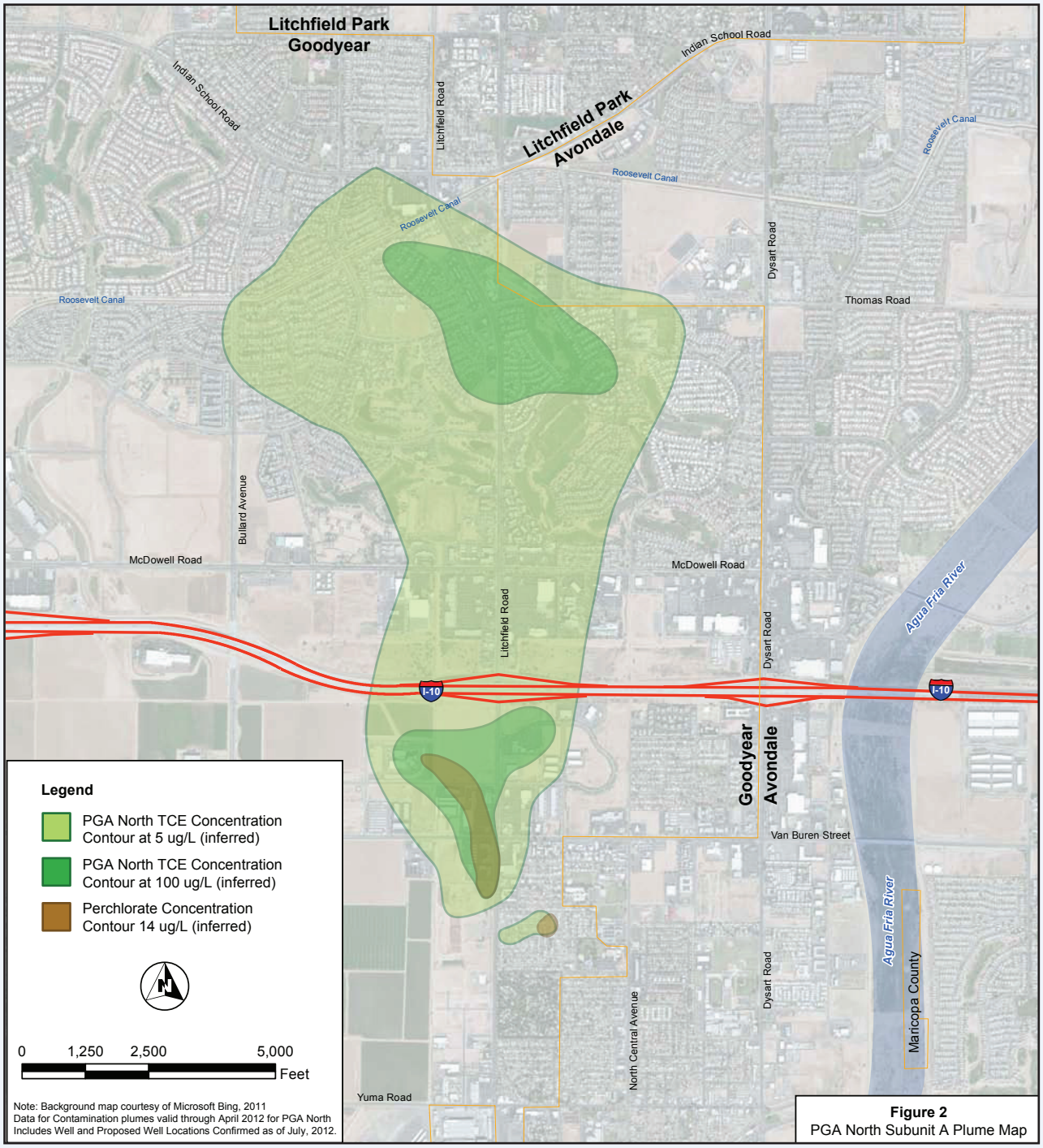


Figure 2
PGA North Subunit A Plume Map

PGA North – Deep Groundwater Plume

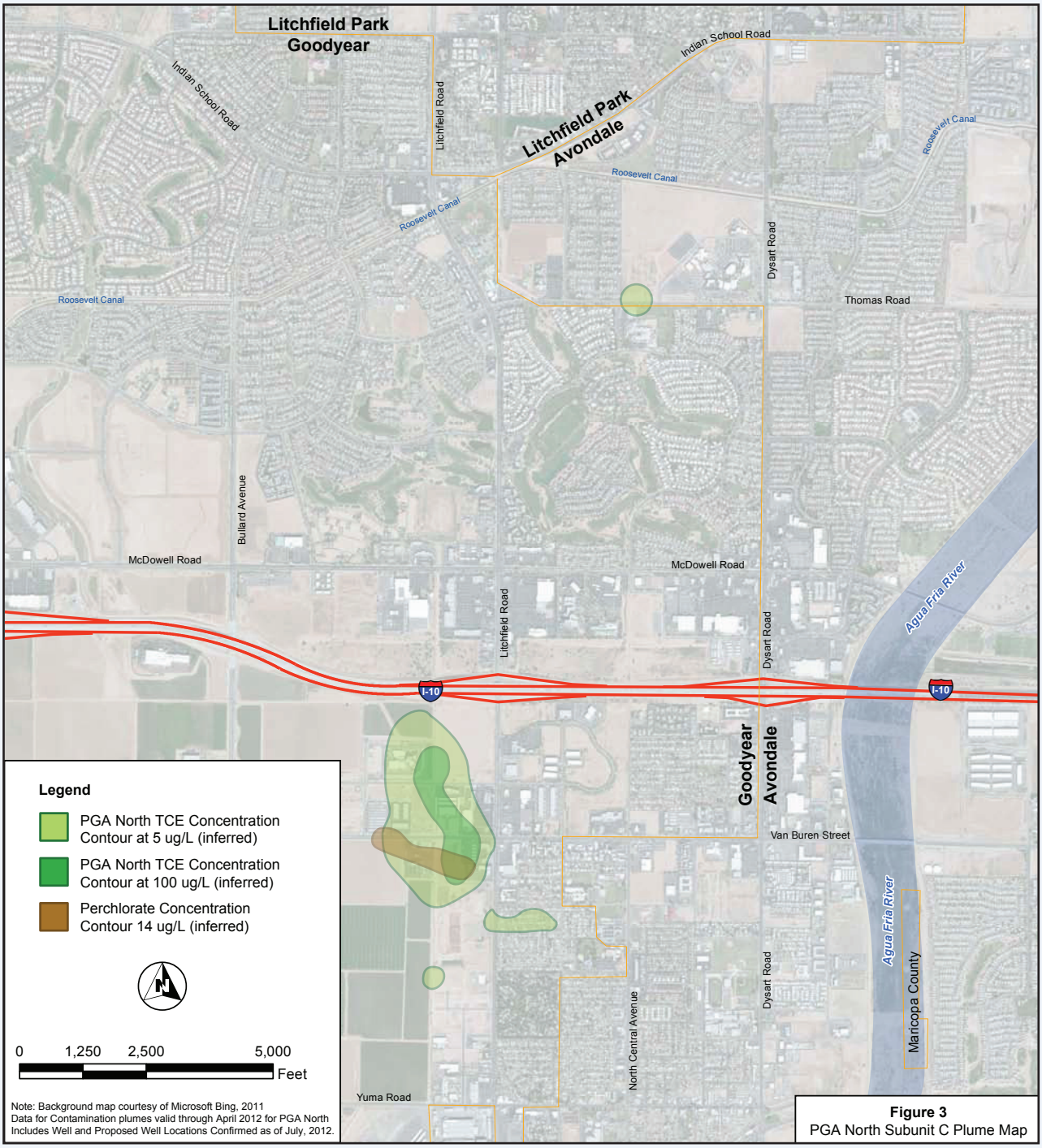


Figure 3
PGA North Subunit C Plume Map

PGA South – Shallow Groundwater Plume

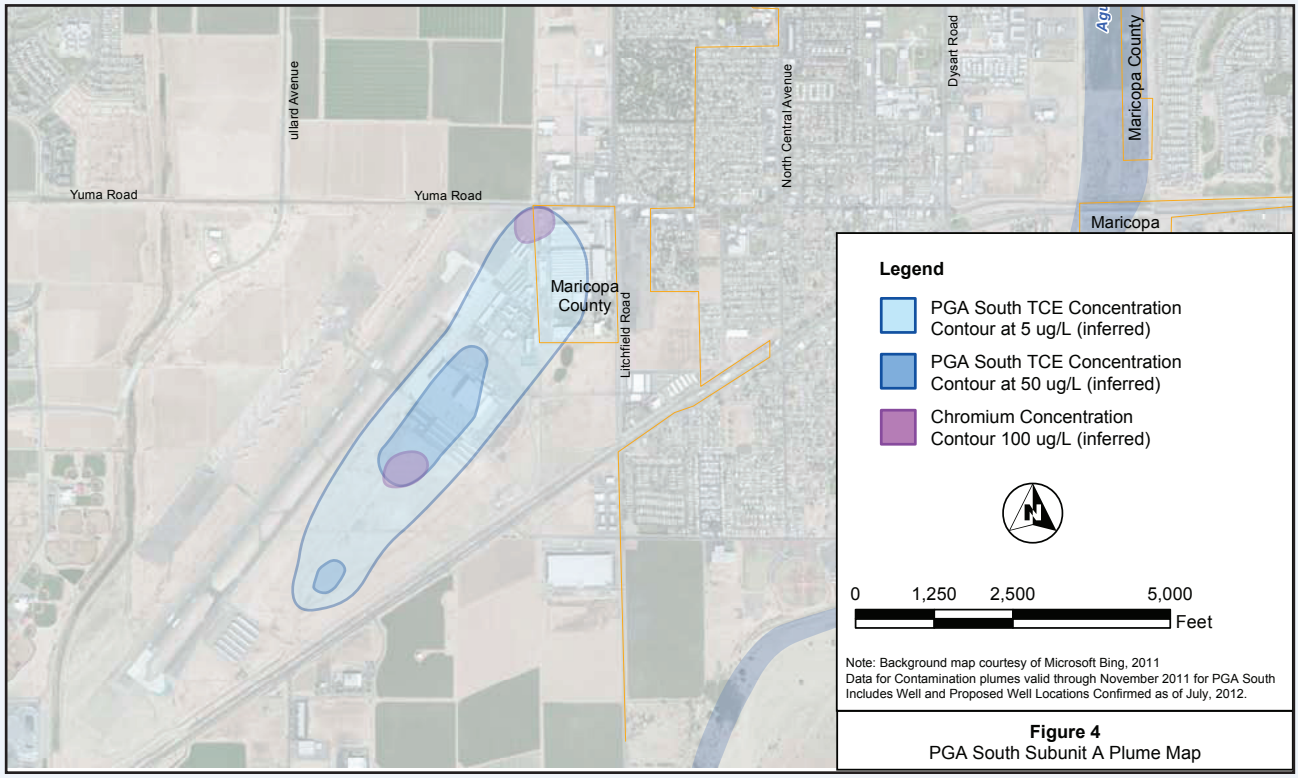


Figure 4
PGA South Subunit A Plume Map

PGA South – Deep Groundwater Plume

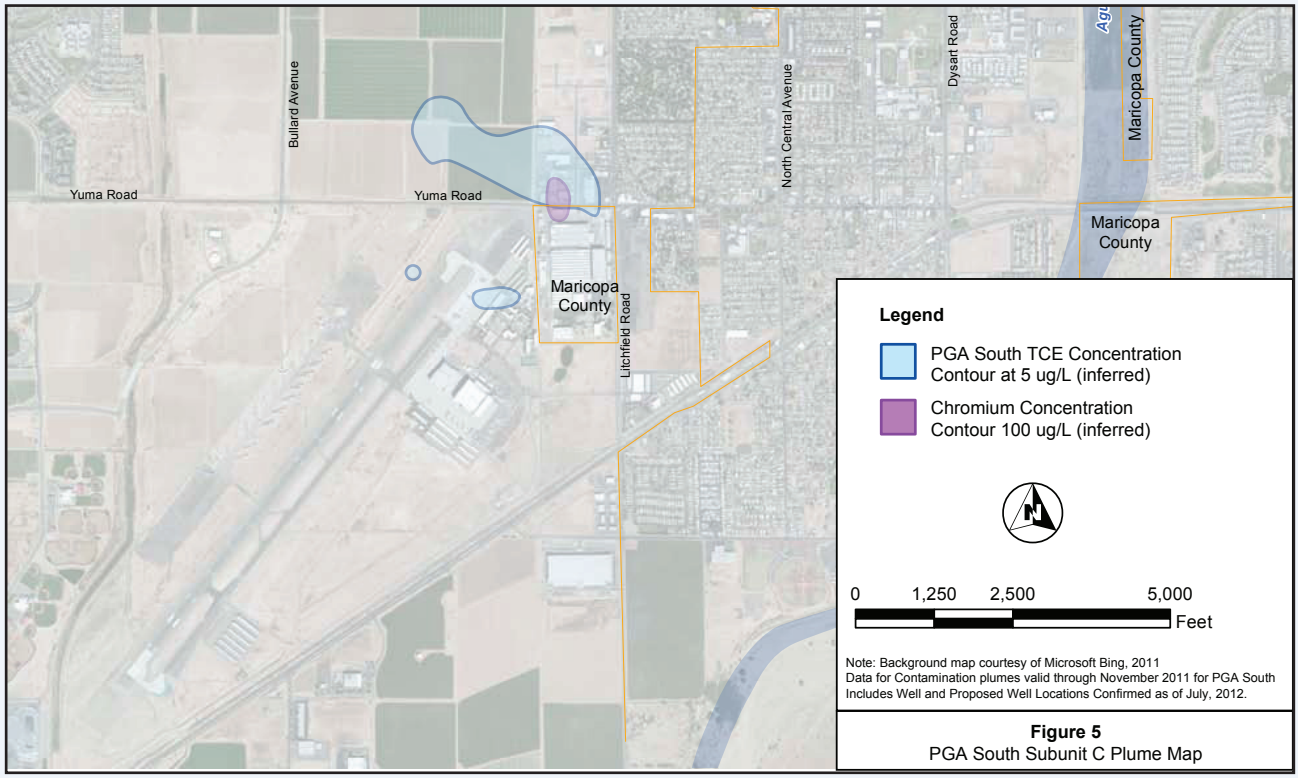
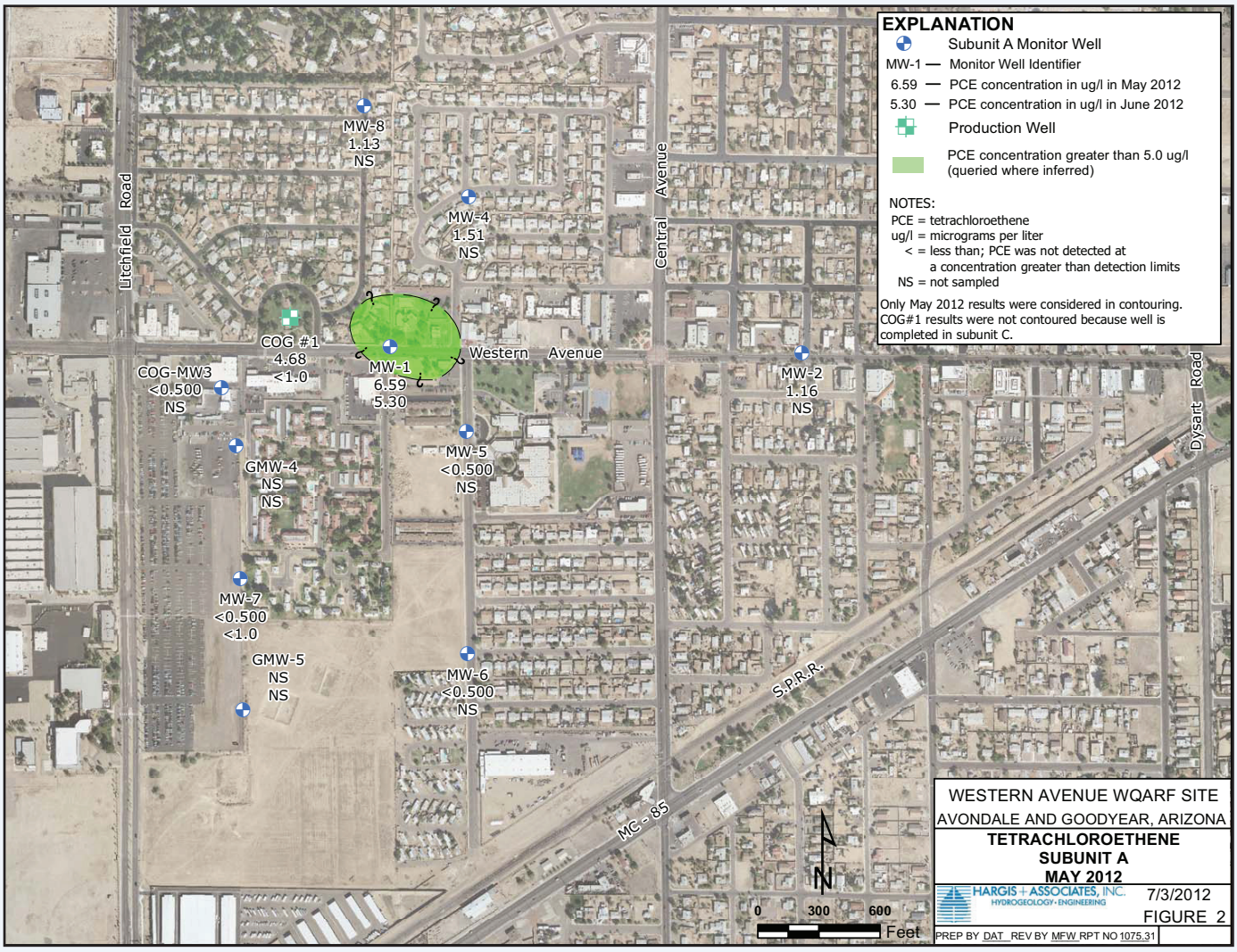


Figure 5
PGA South Subunit C Plume Map

Western Avenue WQARF – PCE Plume Area



1.1 Environmental Concerns

Generally, individuals are concerned about the nature and extent of contamination as well as the possibility that contaminants may migrate further and impact groundwater and drinking water. Several respondents were aware that information about the contaminant plumes and their sources has been provided in the various PGA reports that already exist and have been discussed in prepared fact sheets, discussed at EPA's annual Open Houses, provided at CAG meetings, HOA meetings or other public meetings. (Appendix 12 provides information on the location of information repositories.)

1.2 Superfund Cleanup Activity Concerns

Cleanup Timeline

The length of time to cleanup is important to many people. Most people want the cleanup to move faster, and more than one respondent noted that it had taken a long time for cleanup activities to begin at PGA North. It was noted that the size of the PGA North plume is still growing (possibly because remediation activities are taking so long). Technically-oriented individuals suggested that the level of sampling is less than adequate, and that there has not been a lot of good geologic information presented yet. Respondents want the cleanup to be efficiently planned and executed and protective of the communities.

A general project schedule is located in Chapter 3 of this CIP, and the recent Five Year Review (FYR) for the Site identifies issues that must be resolved in order to achieve protectiveness and a final cleanup. EPA recognizes that cleanup must move forward as fast as possible.

Unidynamics Facility Demolition Concerns (2009)

Additional public concerns were expressed about the inconveniences caused by traffic disruptions and dust control problems in 2009 at PGA North during the building demolitions at the Former Unidynamics Facility and the installation of upgraded system components for PGA North. Public comments made during HOA meetings held in June 2012 indicated that the public thought remediation efforts at the PGA North Site were improving (A list of HOAs in the vicinity of the Site is provided in Appendix 14).

Other Site Concerns

Other events discussed by the interviewees included periodic vandalism which occurred at PGA North prior to the demolition of the remaining Unidynamics buildings and a trailer fire at PGA North during 2009. At PGA South, a sulfuric acid spill occurred in December 2006 while the treatment system was being upgraded.

In general, residents were satisfied about their relationship and the work that the Responsible Party is doing for PGA South. However, residents were frustrated about cleanup activities associated with the work done by the Responsible Party on PGA North; which has since improved after Agencies and the community got involved.

Technical Assistance Concerns

Cleanup work results in a number of technical documents. Historically, communities at Superfund sites have asked for assistance in understanding these documents so interested community members can express their concerns. EPA provides a Technical Assistance Grant (TAG) to a nonprofit community group in the project area so that they can hire an independent, environmental professional to serve in the capacity of Technical Advisor to assist them in interpreting these technical documents. Currently ECO is the recipient of this grant. ECO hired Randy McElroy as the technical advisor to ECO and the community.

1.3 Human Health Concerns

The primary concerns expressed by respondents in the 2011 PGA interviews were that contamination appears to be moving into the areas of both the Avondale and Goodyear well fields, and that chromium has been detected recently in groundwater samples. Several respondents were therefore concerned about potential current and future impacts to drinking water, and were unsure as to how children might be exposed and whether there were risks of exposure through home-grown produce or casual contact

with contaminated water. Contaminated groundwater from the PGA Superfund Site is not used for drinking water. It is the Agencies top priority to protect the drinking water supply in Goodyear, Avondale and Litchfield Park from being impacted by the groundwater contamination. There is no exposure pathway from the groundwater at 90 –130 feet below ground to residents in their yards.

EPA will continue to provide health-related information in fact sheets or other publications and at community meetings, as described in this CIP. EPA will also monitor local media outlets, such as those identified in Appendix 15, to verify accurate information is being provided regarding potential health effects from the Site.

Additional comments reflected frustration that past expansion of the PGA North plume resulted in the contamination and closure of four drinking water wells and contamination from PGA North may threaten City of Goodyear wells. In response to these frustrations from the community, Crane Co. has installed additional wells to help contain contamination and has developed additional studies to better understand groundwater flow.

At the request of the Mayor of Goodyear, Georgia Lord, EPA met with the Cancer Research Center of America management to respond to concerns about a pipe line spill that occurred in October 2011. EPA's toxicologist also attended this meeting to answer questions from the Center's management concerning health issues. EPA will reach out to the Center periodically to keep them apprised of Site activities.

1.4 Cleanup Cost and Financial Impacts Concerns

Few respondents expressed cost-related concerns, other than indicating that they hoped money would not be wasted and that cleanup activities would not require expenditure of any local tax dollars. This issue has been addressed in previously issued Site documents, particularly in the cost comparison among alternatives in the Source Area Focused Feasibility Study (see the Site History in Appendix 2). PGA North and PGA South has responsible parties that pay for the investigation and cleanup for large portions of the Site, and both the Agencies are reimbursed by these parties. Responsible parties include Crane Company (PGA North) and Goodyear Tire and Rubber Company (PGA South). Points of contact for these responsible parties are identified in Appendix 3.

Superfund cleanup actions are determined by their protectiveness of human health and the environment first and foremost, and then balanced by cost effectiveness. This is addressed in the nine evaluation criteria (listed in Appendix 6) used when deciding on a remedy. Information about Superfund's liability structure can be found at: **http://www.epa.gov/oecaerth/cleanup/superfund/liability.html.**

ECO and the Community

Randy McElroy worked as a geologist for over 15+ years and has taught Environmental Geology/ Physical Geology as an instructor at Estrella Mountain Community College for 10+ years. His experience teaching college students about the importance of environmental relationships as it applies to their daily lives will be used in the community outreach efforts of the organization. ECO holds periodic meetings during which the Technical Advisor shares his interpretation of technical documents with the community, answers questions, and provides comments for both the community and the regulatory agencies to consider. Eco also produces bi-monthly magazine articles in local community magazines for the communities of Pebblecreek, Estrella Mountain, and Palm Valley.

General information about the Superfund enforcement process, enforcement authorities and enforcement tools is available in the "Superfund Enforcement Process: How It Works" fact sheet. **http://www.epa.gov/compliance/resources/policies/cleanup/superfund/fs-howitworks-rpt.pdf).**

EPA is committed to ensuring that those who are responsible for hazardous waste sites take the lead in cleanup, when appropriate, through the Superfund cleanup process. Legal agreements detailing the obligations of the responsible parties can be found in the Information Repository (see Appendix 12).

WQARF was created under the Environmental Quality Act of 1986, to support hazardous substance cleanup efforts in Arizona. The fund is dependent upon legislative appropriations, cost recovery from responsible parties, corporate income tax and special fees. The program identifies sites that are most in need of cleanup and adds them to the WQARF Registry. Sites on the Registry receive first consideration for distribution of funds.

Parties responsible for causing contamination at sites in the WQARF and Superfund programs are identified and notified of potential liability, and legal and technical information is gathered for recovery of ADEQ's costs and for enforcement of cleanup requirements. The parties ultimately found responsible in WQARF and Superfund actions are liable for paying costs of remedial actions required or monitored by ADEQ. The recovered dollars are then deposited back into the WQARF.

1.5 Communications and Public Education Concerns

Although most respondents indicated that the quantity and quality of information available was adequate, a number of suggestions for improvement were offered. Recommendations included going to neighborhood association meetings and other community group meetings, health fairs, etc., to provide brief updates to a larger audience; encouraging more community members to become involved with Site-related meetings and communications; and providing updated information periodically or when there is an important new development. This information is important to share because many residents live over the area of contamination, mostly from the PGA North Superfund Site. The Agencies do participate in these types of events and will continue to do so. (A sample brochure of how one HOA informs potential new residents regarding the Site is provided in Appendix 17)

Most respondents indicated that if a member of the community wanted information, it was available and could be obtained fairly easily. Not all respondents knew about the information repositories, but most of those who did indicated that the current locations were appropriate for the communities affected by the project.

Some respondents suggested providing information in increments–starting with less technical information and then increasing the technical level; using websites and social media more extensively; and sending out emails and/or posting notifications on the EPA project website and/or on websites maintained by others to let people know that new information is available.

Regarding information presented at public meetings, one respondent offered feedback that "the maps are difficult to see on the screens" and poster boards "that people can go up to and look at would be better." Respondents' recommendations were reviewed and became the impetus for many of the specific action items identified in Chapter 2 of this CIP.

1.6 Relationship/Level of Confidence with Agency Personnel

Most of the respondents indicated generally positive experiences with the Agencies, while a few indicated they had had negative experiences in the past. Positive experiences included good communication with the community by keeping people notified; acknowledging that Agencies were doing the best job they could; and indicating that interactions with and participation of EPA are good and getting better. Negative concerns included difficulty in knowing "who's who" at the Agencies, and potentially negative perceptions on both sides of tense interactions (primarily in the past). The Agencies are working to continue building positive relationships with community members and stakeholders at the Site.

CHAPTER 2
COMMUNITY INVOLVEMENT ACTION PLAN

This section describes the specific activities and resources that the Agencies will use to help the community be actively involved in the cleanup process. Ideas and suggestions raised in the various community interviews and surveys were incorporated into the Action Plan.

Since community involvement requirements and strategies differ between the Agencies, we have outlined those differences by associating them with EPA or ADEQ or both. In addition, with the exception of CAG meetings community involvement for the Western Avenue WQARF Site will be done by ADEQ because the EPA does not assign staff to State lead sites. However, for activities involving the PGA Superfund Site EPA will lead Community Involvement Activities and ADEQ will provide support when possible.

Elements of the Community Involvement Action Plan

The subsections below provide an overview of the various activities and actions that will comprise the community involvement/engagement element of the remedial activities for the PGA Superfund and Western Avenue WQARF Site. These items were established based on general guidelines for federal Superfund sites, the interviews conducted for this CIP and the five-year review, and additional input received from previous CAG meetings, TAG recipient, public meetings, and the FYR. Items may be added or modified as appropriate based on comments received during the public review period for this draft document.

The activities outlined in this chapter include activities and methods of communication such as:

- websites and social media (EPA);
- fact sheets, handouts, flyers, and public notices;
- press releases and media contacts;
- community meetings;
- community advisory group (CAG);
- small group and stakeholder meetings;
- homeowners' association meetings;
- meetings with representatives of city government;
- TAG grantee (EPA);
- an information repository and administrative record;
- maintenance of mailing lists;
- door-to-door notifications;
- the Technical Assistance Services for Communities (TASC) Needs Assessment (EPA);
- translation/interpretation services for non-English-speaking audiences.

Issue 1: Site Information should be More Accessible to the Community

Activity 1A: Develop a Project Website as a Platform for Stakeholder and Community Information/Education

OBJECTIVE: Provide Site information to anyone who has access to the Internet, whether at home or at a local library.

METHOD: The PGA Sites have three websites associated with cleanup information. The websites serve to complement each other and collectively provide/host all information associated with the site.

1. **www.epa.gov/region 9/phoenix-goodyearairport**

   The EPA's website hosts digital documents associated with Site, announcements, history and cleanup updates on the Site.

   http://www.azdeq.gov/environ/waste/sps/phxsites.html#pgana

   http://www.azdeq.gov/environ/waste/sps/phxsites.html#pgasa

2. ADEQ's website regarding WQARF Cleanup Sites, scroll to the bottom of the page to see information and documents associated with the Western Ave. Cleanup Site. CAG Agendas, presentations and minutes are located on this Site, along with milestone cleanup documents associated with the Western Ave. Site.

   http://www.azdeq.gov/environ/waste/sps/phxsites.html#westavea

   ADEQ's website provides a variety of information regarding the Western Ave. WQARF Site including site history, maps CAG meeting agendas and minutes and milestone documents.

3. **http://www.outreach4community.org/pga-superfund**

   EPA has provided technical support for the TAG, to develop a website to provide project history, project updates, project team contact information, answers to frequently asked questions, links to additional resources, and comments made by the hired independent technical advisor. The website is managed by the ECO as described in the following section.

TIMING: The project web sites managed by the Agencies are active and may be accessed anytime.

Activity 1B: Engage in Social Media, e.g. Facebook

OBJECTIVE: EPA will provide an avenue of access to information and media for those community members who prefer to engage in social media venues to access and provide information. Content like photos, meeting flyers, useful and or related links to content and updates on construction or sampling activities have the potential to be uploaded and managed as they occur.

METHOD: One of the community outreach items conducted by ECO is the development and maintenance of a Facebook page for the PGA Superfund Site. As this page is managed by ECO it does not necessarily reflect the views and opinions of the EPA or ADEQ. However, EPA will work with ECO to support and provide any content requested. The Facebook page can be accessed at: **www.Facebook.com/outreach4community**

TIMING: The Facebook page has been developed. However, outreach to the various communities is needed to request that a link be added to the Facebook page from city government and organizations' websites.

Issue 2: Support Local Groups in Sharing Site Information

Activity 2A: Communicate with Local Stakeholder Groups and Other Interested Organizations

OBJECTIVE: EPA will develop/distribute information in various formats/media that local organizations (e.g., businesses, utilities, schools, civic action groups, and HOAs) and publications can share with or distribute to their constituencies. ADEQ may be conducting these activities upon request.

METHOD:

1. Develop fact sheets, flyers, posters, and other communications to provide project history, project updates, project team contact information, and answers to frequently asked questions.
2. Provide speakers and/or media-based presentations, and make these available to local organizations.
3. Encourage local organizations to establish links to the project website on their websites or in their publications.

TIMING: ECO has already developed the following items for the public: (1)A brief and general Site history in fact sheets and PowerPoint presentations; (2) Detailed and more technical Site history in fact sheet and PowerPoint presentation; (3) Site flyer. ADEQ, as the TAG recipient, ECO and city governments have established links to the EPA project website as well as the ECO sponsored Site-specific website and Facebook page. Additional links will be solicited throughout the course of Site activities.

Issue 3: Keep the Community Informed and Up to Date on Site Activities

Activity 3A: Prepare and Present Site Information (Fact Sheets, Technical Summaries, Power Point Presentations, etc.) in a Variety of Formats

FACT SHEETS: Fact sheets will explain how the Site directly affects the community on a day-to-day-basis. This will be done with a brief Frequenlty Asked Questions (FAQ) section based on community interviews. EPA will encourage local officials to provide questions they receive from members of the community so that these can be used in the FAQ section.

DISTRIBUTION: Fact sheets (in paper and/or digital formats) will be mailed/e-mailed to all parties on the Site mailing list. For EPA these factsheets will be published as needed and for major milestones. In addition to copies being available at the information repository, they will be placed at various locations throughout the community (examples: City Halls, local businesses), distributed at public meetings, and provided to local newspapers and other media outlets. Digital versions also will be posted on the project websites. As appropriate, Spanish-language versions of fact sheets and technical summaries will be prepared to help reach more people in the PGA Superfund Site community.

OPEN HOUSE PUBLIC MEETINGS: EPA will conduct an annual open house and other periodic events for the community and all interested stakeholders. Before EPA begins to make its cleanup decision, open house workshops will be held to help explain the conclusions of the RI/FS.

Activity 3B: Involve Students, Parents, and Teachers through Area Schools

OBJECTIVE: EPA will inform faculty, students, and parents about the PGA Site and to invite and address their concerns regarding the Site. ADEQ may provide presentations outside the CAG as possible and upon request.

METHOD: Address school faculty and students at presentations to classrooms, faculty meetings, school assemblies, and other meetings. Additionally, communicate with parents through take-home materials provided to the students and by attending and participating in PTA meetings or events. (One of the levels of the information developed by EPA and ECO, the TAG recipient may be geared specifically for students for use in the classroom by teachers.)

TIMING: These activities will begin before EPA begins its comment period on the Proposed Cleanup Plan. EPA will attempt to make presentations as interactive as possible and focus on education about cleanup issues and technologies

Activity 3C: Provide a Toll-Free "800 Number" for the Community to Contact EPA or ADEQ.

OBJECTIVE: To enable citizens to get the latest information available on the PGA and WQARF Sites when they want it, rather than having to wait for a meeting or a fact sheet, and without incurring any cost.

METHOD: EPA and ADEQ have the 800 numbers, and will announce them periodically in the local meetings and in all fact sheets.

TIMING: The EPA line is currently operational (1-800-231-3075). The ADEQ line is currently operational (1-800-234-5677).

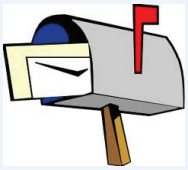
Activity 3D: Maintain Active Communication with Local Media Outlets

OBJECTIVE: Maximize the distribution of Site-related information through the participation of local media outlets in educating the public and publicizing Site-related events.

METHOD: EPA may distribute news releases that address treatment system operations, associated traffic impacts and diversions, investigation findings, and community involvement activities. EPA will communicate frequently with a media contact at the Arizona Republic. A list of local media contacts is provided in Appendix 15. ADEQ communicates with the media regarding upcoming meetings and events; however, most communication will come through their Communications office.

TIMING: Contacts will be established and maintained for the duration of Site activities.

Activity 3E: Maintain a Mailing List for the Site



OBJECTIVE: To facilitate the distribution of Site-specific information by mail to everyone who needs or wants to be kept informed about the PGA Superfund Site. Additionally, ADEQ maintains a mailing list for communication on the Western Avenue WQARF Site and CAG related communications.

METHOD: The Agencies maintain mailing lists for distribution of Site-related information. The Agencies will also solicit contact information for others wishing to be placed on the Site mailing list via fact sheets, newspaper articles, and public meetings.

TIMING: The Agencies will update the mailing list periodically. To be added to the mailing lists, please contact the Community Involvement Coordinators located in Appendix 1.

Activity 3F: Establish and Maintain an Information Repository

OBJECTIVE: To provide a convenient location where residents can go to read and copy official documents and other pertinent information about the PGA Superfund Site and Western Avenue WQARF activities.

METHOD: For EPA, the repository is a reference collection of Site information containing the Administrative Record file, other Site-specific information, the Community Involvement Plan, information about the Technical Assistance Grant program, and the general Superfund process.

EPA has established a local repository at the

Goodyear Branch Library
250 North Litchfield Road
Suite 185, Goodyear, AZ 85338

In addition, a repository has been established at the EPA Region 9 in San Francisco, California. Information repository information is summarized in Appendix 12.

For ADEQ, a site repository will have milestone documents, the Community Involvement Plan and a CAG notebook which will host meeting information related to the Western Ave. Site. The Site repository for ADEQ is located at:

Sam Garcia Western Avenue Library
495 E. Western Ave.
Avondale, AZ 85323
Ph: (623) 333-2601

TIMING: The Agencies add new documents to the repositories as they become available.

Activity 3G: Provide Technical Assistance Grant (TAG) for the Community

OBJECTIVE: A TAG is a federal grant awarded to an incorporated nonprofit organization of community members affected by the PGA Site by the EPA. It is used to fund an environmental professional to provide an independent technical review of cleanup documents. An initial grant up to $50,000 is available to help the community understand technical information about their Site, and can be supplemented as needed for the life of the cleanup. The purpose of the TAG is to provide resources for community groups to consult with technical advisors who can assist them in interpreting technical information about the PGA Superfund Site.

METHOD: In early 2011, a TAG was awarded to the Environmental Community Outreach Association, a local non-profit group. ECO produces bi-monthly magazine articles in local community magazines, has the TA review and comment on EPA documents, participates annually in the Getting Arizona Involved in Neighborhoods (G.A.I.N.) and Tres Rios Festivals, hosts open house events, and helps EPA develop community involvement strategies among other activities.

TIMING: The grant was awarded in early 2011, and a kick-off meeting to announce the award was held on April 21, 2011.

ECO Board Members Kickoff the Award of the Technical Assistance Grant for the PGA Superfund Site (April 2011).

Activity 3H: Conduct Special Events.

OBJECTIVE: Hold special events to inform citizens or highlight a major event or milestone. Special events also may be used to recognize significant community activities at the Site.

METHOD: Examples of special events include Site visits for such activities as open houses and field trips. EPA will invite community members and local officials to Site tours to share updates on treatment information at remediation milestones. During a recent Site tour for the PGA North facilities, community members were shown various safety features employed by the responsible party at the PGA North portion of the Site (Appendix 18).

TIMING: As milestones are reached, and as events arise, EPA will be conducting these events.

Issue 4: Provide Adequate and Meaningful Opportunities for Community Involvement

Activity 4A: Conduct Public Meetings, Open Houses, Workshops, and/or Small Group Sessions.

OBJECTIVES: (1) Update members of the public, particularly members of the affected communities, on the work at the Site to address community questions, concerns, ideas, and comments; and (2) provide the Agencies the opportunity to receive feedback from the community.

METHOD: ADEQ hosts quarterly CAG public meetings as a way of providing meaningful opportunities for Community Involvement. EPA in addition may hold public meetings, and will use tools such as poster boards and handouts, as appropriate to communicate effectively with the public. A list of previously utilized public meeting spaces is provided in Appendix 13.

In order to make CAG meetings more accessible to general newcomers and citizens the Agencies began to incorporate changes into the meeting format and text:

1. The Agencies will present in order to maintain a consistent message;

2. EPA & ADEQ will make presentations less technical & focused on the larger picture in order to better accommodate newcomers;
3. The Community Involvement Coordinators (CIC) will work with the Project Managers & their contractors in order to implement presentation changes. More changes may be incorporated in the future based on community concerns.

   The Agencies will provide comment cards at the beginning of each meeting for members of the community who would like to ask questions or make comments. An open Q and A period will be allowed on the meeting agendas. Participants also will be invited to sign up for the Site mailing list.

   PROCEDURE: Agencies will schedule, prepare for, and attend all additional announced meetings. Agencies will provide at least two weeks' notice of the scheduled meeting. The RPM, CIC, and/or other appropriate staff will attend.

   TIMING: EPA will hold public meetings as appropriate for the duration of the Site cleanup.

Activity 4B: Participate in Community Events

OBJECTIVE: Keep community members informed about the Site, while providing EPA with feedback about Site activities and the community's opinions.

METHOD: EPA personnel will attend community events such as health fairs and other appropriate events to reach more members of the community in an informal setting. EPA will have sign-up sheets available for those interested in being placed on the Site mailing list. ADEQ may participate upon request.

TIMING: Visits and participation in community events will be implemented as available and appropriate throughout the entire Superfund process.

Activity 4C: Revise the Community Involvement Plan.

OBJECTIVE: To identify and address community needs, issues, or concerns regarding the Site or the cleanup remedy that are not addressed in the current CIP.

METHOD: Each revision of the CIP will update the information presented in the previous version.

TIMING: Agencies will revise or update the CIP as Site conditions change, or in ADEQ's case, as required by Arizona law.

Activity 4D: Outreach to Spanish Language Population

OBJECTIVE: EPA's objectives in public participation are to include as many affected residents as possible. EPA recognizes that there are residents near the Site, who should have equal opportunity to participate in the cleanup process regardless of which language they speak.

Arizona is subject to the law enacted under Proposition 106, where all official government business will be conducted in English. Therefore, State communication regarding the Western Avenue WQARF Site will be conducted in English. Any requests for special needs should be sent to the ADEQ CIC.

METHOD: EPA has found that Spanish is spoken by a significant number of residents in Avondale, Goodyear and Litchfield Park. It may be difficult to engage in a process in another language, however EPA proposes the following:

1. As much as possible, provide a Spanish speaking project team. Currently, the EPA Community Involvement Coordinator for the Site is fluent in Spanish.
2. Provide translation of Fact sheets as much as possible in order to reach as many community members.
3. Provide Spanish interpretation at public meetings and public events, as requested.
4. Outreach to local Spanish speaking community groups to update and receive input on cleanup decisions.

TIMING: Throughout the entire Superfund process

CHAPTER 3
THE CLEANUP SCHEDULE

To manage the events associated with investigation and cleanup activities at a Superfund site, EPA creates a schedule for the steps in the process from initial investigations, and the preparation and delivery of project documents, to implementation of the Site remedy, through review and evaluation of the results of these actions. As described in Chapter 2, the process includes numerous opportunities for community members to become involved.

(Note that the following table includes only those elements of the process that now are in progress or that are scheduled for the future. Additional information about historical events associated with the Site may be found in Appendix 2).

Note: All deliverable documents for the project will be added to the Information Repositories (see Appendix 12) and will be available for review by any interested person.

Date	Recent Cleanup Activity	CI Activity
September 2010	Five-Year Review (most recent)	Supporting interviews conducted in the community. Publication on Website.
December 2012	Baseline Human Health Risk Assessment/Eco Screening (PGA North Source Area) completed.	Present at CAG Meeting. Included in the January 2013 Factsheet.
	Remedial Investigation for Chromium in Subunit C started (PGA South)	Will make presentation at CAG Meeting when completed.
June 2013	Finalize Community Involvement Plan	Conduct interviews across all stakeholders. Formalize Community Involvement Strategy. Publish and provide copies at information repository.

Target Date	Cleanup Activity	CI Activity
Summer/Fall 2013	Focused Feasibility Study for Source Area finalized (PGA North)	Host Workshops for individual stakeholder groups. Host Community Open House. Outreach to schools and to homeowners associations. Publication of Fact sheet, and update of Site Repository. Attend Quarterly CAG Meetings.
October 2013	Proposed Plan to Select Source Area Remedy – Including Public Comment Period (PGA North)	Publish Proposed Plan fact sheet. Host formal 30 day comment period. Place Ad in local newspapers. Make presentation at August CAG meeting. Host individual Public Meeting. Continue outreach work from Feasibility Study.
December 2013	Groundwater Investigation Completed (PGA North)	Publish fact sheet, and present at February 2014 CAG meeting.
	ESD/ROD for Source Area Remedy (PGA North)	Post Response to Comments on EPA website. Publish notice in local newspapers. Create fact sheet. Present at February 2014 CAG meeting.
	Feasibility Study for Chromium in Subunit C Completed (PGA South)	Host workshops for individual groups. Outreach to schools and homeowner associations. Present at February 2014 CAG meeting.
June 2014	Remedial Design for Source Area Prepared (PGA North)	Publish fact sheet. Host open house event. Present at August 2014 CAG.
July 2014 – June 2016 (Estimate)	Source Area Remedial Action (PGA North)	Present at CAG meetings. Notice local residents or businesses of construction activity, if necessary.
December 2014	Remedial Action for Chromium in Subunit C Completed (PGA South)	Present at February 2015 CAG Meeting
September 2015	Five Year Review	Conduct Interviews, Publish fact sheet, publish Public Notice in local newspapers.
December 2015	Complete RI/FS for all areas (Entire Site)	TBD
	Amend the ESD/ROD for Remedy changes (Entire Site)	TBD

Previous Community Involvement Activities

The following chart captures the unique Federal and State statutes regarding Community Involvement requirements. Since both Federal and State agencies contain their own Community Involvement requirements statute variances may exist. Additional information regarding Superfund and WQARF community involvement activities for all three sites and when they occurred is provided in the chart below.

Site	Community Involvement Activity	CERLA/ Superfund Requirement	WQARF Regulatory Citation/ Rule	Comments
WA;PGA North; PGA South	**Establish CIA**	N/A	A.R.S. §289.02	CIA was established for PGA-North, PGA-South and Western Avenue in the late 90's.
WA	**Notice of the site listing on the WQARF Registry**	N/A	A.R.S. §287.01	Notices were published in December of 1998
WA;PGA North; PGA South	**Establish a CAG selection committee**	N/A	A.R.S. §289.03	Selection committee met and voted on CAG members in 2001. The CAG's first meeting was in February 22, 2001
WA;PGA North; PGA South	**Public notice of CAG meetings**	N/A	A.R.S. §289.03	All CAG meeting agendas will be posted at all ADEQ offices and on ADEQ's web page. Agendas will be mailed to the site mailing list and notice will be given to community newspapers as necessary
WA	**Issue notice of RI scope of work, fact sheet and outline of CIP**	N/A	A.R.S. §287.03	Notice was published in 2001
WA;PGA North; PGA South	**Designate a spokesperson**	N/A	A.R.S. §289.03	Designated 2001
WA;PGA North; PGA South	**Fact sheets**	N/A	A.R.S. §289.03	Fact sheets were distributed beginning in the late 90's
WA;PGA North; PGA South	**Interviews with community members**	*NCP*§300.430(c)(2)(i)	R18-16-404	Interviews conducted in 2002, 2009, 2010,2011

Site	Community Involvement Activity	CERLA/ Superfund Requirement	WQARF Regulatory Citation/ Rule	Comments
WA;PGA North; PGA South	**Establish information repository**	*SARA* §117 (d); NCP§300.430(c)(2)(iii)	A.R.S. §289.03	Designated 2002
WA	**Notice of availability of draft Land and Water Use Study**		R18-16-404	Released in August 2006
WA	**Notice of opportunity to comment on draft RI report and public meetings to establish Remedial Objectives (ROs)**		A.R.S. §289.03	Public meeting to solicit ROs was conducted in November 2008
WA	**Notice of availability of proposed RO report**		R18-16-406	February 2009
WA	**Public meeting to discuss proposed RO report**		R18-16-404	February 2009
WA	**Public meeting to discuss revised RO report**		R18-16-404	n/a
WA	**Notice of availability of RO responsiveness summary**		R18-16-404	Summer 2009
WA	**Notice of availability of final RO report and final RI report**		R18-16-406	Summer 2009
WA	**Notice of availability of Feasibility Study (FS) work plan**	N/A	R18-16-407	Notice of Availability was sent to site mailing list and posted on ADEQ web site 2012

Future Community Involvement Activities
Upcoming CI Activities for Site

Site	Community Involvement Activity	CERLA/ Superfund Requirement	WQARF Regulatory Citation/ Rule	Comments
WA;PGA North; PGA South	**Public notice of CAG meetings**	As appropriate	A.R.S. §289.03	At least 24 hours in advance of meetings; meeting agendas are posted in all ADEQ offices, on the ADEQ web page, and mailed to the site mailing list
WA;PGA North; PGA South	**Fact sheets**	As appropriate	A.R.S. §289.03	Future fact sheets to be distributed as needed in conjunction with project milestones. Last fact sheet distributed 2012
WA	**Notice and notification to interested parties and public of the availability of PRAP**		R18-16-408	Publish in paper (comment period), Notification mailed to CAG and site mailing list, posted on ADEQ web site, and public meeting held.
WA; PGA North: PGA South	**Notice and notification to interested parties of the availability of record of decision and responsiveness summary**	NCP§300.430(f)(6)	R18-16-410	Publish in paper, mail to CAG, mailing list, those who provided comments, post on ADEQ web site ROD copies sent to CAG. (As appropriate to actual site progress/schedule)
WA	**Notice to public and notification to interested parties of operations and maintenance plan**		R18-16-411	Publish in paper (comment period), send to mailing list and CAG, post on ADEQ web site
WA	**Notice to public and notification to interested parties of a request for approval of work**		R18-16-413	Send to mailing list, CAG, post on ADEQ web site, publish in local newspaper and make available for comment.
WA	**Notice to public and notification to interested parties of a request for waiver**		A.R.S. §289.03	Send to mailing list, CAG, post on ADEQ web site.
WA	**Notice for field work that may result in off-site impacts**		R18-16-404	Notify surrounding community near filed activities.
WA	**Notice of a determination of completeness of the remedy**		R18-16-416	Publish in paper (comment period), send to mailing list, CAG, post on ADEQ web site

APPENDIX 1

Key Contacts

This appendix identifies the key agency and organizational points of contact for community questions, issues, or concerns related to the PGA Sites.

Remedial Project Manager (RPM)

The RPM manages all technical cleanup work at the Sites. As regulators, EPA and ADEQ Project Managers ensure that all applicable Federal and State Laws are being followed by the work done by the Responsible Parties and contractors.

For the Federal lead PGA Superfund Site the contacts are:

Catherine Brown
Remedial Project Manager
U.S. EPA, Region 9
75 Hawthorne St., SFD-6-2
San Francisco, CA 94105
Tel: (415) 947-4137
Fax: (415) 947-3526
E-mail: *Brown.Catherine@epa.gov*

Travis Barnum
ADEQ Project Manager
1110 West Washington Street
Phoenix, AZ 85007
Tel: (602) 771-4245
Toll-Free: (800) 234-5677
E-mail: *Barnum.Travis@azdeq.gov*

For the State lead Western Ave. WQARF Site, the contact is:

Delfina Olivarez
ADEQ Project Manager
1110 W. Washington St.
Phoenix, AZ 85007
Tel: (602) 771-4710
E-mail: *dco@azdeq.gov*

Community Involvement Coordinator (CIC)

The CIC manages all public participation work at the Sites. As regulators, EPA and ADEQ CICs ensure that all applicable Federal and State Laws regarding public participation are being followed. A CIC may facilitate and coordinate meetings, manage grants, and publish materials regarding Site work.

For the Federal lead PGA Superfund Site the contact is:

Alejandro Diaz
Community Involvement Coordinator
U.S. EPA, Region 9
75 Hawthorne St., SFD-6-3
San Francisco, CA 94105
Tel: (415) 972-3242
Fax: (415) 947-3528
E-mail: *Diaz.Alejandro@epa.gov*

For the State lead Western Ave. WQARF Site and CAG, the contact is:

Wendy Flood
Community Involvement Coordinator
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007
Tel: (602) 771-4410
Toll-Free : (800) 234-5677
E-mail: *Flood.Wendy@azdeq.gov*

EPA Technical Assistance Grant (TAG)

The EPA has awarded the Technical Assistance Grant to the following group.

Nadine Johnson
Environmental Community Outreach Association
PGA Superfund Site
Tel: (602) 615-5447
E-mail: *eco@cox.net*

For more information on EPA's Technical Assistance Grant please view the EPA webpage at:
http://www.epa.gov/superfund/community/tag/

ADEQ Community Advisory Group for Western Avenue WQARF Site

CAG Co-Chairs

Frank Scott
fscott@avondale.org

Jeff Raible
contactjeffraible@cox.net

CAG Members

Lisa Amos
llamosaz@msn.com

Tim Birdsall
timbirdsall@cox.net

David Ellis
dwellis@cox.net

Diane Krone
madreekrone@yahoo.com

Earl Smith
azearlthea@juno.com

Karl Havlicek
khavlicek@msn.com

APPENDIX 2

Site History

Phoenix-Goodyear Airport (PGA) Superfund Site

The PGA Superfund Site is geographically situated approximately 17 miles due west of central Phoenix, in the western part of the Salt River Valley in Central Arizona. During the Remedial Investigation to characterize the Site (June 1989), it was learned that there were two distinct contaminant source areas: one centered under the Unidynamics Phoenix Incorporated (UPI) facility north of Yuma Road and another associated with the Goodyear Aerospace/Loral Facility adjacent to the Litchfield Airport (presently known as the Phoenix-Goodyear Airport). The PGA Superfund Site (Site) has been subdivided into two areas: PGAN defined by an area of VOC-contaminated groundwater that encompasses approximately three square miles, and PGAS defined by an area of VOC- contaminated groundwater that encompasses less than one square mile (Figures 3-1 and 3-2). Both areas within the Superfund Site share the same stratigraphy. Groundwater contamination originates from two distinct source areas: (1) the former UPI facility, referred to as PGA North, and (2) the former Goodyear Aerospace/Loral facility, referred to as PGA South.

The southern portion consists of the Phoenix-Goodyear Airport property (formerly called Phoenix-Litchfield Airport) as well as property owned by the Loral Corporation (formally Goodyear Aerospace Corporation). PGA South is bounded on the southern side by Highway 85. The northern portion of the Site comprises the UPI property, and is bisected by US Interstate 10. Contamination from these two areas is non-contiguous.

Except for the airport, which is owned by the City of Phoenix, the PGA Site lies almost entirely within the City of Goodyear, Arizona. Approximately two square miles along the eastern border of the Site are within the City of Avondale. Current land uses on and near the Site include agriculture, residential, and commercial development. Land use trends predict a future increase in residential and commercial development, with a corresponding decrease in agricultural usage. The general area within a radius of about 5 miles has a combined population of about 75,000 people, including residential development west of the airport.

PGA South Site History

The United States Navy established the Litchfield Naval Air Facility (NAF) in Goodyear, Arizona, in 1943 as an Auxiliary Acceptance Unit. The Unit accepted modified aircraft for the Navy from the Goodyear Aircraft plant located adjacent to the airport.

From 1946-1968, the airport's primary purpose was the preservation and activation of military aircraft. The preservation of aircraft involved treating the engines to repel dust, rust, and moisture and then spraying the aircraft with a protective latex coating that contained a ketone solvent. Stripping off the protective coating required the removal of the latex with a solvent and returning the parts to working order. This process was repeated every six months, and the effluent (waste material discharged into the environment) from the process entered drains that discharged directly into the main airport drainage ditch. As many as 2,000 aircraft per year were preserved at the Litchfield NAF. In addition to the preserving and stripping chemicals that were discharged into the drainage channel, it is assumed that other liquid substances generated as a part of routine

aircraft maintenance also were discharged. A sample of the drainage channel discharge collected on April 20, 1951, had the following physical characteristics: "...30% dark colored, oily, floating liquid, approximately 5% granular settleable solids and the balance was fairly clear, chrome colored liquid...From the color of the oil free sample, there is no doubt some chromate present." (Letter dated May 24, 1951, from Process Engineers Inc., to the Public Works Office, 11th Naval District, San Diego, CA).

In 1952, the Navy upgraded its on-site domestic sewage treatment tank to accommodate secondary treatment, and industrial wastewater from the drainage ditch was diverted to the plant for treatment using a gravity flotation process. Oil and other floatables were skimmed off the top and spread over the airport grounds as weed control. Solvents, such as trichloroethene (TCE), which are heavier than water, would not be removed in such a gravity separation tank, would remain in the wastewater, and subsequently would be discharged back into the drainage channel.

In 1968, the Navy transferred ownership of the property to the City of Phoenix, and the airport became the Phoenix-Litchfield Municipal Airport. Goodyear Rubber and Tire (formerly Goodyear Aerospace Corporation), Arizona Division (GAC)) began operations in 1942, at which time it was owned by the United States Government and operated by Goodyear Aircraft Corporation. The plant was closed from 1946-1949, when it was reopened under Goodyear Aircraft Corporation. During the 1940s, aircraft from the Naval Air Facility were brought into the hangars of the plant for machining of parts and parts installation. This included cleaning engines with solvents prior to maintenance work.

More recently, major operations at the facility have included the manufacture of electronics equipment, transparent products such as windshields, structural equipment such as the MX missile transporter, and aluminum shelters.

Volatile Organic Compounds (VOCs) in Groundwater

What are Volatile Organic Compounds (VOCs)?
Compounds that readily evaporate at normal pressure and temperature.

Why are VOCs in Groundwater a concern?
Direct contact with groundwater containing VOCs can result in exposure to VOCs. In addition, VOCs in groundwater can migrate through soil gas and into indoor air.

Where is Shallow Zone Groundwater?
Shallow zone groundwater is found in all the interconnected spaces in sediment below the water table. Water table in this area is found in Subunit A.

What is an aquitard?
An aquitard is a zone within the earth that restricts the flow of groundwater from one aquifer to another. Though some water may flow through this zone, it is generally not enough to consider it to be a productive aquifer. The aquitard in this area is found in Subunit B.

Where does my drinking water come from?
Although all Aquifers are drinking water aquifers, Subunit C is the source of drinking water throughout the PGA site area. Subunit C, which is a Deeper Zone Groundwater, provides a much higher quality of groundwater than Subunit A.

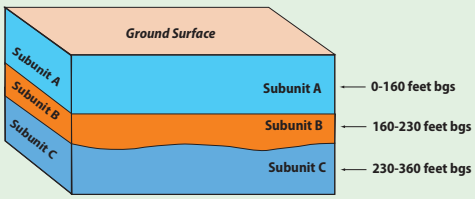
PGA-North Superfund Site

Subunit A is composed of silty sands containing thin lenses of gravel and fine-grained soil. It extends from ground surface to approximately 160 feet bgs. In the vicinity of the site approximately one-third to one-half of the lower portion of Subunit A is saturated and considered to be an aquifer.

Subunit B is primarily composed of sandy silts and/or clays, is generally 50 to 70 feet thick near the main site area while thinning to north, and extends from about 160 to 230 feet bgs. Though some water may flow through this Subunit, there is not a sufficient volume to consider this a productive aquifer, and therefore it is considered to be an aquitard between Subunits A and C.

Subunit C is composed of silty sands, sandy silts, and gravely sands, on average is approximately 130 feet thick, and extends from about 230 to 360 feet bgs. Subunit C is fully saturated and is considered to be an aquifer.

TCE and perchlorate are two main contaminants at the PGAN site. Subunit A TCE plume has a much bigger area than Subunit C TCE plume, which is mainly located at the vicinity of source area.



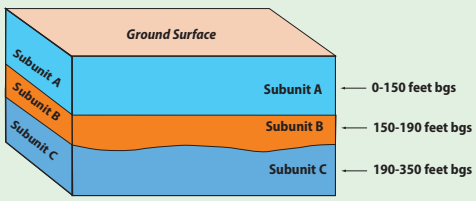
PGA-South Superfund Site

Subunit A consists of silty-sand and gravel, and is an unconfined aquifer with the lower one-third to one-half of it being saturated, and it extends from ground surface to approximately 150 ft bgs.

Subunit B is comprised of mostly silt, clay and silty-sand, and it extends from 150 ft bgs to 190 ft bgs. Subunit B is considered to be an aquitard between Subunit A and Subunit C.

Subunit C typically extends from 190 to 350 ft bgs, and is comprised predominantly of sand and gravel with minor interbeds of fine-grained meterials. Subunit C is the predominant groundwater source for municipal, agricultural and industrial uses in PGA area.

TCE and chromium are present in both Subunits A and C aquifers, with higher concentrations in Subunit C. It is generally believed that contaminants (TCE and chromium) migrate from Subunit A to Subunit C through conduit wells.



The major waste streams generated at Goodyear Rubber and Tire have been: solvents (trichloroethylene, trichloroethane, acetone, etc.); chromate sludge from chrome plating operations; acids (sulfuric, hydrochloric, chromic, acetic, and hydrofluoric); process waste waters (cooling waters, boiler blowdowns, etc.); and domestic sewage. Three on-site sludge ponds were used for waste disposal.

Site History: PGA North

Unidynamics Phoenix, Inc., was established in 1963 as a research, development, and manufacturing plant for defense and aerospace equipment. Typical products included: separation and recovery systems (safing, arming, and fusing devices), destruct systems (pyrotechnic devices), and munitions. The primary operations at the plant included manufacturing rocket propellant, processing and blending powder, assembling ordinance, machining, testing explosives, ballistics and related functions. Contaminants of concern from operations on the Site include perchlorate (the primary chemical ingredient of solid rocket propellant) and volatile organic compounds (VOCs) such as TCE that were associated with waste disposal at the UPI facility.

Eleven dry wells and two unlined oxidation ponds were used at the facility for direct on-site disposal of most wastes up until 1980. Prior to 1978, all waste solvents were disposed of on Site in four dry wells outside and to the west of the manufacturing facility. The two oxidation ponds were used for on-site disposal of washing and cooling water with traces of process chemicals, oils, and powder. Wastes generated by the facility have included: trichloroethylene, toluene, acetone, methanol, cobalt nitrate, ammonium carbonate, perchloric acid, and fuel oil.

The EPA has gathered information about the Site history from numerous sources. Due to the long and complex history of the Site, there are multiple accounts of this history and some discrepancies exist. EPA has made its best effort to compile and accurately describe the Site history in a concise manner here; however, EPA acknowledges that other accounts of the Site history vary slightly from what is presented here.

Site History: Western Avenue (WQARF)

For the history of the WQARF Site, please see Appendix 7.

APPENDIX 3

Additional Contacts

Viable Responsible Party Contact Information

Crane Co. (PGA North)
Tony Pantaleoni, PhD
Vice President, Environmental, Health & Safety
100 First Stamford Place
Stamford, CT 06902-6784
Phone: (203) 363-7209
Email: *TPantaleoni@CraneCo.com*

The Goodyear Tire & Rubber Co. (PGA South)
Jeff Sussman, Remediation Manager
1144 East Market Street, D/108I
Akron, OH 44316-0001
Phone: (330) 796-0578
Email: *Jeff_Sussman@Goodyear.com*

U.S. Senate

John McCain
201 East Camelback Road, Suite 115
Phoenix, AZ 85016
Tel: (602) 952-2410

Jeff Flake
2200 East Camelback, Suite 120
Phoenix, AZ 85016-3455
Tel: (602) 840-1891

U.S. Senate

John McCain
201 East Camelback Road, Suite 115
Phoenix, AZ 85016
Tel: (602) 952-2410

Jeff Flake
2200 East Camelback, Suite 120
Phoenix, AZ 85016-3455
Tel: (602) 840-1891

U.S. House of Representatives

District 8

Rep. Trent Franks
2435 Rayburn House Office Building
Washington, DC 20515
Tel: (202) 225-4576

District Office:
7121 W. Bell Rd., Suite 200
Glendale, AZ 85308
Tel: (623) 776-7911
http://www.franks.house.gov/pages/contact

District 3

Rep. Raul Grijalva
1511 Longworth House Office Building
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Tel: (202) 225-2435

Tucson Office:
738 N. 5th Ave., Suite 110
Tucson, AZ 85705
Tel: (520) 622-6788
http://grijalva.house.gov/

Arizona Legislative Districts

Arizona State Senate
Capitol Complex
1700 West Washington
Phoenix, AZ 85007-2890

Appendix

Arizona House of Representatives
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APPENDIX 4

Glossary

The terms defined below are used in this Community Involvement Plan. Definitions followed by "(EPA) are taken directly from the Superfund glossary on the EPA website at: **http://www.epa.gov/superfund/programs/reforms/glossary.htm.** A number of additional Superfund-related terms are defined on this website. Terms within a definition that also are defined in the glossary are in **bold** font.

access agreement: A legal agreement signed between at least two parties to allow one party access to the other party's land for a specific purpose as defined in the scope of work portion of the access agreement. Typically, the **Potentially Responsible Party** is responsible for obtaining access for the purposes of investigation or remedial action. However, if necessary, Section 104(e) of **CERCLA** provides EPA with the authority to obtain access to property that is contaminated or threatened with contamination for implementing response actions.

administrative order on consent (AOC): A legal agreement signed by EPA and an individual, business, or other entity through which the violator agrees to pay for correction of violations, take the required corrective or cleanup actions, or refrain from an activity. It describes the actions to be taken, may be subject to a comment period, applies to civil actions, and can be enforced in court. Unlike a consent decree, an administrative order on consent does not have to be approved by a judge. (EPA)

administrative record: A file which is maintained and contains all information used by the lead agency to make its decision on the selection of a response action under CERCLA. This file is to be available for public review and a copy is to be established at or near the site, usually at one of the information repositories. Also, a duplicate file is held in a central location, such as a Regional or State office. (EPA)

alluvial: Related to sand deposited by flowing water.

applicable or relevant and appropriate requirement (ARARS): "Applicable requirements" are those cleanup standards, standards of control, and criteria promulgated under Federal or State law that specifically address a hazardous substance, remedial action, location, or other circumstance at a CERCLA environmental restoration site. "Relevant and appropriate requirements" are those same standards mentioned above that, while not applicable at the CERCLA site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.

aquifer: An underground geological formation, or group of formations, containing water. Aquifers are sources of groundwater for wells and springs.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund). This law, enacted by Congress on December 11, 1980, created the Superfund program. Specifically, CERCLA (1) established prohibitions and requirements concerning closed and abandoned hazardous waste sites, (2) provided for liability of persons responsible for releases of hazardous waste at these sites, and (3) established a trust fund to provide for cleanup when no responsible party could be identified.

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System. CERCLIS is an automated inventory of site information for all potential or confirmed Superfund sites. (EPA)

Appendix

cleanup: *Cleanup* is the term used for actions taken to deal with a release or threat of release of a hazardous substance that could affect humans and/or the environment. The term is sometimes used interchangeably with the terms *remedial action*, *removal action*, *response action,* or *corrective action.*

Community Advisory Group (CAG): A committee, task force, or board comprised of citizens affected by a hazardous waste site. CAGs provide a public forum for community members to present and discuss their needs and concerns about the decision-making process at sites affecting them. (EPA)

Community Involvement Plan (CIP): A document that identifies techniques used by EPA and ADEQ to communicate effectively with the public during the Superfund cleanup process at a specific site. This plan describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the Agencies and the public at the site.

consent decree: A legal document, approved and issued by a judge, that formalizes an agreement reached between EPA and potentially responsible parties (PRPs) where PRPs will conduct all or part of a cleanup action at a Superfund site; cease or correct actions or processes that are polluting the environment; or otherwise comply with EPA-initiated regulatory enforcement actions to resolve site contamination. The consent decree describes actions that PRPs are required to perform and may be subject to a public comment period. (EPA)

containment: A remediation method that seals off all possible exposure pathways between a hazardous disposal site and the environment, which generally includes capping (putting an engineered soil cover over a contaminated area) and institutional controls (e.g. deed restrictions).

contamination: Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

enforcement: EPA, State, or local legal actions to obtain compliance with environmental laws, rules, regulations, or agreements and/or obtain penalties or criminal sanctions for violations. Under CERCLA, EPA will seek to require potentially responsible parties to clean up a Superfund site or pay for the cleanup. (EPA)

evaluation criteria: The nine EPA evaluation criteria for selection of a remedy are: (1) overall protection of human health and the environment, (2) compliance with ARARs, (3) long-term effectiveness and permanence, (4) reduction of toxicity, mobility or volume, (5) short-term effectiveness, (6) implementability, (7) cost, (8) state acceptance, and (9) community acceptance.

feasibility study: See *remedial investigation.*

five-year review: A periodic review of a Superfund site conducted after a response action has been initiated. The purpose of a five-year review is to evaluate whether the response action remains protective of public health and the environment.

groundwater: The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because groundwater is a major source of drinking and irrigation water, there is growing concern over contamination from leaching agricultural or industrial pollutants.

information repository: A file containing current information, technical reports, and reference documents regarding a Superfund site. The information repository is usually located in a public building that is convenient for local residents, such as a public school, city hall, or library. (EPA)

interim remedy: An interim remedy is a remedial action that is performed prior to the final remedy and often prior to the completion of the Remedial Investigation because timeliness of response is particularly important in order to address a current risk to public health or the environment; protect or provide a supply of water; prevent further release of a contaminant source into the environment; or control or contain contamination where such actions are expected to reduce the scope or cost of the final remedy at the site.

lead agency: The agency that provides the personnel who primarily plan and implement a cleanup action conducted under the National Contingency Plan. Such agencies include EPA, state or political subdivisions, other federal agencies, or Indian Tribes. Other agencies may be involved extensively in the process, but the lead agency directs and facilitates activities related to a site, often including enforcement actions. A state lead agency carries out the same responsibilities delineated for Federal On-Scene Coordinators and/or Remedial Project Managers except coordinating and directing federal agency response actions (40 CFR 300.5).

National Contingency Plan (NCP): The basic policy directive for federal response actions under CERCLA. It sets out the organizational structure and procedures for responding to releases of hazardous substances, pollutants, and contaminants, and contains the Hazard Ranking System and the National Priorities List as appendices.

National Priorities List (NPL): EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. (EPA)

operable unit (OU): A designation for a portion of a site with defined boundaries and at which site actions are uniquely planned, executed, and tracked. A discrete part of the entire response action that decreases a release, threat of release, or pathway of exposure (40 CFR 300.5).

perchlorate: Perchlorate is both a naturally occurring and man-made chemical that is used to produce rocket fuel, fireworks, flares and explosives. Perchlorate can also be present in bleach and in some fertilizers. Perchlorate may have adverse health effects because scientific research indicates that this contaminant can disrupt the thyroid's ability to produce hormones needed for normal growth and development. Perchlorates have been found in at least 49 of the 1,581 current or former NPL sites. In early 2011, EPA decided to regulate perchlorate under the Safe Drinking Water Act (SDWA). The science that has led to this decision has been peer reviewed by independent scientists and public health experts including the National Academy of Sciences. (Sources: (1) **http://water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm** and (2) **http://www.atsdr.cdec.gov/PHS/PHS.asp?id=892&tid=181**)

plume: A defined area of contamination in groundwater, soil or the air; often used to describe the dispersion of contamination in soil and/or groundwater.

potentially responsible party (PRP): An individual or company (e.g., an owner, operator, transporter, or generator of hazardous waste) that is potentially responsible for the contamination problems at a Superfund site. Whenever possible, EPA requires PRPs to clean up hazardous waste sites they have contaminated. (EPA)

Record of Decision (ROD): The primary legal document at a site, which sets forth EPA's selected remedy as well as the factors that led to its selection. (EPA)

Remedial Investigation and Feasibility Study (RI/FS): Stage of the cleanup process. The **remedial investigation** is an in-depth study to (1) determine the nature and extent of contamination at a Superfund site, (2) establish site cleanup criteria, (3) identify preliminary alternatives for remedial action, and (4) support technical and cost analyses of alternatives. The **feasibility study** is an analysis of the practicability of a proposal (e.g., a description and analysis of potential cleanup alternatives), which usually recommends selection of a cost-effective alternative. It usually starts as soon as the remedial investigation is underway. Together they are called an "RI/FS." (EPA, edited)

Remedial Project Manager (RPM): The EPA or State official responsible for overseeing on-site remedial action. (EPA)

remediation: Cleanup or other methods used to remove or contain a toxic spill or hazardous materials.

remedy: A long-term action that stops or substantially reduces a release or threat of a release of hazardous substances.

stakeholder: Any organization, governmental entity, or individual that has a stake in or may be impacted by the Superfund program. (EPA)

Appendix

Superfund: (1) The program operated under the legislative authority of CERCLA and SARA that funds and carries out EPA solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions. (2) A fund set up under CERCLA to help pay for cleanup of hazardous waste sites and to take legal action to force those responsible for the sites to clean them up. The Superfund consists of funds from taxes imposed upon the petroleum and chemical industries, an environmental tax on corporations, and from general tax revenues (also known as Trust Fund, and Hazardous Waste Superfund). (EPA)

Superfund Amendments and Reauthorization Act (SARA): Legislation that amended the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) on October 17, 1986. SARA reflected EPA's experience in administering the complex Superfund program during its first six years and made several important changes and additions to the program. SARA stressed the importance of permanent remedies and innovative treatment technologies; required Superfund actions to consider the standards and requirements found in other State and Federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased State involvement; increased the focus on human health problems; encouraged greater citizen participation; and increased the size of the Trust Fund to $8.5 billion.

Technical Assistance Grant (TAG): Grants provided to citizens' groups to obtain assistance in interpreting information related to cleanups at Superfund sites or those proposed for the National Priorities List. Grants are used by such groups to hire technical advisors to help them understand the site-related technical information for the duration of response activities.

trichloroethene (trichloroethylene): A colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Trichloroethylene has been found in at least 852 of the 1,430 National Priorities List sites. (source: **http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=172&tid=30**)

unilateral administrative order (UAO): A legal document issued by EPA directing a potentially responsible party to perform site cleanup. A UAO sets forth the liability of the party for the cleanup, describes actions to be taken, and subjects the recipient to penalties and damages for noncompliance. Unilateral orders may be enforced in court. A UAO is EPA's most potent enforcement tool and a powerful settlement incentive. EPA usually only issues them to parties that are the largest contributors of waste to a site, are financially viable, and against whom there is strong evidence of liability. (EPA, edited)

volatile organic compounds (VOCs): A large group of carbon-containing compounds that are easily dissolved into water, soil, or the atmosphere and evaporate readily at room temperature. Examples of VOCs include tetrachloroethene, trichloroethene, benzene, toluene, ethylbenzene, and xylene (BTEX). These contaminants typically are generated from metal degreasing, printed circuit board cleaning, gasoline, and wood preserving processes.

Water Quality Assurance Revolving Fund (WQARF): Also known as the State Superfund. WQARF is the program and funding which is used to address hazardous substance releases within the state that are not covered by other specific programs.

APPENDIX 5

Acronyms and Abbreviations

ACS American Community Survey
ADEQ Arizona Department of Environmental Quality
ADHS Arizona Department of Health Services
AOC administrative order on consent
ARAR applicable or relevant and appropriate requirement
CAG Community Advisory Group
CD consent decree
CEP Community Engagement Program
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
CERCLIS Comprehensive Environmental Response, Compensation, and Liability Information System
CIC (EPA) Community Involvement Coordinator
CIP Community Involvement Plan
COG City of Goodyear
ECO Environmental Community Outreach Association
EPA U. S. Environmental Protection Agency
ESD Explanation of Significant Differences
FAQs frequently asked questions
FS Feasibility Study
FYR Five Year Review
GAC granular activated carbon
GMW groundwater monitoring well
GTRC Goodyear Tire & Rubber Co.
HOA Homeowners' Association
Loral Loral Defense Systems
MAU middle alluvial unit
MCL maximum contaminant level
MEK methyl ethyl ketone
MTS Main Treatment System
NAF Naval Air Facility
NCP National Oil and Hazardous Substances Pollution Contingency Plan
NPL National Priorities List
OU operable unit
PGA Phoenix-Goodyear Airport
Plan Community Involvement Plan
ppb parts per billion
PRP potentially responsible party
RI Remedial Investigation
ROD Record of Decision
RPM Remedial Project Manager
SARA Superfund Amendment and Reauthorization Act of 1986
SEP Supplemental Environmental Project
Site Phoenix Goodyear Airport Superfund Site
SOP standard operating procedure
SOW scope of work
SVE soil vapor extraction
TAG Technical Assistance Grant
TASC Technical Assistance Services for Communities
TCE trichloroethene
UPI Unidynamics Phoenix, Inc.
VOC volatile organic compound
WA Western Avenue PCE Plume Site
WQARF Water Quality Assurance Revolving Fund

APPENDIX 6

Overview of the Federal Superfund Cleanup Program

The following information/overview is derived for the EPA website at: **http://www.epa.gov/superfund/about.htm**

"Superfund" is the name given to the environmental program established to address abandoned hazardous waste sites. It is also the name of the fund established by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA statute, CERCLA overview). This law was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s. It allows the EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-lead cleanups.

The Superfund cleanup process is complex. It involves the steps taken to assess sites, place them on the National Priorities List, and establish and implement appropriate cleanup plans. This is the long-term cleanup process. In addition, the Agency has the authority

- to conduct removal actions where immediate action needs to be taken;
- to enforce against potentially responsible parties;
- to ensure community involvement;
- involve states; and
- ensure long-term protectiveness.

EPA's Nine Evaluation Criteria For Superfund Remedial Alternatives

1. **Overall Protectiveness of Human Health and the Environment** determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
2. **Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)** evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
3. **Long-term Effectiveness and Permanence** considers the ability of an alternative to maintain protection of human health and the environment.
4. **Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment** evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
5. **Short-term Effectiveness** considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
6. **Implementability** considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
7. **Cost** includes estimated capital and annual operations and maintenance costs, which are expressed in terms of present worth. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
8. **State Acceptance** considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
9. **Community Acceptance** considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

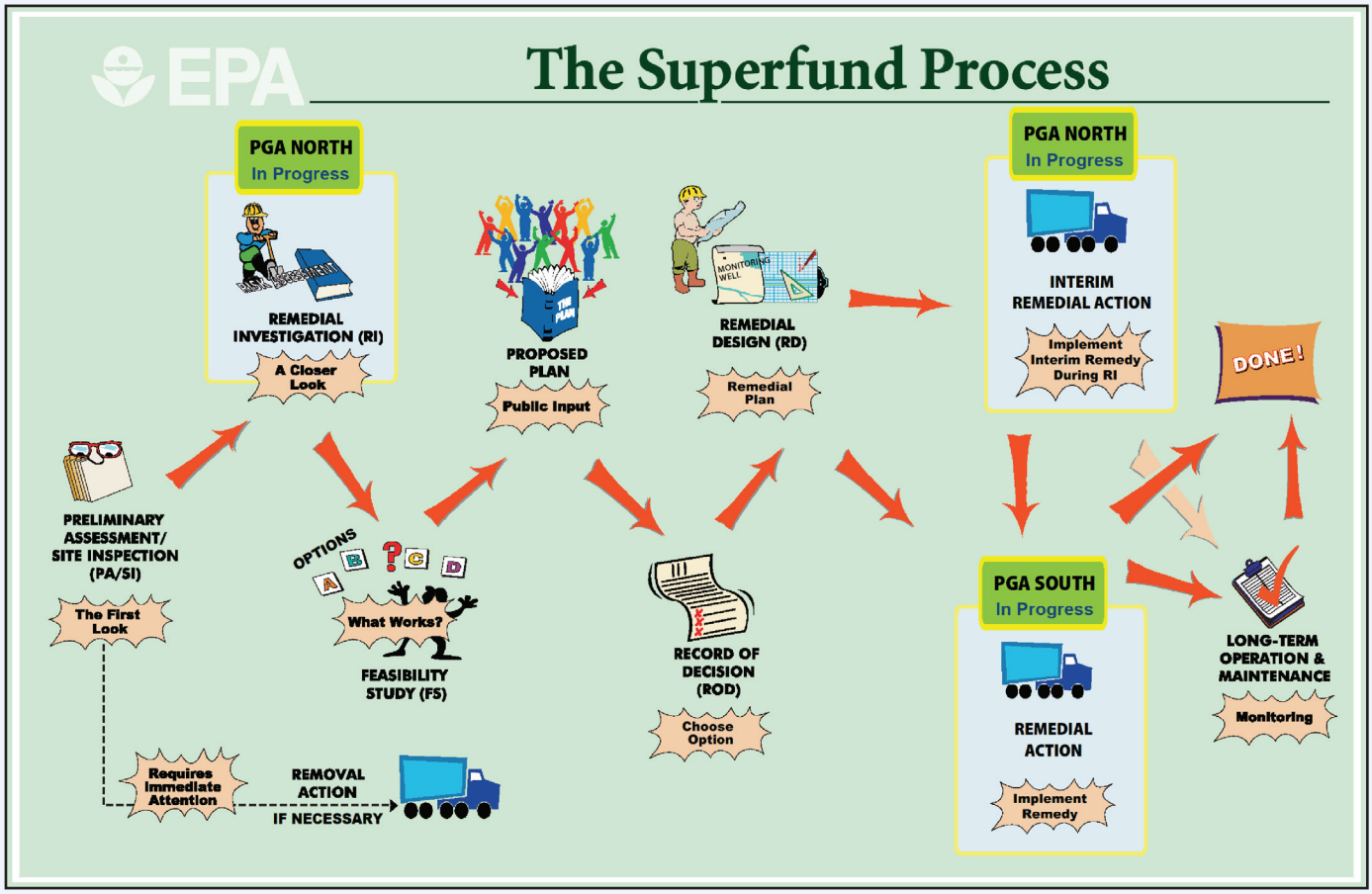
Final Remedy

The blueprint for these activities is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), a regulation applicable to all federal agencies involved in responding to hazardous substance releases.

The Superfund cleanup process begins with site discovery or notification to EPA of possible releases of hazardous substances. Sites are discovered by various parties, including citizens, State agencies, and EPA Regional offices. Once discovered, sites are entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), EPA's computerized inventory of potential hazardous substance release sites (search CERCLIS for hazardous waste sites). Some sites may be cleaned up under other authorities. EPA then evaluates the potential for a release of hazardous substances from the site through these steps in the Superfund cleanup process. Community involvement, enforcement, and emergency response can occur at any time in the process. A wide variety of characterization, monitoring, and remediation technologies are used through the cleanup process.

The steps in the process [as implemented for the PGA Superfund Site] are illustrated in the diagram below.

At PGA North and South an interim cleanup decision was made in 1989. Both areas have bee operating cleanup systems that have greatly reduced contamination. EPA will be revising the PGA North cleanup decision in 2013 in order to improve cleanup near the source areas.



APPENDIX 7

Chronology of Events at PGA and Western Avenue Sites

PGA North Superfund Site, Goodyear, Arizona

Date	Event
1963	Research, development, and manufacturing plant for defense and aerospace equipment established at the PGA North property (Unidynamics Phoenix, Inc. [UPI]).
1981	Arizona Department of Health Services (ADHS) discovered that groundwater in the Goodyear area was contaminated with solvents and chromium.
September 1983	EPA added the PGA Site (originally listed as the "Litchfield Airport Area Superfund Site") to the NPL.
April 1984	EPA issued first of several orders to UPI "to conduct a comprehensive sampling and analysis program to support subsequent remedial actions." (Resource Conservation and Recovery Act Administrative Order (Docket No. 84-03).
October 1984	Phase I Remedial Investigations began on the entire PGA area.
1986	Phase II Remedial Investigations on the PGA North property.
June 1989	EPA published a Remedial Investigation/Feasibility Study (RI/FS) that identified two noncontiguous areas of contamination (PGA North and PGA South).
September 1989	EPA issued a Record of Decision (ROD) that applied to both the PGA North and PGA South Sites. For PGA North, the main ROD requirements were groundwater remediation of Subunits A and B/C using extraction and treatment, and soil remediation using soil vapor extraction (SVE) with granular activated carbon (GAC).
1990	Groundwater extraction and treatment system for Subunit A groundwater implemented at PGA South (trigger for five-year review for PGA South and PGA North).
October 1990	EPA issued an Amended Administrative Order (Docket No. 90-20) to UPI for Remedial Design and Remedial Action to implement the PGA North ROD remedy.
January 1991	EPA issued Explanation of Significant Differences (ESD) #1 to the 1989 ROD to (1) revise the cleanup level for methyl ethyl ketone (MEK) in groundwater from 170 parts per billion (ppb) to 350 ppb; (2) set a cleanup level for acetone in groundwater at 700 ppb; (3) clarify the target area and criteria for establishing cleanup goals for soil at PGA North; (4) clarify the role of soil excavation as an option should the selected remedy be ineffective.

Date	Event
May 1993	EPA issued ESD #2 to (1) change the emission control technology for the SVE system from vapor-phase GAC to treatment by thermal oxidation with wet scrubbing; (2) change the designated end use for water treated by the Subunit C groundwater remedy from incorporation into the community potable water supply to reinjection back into the Subunit C section of the aquifer with an option for municipal use after 1994; (3) suspend the remedial design and construction of the liquid-phase GAC (LGAC) treatment requirement from the Subunit A groundwater remedy because ketones were no longer present in groundwater above remediation levels; (4) add the requirement that wellhead treatment be implemented at any private or municipal drinking water well in the vicinity of the PGA Site that has an occurrence of Site contaminants at levels in excess of the groundwater cleanup standards; and (5) establish four additional groundwater cleanup standards: benzene (5 ppb), ethylbenzene (700 ppb), 1,1,2,2-tetrachlorethane (0.18 ppb) and tetrachlorethene (5 ppb).
1994	UPI facility manufacturing operations ceased.
June 1994	Full-scale SVE operations with thermal oxidation began at PGA North.
September 1994	Phase I groundwater treatment system for volatile organic compounds (VOCs), with onsite reinjection back into the Subunit A aquifer, began at PGA North.
October 1996	Phase II / III groundwater treatment system began operation at PGA North.
August 1998	Perchlorate first detected in area monitoring wells.
October 1998	UPI shut down SVE system due to operational difficulties.
2001	Trichloroethene (TCE) and perchlorate were detected in several domestic supply wells southeast of the UPI facility.
May 2001	TCE was detected above the maximum contaminant level (MCL) for the first time in Subunit C monitor well MW-20 (located north of the main manufacturing area), and concentrations continue to increase over time.
October 2001	Reinjection stopped at the Main Treatment System (MTS) due to lack of perchlorate treatment. TCE-treated water sent to COG Waste Water Treatment Plant for perchlorate treatability study.
January 2002 through April 25, 2005	Effluent from the MTS continued to be sent to the COG Wastewater Treatment Plant for perchlorate treatment.
March 2002	MW-20 converted to a temporary extraction well connected to the Phase II / III groundwater treatment system for Subunit C groundwater treatment.
September 2002	EPA issued ESD #5, requiring the restart of the SVE system. Because there was no longer MEK or acetone in the influent, the air emissions control technology was changed to GAC from thermal oxidation with wet scrubbing, as had been required by ESD #2.
January 2003	EPA issued a Unilateral Administrative Order (Docket No. 9-2003-0001) to restart the SVE system with a GAC treatment unit.
May 2003	TCE concentrations in COG production well COG-02, located about ¼ mile east of the UPI facility, had increased to above MCL, forcing closure of that well.

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Date	Event
September 2003	In response to elevated soil gas and groundwater concentrations in boring B-4, located north of the UPI manufacturing buildings, indoor air samples are collected and analyzed in buildings in the vicinity of these elevated levels.
2003	EPA conducted a Phase II Source Area Groundwater Investigation that identified TCE and perchlorate levels in Subunits B and C in the source area).
April 2004	SVE system was restarted using GAC treatment.
2005	A Scope of Work (SOW) was developed to comprehensively address the soil, soil gas and groundwater impacts attributed to PGA North; SOW activities such as an invetigation main dry wells were completed.
February 2005	A second round of indoor air samples was collected and analyzed in buildings located north of the UPI manufacturing buildings.
April 2005	Perchlorate treatment using ion exchange unit was added to the MTS. Treated effluent was reinjected into Subunit A groundwater.
March 2006	Implementation of the Year 1 Groundwater Investigation Work Plan was initiated.
June 2006	A partial consent decree (CD) between the United States and Crane/UPI was entered by the United States District Court of the District of Arizona. The CD requires Crane/UPI to implement the SOW.
September 2006	The first Five-Year Review Report was completed.
December 2006	Municipal drinking water supply well COG-02 was abandoned due to TCE levels.
2007	The treatment capacity of the MTS was expanded by installation of extraction well EC-01 and injection well IA-06 in 2006.
	A Phase I Source Areas, Soils and Facility Structures Investigation was completed.
May 2007	Municipal drinking water supply well COG-10 was abandoned.
October 2007	Year 1 Groundwater Investigation activities were completed: two middle alluvial unit (MAU) monitoring wells, five subunit C wells, and eight Subunit A wells were installed to define the contaminant plumes.
2008	To address the Subunit A TCE impacts in groundwater located north-northeast of the Site, two new groundwater treatment systems were installed (EA-06 groundwater treatment system [GTS] and EA-05 GTS).
October 2008	Monitor well PZ-01 was converted to an extraction well to increase treatment capacity of the MTS. Removal Action Memorandum issued for perchlorate at PGA North
April 2009	Year 2 Groundwater Investigation was completed: ten Subunit A monitoring wells and four Subunit C monitoring wells were installed to further delineate the groundwater contamination plume.
	The Final Year 3 Groundwater Investigation Work Plan was approved.
2009	Remaining UPI facility buildings and bunkers were demolished.
2010	Site-wide Five Year Review

PGA South Superfund Site, Goodyear, Arizona

Date	Event
1942	Goodyear Aerospace Corporation (later Goodyear Aircraft Corporation and the Goodyear Tire and Rubber Company [GTRC]), Arizona Division, began operations.
1943	The United States Navy established the Litchfield Naval Air Facility in Goodyear, Arizona, as an Auxiliary Acceptance Unit.
1951	Oily and chrome-colored contamination was detected in drainage ditch on airport.
1952	The wastewater treatment plant was upgraded to reduce the emissions observed in 1951.
1968	Ownership of the airport property was transferred to the City of Phoenix.
1981	ADHS discovered that groundwater in the Goodyear area was contaminated with solvents and chromium.
September 1983	EPA added the PGA Site (originally listed as the "Litchfield Airport Area Superfund Site") to the NPL.
October 1984	Phase I Remedial Investigations began on the entire PGA area.
1985	Evaluations of Soils and Shallow Groundwater Contamination (1991 Consent Order).
September 1987	A ROD was issued for Subunit A groundwater (Section 16 Operable Unit [OU]) at PGA South.
1988	CD with GTRC was issued to begin treating contaminated groundwater in Subunit A.
	A leaking underground storage tank was found to have leaked aviation gasoline at PGA South.
June 1989	EPA published an RI/FS that identified two areas of noncontiguous contamination (PGA North and PGA South).
September 1989	ROD issued for Subunit B/C groundwater and soil (except for the sludge drying beds).
1990	Groundwater extraction and treatment system for Subunit A Groundwater implemented by GTRC.
January 1991	EPA issued ESD #1 to revise cleanup levels for acetone and MEK.
1991	EPA enters CD with GTRC and Loral Defense Systems (Loral) to (1) construct a treatment system to hydraulically contain the contaminants in Subunits B and C and reduce the contaminant concentrations to meet the cleanup standards stated in the ROD; (2) to construct an SVE system to remove VOCs in the vadose zone; and (3) to continue operation of the Section 16 OU treatment system set forth in the 1988 CD.
October 1991	Action Memorandum issued for excavation, stabilization and monitoring of soil at former chromium sludge drying bed #2.
January 1992	Consent Order with GTRC issued to excavate and stabilize soil at former sludge drying beds.

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Date	Event
1992	Conduit well investigation was conducted.
June 1992 through January 1993	Removal of sludge drying beds and stabilization of contaminated soil were implemented.
May 1993	EPA issued ESD #2 to (1) change the remedy for Subunit B/C from a centralized to a decentralized system; (2) change the designated end use from municipal use to reinjection; (3) add wellhead treatment to any domestic wells showing contamination from Site contaminations; and (4) establish treatment standards for benzene, ethylbenzene, 1,1,2,2-tetrachloroethane, and tetrachlorethene.
September 1993 through January 1994	SVE was implemented in Polygon 79.
February 1994	The Northern Subunit B/C groundwater extraction and treatment system began operation.
September 1994	The Southern Subunit B/C groundwater extraction and treatment system began operation.
September 1994 through January 1995	SVE was implemented in Polygon 84.
1995	An air sparging pilot test was conducted for Subunit A groundwater.
	A chromium treatment system was installed at Well E-17.
December 1995	EPA issued ESD #3 to (1) allow air sparging in Subunit A groundwater and (2) require the use of wellhead treatment for certain wells contaminated with chromium.
March 1996 through April 1998	SVE was implemented in Polygons 96, 27a, and 92.
December 1996 through April 1998	Air sparging was implemented in Polygons 96, 27a, 92, 81, and 100.
March 1998	EPA issued ESD #4 to provide updated groundwater cleanup standards for toluene, barium, beryllium, cadmium, chromium, lead, nickel, and selenium.
2001	The chromium treatment system at E-17 was shut down due to operational problems.
November 2001 through January 2003	Air sparging in the airport infield was implemented for Subunit A groundwater.
2004	New North Subunit C extraction well E-102 was installed north of Yuma Road and connected to the treatment system.
September 2005	The first Five-Year Review Report was completed.
2006	Plans were approved for installation of new extraction well E-18.
2007	System upgrades were performed on treatment systems due to aging.
October 2008	Data associated with TCE rebound at well GAC-4 was re-examined and determined to indicate an isolated source within the well-bore resulting from operational activities near the wellhead.

Date	Event
December 2008 – March 2009	Three additional monitoring wells (GMW-18UC, GMW-19LC, and GMW-20LC) were installed to better delineate 5 micrograms per liter (µg/L) TCE plume boundary in Subunit C.
May 2009	GTRC recommended pulsed pumping to overcome hydraulic stagnation and to address the residual contaminant mass in Southern Subunit C groundwater.
August 2009	A work plan was submitted to install two additional wells (GMW-21UC and GMW-22UC) to monitor TCE concentration in production well GAC-04.

Events For Western

Western Avenue is a State of Arizona Water Quality Assurance Revolving Fund (WQARF) Site.

- **1993,** PCE was detected up gradient of the PGA-South Federal Superfund site. An increasing trend of PCE showed in the groundwater data from groundwater monitoring wells GMW-3, GMW-4, and GMW-7 in subunit A, which is approximately 60 to 110 feet below ground surface.

Preliminary Investigations were conducted in 1994 and 1995.

- **1994,** ADEQ's Site Assessment & Hydrology Unit conducted limited soil vapor sampling at the City of Goodyear Public Works facility and also at Western Dry Cleaners. The vapor sample results from both facilities did not detect a source for PCE contamination.
- **1995,** Two monitor wells were installed up (MW-2) and down (MW-1) gradient of the Western Dry Cleaner facility. MW-1 was consistently higher in PCE. This information led ADEQ to believe that Subunit A extraction wells are drawing the plume resulting in the highest concentration in groundwater located away from the source. No private wells were noted within the Western Avenue WQARF site boundaries. The City of Goodyear well #1 is within the boundaries of the Western Avenue site.
- Additionally, in 1995 ADEQ conducted an investigation at the City of Goodyear Public Works (COGPW) facility, located on the south east corner of Western Avenue and Litchfield Road. Soil samples were collected in 7 locations and analyzed for VOCs. Analytical data indicated that PCE and/or other target compounds were not present in soil above the method of detection limit (MDL).
- **1998,** Western Avenue site was placed on the WQARF Registry in December.
- **2000,** ADEQ installed five monitoring wells. This was done to better understand the lateral and vertical extent of contamination, gain a better understanding of where the source area(s) may be located, and to determine the approximate mass of PCE within the plume.

In 2001, ADEQ started the Remedial Investigation RI at the Western Avenue Site.

- **2001,** ADEQ conducted a soil gas survey at the former Aladdin Dry Cleaners facility. Results of the soil gas survey indicated minor concentrations of PCE at this location.
- **2003, An Industrial Survey Report was completed.** As part of the RI to identify properties where PCE may have been used or disposed, and assess the relative likelihood that the source(s) of PCE contamination identified within the survey area would require investigation as part of the RI activities. Six former dry cleaning facilities were identified in the area. Additional field activities were conducted at two of the dry cleaning facilities, Western Avenue Dry Cleaning and Aladdin Dry Cleaning. Results of the investigation concluded that the facilities did not represent a significant source of PCE contamination in soil or groundwater.

- **In 2005, Current and Future Beneficial Land and Water use Western Avenue WQARF Site was conducted**. Groundwater uses within the Western Avenue site was conducted and is expected to remain predominantly mixed residential, commercial and industrial, it is likely that the existing mixed land use at Western Avenue will be relevant into the future. The zoning pattern in the area has been long established and there are no foreseeable changes for the future.
- **Additionally, ADEQ included the Remedial Objectives (RO) report** as part of the RI Report for Western Avenue site. The RO report was prepared with consideration for the current and reasonably foreseeable uses of land (those likely to occur at the site) and waters (those likely to occur within 100 years unless site-specific information suggests a longer time period is more appropriate) of the state that have been or are threatened to be affected by the release of PCE into the groundwater. The information presented in the RI and RO indicates that the areas where PCE is detected are defined and stable. Knowledge of the aquifer hydraulics indicates that advective forces are the primary force controlling movement of the plume. This information is sufficient to advance the process to the Feasibility Study. The Draft RI Report and the Land and Water Use Report was submitted for public comment in August of 2006.
- **2012, The Feasibility Study Work Plan** completed October 25, 2012.
- **2013, Study of the City of Goodyear Municipal Well No. 1 (COG-01).** To further develop the conceptual understanding of PCE at well COG-01, ADEQ conducted a time-series groundwater sampling event of COG-01, which took place from March 25, 2013 through April 10, 2013. a Draft Summary Report is scheduled to be available by mid May 2013.
- **2013. The Draft Feasibility Study Report** completed April 4, 2013.

Western Avenue (WA) WQARF Site

- **1993:** PCE was detected upgradient of the National Priority List (NPL) PGA-South Site. Subunit A wells at the PGA-South Site showed an increasing trend in PCE.
- **1994:** ADEQ conducted soil vapor sampling at the City of Goodyear Public Works facility and also at Western Dry Cleaners. The soil vapor sampling did not detect any significant concentrations of PCE.
- **1995:** Two monitor wells were installed to characterize the groundwater quality east and north of the PGA-South Site.
- **1998:** The Site was placed on the WQARF Registry in December 1998 with a score of 51 out of a possible 120.
- **2000:** In October, ADEQ installed five monitoring wells as part of an *early response action* (ERA) evaluation. The purpose of the ERA evaluation was to (1) better define the lateral and vertical extent of contamination, (2) gain a better understanding of where the source area may be located, and (3) to determine the approximate mass of PCE within the plume.
- **2001:** In March, ADEQ conducted a soil gas survey at the former Aladdin Dry Cleaners property. Results of the soil gas survey indicated minor concentrations of PCE. In July, ADEQ began a RI at the Site.
- **2002:** In October, a Draft Industrial Survey Report was completed as part of the RI to focus on any potential source areas. The data obtained from the Industrial Survey indicated that additional source investigations would not be required as part of the RI.
- **2006:** The highest concentration of PCE in groundwater in March was 3.2 µg/L. The Draft RI Report, including the Land and Water Use Report, went out to public comment in August and only one comment was received during the 30-day comment period. This comment did not require a change in the RI.
- **2007:** The highest concentration of PCE in groundwater was 12 µg/L in the August sampling. Prior to the August sampling results, the last exceedence of 5.0 µg/L in MW-2 occurred in April 1999.

- **2008:** Groundwater monitoring was conducted on a monthly basis to track PCE concentrations. The maximum concentration of PCE in monitoring wells was 8.4 µg/L in MW-1. In an effort to evaluate contamination at a greater depth a new groundwater monitoring well was placed north of City of Goodyear drinking water well number 1. The well, located on Los Robles Drive, north of East La Cienega Avenue produced groundwater results for PCE at a depth of 120 feet that were below the aquifer water quality standard of 5.0 µg/L.
- **2009:** ADEQ finalized the RI report. The RI incorporates the remedial objectives report that was completed in January. The feasibility study (FS) phase has begun, and groundwater monitoring continues at the site.
- **2010:**Groundwater samples were collected from site monitor wells in May and November. The highest concentration of PCE in groundwater in these two events was 6.8 µg/l at monitor well MW-1, a concentration slightly higher than the AWQS for PCE of 5.0 µg/l.
- **2011:** Groundwater samples were collected from site monitor wells as well as monthly groundwater elevations. In May, ADEQ installed passive diffusion bag (PDB) samplers in monitoring wells. In August and November, PDBs were placed at the depth in each monitor well where the PCE concentration was the highest based on May vertical profiling. The highest concentration of PCE in groundwater during the four events was 12.0 µg/l at monitor well MW-1 in November.

  EPA conducted an "Area Between the Sites" study to collect data to further define water level and water quality conditions in the area where the PGA-North, PGA-South, and Western Avenue sites meet. The scope of the study included the surveying of selected wells in the area to a common datum, measuring water level elevations and collecting groundwater samples.
- **2012:** Groundwater samples collected showed the highest concentration of PCE in groundwater was 6.59 µg/l at monitor well MW-1 in May. Verification sampling was conducted in June to verify suspect VOC concentrations at selected wells during the May event. The results of the verification sampling indicated that VOC concentrations were within normal ranges. Monitoring event was conducted in November.

Monitoring Sampling: Well on Western Avenue

APPENDIX 8

Site Reuse and Development

As part of the PGA North Superfund site Consent Decree, a Supplemental Environmental Project (SEP) was identified for the benefit of the City. Crane Co. paid into escrow $1,000,000 for a Brownfields' project which will identify environmentally challenged properties for subsequent clean up and redevelopment. Additional legal services are required to implement this project and oversee an environmental audit which will be conducted to ensure compliance with various Federal, State and County rules and regulations. A Council-appointed, Citizens Committee will assist in this effort to prioritize the final sites marked for cleanup.

APPENDIX 9

Community Profiles

The communities affected by the PGA Site, Goodyear, Avondale, and Litchfield are located in the Phoenix metropolitan area referred to as the Valley. Since 1998, more than 50% of the Valley's building permits have been in the West Valley, with the Southwest Valley leading the development boom.

Goodyear Community History

The town of Goodyear became a city in 1985. Goodyear was the fourth fastest growing suburban city in the country (under 100,000 population) between 2000 and 2006, averaging 16% growth per year during that period, according to *Forbes* Magazine.

Goodyear's population of 65,000 grew 245% between 2000 and 2010, and is expected to grow to more than 100,000 residents by 2015. According to the most recent Citizen Satisfaction Survey, Goodyear has a diverse population, with more than 85 percent of heads of households being college educated and 56 percent having college degrees (source: City of Goodyear Fiscal Year 2012 Development Trends). Thirty-one percent of the population is between the ages of 35 and 49. As a growing community, 81 percent of residents have lived in Goodyear less than ten years. It is also family-oriented, as 46 percent of household have children.

According to the 2010 American Community Survey (ACS), ethnic minorities currently make up about 28 percent of the Goodyear population. The largest ethnic minority population is Hispanic or Latino. Other ethnic minorities living in the City of Goodyear are reported to be African-American, American Indian, Asian, or other.

Approximately 8% of the work force in Goodyear is unemployed. Median annual household income is listed as $71,030, with a mean of $75,362. Total housing units in Goodyear was reported at 25,280 units, with 82.5% occupied. Among the total housing units, 76.8% are owner-occupied, with a median value of $182,100.

Goodyear has one of the strongest concentrations of "professional, technical, and scientific" workers in the West Valley and the Metro Phoenix area, due to the presence of the Integrated Systems and Solution Group of Lockheed Martin. The manufacturing component of Goodyear's workforce is expected to grow significantly with the recent addition of China-based Suntech, the world's largest

producer of solar panels, and because of luxury appliance manufacturer Sub-Zero's entry into Goodyear.

The municipal government of the City of Goodyear is referred to in the City charter as a Council-Manager Government. All powers of the City are vested in an elective Council that enacts legislation, adopts budgets, determines policies, and appoints a City Manager and other officers deemed necessary and proper for the orderly government and administration of the affairs of the City, as prescribed by the Constitution and laws of the State of Arizona.

Avondale

Avondale is located near the center of the Phoenix metropolitan area. Avondale's founding father, William G. ("Billy") Moore, arrived in Arizona in the late 1860s, settling near the Agua Fria River in 1880. Over the last decade, the city's population grew more than 110%, making the city one of the fastest-growing areas in Maricopa County. The 2010 U.S. Census indicates the population of Avondale at 76,238 residents, and the population is projected to rise to 106,000 by 2020. Nearly one third of Avondale residents are 18 or younger, with persons over 65 encompassing about 6% of the population. Approximately 20% of the residents 25 or older possess a bachelor's degree or higher.

According to March 2011 data, approximately 8% of the work force in Avondale is unemployed. Estimated median annual household income in 2011 is $60,107. Of the total of 27,001 housing units reported for 2010, 67% of the units are owner-occupied, with a median value of $224,400. Additional commercial growth (new stores, restaurants, hotels, offices and business parks) is anticipated in Avondale at freeway development sites.

Avondale operates under the Council-Manager form of government in accordance with its Charter. Legislative authority is vested in a seven-member City Council consisting of a Mayor and six Council members elected at large for a term of four years. The Mayor and Council appoint the City Manager and such other officers deemed necessary and proper for the orderly government and administration of the affairs of the City, as prescribed by the constitution and applicable laws, and ordinances. (Taken from **http://www.avondale.org/index.aspx?NID=50**)

Litchfield Park

Litchfield Park, Arizona, is a small residential community in Maricopa County, 2 miles north of I-10 and 16 miles west of central Phoenix. The community was settled in early 1910, was officially named Litchfield Park in 1926, and was incorporated as a city in 1987. From 1931 to 1944, this area was also home to the test Site for Goodyear auto, truck, and tractor tires. Paul Litchfield was instrumental in the establishment of Luke Air Force base just north of the community; and Litchfield Park grew extensively during and after World War II.

The population in 2010 was 5,476 residents. Census data from 2000 indicate that nearly 24% of the population is aged 18 years or younger, with persons over 65 encompassing about 22% of the total population. The highest age group concentration spans the range from 35 to 64 years of age, with residents aged 18 to 34 representing the smallest percentage of the population. Ethnic minorities make up less than 10% of the total population and are primarily Asian, followed by African-American and other race(s). 2000 Census data indicate that approximately 26% of the population possesses a Bachelor's degree, with nearly 20% of the population also possessing a masters, professional, or doctoral degree.

According to 2003 data, approximately 3% of the work force in Litchfield Park is unemployed. 2009 Census data indicate a median annual household income of $41,559. The median value of homes in Litchfield Park in 2009 was $311,773. According to the 2000 Census, the occupational distribution of the population is mostly in "Professional and related," followed closely by "Management, business, and financial operations" and "Sales and office." The two major industries in Litchfield Park are food preparation and eating/drinking establishments.

The City of Litchfield Park operates under the Council-Manager form of government. Under this system, the City Council appoints the City Manager, who acts as the chief executive officer of the City. The City Manager is responsible for the day-to-day operation of all city departments, enforces policy, and administers city programs. One assistant city manager reports directly to the City Manager. Department directors also are hired by and responsible to the City Manager.

APPENDIX 10

Frequently Asked Questions (FAQs)

Is the water safe to drink?

EPA and the Arizona Department of Environmental Quality (ADEQ) continue to keep the protection of drinking water wells as the highest priority at the entire Site. Your water provider, as well as EPA, continues to monitor your drinking water supply to assure this protection.

THE CITY OF GOODYEAR is serviced by four water providers: the City of Goodyear, Liberty Utilities, Arizona Water Company, and Arizona American Water Company. Each provider serves a different location within the City.

AVONDALE delivers drinking water to its customers from production wells located throughout the city service area. The daily water supply delivered to its citizens is 100% groundwater. Avondale also employs a system of surface water, reclaimed water, and recharge water through the Salt River Project and Central Arizona Project (CAP).

LITCHFIELD PARK acquires its water through Liberty Utilities.

How will the site affect my property's value and my ability to sell my property?

Contaminated sites may have an effect on nearby residential property values. However, property values often rebound following completion of site cleanup activities. Property values are most appropriately discussed with local authorities who are knowledgeable about the local economy and other local conditions that may influence property values.

REAL ESTATE AGENTS, banks, other lenders, appraisers, and public or private assessors should be able to provide information about property values. Local government agencies, such as your taxing authority, may also be able to give you information on property values. The Arizona Department of Realtors can provide you with a Residential Seller's Disclosure Statement to report the environmental conditions of our property. Their website is **http://www.re.state.az.us/.**

Note: *A copy of the Pebble Creek HOA standard disclosure pamphlet for potential new homeowners is provided in Appendix 20.*

APPENDIX 11

Federal, State, and Local Environmental Resources

This guide provides you with a variety of organizations and agencies you may contact with environmental related issues.

U.S. Environmental Protection Agency, Region 9

Includes Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations

75 Hawthorne St.
San Francisco, CA 94105

Regional Receptionist
(415) 947-8021

24-Hour Environmental Emergencies
(800) 300-2193

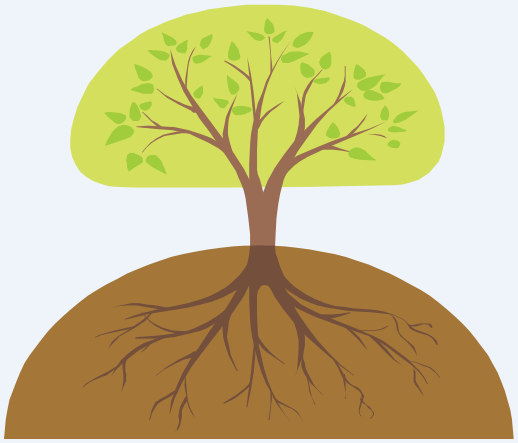
Superfund Community Involvement Office
(800) 231-3075

Office of Environmental Justice
(800) 962-6215

Environmental Information Center
(866) EPA-WEST

Arizona Department of Environmental Quality

Phoenix Main Office
1110 W. Washington St.
Phoenix, AZ 85007
(602) 771-2300
toll free (800) 234-5677



Air Quality

U.S. Environmental Protection Agency

Air Division Contacts – Region 9
http://www.epa.gov/region/air/r9contacts.html

Community Based Air Toxics Projects
www.epa.gov/air/toxicair/community

Improving Air Quality in Your Community
www.epa.gov/air/community

Plain English Guide to the Clean Air Act
www.epa.gov/air/caa/peg

Indoor Air Quality Tools for Schools -- Managing Asthma in the School Environment
(415) 947-4189
www.epa.gov/iaq/schools/managingasthma.html

Permits Office
(415) 972-3966
http://www.epa.gov/region/air/permit/index.html

Arizona Department of Environmental Quality

Air Pollution Current Values
(602) 771-2367
http://www.maricopa.gov/aq/divisions/monitoring/Default.aspx

Air Quality Monitoring
(602) 771-2308
www.azdeq.gov/environ/air/index.html

City of Phoenix Brownfields Land Recycling Program
(602) 256-5669
http://phoenix.gov/BROWNFLD/brownfld.html

Vehicle Emission Inspection Program and Testing
(877) 692-9227
http://www.azdeq/gov/environ/air/vei/index.html

Arizona Department of Health Services

(602) 364-3118
www.azdhs.gov/phs/oeh/invsurv/air_qual/index.htm
Air Quality Complaints – Indoor

Maricopa County Air Quality Department

(602) 506-6010
http://www.maricopa.gov/aq/

Permit Office
http://www.maricopa.gov/aq/divisions/permit_engineering/Default.aspx

City of Phoenix Air Quality Program

(602) 256-5669
http://phoenix.gov/ENVPGM/airqual.html

Brownfields

U.S. Environmental Protection Agency
www.epa.gov/brownfields
Brownfields and Revitalization Program

Arizona Department of Environmental Quality Waste Programs Division
(602) 771-4401
www.azdeq.gov/environ/waste/cleanup/brownfields.htm

City of Phoenix Brownfields Land Recycling Program
(602) 256-5669
http://phoenix.gov/BROWNFLD/brownfld.html

Citizen Rights

Arizona Secretary of State
(602) 542-4751
www.azsos.gov/public_services/
Arizona Laws and Statutes

Arizona State Legislature Ombudsman
(602) 277-7292
www.azleg.gov/ombudsman/Open%20%Meeting%20%Law%2101.pdf
Arizona Open Meeting Law

Community Reporting

Arizona Department of Environmental Quality
(800) 234-5677
http://www.azdeq.gov/function/compliance/complaint.html
Report a suspected violation of environmental law or rule

Maricopa County Air Quality Department
(602) 372-2703
http://www.maricopa.gov/aq/contact_us/report_violation.aspx
Report an air pollution violation

Maricopa County Environmental Services
(602) 506-6616
http://www.maricopa.gov/EnvSvc/Complaints/Forms/ComplaintInput.aspx
Report environmental issues and concerns

Environmental Justice

U.S. Environmental Protection Agency – Office of Environmental Justice
(415) 947-4194
www.epa.gov/care/libarary/guide_vol_progs_2008.pdf
Community Guide to EPA's Voluntary Programs, as well as more resource listings, funding resources, and tools

Grants and Funding

Federal Government Grants
(800) 518-4726
www.grants.gov
Find and apply for federal government grants

U.S. Environmental Protection Agency – Grants and Interagency Agreements Program
(202) 564-5315
www.epa.gov/ogd
Funding opportunities, information on how to apply, new recipient training

U.S. Environmental Protection Agency – Environmental Justice Grants
www.epa.gov/oecaerth/environmentaljustice/grants

U.S. Environmental Protection Agency – Region 9 Request for Proposals
www.epa.gov/region09/funding/rfps.html

Hazardous Waste

U.S. Environmental Protection Agency
(415) 972-3237
Technical Assistance for Communities
www.epa.gov/superfund/community/tasc

Toxics Release Inventory
(415) 972-3848
www.epa.gov/tri
Database with information on toxic chemical releases

Arizona Department of Environmental Quality Underground Storage Tank Program
(602) 771-4303
www.azdeq.gov/environ/ust/index.html

Waste Program Contacts
http://www.azdeq.gov/function/about/waste.html

Waste Programs Outreach
(602) 771-4294
www.azdeq.gov/environ/waste/sps/community.html

Superfund Community Involvement Arizona Department of Environmental Quality Solid Waste Management
(602) 771-4673
www.azdeq.gov/environ/waste/solid/index.html

Medical Waste
(602) 771-4673
www.azdeq.gov/environ/waste/solid/ic.html#sharps

Petroleum Contaminated Soils
(602) 771-4698
http://www.azdeq.gov/environ/waste/solid/special.html

Used Oil
(602) 771-4140
www.azdeq.gov/environ/waste/solid/oil.html

Maricopa County Water and Waste Management Division
(602) 506-6666
http://www.maricopa.gov/EnvSvc/WaterWaste/

City of Phoenix – Hazardous Waste/Waste Management

City Hazardous Waste Management – Personnel Safety
(602) 262-7555

City Asbestos Abatement Program – Engineering
(602) 534-3906

City Community Right to Know Reporting Program – Personnel Safety
(602) 262-7555

Household Hazardous Waste Program – Public Works
(602) 256-3310

Health

U.S. Environmental Protection Agency
Agency for Toxic Substances and Disease Registry+
(800) 232-4636
www.atsdr.cdc/gov/publications/Citizens GuidetoRiskAssessments.html
Health Assessments and Consultations

Arizona Department of Health Services
(602) 542-1001
www.azdhs.gov

Cancer Registry for Arizona
(602) 542-1025
www.azdhs.gov/phs/phstats/acr/index.htm

Health Assessments and Consultations
(602) 524-1025
www.azdhs.gov/phs/oeh/atsdr.htm

Homeowner/Business Owner Concerns

Arizona Department of Agriculture
(602) 542-3578
www.azda.gov/Main/faq.htm
Pesticides

Arizona Department of Pest Management
(602) 255-3664
www.sb.state.az.us/
Pesticides

Arizona Association of Realtors
(602) 771-7799
www.aaronline.com/ForRealtors/forms/SampleForms/spds_samp.pdf
Real Estate Seller Disclosures

Maricopa County Assessor
(602) 506-3011
www.maricopa.gov/Assesor/RealProperty.aspx
Property Values

Maricopa County Attorney's Office – Slumlord Hotline
(602) 372-7586
www.maricopacountyattorney.org/
Landlord Problems

City of Goodyear Fees, Permits, & Licenses
(623) 932-3910
http://www.ci.goodyear.az.us/index/.aspx?NID=2392

City of Avondale Neighborhood & Family Services Department
(623) 333-2700
http://www.avondale.org/index.aspx?NID=685

City of Litchfield Park Resident Services
(623) 935-5033
http://www.litchfield-park.org/index.aspx?NID=31

Illegal Dumping

Arizona Department of Environmental Quality – Solid Waste Program
(602) 771-2221
www.azdeq/gov/environ/waste/dumping/index.html

Water Quality

Arizona Department of Environmental Quality Drinking Water Program
(602) 771-4651
www.azdeq.gov/environ/water/dw/index.html
Drinking Water

Arizona Department of Water Resources
(602) 771-8500
www.azwater.gov/azdwr/WaterManagement/Wells/default.html
Water Wells

Water Conservation Alliance of Southern Arizona
(520) 792-9591
www.watercasa.org
Graywater

APPENDIX 12

Information Repositories and Web Sites

TAG Recipient – Environmental Community Outreach Association (ECO) – Websites

http://www.outreach4community.org/pga-superfund
http://www.Facebook.com/outreach4community

EPA Federal PGA Superfund Site

www.epa.gov/region09/phoenix-goodyearairport
http://www.azdeq.gov/environ/waste/sps/phxsites.html#pgana
http://www.azdeq.gov/environ/waste/sps/phxsites.html#pgasa

EPA Local Information Repository

Goodyear Branch Library
250 North Litchfield Road, Suite 185
Goodyear, AZ 85338
Tel: (602) 652-3000
Open to the Public:
Mon – Wed 10 a.m. – 7 p.m.
Thurs – Sat 10 a.m. – 5 p.m.

EPA Region 9 Repository
(Superfund Records Center)
U.S. Environmental Protection Agency
95 Hawthorne Street, 4th Floor
San Francisco, CA 94105
Tel: (415) 536-2000 or (415) 820-4700
Open to the Public:
Mon – Fri 8 a.m. – 5 p.m.

ADEQ Western Avenue WQARF Site

http://www.azdeq.gov/environ/waste/sps/phxsites.html#westavea

ADEQ's Local Repository for the Western Avenue PCE WQARF Site

Sam Garcia Library
495 E. Western Ave.
Avondale, AZ 85323
Email: *Library@avondale.org*
Phone: (623) 333-2600
Open to the Public:
Mon – Thurs 10 a.m . – 7 p.m.
Fri – Sat 10 a.m. – 5 p.m.

ADEQ Records Center
1110 W. Washington St.
Phoenix, AZ 85007
Tel: (602) 771-4380
E-mail: *RecordsCenter@azdeq.gov*
Open to the Public:
Mon – Fri 8:30 a.m. – 4:30 p.m.

ADEQ's Toll Free Number
(800) 234-5677

APPENDIX 13

Potential Locations for Public Meetings

The following facilities have been identified by ADEQ and USEPA as potential locations for public meetings and/or open houses:

Goodyear Branch Library
250 North Litchfield Road, Suite 185
Goodyear, AZ 85338
Tel: (602) 652-3000

City of Goodyear City Hall
190 North Litchfield Road
Goodyear, AZ 85338
Tel: (623) 932-3910

City of Goodyear Justice Center
185 North 145th Avenue
Goodyear, AZ 85338

City of Litchfield Park
214 W. Wigwam Blvd.
Litchfield Park, AZ 85340
Tel: (623) 935-5033

City of Avondale City Hall
11465 W. Civic Center Drive
Avondale, AZ 85325
Tel: (623) 333-1000

Estrella Mountain Community College
3000 North Dysart Road
Avondale, AZ 85392
Tel: (623) 935-8000 (main)

APPENDIX 14

Homeowners' Associations

This appendix includes contact information for Homeowners Associations (HOA) in and around the PGA Superfund Site. The following list includes associated management companies.

(NOTE: As several management companies are responsible for multiple associations, the following listing is in alphabetical order by management company, with the respective associations listed at the end of each listing.)

Management Companies

Associated Asset Management, Inc.
1600 North Broadway, Suite 200
Tempe, AZ 85282
(Canyon Trails Unit 4 South HOA; Canyon Trails Deer Run HOA; Canyon Trails Glen Rivers; Centerra HOA; Cottages at Rio Paseo HOA; Palm Valley Community Association; Palm Valley Phase 2 & 3 HOA; Rio Paseo HOA; Travis Park; Villages at Rio Paseo HOA;

Capital Consultants Management Corp.
17665 West Elliott Road
Goodyear, AZ 85338
(Estrella HOA)

City Property Management Company
4645 East Cotton Gin Loop
Phoenix, AZ 85040
(Canyon Trails Unit 4 West HOA; Sarival Paseo Joint Committee; Sarival Village; Wildflower Ranch HOA)

Kinney Management Services
P.O. Box 25466
Tempe, AZ 85283
(Sunrise at Wigwam HOA)

Lighthouse Management
PO Box 6298
Goodyear, AZ 85338
(Pueblo Verde/Glenmont Estates)

PebbleCreek Home Owners' Association (PCHOA)
3645 Clubhouse Drive
Goodyear, AZ 85338
Phone: (623) 935-6780
Web: http://www.pebblecreekhoa.org

Planned Development Services
8765 West Kelton Lane, Bldg. A-1 Suite 102
Peoria, AZ 85382
(Canyon Trails 1 & 2 HOA; Cottonflower HOA; Vanderbilt Farms HOA)

Premier Community Management
12211 West Bell Road, Suite 101
Surprise, AZ 85374
(Curtis Commons HOA)

Rossmar & Graham
15396 North 83rd Avenue Bldg. 5, Suite 101
Peoria, AZ 85381
(Palm Valley Phase I HOA; Pyramids at Palm Valley; Rancho Mirage HOA)

Royer Association Management
PO Box 5445
Goodyear, AZ 85338
(Canyon Trails Unit 3 HOA)

Total Property Management
4020 North 20th Street, Suite 219
Phoenix, AZ 85016
(Palm Valley Phase 5 HOA; Palm Valley Phase 8)

VISION Community Management, LLC
9633 South 48th Street, Suite 150
Phoenix, AZ 85044
(Estrella Vista HOA)

Homeowners Associations

Listings below are alphabetical by association name, as shown on the figure below. Contact information is believed to be current as of 2010 (most recent update on COG website).

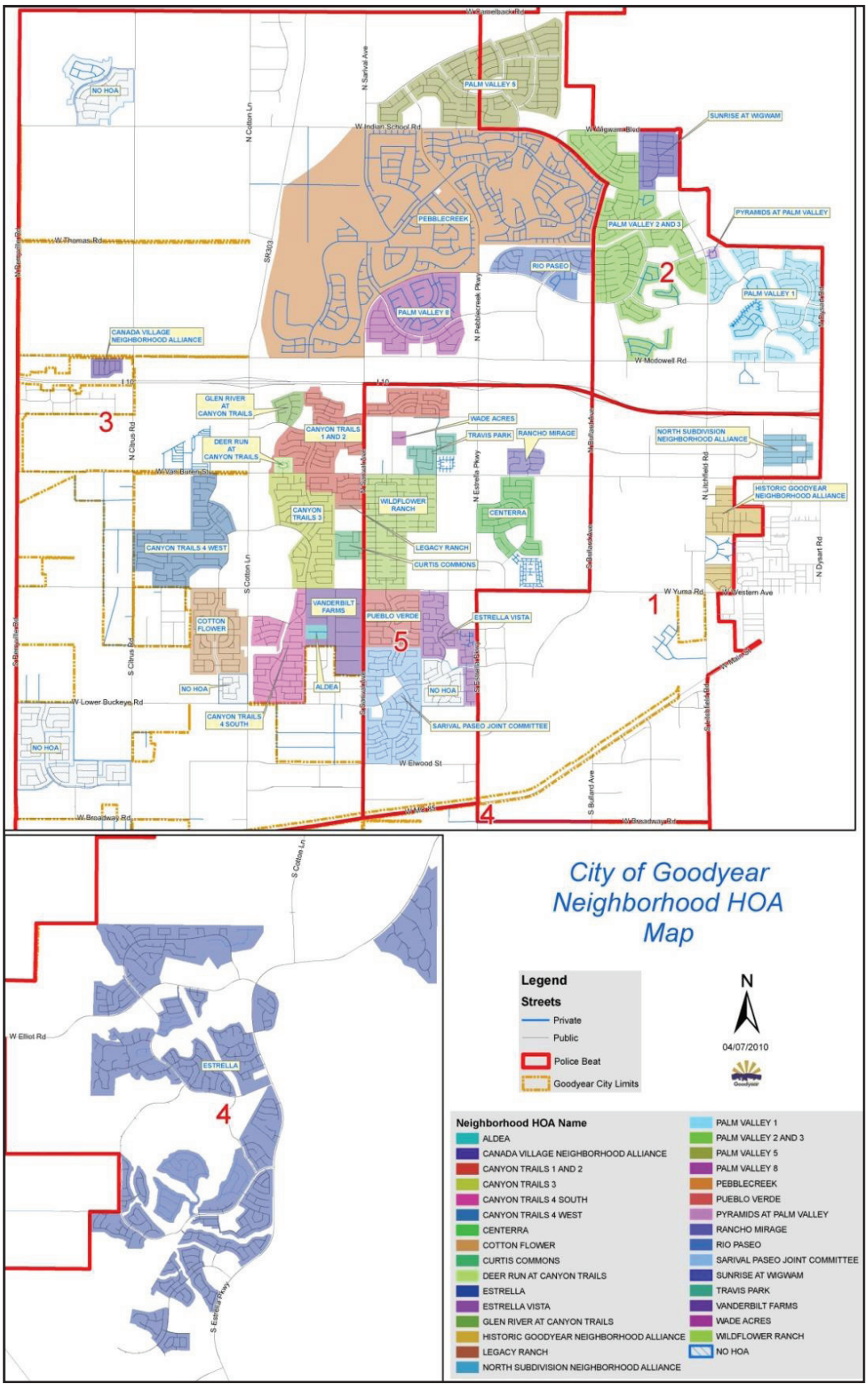
Canada Village NA
18058 West Lynwood Street
Goodyear, AZ 85395
Phone: (623) 853-0123

Historic Goodyear NA
Email: *madreekrone@yahoo.com*
Phone: (623) 932-1138

North Subdivisions NA
606 East Calle Chulo Road
Goodyear, AZ 85338
Email: *dave.schock@hotmail.com*

Palm Valley Community Association
Email: *slumley@rossmar.com*
Phone: (480) 314-7021

Park Shadows Country Homes
620 North Litchfield Road
Goodyear, AZ 85338
Email: *sherry@parkshadows.com*



Reference: Goodyear HOA Map: **http://www.goodyearaz.gov/DocumentView.aspx?DID=5567**

APPENDIX 15

Media Contacts

Newspapers

The Arizona Republic
200 East Van Buren St.
Phoenix, AZ 85004
(602) 444-8000
http://www.azcentral.com/arizonarepublic/

West Valley View
1050 E. Riley Drive
Avondale, AZ 85323
Phone: (623) 535-8439
Fax: (623) 935-2103
http://westvalleyview.com/

La Prensa Hispana
809 East Washington St., Suite 209
Phoenix, AZ 85034
http://www.prensahispanaaz.com/

La Voz
800 N 1st Avenue
Phoenix , AZ 85003
Phone: (602) 253-9080
Fax: (602) 252-1476

A list of newspapers serving the Phoenix area may be accessed at:
http://www.abyznewslinks.com/uniteazph.htm

Television Stations

Channel 3; KTVK (Independent)
http://www.azfamily.com/

Channel 5; KPHO (CBS)
http://www.kpho.com/

Channel 7: KAZT (Independent)
http://www.arizonasown.com/

Channel 8: KAET (Public Broadcasting System)
http://www.kaet.asu.edu/

Channel 10; KSAZ (FOX)
http://www.myfoxphoenix.com/

Channel 12; KPNX (NBC)
http://www.azcentral.com/12news/

Channel 15; KNXV (ABC)
http://www.abc15.com/

Radio Stations

As many as 75 radio stations are accessible to Phoenix-area residents. A list may be accessed at:
http://radio-locator.com/cgi-bin/locate?select=city&city=Phoenix&state=AZ

APPENDIX 16

Community Interview Questions

This appendix includes a copy of the standard questionnaire used to conduct community interviews for the CIP development process.

Community Involvement Plan Update 2010

Community Interview Questionnaire

Name: _____

Affiliation: _____

Date/Time: _____

History

1. How long have you lived/worked in this area?

2. Are you familiar with the PGA Superfund Site? ___Yes ___No
   How would you rate your familiarity on a scale of 1 – 10? (1 = not at all familiar and 10 = very familiar)

3. How did you first become aware of contamination associated with the Site?

4. What is your understanding of the contamination related to the PGA Superfund Site?

Concerns

5. Do you have concerns about this site? Please explain.

6. Do you know if anything has been done to address these concerns?

Level of Confidence

7. What has your experience been with EPA and ADEQ and any other government agencies or officials?

Community Communication and Involvement

8. How are you currently receiving information about the site?

9. Is the information clear and easy to understand?

10. How do you feel about the level of community involvement and outreach from the Project to the residences and businesses affected by the site?

11. Do you feel you have been kept adequately informed? If not, what can be done to change this?

12. What is the best way to provide information to you? (Newsletters, fact sheets, community meetings, CAGs, other)

    a. How frequently?

13. Have you participated in any public meetings and/or community advisory group meetings for the site?
    ___Yes ___No

    a. If no, why not?
    b. If yes, do you have any suggestions for improvement?

14. In your opinion, what days of the week (and times) are best for community meetings?

15. Are you aware of the information repository at the Avondale and Goodyear Public Libraries?
    ___Yes ___No

16. Is this location convenient for the community?

17. Are you interested in being on the mailing list to receive information updates on environmental cleanup activities at the PGA Superfund Site? ___Yes ___No
    If so, can we confirm your address (and e-mail address)?

18. Can you suggest any other individuals or groups that should be contacted for additional information or to be added to the mailing list?

APPENDIX 17

Pebble Creek HOA Disclosure Pamphlet

Answers to Environmental Questions

PEBBLECREEK GOLF RESORT

Ground-water contamination is being cleaned up in an area southeast of PebbleCreek Golf Resort (PebbleCreek). PebbleCreek Properties Limited Partnership, the developer and builder of the community hired URS Corporation, an internationally recognized environmental engineering company, to research and prepare this fact sheet and help keep you informed about clean-up activities.

- *Drinking water in the PebbleCreek community is supplied by Litchfield Park Service Company, and has not been impacted by contamination.*
- *Soil and ground water were first contaminated at the Crane facility, located over two miles southeast of the PebbleCreek community.*
- *Contaminated ground water, more than 130 feet below the surface, has moved slowly from the Crane site to an area under the southeast corner of the PebbleCreek property.*
- *Based on U.S. Environmental Protection Agency (EPA) policy, homeowners are not held liable for contamination unless they caused it.*
- *EPA also says that people living on property where contamination is substantially beneath the surface are not exposed to any health risks, as long as the ground water is not used. A 1998 study, conducted by S. S. Papadopulos & Associates in an area immediately south of PebbleCreek, concluded that there are no health risks from the contaminated groundwater.*
- *A monitor well has been installed in the southeast corner of PebbleCreek to help determine the location and movement of the contamination.*

History

In 1963, Unidynamics (now Crane Company) began producing materials for the Department of Defense at its research and development manufacturing plant, located at Van Buren and Litchfield Roads in the town of Goodyear. Between 1963 and 1974, waste was generated and disposed of on the Crane property. These wastes included cleaning solvents known as volatile organic compounds, some of which are now considered to be hazardous to human health and the environment.

The EPA directed Crane to determine the level of soil and ground-water contamination in and around the site. This study, conducted between 1984 and 1989, found the principal substance to be trichloroethylene (TCE). Acetone, methyl ethyl ketone, and perchlorate were also found.

In December 1993, the EPA and Arizona Department of Environmental Quality (ADEQ) determined that the contaminated ground water was moving slowly

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Appendix

ANSWERS TO ENVIRONMENTAL QUESTIONS

to the north, in the general direction of PebbleCreek. EPA and ADEQ asked Crane to install a ground-water treatment system on the two irrigation wells where TCE was detected. The treatment system consisted of air stripper units designed to remove the TCE only from the pumped ground water. In the fall of 1998, one of the irrigation wells was closed and abandoned. The other continues to operate.

The treatment system was improved in 1998 with the construction of a new treatment facility near the southeast corner of the PebbleCreek property. This facility cleans the ground water at the well site and pumps it back into the agricultural and golf course irrigation systems. Results from the ground-water samples taken at Well MW-24, during February of 2007 registered less than the detection limit of 1 microgram per liter (μg/L) of TCE. Previously the TCE level had decreased from10 μg/L in 2000 to less than 5 μg/L in 2003. Also, perchlorate was detected at 2.4 μg/L compared to a standard of 14 μg/L (In 2005 the combined State and Federal Perchlorate Working Group issued a site-specific guidance level of 14 μg/L for perchlorate in drinking water). Crane includes this well as part of its routine ground-water monitoring program.

What is trichloroethylene or TCE? What is Perchlorate?

TCE is the main contaminant found in soil and ground water in and around the Crane site.

TCE is a colorless liquid that was commonly used as a cleaning solvent and metal degreasing agent and for other industrial and household uses. TCE was used as a cleaning solvent at Crane until the mid-1970s. It was once used by dry cleaners, septic tank cleaners, and, until recently in household cleaning products. At one time it was used as an anesthetic and in food production. After extensive animal testing, TCE was classified as a probable human carcinogen in 1976. Since that time many users have converted to other cleaners.

Perchlorate can be manmade or naturally occurring. It forms when chloride and oxygen join together. It is commonly found in various chemical forms, including ammonium perchlorate, potassium perchlorate, sodium perchlorate, and perchloric acid. Perchlorate dissolves easily and moves quickly in underground water and surface water. It breaks down very slowly in the environment. Ammonium perchlorate is an oxygen-additive compound used for decades as part of the United States national defense and space programs. It is a major component of propellants in solid fuel for rockets and missiles. Perchlorate is also used in the production of explosives and fireworks. It adds the blue color to firework displays. Potassium perchlorate was once used to treat thyroid disorders in people suffering from Graves'disease. Potassium perchlorate is still used today under limited conditions to test for thyroid hormone production in patients. Additional uses include the production of matches, dyes, lubricating oils, air bag inflators, electroplating, rubber manufacturing, paint production, and certain chemical fertilizers.

Is my drinking water safe?

Yes, municipal drinking water in this area meets EPA drinking water standards, which are designed to protect the health and safety of the public.

Drinking water supplies for the PebbleCreek community come from wells located several miles northeast of where the contamination is found. Drinking water is provided by Litchfield Park Service Company, and they are required to test and monitor regularly to assure that state and federal drinking water health standards are met.

Is the water used to irrigate the PebbleCreek golf course safe?

Yes. The golf course is irrigated from several sources that are acceptable for irrigation or use in ornamental lakes.

None of the water used for golf course irrigation comes from the irrigation well where contamination was detected.

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Does this groundwater pose a risk?

No, because the contaminated ground water lies more than 130 feet below the surface and residents are not exposed to it.

Any risk associated with TCE or perchlorate depends, first, on whether or not a person is exposed to the substance. If exposure has occurred, then the level of that person's exposure must be taken into account. The EPA and the State of Arizona established a standard of 5 mg/L as the maximum level of TCE acceptable in drinking water. These numbers establish a wide margin of safety.

An independent report by S.S. Papadopulos & Associates, Inc. in 1998 evaluated the potential risk to human health from exposure to TCE in the ground water beneath an area to the south and east of the PebbleCreek property. Their analysis concluded that no TCE from the ground water can reach the land surface, and therefore poses no health risks to residents.

Clean-up work is underway...

Work to clean up soil and ground water at Crane continues.

The clean-up efforts are being conducted by Crane under supervision by EPA and ADEQ. The ground water is extracted, treated to remove the chemicals, and reinjected at the former Crane facility or used for irrigation. To date, more than 44,000 pounds of TCE have been removed from the soil and ground water at the site. One extraction well, 33A, is located at the southeast corner of the PebbleCreek property. Aside from general irrigation, some of the treated water from this well is used on the golf course and ornamental lakes at PebbleCreek.

Has the contamination moved underneath the PebbleCreek Golf Resort?

Yes. Contamination has moved northwest with the ground-water flow, to a point slightly north of Thomas Road and west of Bullard Avenue.

Extraction Well 33A is positioned to intercept TCE and perchlorate migration toward MW-24. The result of the January and February groundwater monitoring revealed that Well 33A is controlling the chemical plume migration. This is indicated by the stable trends in the observed TCE and perchlorate concentrations at monitoring wells MW-24 and Well 33A. Incorporation of the new data has modified the plume configuration; the plume now extends further to the north-northeast.

The long-term goals of the clean-up programs described above are to contain the contamination, pump, treat and reuse the water for beneficial purposes. The monitor well MW-24 installed in the southeast corner of PebbleCreek property and northwest of extraction well 33A shows very low levels of TCE.

Is this a Superfund site?

Properties associated with the Crane manufacturing facility and the Phoenix Goodyear Airport (PGA) were named a Superfund site and placed on EPA's National Priority List for environmental cleanup.

The greater PGA Superfund site is divided into a north and south area, and each is being cleaned up independently. Crane is the principal party responsible for cleaning up PGA North, while Goodyear and the U.S. Navy are responsible for cleaning up PGA South. By law, when entities responsible for contamination are known, they must pay for the cleanup. Because PebbleCreek Properties Limited Partnership and SunCor (the original landowner) are not responsible for causing the contamination which occurred over two miles away, neither company is paying any of the costs of cleaning up the ground water.

An active clean-up program that includes the extraction and treatment of contaminated ground water is currently underway at PGA South. Ground water in this area tends to flow to the southwest and west, away from PebbleCreek.

Appendix

ANSWERS TO ENVIRONMENTAL QUESTIONS

What effect does this have on PebbleCreek residents?

None. The development of PebbleCreek is not adversely impacted by the cleanup.

Some substances from the Crane facility have migrated into the ground water underlying PebbleCreek. Sampling of a monitor well located within PebbleCreek, near its southeast corner, indicates that TCE has migrated north of Thomas Road to portions of the ground-water aquifer underneath PebbleCreek. The contamination is approximately 130 feet below ground and flows with the ground water as it moves underground. The EPA order issued to Crane is intended to ensure that ground water is cleaned up to acceptable health levels of less than 5 mg/L of TCE.

How does all of this affect my property?

Homeowners are not held liable for contamination unless they caused it. Additionally, because ground-water contamination 130 feet below the ground level should cause no adverse problems at the surface, it should not affect the value of the property.

EPA and ADEQ have publicly acknowledged a policy of not seeking to hold residential property owners liable for contamination that was not caused by them. Both agencies maintain administrative records that will provide substantial information for residents, potential buyers and other members of the community about the Superfund site.

Who can I contact if I have questions or would like more information?

For more information or to review additional documents, please contact:

U.S. Environmental Protection Agency
Mary Aycock, Project Manager
(415) 972-3289
(800) 231-3075
aycock.mary@epa.gov

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APPENDIX 18

PGA North [Crane] Safety Measures

Crane has implemented a number of safety features at the PGA North remedial systems that are protective of the public. The following are the most relevant safety features.

- Incorporation of SCADA systems to allow for remote monitoring and control of groundwater treatment systems (GTS). These systems also notify operators of any alarm condition 24/7
- High and low pressure switches in pipelines that shutdown relevant systems in the event of a high pressure condition or low pressure condition. The low pressure condition would be protective in the event +of a pipe failure.
- Installation of knox boxes at all systems to allow for first responder access
- Installation of signage at all systems to identify who should be notified if case of emergency
- Visual identification of piping to ensure easy identification of pipeline contents.
- Various system interlocks (devices that shutdown a treatment system) in the event of anomalous operation. This includes:
  - » High containment sump alarm, with redundant switch
  - » High pressure alarms to prevent over pressurization of GTS
  - » Low and high water flow alarms
  - » High differential flow alarms

APPENDIX 19

Western Avenue WQARF Site

Information on the Water Quality Assurance Revolving Fund (WQARF) - Western Avenue

Through the WQARF program, the Arizona Department of Environmental Quality (ADEQ) identifies, assesses, and cleans up soil and groundwater that is contaminated with hazardous substances.

WQARF was created by the Arizona Legislature under the Environmental Quality Act of 1986 to support environmental cleanup efforts in Arizona. Also known as "State Superfund," WQARF is administered by ADEQ to:

- conduct statewide surface and groundwater monitoring;
- study health effects of contamination;
- perform emergency remedial actions (cleanups); and, conduct site investigation and long-term remedial action programs. The WQARF program is funded with state monies, taxes, fees and funds recovered from parties who have been determined to be responsible for the contamination.

WQARF was amended in 1997 to include additional public notice and community involvement requirements. The statutes applied to the site to date have resulted in the following activities:

- mail fact sheets;
- publish public notices;
- conduct public meetings;
- establish the information repositories;
- identify a spokesperson;
- prepare the community involvement plan (CIP);
- determine the community involvement area (CIA); and,
- establish the Community Advisory Board (CAB).

ADEQ has established a Registry of sites in Arizona where groundwater and/or soil contamination is known to be present and is to be remediated under the state's WQARF program. Sites appearing on this Registry qualify for funds available from the state's WQARF program for investigation and/or cleanup of contamination.

Sites on the Registry are given a numeric score based in part upon the type and location of contaminant(s) present and the number of people that may be affected by the contaminant(s). The score of the Western Avenue (WA) WQARF site is 51 out of a possible 120. Scores are used to help determine relative risk at the site and do not necessarily mean there is a direct risk to humans or the environment. Major factors leading to this site's score include tetrachloroethene (PCE), a solvent commonly used in dry cleaning, currently known to be present in the groundwater above the regulatory level of 5 µg/l. Contaminants of concern may change as new data becomes available.

Public Health Impact

Western Avenue (WA) WQARF Site

The primary contaminants known to be present at levels above regulatory limits at WA include the solvents trichloroethylene (TCE) and PCE, which are present in the groundwater and in some soils.

The contaminated groundwater in this area is not used for drinking water. The listing of this site on the WQARF Registry includes sites within the state that may pose risk to public health, welfare or the environment from the release of hazardous substances and for which there is current or planned investigation and cleanup. If you are using a private well in the sites area and your well has not been tested, contact ADEQ Project Manager Delfina Olivares at (602) 771-4710.

The majority of risk associated with contaminated water is direct exposure by bathing or drinking; however, in this case, there is no known exposure path to endanger the public.

People who drink PCE in excess of the maximum contaminant level (MCL) over many years could have problems with their liver, kidneys, or nervous system and may have an increased risk of getting cancer. Those who drink water containing TCE in excess of the MCL over many years could experience problems with their liver and may have an increased risk of cancer. However, it is important to remember if homes are connected to a public drinking water system, the water providers are required by law to supply water that meets all state and federal drinking water standards. Regular testing is completed to make sure that the drinking water is safe.

At this time, no one is known to be drinking the contaminated water.

Community Involvement Area

ADEQ has established the community involvement area (CIA) for PGA Superfund and Western Avenue WQARF sites (A.R.S. §49-289.02(A) and (B)). CIAs are established to designate a geographic area to which mass mailings will be delivered. CIA boundaries are determined based on site-specific characteristics such as: the affected media (i.e., soil, surface water, or groundwater), exposure routes, proximity to residential areas and public facilities, and level of interest in the community. The CIA may be updated as new information is received.

The CIA for Phoenix-Goodyear Airport Superfund Site and Western Avenue WQARF Site is bound by the Cities of Avondale and Goodyear, Arizona. The east-west extent appears to be from 2nd Street and Western Avenue in Avondale to just east of Litchfield Road and Western Avenue in Goodyear.

WQARF Process

Western Avenue WQARF Site

The following section describes the WQARF remedy selection process for Western Avenue. The Western Avenue WQARF site is currently in the Feasibility Study phase.

Preliminary Investigation	Preliminary Investigation (PI) When ADEQ receives information about a potential release of a hazardous substance, the agency may conduct a preliminary investigation. This will determine the potential risk to public health or welfare or to the environment and whether further action is required.
Site Scoring	When the PI is completed and it is found that further action is needed, the site is "scored" to evaluate the actual and potential risk to public health and the environment.
Site Registry	The Site Registry is a public listing of all sites in Arizona that have been "scored." It describes the sites, scores, and current status of cleanup actions. Placement on the Registry does not necessarily mean the site poses a risk.
Remedial Investigation/ Feasibility Study (RI/FS)	A RI is performed to determine the nature and extent of the contamination at a site. The FS is done to identify and evaluate cleanup strategies and technologies to address the contamination.
Proposed Remedial Action Plan (PRAP)	Before a long-term cleanup plan is selected for a site, ADEQ offers the PRAP for public review and comment. This plan outlines the agency's preferred cleanup alternative, which is based on information gathered and analyzed in the RI/FS.
Record of Decision (ROD)	This public document explains the long-term cleanup plan that has been selected. The decision is based on information and technical analysis generated during the RI/FS and public comment on the PRAP.

Establishment of a Community Advisory Group (CAG).

The following section details the combined Community Involvement efforts of Agencies for PGA and WA in the establishment of a CAG. Once WA was listed as a WQARF Site in December 1998, it was determined that one CAG would be established to share updates with the community for the WA, PGA Site. The following information contains WQARF statutes that describe the process of how the CAG was established.

1. **Establishment of a Selection Committee under WQARF Statute (A.R.S. §49-289.03) for PGA North, PGA South and WA**

   In 2000, ADEQ established a selection committee to choose the CAG members as directed by statute. The selection committee consisted of: ADEQ representative Phil McNeely, Councilmen Stephanie Karlin, affected business owner Steve Gervais, community representatives Linda Dillard and Janet Beeson. CAG applications were mailed to all PGA North, PGA South and WA residents residing within the community involvement area (CIA). The selection committee met in 2001 to discuss the selection process and review applications. They selected the 16 CAG members: Diane Krone; James Benson; Susan Kagan; Karen Williams; Henri Gauthier; Jim and Jackie Ewing; Charles Battershell; Charles Bingham; Thomas H. Jones, Jr.; Richard Nauman; Linda Wemple; Samuel Wallick; Sheri Wigal; Pam Fischer; and Keith Longley.

2. **Establishment of the Community Advisory Group (CAG) under WQARF Statute (A.R.S. §49-289.03)**

   A.R.S. §49-289.03 requires a 5 to 20 member board to be appointed to advise ADEQ and the

public of issues, concerns and opportunities related to the investigation and cleanup of a site. The members are to represent a diversified cross-section of the community and meet at least four times per year. CAGs must meet within 90-days of their selection to elect co-chairs and develop a charter defining operating procedures, membership terms and obligations, and opportunities for public involvement. The CAG also reviews the CIP and, if necessary, proposes changes to the plan. Since the PGA North and South Sites are in close proximity to the WA WQAF Plume Site and involve the same general community, one group was formed to address issues at all three sites. Its first meeting was held on February 22, 2001.

Communication Techniques

The following methods are the various communication channels that will be used with the public throughout the remediation process. As the remedial projects progress, Agencies staff and CAG members may identify and use additional methods or activities to inform and engage the community.

1. **Public Notice of CAG Meetings**

   Public notice of CAG meetings will be provided (A.A.C. R18-16-404(C)(1)(o)). At least 24 hours in advance, the meeting agenda will be posted in all ADEQ offices and on the ADEQ and EPA's web page. The CAG agenda will also be mailed to the entire site mailing list within two weeks of the meeting. Additionally, the meeting notice will be e-mailed to all CAG members and site related personnel.