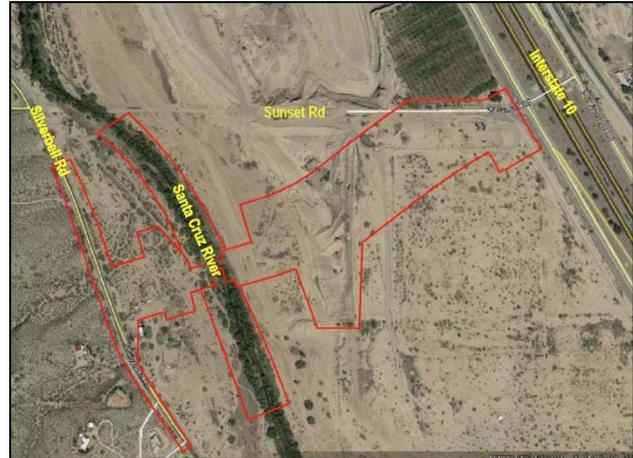


**PRELIMINARY INITIAL SITE ASSESSMENT**

**For**

**Sunset Road: Silverbell Road to I-10 Eastbound  
Frontage Road – Segment 1  
Tucson, Pima County, Arizona**



**PREPARED FOR:**

**Pima Co. Dept. of Transportation  
201 N. Stone Ave., 4th Floor  
Tucson, AZ 85701**



**PREPARED BY:**



**Engineering and Environmental  
Consultants, Inc.  
7740 North 16<sup>th</sup> Street, Suite 135  
Phoenix, Arizona 85020  
[www.eec-info.com](http://www.eec-info.com)**

**EEC PROJECT NO. 13039  
REPORT DATE: September 23, 2014  
REVISED: November 5, 2014**

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## ATTACHMENTS

Attachment 1 - PISA Form

Attachment 2 - Project Area Map

Attachment 3 - Regulatory Database

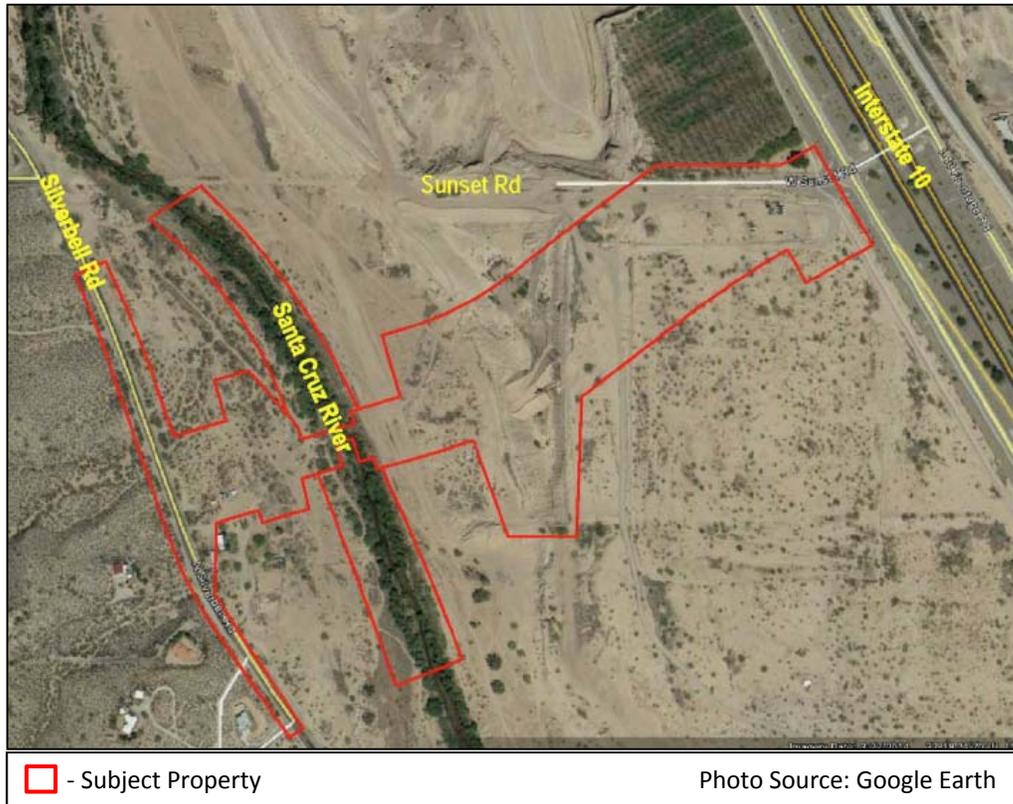
Attachment 4 - Site Photos

Attachment 5 - Historical Aerials

Attachment 6 - Environmental Professional Qualifications

## 1.0 INTRODUCTION

Engineering and Environmental Consultants Inc. (EEC) completed a Preliminary Initial Site Assessment (PISA) for the Sunset Rd. Project located between Interstate 10 (I-10) and Silverbell Rd., Tucson, Pima County, Arizona (Project Area) as shown in the aerial below.



The completed PISA form is provided as Attachment 1; a Project Area Map in Attachment 2; Regulatory Database in Attachment 3; Site Photos in Attachment 4; and Historical Aerials in Attachment 5. The following sections detail the purpose, the involved parties, the scope of work, and the limitations and exceptions associated with this PISA.

## 2.0 PURPOSE

The purpose of this PISA was to perform a screening-level assessment to identify potential environmental concerns within the Project Area and determine if adjacent properties required a more detailed investigation. The American Society for Testing and Materials (ASTM) Standard Designation E1528-14 (Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process) defines the term potential environmental concern as the “possible presence of any hazardous substances or petroleum products on a property under conditions that indicate the possibility of an existing release, a past release, or a threat of a future release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.” The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

This PISA consists of a regulatory records search, site reconnaissance by an Environmental Professional (EP), and historical aerial photograph review. Therefore, historical research into the past uses of the Project Area and adjacent properties is limited in scope and intended to determine if additional investigation is warranted. This PISA does not include *de minimis* conditions which are defined as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

### **3.0 SCOPE OF SERVICES**

EEC's scope of work for this PISA included the following:

- Review regulatory agency databases for the Project Area using the minimum search distances identified in both ASTM standard E1527-13 and E1528-14.
- Perform a reconnaissance of the Project Area to visually evaluate areas of possibly contaminated surficial soil or surface water, improperly stored hazardous materials, petroleum products, and possible risks of contamination associated with properties or facilities located within or adjacent to the Project Area.
- Review available historical aerial photographs to assist in identifying past uses of the Project Area and potential environmental concerns.
- Prepare a PISA report documenting findings and provide recommendations regarding whether further assessment is required.

The assessment of the PISA findings is based upon the EP's determination of a potential environmental concern that could potentially meet the definition of a Recognized Environmental Condition and requiring completion of a Phase I Environmental Site Assessment. The resumes of the EP's involved in completion of this PISA are provided as an attachment to this report.



## 4.0 LOCATION AND PROJECT DESCRIPTION

The Project Area is located between Silverbell Rd. and I-10 eastbound frontage road just south of the current Sunset Rd. alignment. Improvements include construction of a 2,960 foot long, three-lane roadway, including a 724 foot bridge over the Santa Cruz River. Improvements will include construction of a 2,960 foot long, three-lane roadway, including a 724 foot bridge over the Santa Cruz River.

## 5.0 PROJECT AREA AND DESCRIPTION

### 5.1. PROJECT AREA

The Project Area generally consists of vacant desert land and the Santa Cruz River floodway. A portion of the Project Area between I-10 and the Santa Cruz River historically has been used as agriculture and possibly sand and gravel mining operation.

### 5.2. ADJACENT PROPERTIES

Adjacent properties to the Project Area consist of the following:

- North - Sand and gravel mining operation
- South - Vacant undeveloped land and floodway
- East - I-10 followed by mixed residential/commercial area and Union Pacific Railroad
- West - Rural residential and vacant desert land

### 5.3. HISTORICAL AERIAL PHOTOGRAPH REVIEW

Findings of the historical aerial review are summarized for the Project Area:

Historical Aerial Review		
Date	Description	Source
1936	The project area appears to be primarily agricultural land and is located within the Santa Cruz floodplain. At least two structures (possibly agricultural related) are visible along a dirt road which runs through portions of the project area. Surrounding area is a mixture of agricultural land and native vegetation. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to be a dirt road, Sunset Rd. to the north appears to be a small road between a couple fields, the I-10 appears to be a two-lane road, and the railroad is visible to the east of I-10.	Cooper Aerial
1940's	None available	-
1956	The project area appears to be primarily agricultural/fallow land. At least four structures (possibly agricultural related) are visible on the south side of Sunset Rd. At least 11 agricultural related structures (possibly a dairy farm) north of Sunset Rd. The surrounding area is a mixture of agricultural land and native vegetation. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. appears to now be a dirt road, the I-10 to the east appears to be under construction as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS

1966	No significant changes to the project area from previous aerial. Structures identified along Sunset Rd. also appear similar to the previous aerial. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. remains as a dirt road, the I-10 to the east appears to be completed as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS
1972	The project area is primarily agricultural land/fallow land. At least three structures are now visible on the south side of Sunset Rd. and the agricultural/dairy farm remains visible on the north side of Sunset Rd. The surrounding area is a mixture of agricultural land and native vegetation. A gravel pit is now visible to the south and portions of the pit appear to be within the project area. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Some rural residential development is now visible west of the Santa Cruz River along N. Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. remains as a dirt road, the I-10 to the east remains as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS
1980's	None available	-
1996	The project area is a mixture fallow agriculture within the eastern portion and natural desert within the western portion. At least one agricultural related structure remains on the south side of Sunset Rd. and the agricultural/dairy farm remains north of Sunset Rd. A patch of cultivated trees/agricultural land is on the northwest side of Sunset Rd. At least five residential-type structures are now visible towards the south, west of Silverbell Rd. At least one of these structures appears to be within the project area. The gravel pit activities are no longer visible to the south. The Santa Cruz River runs through the project area parallel to Silverbell Rd. The surrounding area west of the Interstate 10 is a mixture of fallow and graded land. Rural residential development remains visible west of the Santa Cruz River. Silverbell Rd. appears no now be a paved two-lane road, Sunset Rd. remains as a dirt road, the I-10 to the east remains a four-lane highway, and the railroad is visible to the east of the I-10.	Google Earth
2014	A gravel pit is now visible at the approximate center point of the project area and north side of Sunset Rd. A staging area is visible on the southwest corner of Sunset Rd. The previously noted residential structures remain at the southeast portion of Silverbell Rd. The Santa Cruz River runs through the project area parallel to Silverbell Rd. A tree farm is now visible within and adjacent to the northeast portion of the project area. Silverbell Rd. remains a paved two-lane road, Sunset Rd. partly remains a dirt road and is within the san/gravel mining area, the I-10 to the east remains a four-lane highway, and the railroad is visible to the east of the I-10.	Google Earth

Review of the historical aerials indicate the Project Area has been agricultural land/fallow land east of the Santa Cruz River and undeveloped land west of the River from at least 1936 through 1996. Active sand and gravel mining within the project area appears to have occurred since at least 1972 through 2014. A dairy farm or similar activity may have been located along the south and north side of Sunset Rd. from at least 1956 through 1996. The 2014 aerial indicates the Project Area is a gravel pit and graded land east of the Santa Cruz River and primarily undeveloped land with some rural residential west of the Santa Cruz River. No environmental concern has been identified from review of the historical aerials.

## 5.4. GEOLOGY INFORMATION

The Project Area is located within the Tucson Basin, which is in the Sonoran Section of the Basin and Range Physiographic Province of the southwestern United States (Arizona Bureau of Mines, 1969). Alluvium-filled valleys separate elongated mountain ranges trending to the north or northwest. The alluvium consists of inter-fingering sands, gravels, silts, and clays in varying proportions, depending on the location of the ancient streams that deposited the gravels.

The boundaries of the mountain ranges generally are controlled by faulting (Davidson, 1973). The mountains surrounding the area and the basement beneath the alluvial fill consists primarily of crystalline igneous rock, metamorphosed sedimentary rocks, and volcanic rocks. These basement materials are the source of the unconsolidated alluvial fill (Anderson, 1987). The stratified nature of the deposits, along with pumping patterns, controls the amount and flow direction of groundwater. Depth to groundwater is approximately 104 - 109 feet below land surface. The general direction of groundwater flow is to the northwest respectively (ADWR Hydrologic Map Series No. 11).

## 6.0 REGULATORY REVIEW

Allands performed environmental database search and summarized the results in the September 13, 2014 Allands report. The Allands report included a summary of Allands' review of federal, state, and local environmental databases for the Project Area within minimum search distance identified within ASTM E1527-13 and E1528-14 unless otherwise noted. A copy of the Allands report, which includes a description of the databases reviewed by Allands and a summary of the results of this review, is provided in Attachment 3. The review was conducted to evaluate whether the Project Area or properties within the vicinity of the Project Area have been identified as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects to the Project Area. A summary of the Allands report is provided below:

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities
<b>Standard Federal ASTM Environmental Record Sources</b>			
NPL (National Priorities List) / Proposed NPL / DOD	07/14	1.0	0
Delisted National Priorities List	07/14	0.5	0
CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP)	01/14	0.5	9
RCRA (Resource Conservation and Recovery Act)	07/14	0.125	0
RCRA – CORRACTS TSDFs (Corrective Action Treatment, Storage, and Disposal Facilities)	07/14	1.0	0
RCRA – Non-CORRACTS TSDFs	07/14	0.5	0
ERNS (Emergency Response Notification System)*	07/14	0.125	0
<b>Standard State ASTM Environmental Record Sources</b>			
WQARF (Water Quality Assurance Revolving Fund) Areas	07/14	1.0	1
Superfund Program List (replaces ACIDS)	08/04	0.5	1

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities
Solid Waste Facilities/Landfill Sites – Operating and Closed	05/99 & 05/04	0.5	0
Control Registries	07/14	Site and adjoining	0
Brownfields / Voluntary Remediation Program	01/14	0.5	0
Registered USTs (Underground Storage Tanks) (includes Tribal Records)	03/14	0.125	1
LUSTs (Leaking Underground Storage Tanks) Incident Reports (includes Tribal Records)	03/14	0.5	1
<b>Additional Environmental Record Sources</b>			
RCRA Compliance Facilities	07/14	0.125	0
Hazardous Materials Incidents Emergency Response Logbook*	1984-06/01	0.125	0
ADEQ Drywell Registration Database (includes Tribal Records)	07/14	0.125	0
Environmental Permits	07/14	Site	0
Fire Insurance Maps	Various	Site and adjoining	0
Topographical / Aerial Maps	See text	Site and adjoining	2
VEMUR / DEUR / LIENS / DEURTRACKER	07/14	Site	0
Dry Cleaner	06/06	0.125	0
Arizona Department of Water Resources Well Registration Database	04/14	Site and adjoining	See Text

\*- Indicates minimum search radius as identified in ASTM E1527-13 and E1528-14 exceeded

- Nine (9) CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP) facilities were identified within 0.5 mile if the Project Area. No issue of concern was identified due to the NFRAP status, distance, and gradient of these sites form the Project Area. No additional investigation is recommended.
- One (1) WQARF (Water Quality Assurance Revolving Fund) site was identified 0.2 mile east of the Project Area. The Project Area is not within the boundaries of the El Camino del Cerro WQARF site and there is no evidence the Project Area has contributed to the associated groundwater plume. No additional investigation is recommended.
- One (1) Superfund Program List (replaces ACIDS) was identified 0.2 mile east of the Project Area. The Project Area is not within the boundaries of the El Camino del Cerro WQARF site (as previously discussed) and there is no evidence the Project Area has contributed to the associated groundwater plume. No additional investigation is recommended.
- One (1) registered UST (Underground Storage Tank) was identified adjacent to the north. The UST was removed 10/24//94 and no release identified. No additional investigation is recommended.

- One (1) LUST (Leaking Underground Storage Tanks) was identified 0.4 mile southeast of the Project Area. The LUST is at a great enough distance not to be an issue of concern. No additional investigation is recommended.

## 7.0 FINDINGS, OPINION AND CONCLUSIONS

EEC has identified no potential environmental concern for the Project Area and no additional investigation is recommended.

The following items are not issues of concern, but the County should be aware of concerning the Project Area:

- A former gravel pit is located at the approximate center point of the Project Area. EEC assumes no debris has been deposited during infill activities and has no evidence to suggest otherwise.
- At least four TEP owned transformers were observed along Silverbell Rd. and Sunset Rd. None of the observed transformers had PCB tested labels. TEP should be contacted in the event transformers/poles are to be relocated.
- A review of the historical aerials generally indicates the Project Area has been agricultural land/fallow land east of the Santa Cruz River from at least 1936 through 1996 (approximately 60 years). Modern herbicides and pesticides are not chlorinated; however the potential exists for the use of chlorinated products historically within the Project Area. If the Project Area should be developed in the future as residential use, school or a daycare facility, EEC would recommend sampling the soils for chlorinated pesticide compounds.
- At least four wells appear to be within the Project Area according to the ADWR Well Registry Map and the Regulatory Database. No wells were identified during the site reconnaissance. EEC recommends caution during earth disturbance activities and the ADWR notified should transfer of ownership occur for a well.
- A concrete channel and debris was observed on the subject property during the time of the site visit. EEC recommends the debris be removed and properly recycled/disposed of prior to earth disturbance activities.
- Miscellaneous dumping was observed in the Project Area and along the Santa Cruz River and generally consisted of some used tires, landscape debris, wood, and green waste. The dumping does not warrant further investigation, however the material should be removed and properly disposed.

**Attachment 1 – PISA Form**

DRAFT Preliminary Initial Site Assessment

Project No. 4RTSUN TRACS No. n/a

Section I: Site Location Information (See **Attachment 2** - Project Area Map)

Assessor Parcel No. Portions of APNs 101-07-106P, 101-07-106J, 101-07-106H, 101-06-009F, 101-21-0010, 101-18-004A, 101-18-004C, 101-21-009D, 101-21-014C, and 101-21-0130 ADOT Parcel No. n/a

Address/Route & Milepost Property located to the north and south of Sunset Rd, between Interstate 10 and Silverbell Rd, Tucson, Pima County, Arizona

Section 7,8,17 and 18 Township 13S Range 13E 1/4 1/4 1/4

Latitude TP1 32° 18' 23.77" N Longitude 111° 2' 47.04" W  
*(note: lat/long is at the approximate center point of project area)*

Site Characteristics: Past Land Use (See **Attachment 5** - Aerials)

Agriculture X Residential        Commercial X Industrial        Natural X

Vehicle Maintenance:        Chemical Storage:        UST System:       

Septic System:        Water/Dry Well:        Pesticide/Herbicide X X - See Comments

Other: X - Gravel and Sand

<b>Historical Aerial Review</b>		
<b>Date</b>	<b>Description</b>	<b>Source</b>
1936	The project area appears to be primarily agricultural land and is located within the Santa Cruz floodplain. At least two structures (possibly agricultural related) are visible along a dirt road which runs through portions of the project area. Surrounding area is a mixture of agricultural land and native vegetation. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to be a dirt road, Sunset Rd. to the north appears to be a small road between a couple fields, the I-10 appears to be a two-lane road, and the railroad is visible to the east of I-10.	Cooper Aerial
1940's	None available	-
1956	The project area appears to be primarily agricultural/fallow land. At least four structures (possibly agricultural related) are visible on the south side of Sunset Rd. At least 11 agricultural related structures (possibly a dairy farm) north of Sunset Rd. The surrounding area is a mixture of agricultural land and native vegetation. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. appears to now be a dirt road, the I-10 to the east appears to be under construction as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS
1966	No significant changes to the project area from previous aerial. Structures identified along Sunset Rd. also appear similar to the previous aerial. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. remains as a dirt road, the I-10 to the east appears to be completed as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS
1972	The project area is primarily agricultural land/fallow land. At least three structures are now visible on the south side of Sunset Rd. and the agricultural/dairy farm remains visible on the north side of Sunset Rd. The surrounding area is a mixture of agricultural land and native vegetation. A gravel pit is now visible to the south and portions of the pit appear to be within the project area. The Santa Cruz River runs through the project area parallel to Silverbell Rd. Some rural residential development is now visible west of the Santa Cruz River along N. Silverbell Rd. Silverbell Rd. is visible to the west and appears to remain a dirt road, Sunset Rd. remains as a dirt road, the I-10 to the east remains as a four-lane highway, and the railroad is visible to the east of the I-10.	Earth Explorer USGS
1980's	None available	-
1996	The project area is a mixture fallow agriculture within the eastern portion and natural desert within the western portion. At least one agricultural related structure remains on the south side of Sunset Rd. and the agricultural/dairy farm remains north of Sunset Rd. A patch of cultivated trees/agricultural land is on the northwest side of Sunset Rd. At least five residential-type structures are now visible towards the south, west of Silverbell Rd. At least one of these structures appears to be within the project area. The gravel pit activities are no longer visible to the south. The Santa Cruz River runs through the project area parallel to Silverbell Rd. The surrounding area west of the Interstate 10 is a mixture of fallow and graded land. Rural residential development remains visible west of the Santa Cruz River. Silverbell Rd. appears no now be a paved two-lane road, Sunset Rd. remains as a dirt road, the I-10 to the east remains a four-lane highway, and the railroad is visible to the east of the I-10.	Google Earth

2014	A gravel pit is now visible at the approximate center point of the project area and north side of Sunset Rd. A staging area is visible on the southwest corner of Sunset Rd. The previously noted residential structures remain at the southeast portion of Silverbell Rd. The Santa Cruz River runs through the project area parallel to Silverbell Rd. A tree farm is now visible within and adjacent to the northeast portion of the project area. Silverbell Rd. remains a paved two-lane road, Sunset Rd. partly remains a dirt road and is within the sand/gravel mining area, the I-10 to the east remains a four-lane highway, and the railroad is visible to the east of the I-10.	Google Earth
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Review of the historical aerials indicate the Project Area has been agricultural land/fallow land east of the Santa Cruz River and undeveloped land west of the River from at least 1936 through 1996. Active sand and gravel mining within the project area appears to have occurred since at least 1972 through 2014. A dairy farm or similar activity may have been located along the south and north side of Sunset Rd. from at least 1956 through 1996. The 2014 aerial indicates the Project Area is a gravel pit and graded land east of the Santa Cruz River and primarily undeveloped land with some rural residential west of the Santa Cruz River. No environmental concern has been identified from review of the historical aerials.



#### Section IV: Environmental Concerns

- Observed:
- A gravel pit is located within the project area. EEC assumes no debris has been deposited during infill activities and has no evidence to suggest otherwise. However, illegal dumping generally consisting of used tires and debris was noted in the project area and along the Santa Cruz River. See comments.
  - High voltage power lines run along the west side of the Santa Cruz River.
  - At least two TEP pole-mounted transformers were observed along Sunset Rd. and two TEP transformers (one pole-mounted, one pad-mounted) were observed along Silverbell Rd. See comments.
  - One water well was observed near the residential structures located along the southeast portion of Silverbell Rd. The well did not appear to be active. This well was not located during a search of the ADWR Well Registry Map or the ADWR Well Registry Report. See comments.
- 

- Suspected:
- none
- 

- Unusual Conditions:
- Nine CERCLIS are  $\leq 0.2$  east of Interstate 10 and cross gradient from the project area. Due to the distance, separated by the Interstate and direction of groundwater no environmental concern has been identified for the project area. No further action is recommended.
  - Shannon Rd/El Camino del Cerro site is listed as a WQARF and an AZ Superfund site. The Shannon Rd/El Camino del Cerro site plume boundaries are located approximately 0.2-0.4 miles southeast and up gradient from the project area. Due to the distance and the intended use of the project area as connecting roadway between I-10 and Silverbell Rd, no environmental concern has been identified and no further action is recommended.
  - UST removal 10/24/1994 at Sunset Farms located on the adjacent property to the north, no reported leaks or spills. Due to the removal status and no reported leaks or spills at this facility no environmental has been identified. No further action is recommended.
  - One closed LUST site was identified 0.4 miles southeast of the project area. The LUST was closed with soil levels meeting Tier I standards. This closed LUST site is at a great enough distance no to be an issue of concern and no further action is recommended.
  - At least four wells appear to be within the project area according to the ADWR Well Registry Map and the Regulatory Database: well # 604025 owner Pima County Region Flood Control District, Irrigation well; Well # 700502 no owner listed, Non-exempt well/no water use; Well # 591312 owner Kathie Lee Hall, Geotechnical well; and Well #208293 owner WCCS Properties LLC, Domestic well. See comments.
  - Pima County DOT added some fill material to the project area. The material consisted of approximately 33,934 cubic yards of soil and millings from a Pima County roadway project. The deposit of this fill material is not considered an environmental concern and no further action is recommended.
- 

#### Section V: Recommendations

High Priority Phase 1: \_\_\_\_\_ Medium Priority Phase1: \_\_\_\_\_ Low Priority Phase 1: \_\_\_\_\_

No additional survey required:  X  Aerial Photograph Review:  X

Section VI : Comments

- Project Area Map included in **Attachment 2**

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- Regulatory Database included in **Attachment 3** - No environmental concern identified.

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- Site Photos included in **Attachment 4**

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- Aerials included in **Attachment 5**
- Environmental Professional Qualifications in **Attachment 6**

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- At least four TEP owned transformers were observed along Silverbell Rd. and Sunset Rd. None of the observed transformers had PCB tested labels. No indication of leakage was seen during the site visit. If transformers were to leak in the future, TEP should be notified and will be responsible for repair and any cleanup. TEP should be contacted in the event transformers/poles are to be relocated. This is not an environmental concern to the project area.

---

- A review of the historical aerials generally indicates the project area has been agricultural land/fallow land east of the Santa Cruz River from at least 1936 through 1996 (approximately 60 years). Modern herbicides and pesticides are not chlorinated; however the potential exists for the use of chlorinated products historically within the project area. If the project area should be developed in the future as residential use, school or a daycare facility, EEC would recommend sampling the soils for chlorinated pesticide compounds. No environmental concern has been identified for the project area.

---

- A gravel pit is located at the approximate center point of the project area. EEC assumes no debris has been deposited during infill activities and has no evidence to suggest otherwise.

---

- One water well was observed near the residential structures located along the southeast portion of Silverbell Rd. during the time of the site visit. This well was not located during a search of the ADWR Well Registry Map or Report and appears to be located within the project area. EEC recommends caution during earth disturbance activities and the registry to be notified should transfer of ownership occur.

---

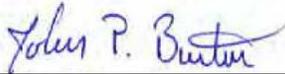
- At least four wells appear to be within the project area according to the ADWR Well Registry Map and the Regulatory Database. EEC recommends caution during earth disturbance activities and the registry to be notified should transfer of ownership occur.

---

- A concrete channel and debris was observed on the subject property during the time of the site visit. EEC recommends the debris be removed and properly recycled/disposed of prior to earth disturbance activities. No further action is recommended.
- Miscellaneous dumping was observed in the project area and along the Santa Cruz River and generally consisted of some used tires, landscape debris, wood, and green waste. The dumping does not warrant further investigation, however the material should be removed and properly disposed

---

- Pima County DOT added some fill material to the project area. The material consisted of approximately 33,934 cubic yards of soil and millings from a Pima County roadway project. The deposit of this fill material is not considered an environmental concern and no further action is recommended.
- No evidence of a dairy dumping area was observed. No further action is recommended.

<i>Consultant Name</i>	<i>John Burton, EEC</i>	<i>Signature</i>		<i>Date</i>	<i>11/5/14</i>
<i>PCDOT/PDEQ Name</i>		<i>Signature</i>		<i>Date</i>	

## **Attachment 2 - Project Area Map**



**Legend**



- Approximate Project Boundaries



- Transformer



- Concrete Channel



- Water Well



- High Voltage Power Lines



- Staging Area



(not to scale)

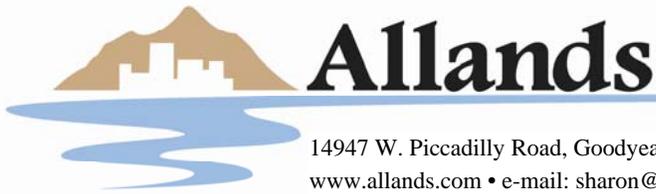


Engineering and Environmental Consultants, Inc.  
4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
Tel: 520.321.4625 | Fax: 520.321.0333

**Project Area Map**

Sunset Rd: Silverbell Rd. to River Rd.  
Tucson, Pima County, AZ

## **Attachment 3 - Regulatory Database**



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www.allands.com • e-mail: sharon@allands.com

Historical Title and Environmental Research

## REGULATORY DATABASE (ASTM) SEARCH

YOUR FILE NO: 13039

ALLANDS FILE NO: 14-09-016D

DATE OF REPORT: September 13, 2014

ALLANDS hereby reports the search results of Federal and State Databases according to ASTM standards for Phase I Environmental Site Assessments E 1527-13. Allands is not responsible for errors in the available records. The total liability is limited to the fee paid for this report. This is a confidential, privileged and protected document for the use of Engineering and Environmental Consultants, Inc..

1. The land referred to in this report is located in Pima County, Arizona, described as follows:

Property located to the North and South of Sunset Road, between Interstate 10 and Silverbell Road, Tucson, Arizona, being in a portion of Sections 7, 8, 17 and 18, Township 13 South, Range 13 East, Gila and Salt River Base and Meridian.

## REGULATORY DATABASE SEARCH SUMMARY

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities
<b>Standard Federal ASTM Environmental Record Sources</b>			
NPL (National Priorities List) / Proposed NPL / DOD (Department of Defense Sites)	07/14	1.0	0
Delisted National Priorities List	07/14	0.5	0
CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP)	01/14	0.5	9
RCRA (Resource Conservation and Recovery Act)	07/14	0.125	0
RCRA – CORRACTS TSDFs (Corrective Action Treatment, Storage, and Disposal Facilities)	07/14	1.0	0
RCRA – Non-CORRACTS TSDFs	07/14	0.5	0
ERNS (Emergency Response Notification System)	07/14	0.125	0
<b>Standard State ASTM Environmental Record Sources</b>			
WQARF (Water Quality Assurance Revolving Fund) Areas	07/14	1.0	1
Superfund Program List (replaces ACIDS)	08/04	0.5	1
Solid Waste Facilities/Landfill Sites – Operating and Closed	05/99 & 05/04	0.5	0
Control Registries	07/14	Site and adjoining	0
Brownfields / Voluntary Remediation Program	01/14	0.5	0
Registered USTs (Underground Storage Tanks) (includes Tribal Records)	03/14	0.125	1
LUSTs (Leaking Underground Storage Tanks) Incident Reports (includes Tribal Records)	03/14	0.5	1
<b>Additional Environmental Record Sources</b>			
RCRA Compliance Facilities	07/14	0.125	0
Hazardous Materials Incidents Emergency Response Logbook	1984-06/01	0.125	0
ADEQ Drywell Registration Database (includes Tribal Records)	07/14	0.125	0
Environmental Permits	07/14	Site	0
Fire Insurance Maps	Various	Site and adjoining	0
Topographical / Aerial Maps	See text	Site and adjoining	2
VEMUR / DEUR / LIENS / DEURTRACKER	07/14	Site	0
DRYCLEANER	06/06	0.125	0
Arizona Department of Water Resources Well Registration Database	04/14	Site and adjoining	See Text

**Allands contacts the appropriate sources on a quarterly basis to maintain currency of data**

## **Standard Federal ASTM Environmental Record Sources**

### **SUPERFUND NATIONAL PRIORITIES LIST (NPL)**

Under Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act the Environmental Protection Agency established a National Priorities List (NPL) of Superfund sites. In addition, Proposed NPL and DOD (Department of Defense) Sites are researched in the section. These databases are provided by the EPA and the Arizona Department of Environmental Quality, dated July, 2014, and searched to identify all NPL/Proposed NPL/ DOD sites within a 1.0 mile search distance from subject property exterior boundaries.

Note: Due to inconsistency between the general area site description in the Narrative site information and the detailed site map, the distance/directions are determined based upon the most current site map available from ADEQ.

No National Priorities List (NPL) / Proposed NPL / DOD Sites were found located within a 1.0 mile search distance from subject property exterior boundaries.

### **DELISTED NATIONAL PRIORITIES LIST**

Site may be delisted from the National Priorities List where no further response is appropriate. This database is provided by the Environmental Protection Agency, dated July, 2014, and searched to identify all Delisted NPL Sites within a 0.5 mile search distance from subject property exterior boundaries.

No Delisted National Priorities List (NPL) Sites were found located within a 0.5 mile search distance from subject property exterior boundaries.

## FEDERAL CERCLIS / NFRAP LIST

The CERCLIS list contains sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. Those sites on the NFRAP list have no further remedial action planned. This database is provided by EPA dated January, 2014, and searched for facilities within a 0.5 mile search distance from subject property exterior boundaries.

EPA ID	NFRAP	FACILITY	ADDRESS	DISTANCE/ DIRECTION
AZD983480328	X	Cowtown Boots	5190 N Casa Grande Hwy	0.5 mi. SE
AZD983480450	X	Kaylor Trailer	5201 N Casa Grande Hwy	0.4 mi. SE
AZD983480229	X	Bingham Equipment Co	5225 N Casa Grande Hwy	0.4 mi. SE
AZD983480591	X	Southwest Glassware	5254 N Casa Grande Hwy	0.4 mi. SE
AZD983480336	X	D& D Enterprises	5266 N Hwy Dr	0.3 mi. SE
AZD983484932	X	Wrecksperts	5280 N Casa Grande Hwy	0.3 mi. SE
AZD983480344	X	Delcron Mechanical, Inc.	5298 N I-10 Frontage	0.3 mi. SE
AZD983479874	X	Cardinal Casting	5300 N Casa Grande Hwy	0.2 mi. SE
AZ0001300136		EC Winters Oil Service - Former	3100 W Curtis Rd	0.5 mi. SE

## RESOURCE CONSERVATION AND RECOVERY ACT FACILITIES (RCRA)

Under RCRA the Environmental Protection Agency compiles a database of facilities that are involved in the generation of hazardous materials. This database is from the Arizona Department of Environmental Quality RCRAInfo Database, dated July, 2014 and checked for Federal RCRA facilities located within a <=0.125 mile search distance from subject property exterior boundaries.

No Federal RCRA handlers were found located within a <=0.125 mile search distance from subject property exterior boundaries.

### CODES:

LQG: Large quantity generator (more than 1000 kg per month)  
 SQG: Small quantity generator (100 – 1000 kg per month)  
 CEG: Conditionally exempt small quantity generator (less than 100 kg per month)  
 N : Not a generator verified or inactive generator

## **CORRACTS FACILITIES**

Under RCRA the Environmental Protection Agency compiles a database of Corrective Action Sites, sites with known contamination. Also known as the RCRA CORRACTS List, this is a list maintained by the EPA of RCRA sites at which contamination has been discovered and where some level of corrective clean-up activity has been undertaken. For example, a site may have been on the RCRA TSD or the RCRA Generators site list, and was placed on the CORRACTS list once contamination was discovered and remediation was underway. This database is dated July, 2014, and checked for facilities which occurred within a 1.0 mile search distance from subject property exterior boundaries.

No Facilities were found which occurred within a 1.0 mile search distance from subject property exterior boundaries.

## **TSD FACILITIES**

Under RCRA the Environmental Protection Agency compiles a database of facilities that are involved in the transportation, treatment, storage, or disposal of hazardous materials. This database is from the Arizona Department of Environmental Quality Arizona Hazardous Waste Treatment, Storage and Disposal Facilities, dated July, 2014, and checked for Facilities which occurred within a 0.5 mile search distance from subject property exterior boundaries.

No TSD Facilities were found which occurred within a 0.5 mile search distance from subject property exterior boundaries.

## **FEDERAL EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) LIST**

The ERNS list is a national database used to collect information on reported releases of oil and hazardous substances. This database is provided by the National Response Center and the EPA through the Right of Know Net by OMB Watch and Unison Institute from 1983 to July, 2014, and checked for incidents located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

No incidents were found located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

## Standard State ASTM Environmental Record Sources

### WATER QUALITY ASSURANCE REVOLVING FUND (WQARF)

The state of Arizona established a remedial program under A.R.S. 49-282 to facilitate the conservation and clean-up of Arizona drinking water and water sources. Under the authority of the WQARF program, the state actively identifies any actual or potential impact upon state waters, evaluates the extent of contamination, identifies parties responsible, and provides money grants to assist in clean-up activities. This database is provided by the Arizona Department of Environmental Quality dated July, 2014, and searched to identify all WQARF sites within a 1.0 mile search distance from subject property exterior boundaries.

Note: Due to inconsistency between the general area site description in the Narrative site information and the detailed site map, the distance/directions are determined based upon the most current site map available from ADEQ.

Shannon Road/El Camino del Cerro (formerly the El Camino del Cerro WQARF Site and Shannon Road-Rillito Creek) WQARF Site boundaries are located 0.2 mi. East of subject property. More information attached here:

[http://www.azdeq.gov/enviro/waste/sps/Shannon\\_Road\\_El\\_Camino\\_del\\_Cerro.html](http://www.azdeq.gov/enviro/waste/sps/Shannon_Road_El_Camino_del_Cerro.html)

### ARIZONA SUPERFUND PROGRAM LIST

The Arizona Superfund Program List replaces the Arizona CERCLIS Information Data System (ACIDS). This list is more representative of the sites and potential sites within jurisdiction of the Arizona Department of Environmental Quality Superfund Programs Section (SPS). This database is provided by the Arizona Department of Environmental Quality, dated August, 2004, and searched to identify all sites within a 0.5 mile search distance from subject property exterior boundaries.

SITE	PROGRAM	PROGRAM STATUS	PROGRAM DATE	DISTANCE/DIRECTION
El Camino del Cerro	WQARF	PENDING PI ON REGISTRY	04-29-97 08-18-98	0.2 mi. East

Program Status codes:

Pending PI      WQARF Preliminary Investigation (PI) is scheduled or in process  
On Registry     PI has resulted in inclusion of a site on the WQARF Registry  
ACTIVE          The Department of Defense is presently addressing the site  
On NPL          site has been listed on the CERCLA National Priorities List

## **LANDFILLS**

The state of Arizona maintains listings of closed and permitted, operating landfills and solid waste dump sites. Lists of closed facilities are not necessarily complete - older dumping areas may not be documented. This database is from the Arizona Department of Environmental Quality Waste Programs Division; Solid Waste Section Directory of Arizona Active and Inactive Landfills dated May, 1999 and May, 2004, and checked for active and inactive landfills located within a 0.5 mile search distance from subject property exterior boundaries.

No active nor inactive landfills were found located within a 0.5 mile search distance from subject property exterior boundaries.

### **Codes:**

**MSWLF:       Municipal Solid Waste Landfills**  
**CSWLF:       Closed Solid Waste Landfills**  
**CSWOD:      Closed Solid Waste Dumps**

## **CONTROL REGISTRIES**

Under ASTM E 1527-13, Federal, State and Tribal institutional control / engineering control registries need to be researched. The Arizona Department of Environmental Quality has developed the AZURITE Database, reviewed through ADEQ GIS eMaps, which retrieves any institutional or engineering controls, dated July, 2014, and searched for sites which occurred at subject property or adjoining properties.

No institutional or engineering controls were found which occurred at subject property or adjoining properties.

## **BROWNFIELDS / VOLUNTARY CLEANUP PROGRAM**

The Arizona Department of Environmental Quality has developed the AZURITE Database, reviewed through ADEQ GIS eMaps, which includes the ADEQ Voluntary Remediation Program and the ADEQ Brownfields Tracking System, dated January, 2014, and searched for sites which occurred within a 0.5 mile search distance from subject property exterior boundaries.

No brownfield sites were found which occurred within a 0.5 mile search distance from subject property exterior boundaries.

## REGISTERED UNDERGROUND STORAGE TANKS (UST)

State (A.R.S. 49-1001 to 1014) and Federal (RCRA Subtitle I) laws require that persons who own or have owned underground storage tanks containing “regulated substances” complete a notification form and register the tank with the state. Tribal UST records are researched when subject property exterior boundaries are within search distance of Tribal lands. This database is from the Arizona Department of Environmental Quality UST Log dated March, 2014, and searched for UST sites located within a <=0.125 mile search distance from subject property exterior boundaries.

Facility ID	Facility Name	Address	Tank No	Tank Inst Date	Closure Type	Closure Date
0-002883	Sunset Farms	3800 W Sunset Rd	1	5/3/1984	Removal	10/24/1994

### DETAILS

NOTE: Details section is from the ADEQ 2003 UST list, newer lists do not provide this information.

Facility Id	Facility		Owner Id	Owner	
Tank No.	Status	Content	Capacity	Age	Tank Material
Tank Release Detection		Pipe Material	Piping Type		Pipe Release Detection

0-002883 **Sunset Farms** Pima Co. 554 Knapp Family Trust  
 3800 W Sunset Rd ,Tucson AZ 85743  
 1 REMV Diesel 10000 Galvanized Steel Suction: Check

**REGISTERED LEAKING UNDERGROUND STORAGE TANKS  
(LUST)**

Owners of USTs are required to report to the Arizona Department of Environmental Quality any and all releases of tank contents for which ADEQ maintains an ongoing file documenting the nature of contamination and the status of each such incident. Tribal LUST records are researched when subject property exterior boundaries are within search distance of Tribal lands. This database is from the ADEQ LUST Log dated March, 2014, and searched for LUST sites located within a 0.5 mile search distance from subject property exterior boundaries.

<b>ID</b>	<b>LUST ID NO</b>	<b>FACILITY</b>	<b>ADDRESS</b>	<b>DATE OPEN</b>	<b>DATE CLOSED</b>	<b>P CODE</b>	<b>DIST./ DIREC.</b>
0-004850	1194.01	Tanner #1 Tpac Division	5175 N Casa Grande Hwy	3/22/1990	3/5/1999	5R1	0.4 mi. SE

P CODE (Leaking UST Priority):

5R1	Closed soil levels meet RBCA Tier 1
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## **Additional Environmental Record Sources**

### **RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) COMPLIANCE FACILITIES**

The RCRA Compliance Log lists facilities that have been or presently are under investigation for non-compliance with RCRA regulations. Inclusion of any facility on this list indicates a history of compliance problems and RCRA regulatory violation. This database is from the Arizona Department of Environmental Quality RCRA Compliance Log, dated July, 2014, and searched for compliance facilities within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

No compliance facilities were found located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

### **HAZARDOUS MATERIAL INCIDENTS**

The Arizona Department of Environmental Quality (ADEQ) Response Team documents spills and incidents involving hazardous materials that are reported to the unit. This database is from the Arizona Department of Environmental Quality Emergency Response Log from 1984 through June, 2001, and checked for hazardous material incidents located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

No hazardous material incidents were found located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

## **ADEQ DRY WELL REGISTRATION DATA BASE**

Dry wells are constructed for the purpose of collecting storm waters. Dry wells are required to be registered with ADEQ. Tribal Drywell records are researched when subject property exterior boundaries are within search distance of Tribal lands. This database is from the ADEQ dry well registration database dated July, 2014, and searched for dry wells located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

No registered dry wells were found located within a  $\leq 0.125$  mile search distance from subject property exterior boundaries.

## **ENVIRONMENTAL PERMITS**

These lists include Groundwater Permits, Reuse Permits; National Pollutant Discharge Elimination System (NPDES) Permitted Facilities and Aquifer Protection Permits. Any facility which discharges a material that directly or indirectly adds any pollutant to the waters of the state may be required to obtain a permit as required by the Aquifer Protection Permit Rules. These databases are from the Arizona Department of Environmental Quality through its AZURITE Database System and the Environmental Protection Agency and updated to July, 2014, and checked for inclusion of subject property.

Subject property was not found on these lists.

## **FIRE INSURANCE MAPS**

A review was made at the Arizona State Capital Archives for Fire Insurance Maps, more commonly known as Sanborn Maps, which covered the area in which the subject property is located. Subject property is not located within the boundaries of available maps.

## **USGS 7.5 MINUTE TOPOGRAPHICAL MAPS AERIAL PHOTOS**

The United States Geological Survey Topographic maps and Aerial Photos are derived from Terrain Navigator Software from My Topo, a Trimble Company. ([www.mytopo.com](http://www.mytopo.com)) and are for informational purposes only.

<b>NAME</b>	<b>TYPE</b>	<b>DATE</b>	<b>REVISION</b>	<b>CONTOUR INTERVAL</b>
Jaynes	Topo	1968	1975	20 feet
Bing	Aerial	2014		

**VOLUNTARY ENVIRONMENTAL MITIGATION USE RESTRICTIONS BY OWNERS (VEMUR'S); DECLARATION OF ENVIRONMENTAL USE RESTRICTIONS (DEUR); AND ENVIRONMENTAL LIENS**

A.R.S. 49-152. This states that the Director of the Arizona Department of Environmental Quality shall allow property owners, who have voluntarily elected to remediate their property for nonresidential uses, to record in the applicable county recorder's office a VEMUR limiting, by legal description, the area necessary to protect public health and the environment to nonresidential uses if contamination remains on the property at or above certain levels. In accordance with Arizona Administrative Code (A.A.C.) R18-7-201 et. Seq., a Declaration of Environmental Use Restriction (DEUR) is a voluntary notice to deed which restricts the use of a property to non-residential use. ADEQ maintains a repository listing of sites remediated under programs administered by the department. This is called the Remediation and DEUR Tracking System (RDT) ADEQ's RDT was researched for inclusion of subject property.

No VEMUR'S, DEUR'S; nor Environmental Liens were found listed for subject property.

**DRYCLEANERS**

The Drycleaners Inventory List summarizes current and historic dry cleaners sites throughout the state of Arizona and is not all inclusive. This database is from the Report for the Arizona Department of Environmental Quality Dry Cleaners Inventory Project, dated June, 2006, and searched for dry cleaners sites located within a <=0.125 mile search distance from subject property exterior boundaries.

No drycleaners were found located within a <=0.125 mile search distance from subject property exterior boundaries.

## ARIZONA DEPARTMENT OF WATER RESOURCES WELL REPORT

This database is from the Arizona Department of Water Resources Well Report Operations Division Report, dated April, 2014. This report identifies existing wells sequenced by legal description and checked for inclusion of subject site and adjacent properties within 10 Acres.

Imaged Records are available at: <http://www.water.az.gov/adwr/Content/ImagedRecords/default.htm>

### Water Uses (WU)

A Irrigation  
 B Utility (Water Co.)  
 C Commercial  
 D Domestic  
 E Municipal  
 F Industrial  
 G Recreational  
 H Remediation  
 I Mining  
 J Stock  
 K Other - Exploration  
 L Drainage  
 M Monitoring  
 N None  
 O Other - Non-Production  
 P Remediation  
 R Recharge  
 T Test  
 U Unknown  
 V Dewatering

### Legal Description

T Township  
 N/S North or South  
 R Range  
 E/W East or West  
 S Section  
 Q1 Quarter of Section (160 Acres)  
 Q2 Quarter Quarter of Section (40 Acres)  
 Q3 Quarter Quarter Quarter of Section (10 acres)  
 ID Well Registration Number  
 WD Well Depth  
 WL Water Level  
 DIA Casing width

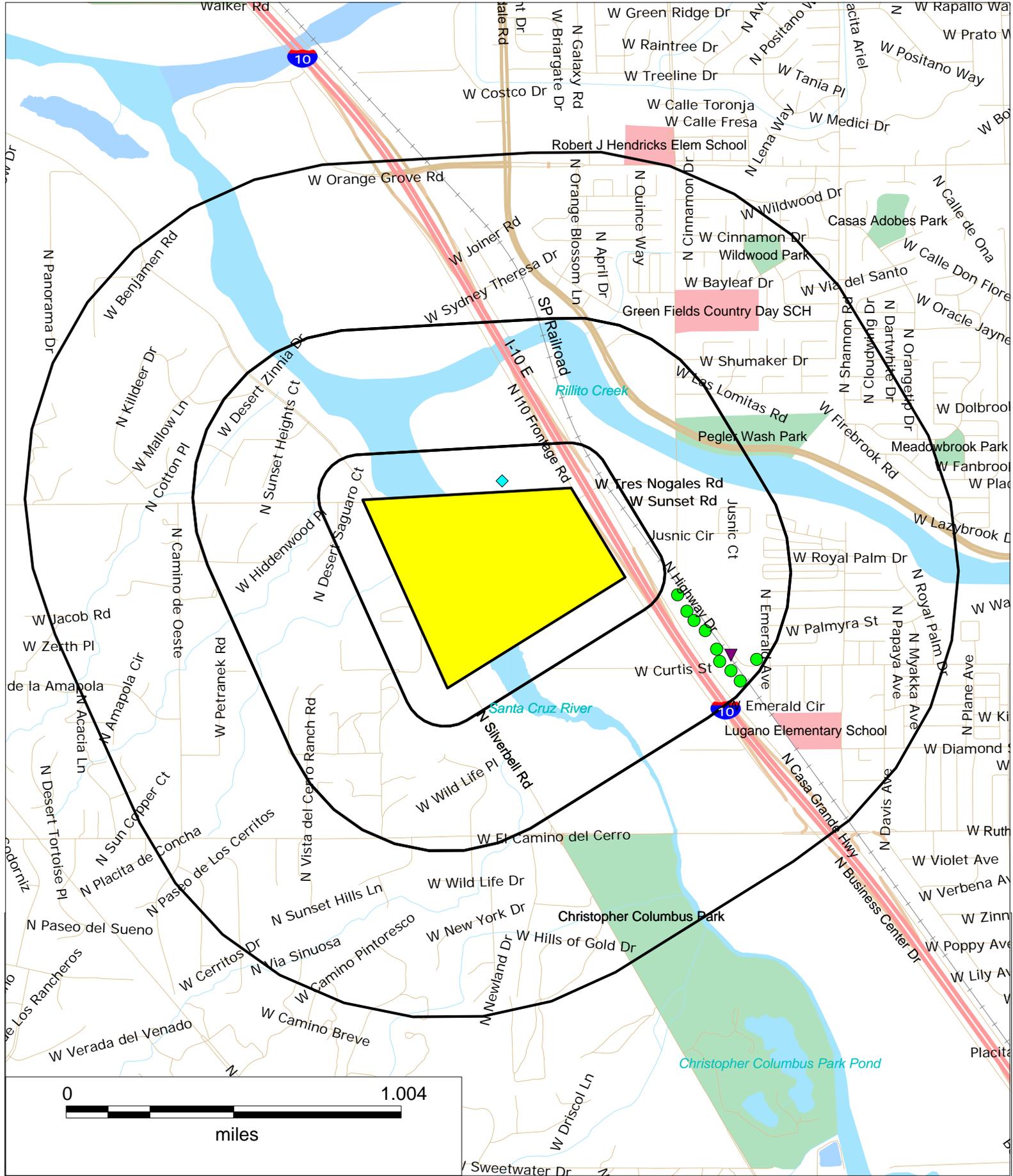
ID	T	N/S	R	E/W	S	Q1	Q2	Q3	WU	WD	WL	DIA	Name
566755	13	S	13	E	7				N	145	90		Arizona Department Of Transportation
218270	13	S	13	E	7								Cal Portland
508852	13	S	13	E	7				N	0	0	0	Western Technologies,
700511	13	S	13	E	7	SE	SE	SE	N			8	
520135	13	S	13	E	7	SE	SE	SW	M	140	94	14	Pima County Water Reclamation Dept
700454	13	S	13	E	7	SE	SE	SW		44		24	
513683	13	S	13	E	7	SW	SE	SE	D	540	380	6	Bartunek, Mike,
906898	13	S	13	E	7	SW	SE	SE	M	235	121	17	Pima County Water Reclamation Dept.
800600	13	S	13	E	7	SW	SE	SE	D	218	136	8	Hoffman
566754	13	S	13	E	8				N				Arizona Department Of Transportation
567336	13	S	13	E	8				N				Arizona Department Of Transportation
700531	13	S	13	E	8				D	300		12	
634004	13	S	13	E	8				D	0	0	0	Pima County,
638960	13	S	13	E	8				D	220	110	8	Henerfauth, William,J

**ARIZONA DEPARTMENT OF WATER RESOURCES  
WELL REPORT (cont.)**

ID	T	N/S	R	E/W	S	Q1	Q2	Q3	WU	WD	WL	DIA	Name
700512	13	S	13	E	8				D			20	
801056	13	S	13	E	8	SW			D	301	96	12	Pima County,
621531	13	S	13	E	8	SW			D	120	120	12	Linson,L P
604023	13	S	13	E	8	SW	SW	SW	F	0	0	12	
700458	13	S	13	E	8	SW	SW	SW	N	85		8	
700562	13	S	13	E	17								
904503	13	S	13	E	17				N	120			ADOT
700491	13	S	13	E	17				D	32			
700492	13	S	13	E	17					200			
700493	13	S	13	E	17				D	101		6	
700494	13	S	13	E	17				D	161		8	
700495	13	S	13	E	17					140		8	
700500	13	S	13	E	17	NE	NW	SW	D	225		12	
619841	13	S	13	E	17	NE	NW	SW	E	230	104	10	Tucson, City Of,
546425	13	S	13	E	17	NE	NW	SW	M	0	0	0	Pima Cty Solid Waste,
700499	13	S	13	E	17	NE	NW	SW	D	150		8	
501063	13	S	13	E	17	NE	SW	NW	D	249	106	9	ADOT
590631	13	S	13	E	17	NE	SW	NW	T	134	128		Western Stucco
597305	13	S	13	E	17	NE	SW	NW					ADEQ
907263	13	S	13	E	17	NE	SW	NW	M	200		4	Arizona Department Of Environmental Quality
807222	13	S	13	E	17	NE	SW	NW	N	102	0	6	Motes, Marvin,
906717	13	S	13	E	17	NE	SW	NW	M	180	151	4	Pima County Department Of Environmental Quality, Solid Waste
700502	13	S	13	E	17	NW			N	121		16	
803437	13	S	13	E	17	NW	NE	NE	A	360	95	12	Hotchkiss, William,
803438	13	S	13	E	17	NW	NE	SE	D	0	0	8	Hotchkiss, William,
803440	13	S	13	E	17	NW	NE	SE	D	0	0	12	Hotchkiss, William,
803439	13	S	13	E	17	NW	NE	SE	D	140	96	5	Hotchkiss, William,
604024	13	S	13	E	17	NW	NE	SE	A	400	58	20	Cpc Arizona Holdings, Inc
208293	13	S	13	E	17	NW	NW	SW	D				Wccs Properties Llc
700503	13	S	13	E	17	NW	SE		N	127		6	
700504	13	S	13	E	17	NW	SE	SE		315		16	Bays
604027	13	S	13	E	17	NW	SE	SE	A	329	120	16	Cpc Southwest Materials Inc
510904	13	S	13	E	17	NW	SE	SE	A	350	96	16	Cpc Southwest Materials Inc
591312	13	S	13	E	17	NW	SW	NW	N	134	128		Hall

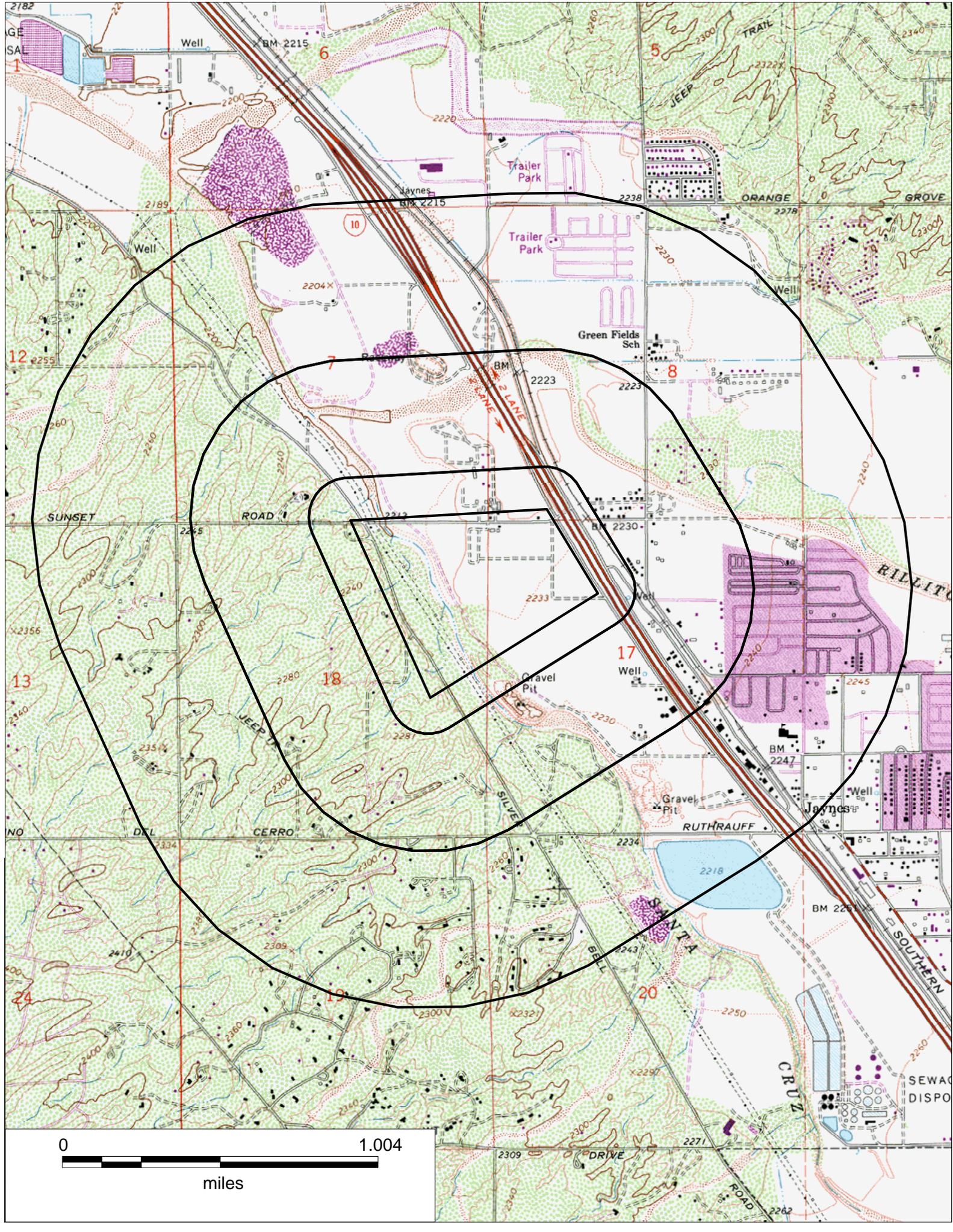
**ARIZONA DEPARTMENT OF WATER RESOURCES  
WELL REPORT (cont.)**

ID	T	N/S	R	E/W	S	Q1	Q2	Q3	WU	WD	WL	DIA	Name
521329	13	S	13	E	17	SW	NE	NW	T	167	111	12	Pima County Wastewater Management Department
804680	13	S	13	E	18				D	0	0	6	Baker
803941	13	S	13	E	18				D	0	0	0	Wade
636345	13	S	13	E	18				D	264	190	8	Geissler,K H
700521	13	S	13	E	18				D	202		6	
604025	13	S	13	E	18	NE	NE	SW	A	50	20	16	
578822	13	S	13	E	18	NE	NW	NW	D	225	120	5	Walker
700522	13	S	13	E	18	NE	SW	NE	D	115		8	White
800579	13	S	13	E	18	NE	SW	NE	D	138	0	8	Wilkins,N
513749	13	S	13	E	18	NE	SW	NW	D	350	205	8	Loya
513780	13	S	13	E	18	NE	SW	NW	D	400	280	8	Do, Quy Bai,
638841	13	S	13	E	18	NE	SW	SE	D	285	130	8	Sligar,W L
633103	13	S	13	E	18	NE	SW	SW	D	301	150	8	Borders,S L
203469	13	S	13	E	18	SE	NW	NE	D	334	175	5	Ball



**LEGEND**

	<b>SITE</b>	USTs	CERCLA / NFRAP	RCRA (Generators, TSD & CORRACTS TSD)	SCHOOL
	LUSTs	LANDFILLS	RCRA COMPLIANCE		



2182

GE  
SAL

1

12

13

24

NO

24

0

1.004

miles

Well

BM 2215

6

Well

Jaynes  
BM 2215

Trailer Park

ORANGE

GROVE

Green Fields Sch

8

SUNSET

ROAD

BM 2223

BM 2230

17

Well

Gravel Pit

RILLITO

18

JEEP TRAIL

SILVER

Gravel Pit

RUTHRAUFF

Jaynes

BM 2247

Well

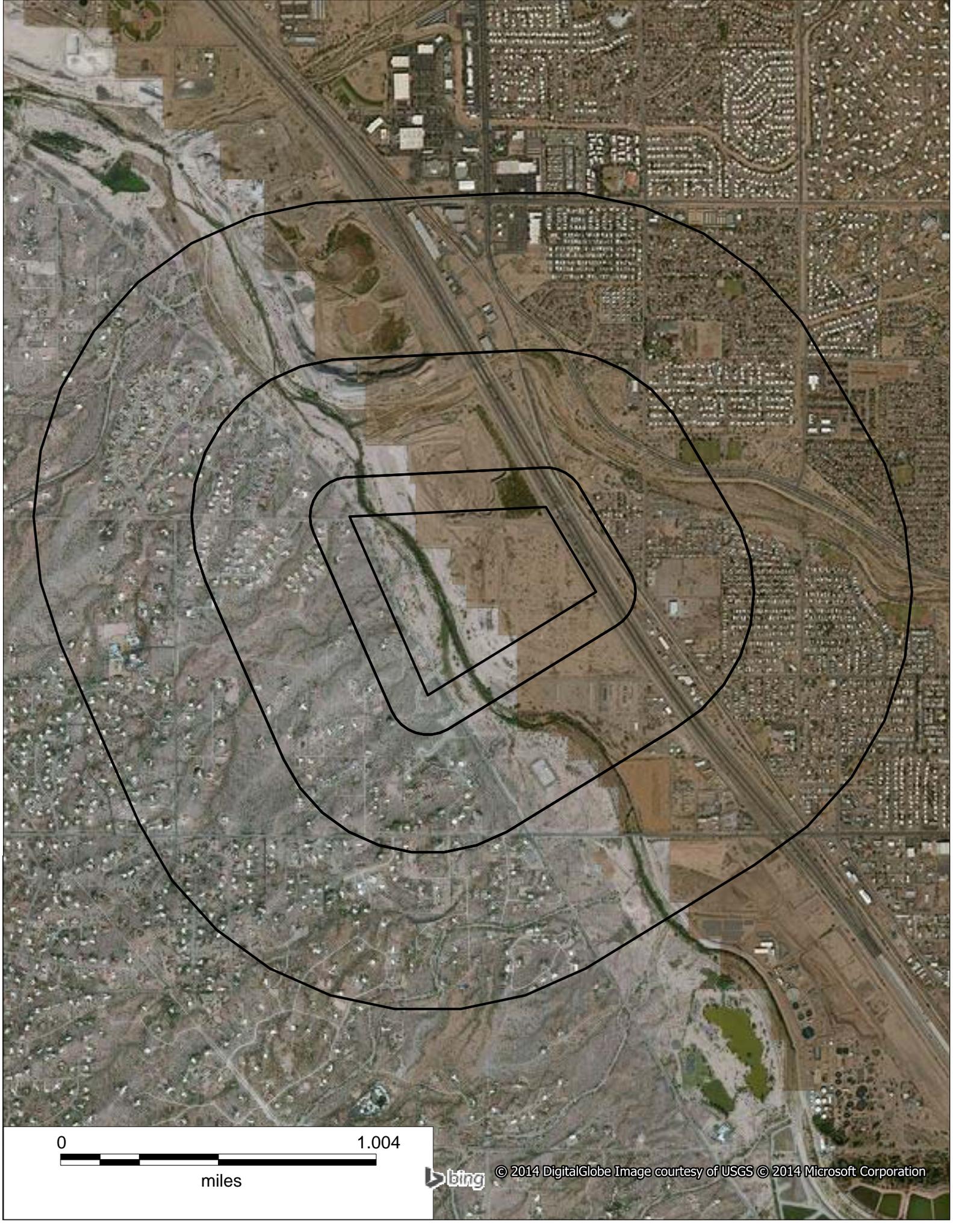
CERRO

2218

BM 2247

Well

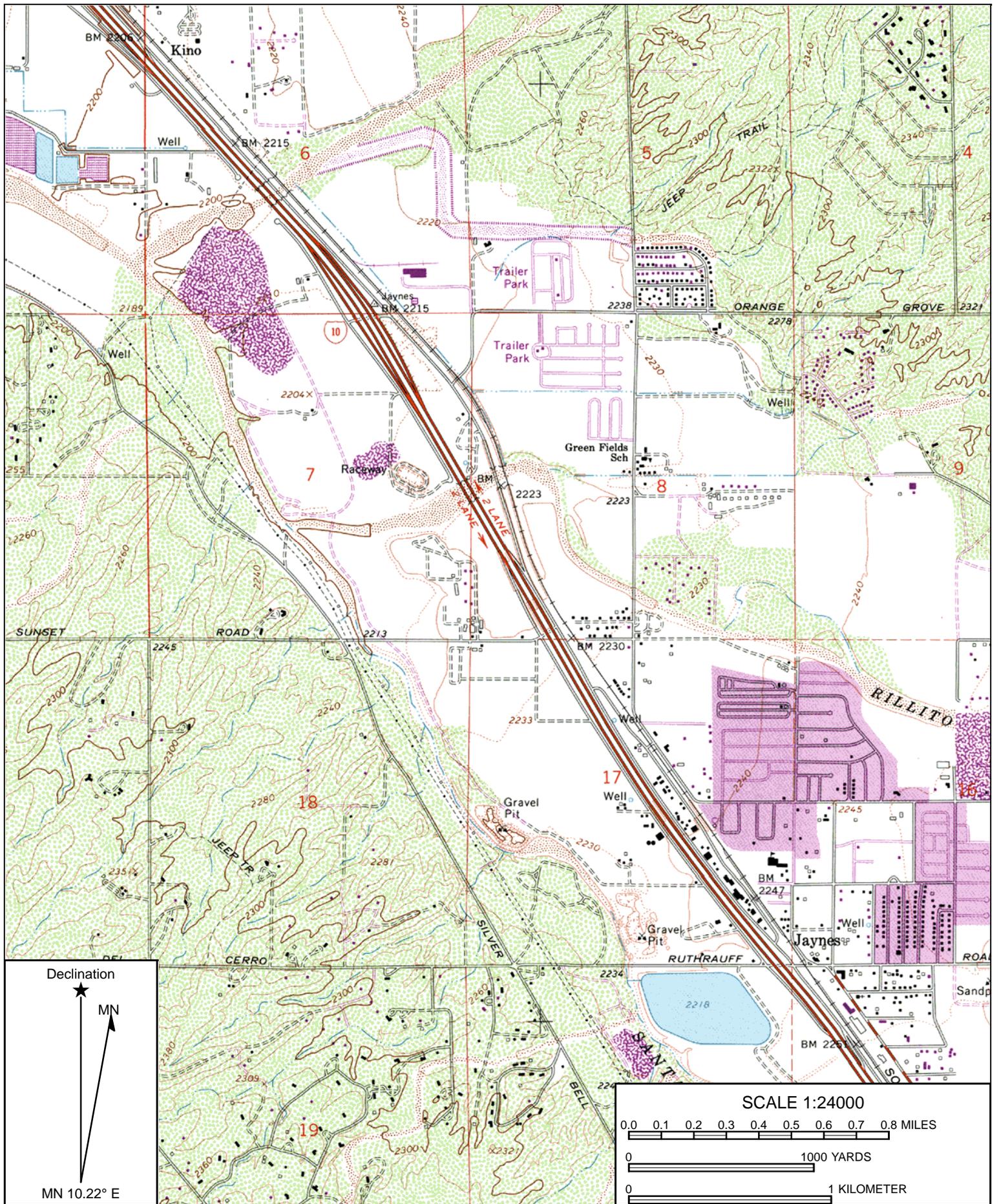
BM



0 1.004  
miles



© 2014 DigitalGlobe Image courtesy of USGS © 2014 Microsoft Corporation



Name: JAYNES  
 Date: 09/13/14  
 Scale: 1 inch = 2,000 ft.

Location: 032° 18' 36.64" N 111° 02' 38.06" W  
 2014-09-016



14947 W. Piccadilly Road, Goodyear, AZ 85395 • Phone: 623-535-7800 • Fax: 623-535-7900  
www.allands.com • e-mail: sharons@allands.com

Historical Title and Environmental Research

**TITLE AND JUDICIAL RECORDS FOR ENVIRONMENTAL LIENS AND  
ACTIVITY AND USE LIMITATIONS; VOLUNTARY ENVIRONMENTAL  
MITIGATION USE RESTRICTIONS BY OWNERS (VEMUR) AND  
DECLARATION OF ENVIRONMENTAL USE RESTRICTIONS (DEUR)**

YOUR FILE NO: 13039

ALLANDS FILE NO: 2014-09-016E

Date of Report: September 14, 2014

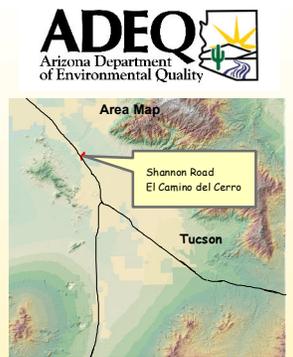
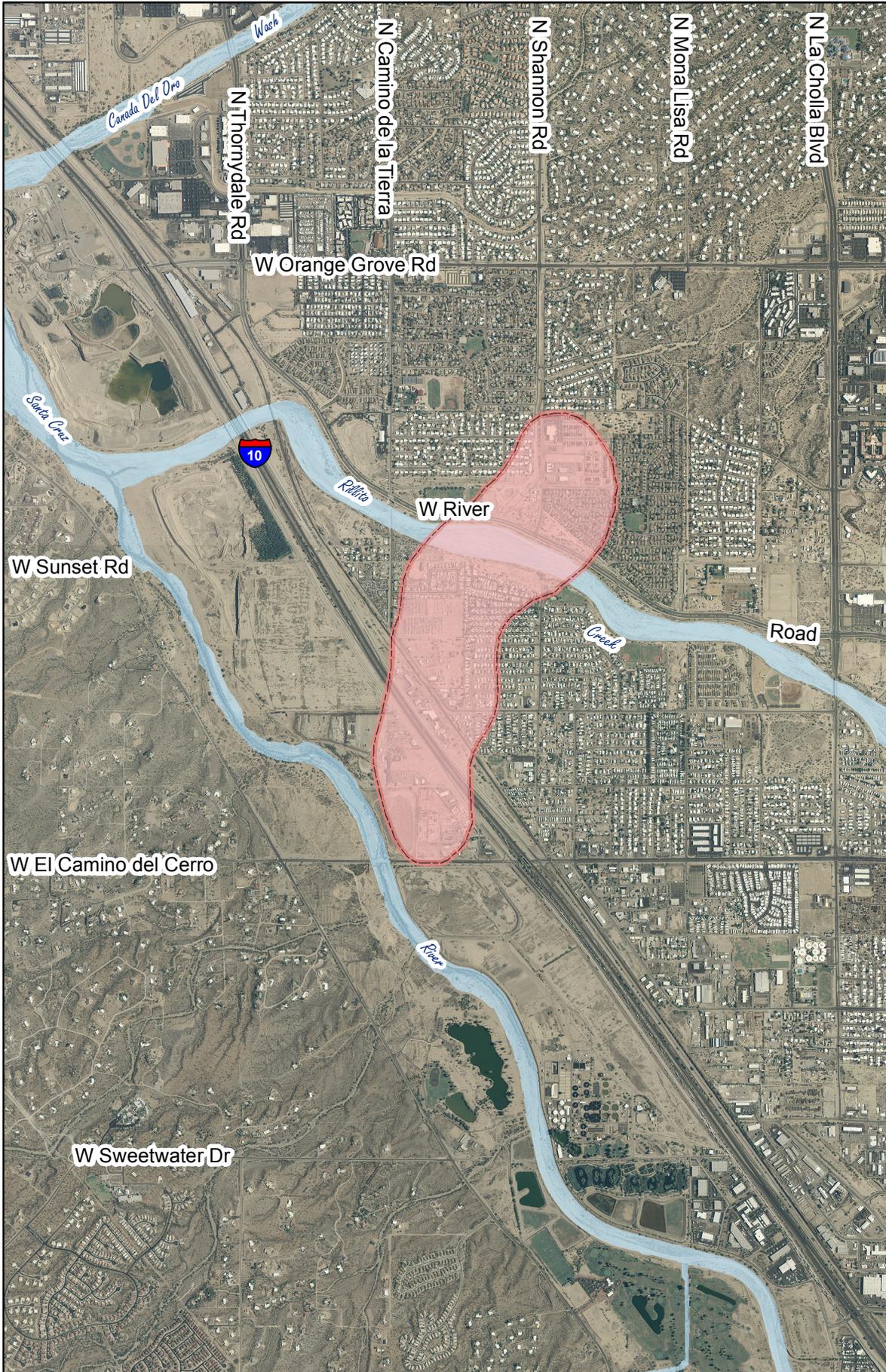
Title Plant Date\*\*\*: September 11, 2014

\*\*\*The Title Plant Date reflects the most current data made available by the information sources used at the time the research was performed.

ALL LANDS hereby presents an Environmental Search Report to the land described below. The total liability is limited to the fee paid for this report. Allands is not responsible for errors in the available records. The total liability is limited to the fee paid for this report. This is a confidential, privileged and protected document for the use of Engineering and Environmental Consultants, Inc..

1. The land referred to in this report is located in Pima County, Arizona.
2. Property to the North and South of Sunset Road between I-10 and Silverbell Road, Tucson, AZ
3. No VEMUR'S, DEUR'S; Environmental Liens, Brownfields, institutional controls, engineering controls, or activity and use limitations, if any, were found currently recorded against the property as searched at the subject county recorder's office.

# Shannon Road/El Camino del Cerro WQARF Site - Tucson, Arizona



**Legend**

 Estimated Plume Boundary



**Map Date: July, 2012**

**WASTE PROGRAMS DIVISION  
GIS and Data Management Unit**

Map produced by Arizona Department of Environmental Quality (ADEQ), GIS and Data Management Unit, TS Summers

S:\gisdev\ts3\superfund\2012.5\tucson\WQARF\shannon\_camino\projects\2012.5\ShannonElCamino2012.5.mxd  
web name:shannonmap

Data Sources:  
Arizona Department of Environmental Quality  
Arizona Land Resources Information System,  
Arizona Department of Transportation,  
Image: StateWide

*"Site boundaries depicted on the site map represent ADEQ's interpretation of data available at the time the map was constructed. The map is intended to provide the public with basic information as to the estimated geographic extent of known contamination as of the date of map production. The actual extent of contamination may be different. Therefore, the geographic boundaries for this site may change in the future as new information becomes available."*



Air Quality

Waste Programs

Water Quality



Our mission is to protect and enhance public health and the environment

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<a href="#">Community Involvement Activities</a>	<a href="#">Public Health Impact</a>	<a href="#">Site Hydrogeology</a>
<a href="#">Contacts</a>	<a href="#">Public Meeting Calendar</a>	<a href="#">Site Map</a>
<a href="#">Contaminants</a>	<a href="#">Public Notice Calendar</a>	<a href="#">Site Status Update</a>
<a href="#">Online Information Repository</a>	<a href="#">Site History</a>	

The Shannon Road/El Camino del Cerro site is located in northwest Tucson, Arizona and is bounded approximately by Orange Grove Road on the north, Meadowbrook Park on the east (north of the Rillito River), Shannon Road on the east (south of the Rillito River), El Camino del Cerro Road on the south and Camino de la Tierra and the Santa Cruz River on the west. The site consists of industrial and residential properties to the northeast of Interstate 10 (I-10). Also, the closed El Camino del Cerro Landfill occupies approximately 20 acres of land in the southwest portion of the site, north of El Camino del Cerro Road between the Santa Cruz River and I-10.

The plume geographic boundaries depicted on the [site map](#) represent the Arizona Department of Environmental Quality's (ADEQ) interpretation of data available at the time the map was constructed. The map is intended to provide the public with basic information as to the estimated extent of known contamination as of the date of map production. The actual extent of contamination may be different. Therefore, the plume boundaries may change in the future as new information becomes available.

**Site Status Update:**

As of the end of June 2013, the [Metropolitan Domestic Water Improvement District](#) (Metro Water) South Shannon [Wellhead Granular Activated Carbon](#) (GAC) treatment system has treated 1337 million gallons of water and removed approximately 272 total pounds, or 123.5 kilograms, of [volatile organic compounds](#) (VOCs).

The water levels in some of the [monitor wells](#) on the site are steadily decreasing and some wells no longer have sufficient water to sample. The possibility of more wells going dry in the near future exists if the current trend of water level decline continues.



Metro Water's South Shannon well and water tank

**Community Involvement Activities:**

A joint [community advisory board](#) (CAB) was formed in October 2000. The CAB was combined at that time to include both the El Camino del Cerro WQARF site and Shannon Road-Rillito Creek WQARF site, which were separate WQARF sites until fall 2004. Details of meeting [agendas](#) and minutes can be viewed at the ADEQ website. These meetings are open to the public.

**Site History:**

**1950's - 1974:** The E.C. Winter Oil property was a used oil recycling facility from the 1950s until 1974. The property has been a mixed use (industrial/commercial/residential) property since the cessation of the E.C. Winter operation.

**1993:** VOCs were detected in the City of Tucson (COT) Z-006A Water Supply Well, and this well was taken out of the [Tucson Water](#) distribution system. This well is currently used as a monitor well.

**1994:** VOCs were detected in Metro Water's South Shannon Well and in the Acacia Gardens Mobile Home Park Water Supply Well. Metro Water designated the South Shannon Well as a backup well, and the water drawn from it was blended with the water from two other wells prior to distribution.

**1995 - 2000:** In June 1995, the [Pima County Health Department](#) tested residents on the Arizona Wrecksperts property, formerly the AMRI Oil facility for [lead](#). The children on site had elevated blood lead levels, and the residents moved off site until April 1996. From February to April 1996, ADEQ's [Site Assessment Unit](#) conducted an initial investigation and a soil removal action at the Arizona Wrecksperts property, after a black, tar-like substance was found on the property. Soil contaminated by lead and waste oil was removed and replaced with clean backfill. Additional investigations were conducted to monitor the residents' lead levels and to determine if the contamination impacted groundwater.



Excavation conducted at the Former E. C. Winter Property

In 1995, Acacia Gardens Mobile Home Park was connected to Tucson Water. In 1997, the owners

of Acacia Gardens installed a wellhead treatment system for their well and operated their system until December 2000.

In September 1996, [Pima County](#) began the operation of a pilot landfill gas mitigation system flare. This system utilized a series of gas [extraction wells](#) that removed landfill gasses from the El Camino del Cerro Landfill to a flare where they were burned off.

In May 1997, ADEQ completed the installation of five [soil vapor](#) monitoring wells in the area of the El Camino del Cerro Landfill. In June 1997, Metro Water completed the installation of a wellhead treatment system for the South Shannon Well.

In December 1997, Pima County completed the El Camino del Cerro Study Area Landfill and Groundwater [Operable Unit feasibility study](#) (FS) reports. Addendums to the reports were issued by Pima County in 1999. Subsequent landfill cleanup utilized vapor extraction wells and the extracted gas was piped to a biomass filter. Between 20 and 40 pounds of VOCs were removed each week when this system was operating. The system eventually reached a state of ineffective mass removal and Pima County shut down the system to let the landfill [soil gas](#) return to equilibrium.

The El Camino del Cerro site was placed on the [WQARF Registry](#) in August 1998 with a score of 71 out of a possible 120. In April 1999, the Shannon Road-Rillito Creek site was placed on the [WQARF Registry](#) with a score of 53 out of a possible 120.

**2001:** In February, lead-contaminated soil was found in the southeast corner of Western Trailer Park property, formerly part of AMRI Oil property. The lot was unoccupied, so there was no risk to residents. Additional soil and groundwater tests were conducted to further determine the extent of the contamination and any potential risks it may pose.

A site investigation of the former E.C. Winter Oil property was completed and an engineering evaluation/cost analysis was issued in June. In the fall, ADEQ excavated surface and near-surface contaminated soil for disposal in a permitted landfill. Also, the Acacia Gardens Well was abandoned. The mobile home park is currently being supplied water from the COT.

**2004 - 2006:** [Remedial investigations](#) (RIs) were conducted by Pima County in the vicinity of the El Camino del Cerro Landfill and northeast of I-10. The RI included characterization of the nature and extent of groundwater contamination, evaluation of [aquifer](#) characteristics near the landfill, and characterization of the composition of the landfill gas. Available data showed that there was a single plume and supported the combining of the El Camino del Cerro and Shannon Road-Rillito Creek WQARF sites into one site. The El Camino del Cerro and Shannon Road-Rillito Creek WQARF sites were administratively combined into one site, the Shannon Road/El Camino del Cerro WQARF site, in the fall of 2004 based on these sampling results.



**Upgrading the Treatment System  
at the South Shannon Well**

An ADEQ study to determine the vertical extent of the groundwater contamination within contaminated wells at the site was conducted. The data gathered were used to develop future monitor well designs.

An extensive passive soil gas survey was conducted south of Rillito Creek along the east side of I-10 to screen for potential sources of the groundwater contamination. The survey did not indicate that a significant source for the groundwater contamination exists in this area. Additional active soil vapor investigations at the former E.C. Winter Oil and AMRI Oil properties were also completed because these properties had the highest passive soil gas results. The data gathered from these investigations were analyzed to determine the significance of these potential source areas and any risks they may pose. In June 2006, a [soil vapor extraction](#) (SVE) system was installed at the former E.C. Winter Oil property and began operating to remove VOCs in the soil. The system was expected to operate for one to two years alternating on and off for six month periods.

The effectiveness of the treatment system at Metro Water's South Shannon Well was diminishing as VOC concentrations increased in the well water. An FS of upgrading the system was performed. The treatment system was shut down from April 2004 through June 2006 and upgraded with two large GAC filters. Five additional groundwater monitor wells were installed in winter 2006 to further evaluate the groundwater on the Arizona Wrecksperts property.

**2007:** Five new monitor wells were installed at the site in the early summer. A soil removal action was completed at the former AMRI Oil facility in the spring and summer. A total of 1,600 tons of lead-contaminated soil were removed from the eastern portion of the former Wrecksperts and Western Trailer Park properties. In addition, a number of soil samples were collected on the western portion of the former Wrecksperts property that previously contained waste oil pits in order to complete a human health risk assessment. This risk assessment indicated that there is no unacceptable risk associated with the soils at the former Wrecksperts property.

**2008:** Four additional monitor wells were installed in January. These wells were designed to more fully define the extent of contamination and to replace some wells that have gone dry. Three of the new monitor wells will also serve as "sentinel" wells for monitoring possible contaminant migration toward Metro Water wells. Data gathered from these new wells will be used to complete the RI of the site. Also in January, ADEQ discontinued operation of the SVE system at the former E.C. Winter property, due to declining extraction rates.

**2009:** On June 30th, Pima County Solid Waste Division began operation of a Shallow Tray Air Stripper treatment system at the former El Camino del Cerro Landfill. It is anticipated that this pump and treat system will remove the bulk of the potential continuing source to the rest of the plume area. As of the end of September, the treatment system had removed approximately 14.9 pounds or 6.7 kilograms of VOCs.

**2010:** Metro Water continued to operate the GAC treatment system at the South Shannon Well and the Pima County Solid Waste Division continued to operate the Shallow Tray Air Stripper treatment system at the former El Camino del Cerro Landfill. As of the end of the year, Metro Water had pumped 851 million gallons of water and removed approximately 174.5 pounds or 79.2 kilograms of VOCs. Also as of the end of the year, Pima County had pumped 124 million gallons of water and removed 36.5 pounds or 16.6 kilograms of VOCs.

**2011:** By September the extraction well at the former Pima County El Camino del Cerro Landfill was shut down due to scaling problems. A new extraction well will be installed in 2012 closer to the landfill for more effective source control. As of the end of September, the treatment system had pumped 131 million gallons of water and removed approximately 37.5 pounds or 16.6 kilograms of VOCs.

**2012:** The extraction well at the former Pima County El Camino del Cerro Landfill was replaced.

**2013:** The Metro Water GAC treatment system continued to treat water at the South Shannon Well. From the start of the year through the end of June, 35.8 million gallons of water was treated, with 8.62 pounds of VOCs removed. The new extraction well at El Camino del Cerro Landfill remained inoperable for much of the year due to electrical difficulties. It is expected that the well will be operational by Nov.. The remedial investigation (RI) for the Shannon Road/El Camino del Cerro site is anticipated to be finalized by the end of the year.

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#### Contaminants:

The current contaminants of concern at the site include [tetrachloroethene](#) (PCE), [trichloroethene](#) (TCE), [1,1-dichloroethene](#) (1,1-DCE), [vinyl chloride](#), and [benzene](#). Contaminants that have been detected in groundwater at the site above Arizona regulatory levels include: PCE, TCE,

1,1-DCE, 1,1-[dichloroethane](#) (1,1-DCA), and cis-1,2-[dichloroethene](#) (1,2-DCE). Additionally, lead was detected in soil samples collected from the former AMRI Oil property. Contaminants of concern at the site may change as new data become available.

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#### Public Health Impact:

There are risks associated with exposure to VOCs, principally through drinking contaminated groundwater. Many of the private wells along Casa Grande Highway and Highway Drive were impacted by the contamination. In April of 1987, Pima County began supplying bottled water to businesses along Interstate I-10, and in late 1989, Pima County purchased the private wells and connected the properties to the municipal water system. Metro Water is the main municipal water provider at this site. A water treatment system is used by Metro Water on the South Shannon Well to ensure that drinking water meets the drinking water standards. No one is known to be drinking contaminated water from this site. However, if you are drinking water from a private well within the boundaries of the site, please contact the ADEQ project manager.

The [Arizona Department of Health Services](#) conducted a preliminary risk assessment to address potential and/or current exposure to chemicals in groundwater and soil at the site. The preliminary risk assessment has been used to guide the investigation at the site. In addition to a final risk assessment, other risk assessment activities may be needed prior to selection of a final remedy for the site.

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#### Site Hydrogeology:

The western portion of the site is located within the Cortaro Basin, a block fault subbasin of the Tucson Basin. The eastern portion of the site is located within the Tucson Basin. The Tucson Basin is a broad, northwest sloping [alluvial](#) valley surrounded by mountain ranges and can be divided into four geologic units: the Pantano Formation, Tinaja Beds, Fort Lowell Formation, and recent alluvial deposits. The lower portion of the Ft. Lowell Formation and the upper Tinaja Beds comprise the regional aquifer at the site.

The Tucson Basin is drained to the northwest by the Santa Cruz River and the Rillito Creek, one of the major Santa Cruz River tributaries. The Santa Cruz River and Rillito Creek are ephemeral, which are streams that flow as a result of seasonal storm events. Effluent released from the Roger Road Wastewater Treatment Plant provides a perennial source of flow in the Santa Cruz River adjacent to the site.

Depth to groundwater ranges from 120 to 135 feet below ground surface (bgs) in the western portion of the site, and at approximately 130 to 135 feet bgs in the eastern portion of the site. Groundwater flow direction is generally toward the north-northwest.

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#### Contacts:

Name	Phone/Fax	E-mail
Scott Green, ADEQ Project Manager	(520) 770-3127*/(520) 628-6745 fax	<a href="mailto:green.scott@azdq.gov">green.scott@azdq.gov</a>
Wendy Flood, ADEQ Community Involvement Coordinator	(602) 771-4410*/(602) 771-4236 fax	<a href="mailto:flood.wendy@azdeq.gov">flood.wendy@azdeq.gov</a>

\*In Arizona, but outside the Tucson area, call toll-free at (888) 271-9302.

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#### Online Information Repository:

Interested parties can review site information here on this page and at the ADEQ Record Center located at 1110 W. Washington Street, Phoenix, Arizona. Please contact (602) 771-4380 or (800) 234-5677 ext. 6027714380 for hours of operation and to schedule an appointment. To review site information at a location near you, please contact the designated Community Involvement Coordinator.

[Site Map](#)

[El Camino del Cerro Registry Report](#)

[Shannon Road-Rillito Creek Registry Report](#)

[CAB Meeting Agendas and Minutes](#)

[Public Notice](#)

[Final Draft RI](#)

Appendices

- [Appendix A](#)
- [Appendix B](#)
- [Appendix C](#)
- [Appendix D](#)
- [Appendix E](#)
- [Appendix F](#)
- [Appendix G](#)
- [Appendix H](#)
- [Appendix I](#)
- [Appendix J](#)
- [Appendix K](#)
- [Appendix L](#)
- [Appendix M](#)
- [Appendix N](#)
- [Appendix O](#)
- [Appendix P](#)

[Figures](#)

[Tables](#)

[Public Notice](#)

[Proposed Remedial Objectives Report](#)

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[Accessibility Policy](#) | [Privacy Policy](#) | [Site Map](#) | [Email our Web Master](#)  
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## **Attachment 4 - Site Photos**



**Photo No. 1**

**Description:** Gravel pit

**View:** South

**Date:** September 16, 2014



**Photo No. 2**

**Description:** Santa Cruz River

**View:** North

**Date:** September 16, 2014



**Photo No. 3**

**Description:** South portion of  
Silverbell Rd.

**View:** North

**Date:** September 16, 2014



**Photo No. 4**

**Description:** Former irrigation canal within project area

**View:** Southeast

**Date:** September 16, 2014



**Photo No. 5**

**Description:** Miscellaneous soil/green waste within project area

**View:** Northeast

**Date:** September 16, 2014



**Photo No. 6**

**Description:** Miscellaneous debris within project area

**View:** North

**Date:** September 16, 2014

## **Attachment 5 – Historical Aerials**



**Legend**



- Approximate Project Boundaries



(not to scale)



Engineering and Environmental Consultants, Inc.  
 4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
 Tel: 520.321.4625 | Fax: 520.321.0333

**1936 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
 Tucson, Pima County, AZ



**Legend**



- Approximate Project Boundaries



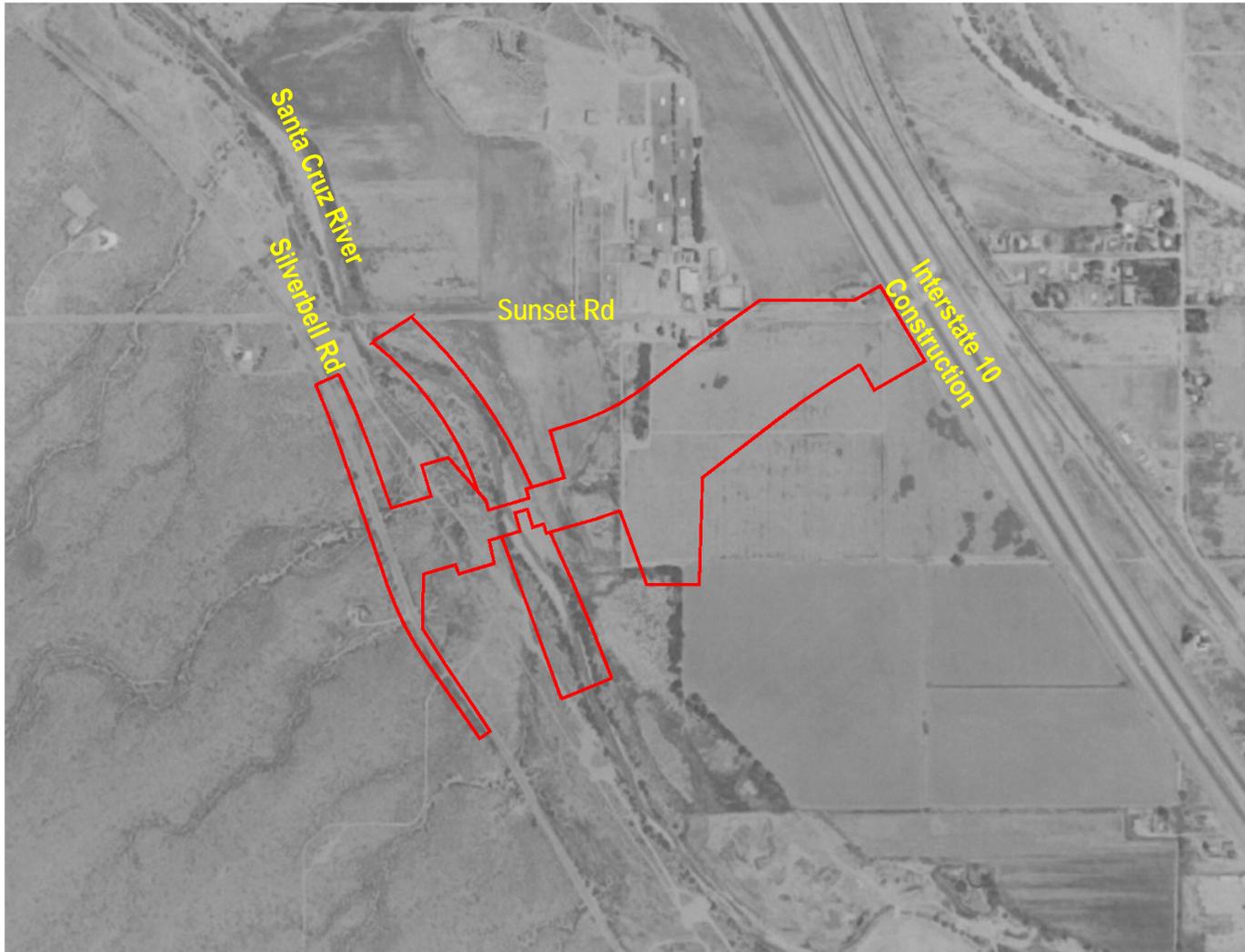
(not to scale)



Engineering and Environmental Consultants, Inc.  
4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
Tel: 520.321.4625 | Fax: 520.321.0333

**1956 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
Tucson, Pima County, AZ



**Legend**

 - Approximate Project Boundaries



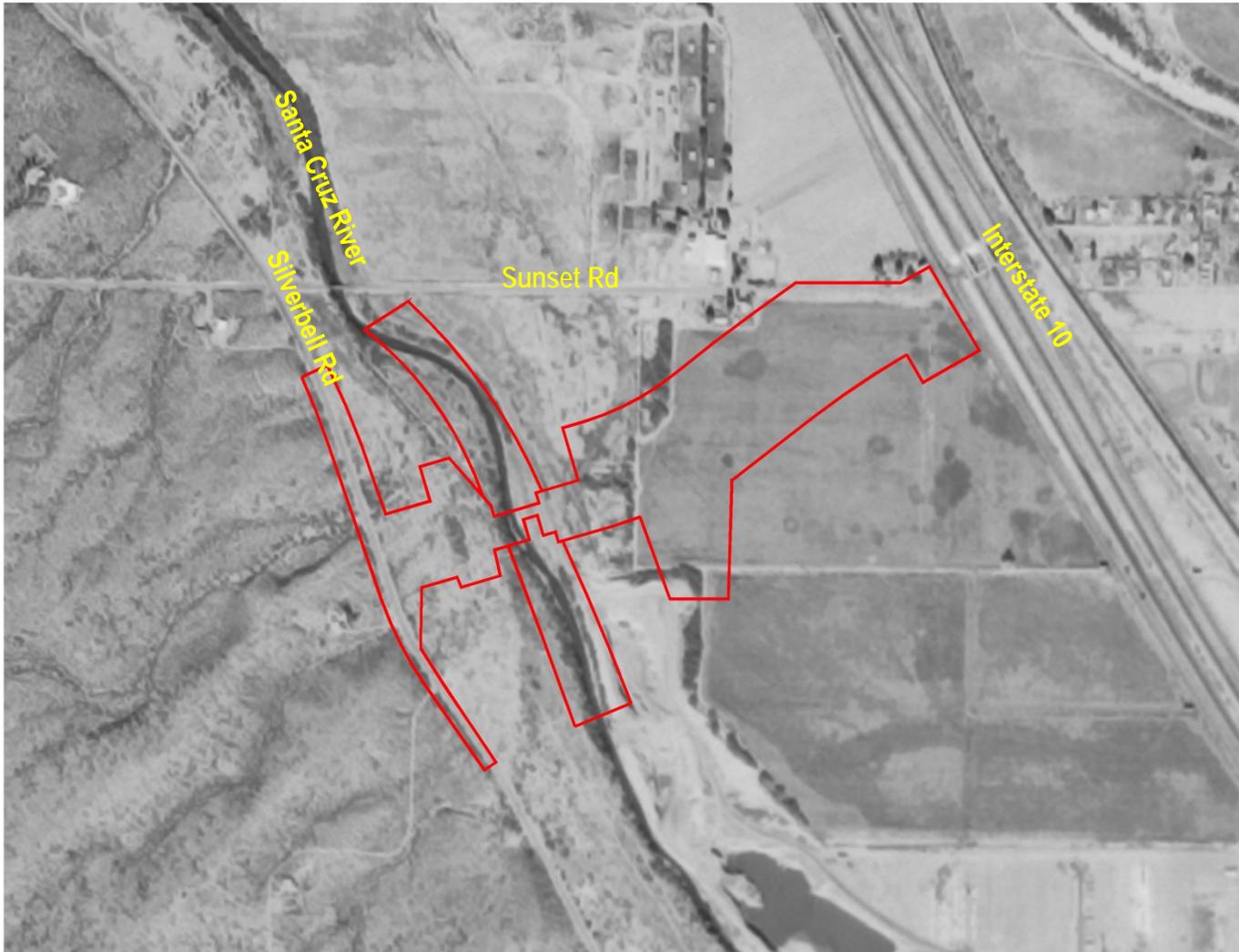
(not to scale)



Engineering and Environmental Consultants, Inc.  
4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
Tel: 520.321.4625 | Fax: 520.321.0333

**1966 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
Tucson, Pima County, AZ



**Legend**



- Approximate Project Boundaries



(not to scale)



Engineering and Environmental Consultants, Inc.  
4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
Tel: 520.321.4625 | Fax: 520.321.0333

**1972 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
Tucson, Pima County, AZ



**Legend**

- Approximate Project Boundaries



(not to scale)



Engineering and Environmental Consultants, Inc.  
 4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
 Tel: 520.321.4625 | Fax: 520.321.0333

**1996 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
 Tucson, Pima County, AZ



**Legend**

 - Approximate Project Boundaries



(not to scale)



Engineering and Environmental Consultants, Inc.  
 4625 E. Fort Lowell Rd. | Tucson, AZ 85712  
 Tel: 520.321.4625 | Fax: 520.321.0333

**2014 Aerial**

Sunset Rd: Silverbell Rd. to River Rd.  
 Tucson, Pima County, AZ

**Attachment 6 – Resume Qualifications of Environmental Professionals**

# John P. Burton

## PROJECT MANAGER

7740 N. 16<sup>TH</sup> STREET, SUITE 135 • PHOENIX, ARIZONA 85020 • 602.248.7702 • FAX 602.248.7851



### EDUCATION

- B.S., Environmental Science, Slippery Rock University of Pennsylvania, 1996

### TRAINING

- OSHA 40-Hour HAZWOPER Refresher
- PSMJ Project Manager Course
- EPA Certified AHERA Building Inspector
- EPA Certified Lead-Based Paint Inspector
- Erosion Control Training, AGC-ADOT, 2011

### AFFILIATIONS

- American Council of Engineering Companies
- Arizona Commercial Mortgage Lenders Association
- Arizona Association of Industries (AAI)
- Environmental Professionals of Arizona

### BACKGROUND:

Mr. Burton has more than 11 years of experience in the fields of hydrology, contaminant fate and transport, soil and groundwater remediation, environmental consulting, environmental risk assessment, and regulatory affairs. He specializes in environmental field operation, soil and groundwater remediation, quality control, and remedial site investigation and clean-up. Mr. Burton previously served as a former compliance officer and hydrologist for the Arizona Department of Environmental Quality (ADEQ) and has extensive knowledge of ADEQ and federal statutes and regulations.

### Project Experience:

**Tres Rios Land Assessment (City of Phoenix)** - Scientist III or Technician II. Performed an assessment of 480 acres along the Salt River, from 91st Avenue to 107th Avenue, for the City of Phoenix. Included performing an environmental site assessment to locate and identify existing dumped waste material, the impact of random solid waste dumping, and locating existing access control features (fences, ditches, signage, etc.) on the Tres Rios property for the City of Phoenix. EEC provided recommendation for removal of waste material and improving access control. This included the preparation of base maps and organization of field data collection to document environmental remediation for a future City of Phoenix wetlands and park.

**US 80, Bisbee Sidewalks (ADOT)** - Scientist III or Technician II. Prepared a Design Concept Report (DCR) for sidewalks along US 80 in Bisbee.

**US 60, Wickenburg Multi-Use Path (ADOT)** - Scientist III or Technician II. Prepared design concept report and design of 2.9-mile multi-use pathway along U.S. 60 in Wickenburg, Arizona.

**SR 79/Cactus Forest Road Traffic Study (ADOT)** – Environmental Spec. III. Developed a Storm Water Management Plan (SWMP) for compliance with the Arizona Pollutant Discharge Elimination System Phase II requirements.

**Construction SWPPP (ADOT)** - Enhancement Division - Project Manager. Developed a construction Storm Water Pollution Prevention Plan (SWPPP) for a 56-acre parcel located in Wickenburg. The buildings currently on-site are scheduled for demolition.

**Ricks Auto Cap (Mr. Hans Thiele)** - Project Manager. Managed the field level effort for groundwater sampling, data review and regulatory liaison. Performed data review and provided technical direction for future monitoring well installation. Coordinated activities through ADEQ LUST Section and State Assurance Fund.

**USAR Environmental Compliance (ADECC)** - Scientist . Prepared an Environmental Assessment (EA) to describe and evaluate the potential environmental impacts from proposed U.S. Army Reserve Petroleum Exercises (POLEX) at Lemorre Naval Air Station, California. The EA analyzed the potential impacts resulting from fuel training and storage exercises. Key relevant issues included topography and soil impacts; hydrology and water quality impacts; biological resources; and air quality impacts.

**Industrial NPDES (American Industries Diversified)** - Scientist III or Technician II. Prepared an industrial stormwater protection plan for this facility's compliance with storm water requirements.

**Rim Rock, USDA Rural Development (USDA)** - Scientist III or Technician II. Prepared a site plan for a USDA funded environmental remediation project.

**LUST Groundwater Investigation (Mr. Michael Katcher)** - Environmental Specialist I. Conducted a continuation of a groundwater investigation. Included design, construction and operation of a free product recovery system and development of a corrective action plan to remediate groundwater. All work was ADEQ/SAF preapproved.

**Sparkle Cleaners (Mr. Tom Roof)** - Environmental Spec. III. Environmental Specialist for soil remediation program.

**Spill Prevention Countermeasures and Contingency Plan (Fort Huachuca)** - Scientist III or Technician II. Updated Fort Huachuca's Spill Prevention Countermeasures and Contingency Plan (SPCCP).

**Octopus Carwash CAP (Mr. Leon Marx & Mr. John Jurkens)** - Environmental Spec. III. Managed field sampling, monitoring well sampling, and served as regulatory liaison. Worked closely with ADEQ to reduce the overall remediation costs by using a natural attenuation system leading to site closure by risk assessment modeling. Also coordinated activities through the ADEQ LUST Section and the State Assurance Fund.

**Aquifer Protection Permit for APC (Arizona Portland Cement Co.)** - Scientist III or Technician II. Prepared base maps and used GPS to collect spatial data related to a diesel spill and its impact on an Aquifer Protection Permit. Worked with company CAD personnel to utilize existing spatial data to comply with the APP mandate of the Clean Water Act.

**SR 69, Prescott Valley Multi-Use Path (ADOT)** – Environmental Spec. III. Provided environmental services for a 9000 L.F. multi-use pathway and landscaping through Prescott Valley.

**Ongoing AZPDES Compliance Assistance (ADOT)** – Engineering Designer. Provided ADOT with ongoing AZPDES compliance assistance to include SWPPP development, SWPPP training, public outreach, storm water sampling, and other issues as needed.

## Thomas J. Ross

### ENVIRONMENTAL SPECIALIST

#### Background:

Mr. Ross has over 15 years of managing and training personnel in hazardous materials handling, emergency response, site assessment, and remediation activities. From 1994-1998, Mr. Ross worked as the primary instructor for the United States Army's only Nuclear, Biological and Chemical training program in the Pacific area. He has more than 20 years experience, operating and maintaining chemical detection and monitoring equipment, working with chemical decontamination supplies and substances and inspecting and maintaining personal protective equipment. Additionally he has been involved in numerous Emergency Response incidents and remediation activities in the Southwest United States involving many different hazardous and non-hazardous materials. Since joining EEC in 2002, Mr. Ross has been involved in numerous subsurface soil assessments and groundwater monitoring well installations. He is also a primary field technician responsible for the operation and maintenance of a soil vapor extraction system, a groundwater air sparging system, a free product recovery system and an in-situ bioremediation system.

#### Relevant Project Experience:

**Raytheon Decontamination Sampling (Raytheon Missile Systems c/o Chemical Transportation, Inc.)** – Conducted confirmation sampling and documentation of the decontamination of 27 pieces of industrial wastewater treatment equipment including concrete and steel tanks holding acids, bases and industrial wastewater; concrete containment structures with sumps; and an air scrubber. Almost a third of the equipment had contained listed hazardous wastes. Tasks included decontamination oversight, confirmation sampling, results reporting and preparing the final report. During the course of the project the scope was expanded to include sampling of the soil beneath two concrete containment areas and fill, concrete and soil at two large underground reservoirs.

**Huffstetler: UST Removal (Private Client)** – Removed underground storage tank and performed subsurface soil assessment. Produced report for submission to the Arizona Department of Environmental Quality.

**Ground Water Monitoring (U.S.A.G. Fort Huachuca)** – Installed a regional aquifer groundwater monitoring wells and conducted groundwater monitoring at three sites at Fort Huachuca. The sites were the former AAFES PX service station, the east range mine shaft and the south range landfill. Included preparation of a work plan, and a health and safety plan.

#### Training

- OSHA 40-Hour HAZWOPER
- OSHA Hazardous Materials Worker
- Chemical, Biological and Nuclear Warfare Instructor
- Hazardous materials Waste/Handling Course
- OSHA Confined Space Entry Management Training
- Chemical Munitions Special Training
- Live Toxic Agent Training
- Defense Packaging of Hazardous Materials
- Emergency Management Institute Training
- Medical Management of Chemical Casualties
- Microbial Hazard Awareness Training
- Class C Hazardous Materials CDL
- CPR and First Aid
- ADEQ Grade I Certification: Water Distribution
- ADEQ Grade I Certification: Water Treatment



**Raytheon Building 833 Sampling (Raytheon Missile Systems)** – Conducted concrete coring and soil sampling analysis in an area of Building 833 where historical activities included battery charging and automotive maintenance. No evidence of contamination was found.

**Open Burning/Open Detonation Unit Closure Plan (U.S.A.G. Fort Huachuca)** – Prepared and negotiated a sampling plan for closure of the Open Burning/Open Detonation (OB/OD) pits at Fort Huachuca. Our team developed a Quality Assurance Program Plan and a detailed sampling plan. We conducted sampling and laboratory analysis (field and fixed lab) for more than 650 soil samples. Finally, EEC prepared a RCRA closure plan for the OB/OD pits based on the findings of the investigation. The plan was approved and implemented. The final closure report is currently under review by ADEQ and the EPA.

**Octopus Carwash CAP (Private Client)** – Conducted field sampling, monitoring well sampling, and served as regulatory liaison. Worked closely with ADEQ to reduce the overall remediation costs by using a natural attenuation system leading to site closure by risk assessment modeling.

**Building 815 Decontamination Sampling (Raytheon Missile Systems)** – Conducted confirmation sampling and documentation of the decontamination of 27 pieces of industrial wastewater treatment equipment including concrete and steel tanks holding acids, bases and industrial wastewater; concrete containment structures with sumps; and an air scrubber. Tasks included decontamination oversight, confirmation sampling, results reporting and preparing the final report.

**Katcher LUST Groundwater Investigation and Remediation (Private Client)** – Performed complete assessment of LUST site with impacted groundwater. Included development of a corrective action plan and design, construction and operation of a free product recovery system. System currently operating under ADEQ/SAF preapproved plan.

**Building 14444 Septic Tank Closure (U.S.A.G. Fort Huachuca)** – Conducted a closure of a septic tank at Building 14444 (old game management building) in accordance with Cochise County Regulations.

**Click Chrysler Limited Phase III (Tuttle-Click Automotive Group)** – Excavated and disposed of petroleum impacted soil. Performed confirmation soil sampling and prepared a summary report for a Limited Phase II Soil Remediation at Click Chrysler, 710 W. Auto Mall Drive, Tucson, Arizona.

**Greely Hall Drilling (U.S.A.G. Fort Huachuca)** – Collected soil samples for laboratory analysis to determine possible closure status of two LUST cases. Produced reports detailing findings and made recommendations for additional remediation efforts.

**East and South Range Groundwater Monitoring (U.S.A.G. Fort Huachuca)** – Conducted long-term groundwater monitoring at two locations; the East Range Mine Shaft and the South Range Landfill. There were no contaminants found at the East Range site and negotiations are in process to close the site. Low level contaminants were detected in shallow leachate wells at the South Range Landfill but no contaminants were detected in the regional groundwater wells. Long-term monitoring continues.