

SCS ENGINEERS



Phase I Environmental Site Assessment

**Former Adkins Property
APNs 110-09-032A, 110-09-032B,
110-09-0330, 110-09-0340, and 110-09-0350
5450 East Fort Lowell Road
Tucson, Arizona**

Presented to:

**CITY OF TUCSON
ENVIRONMENTAL SERVICES**
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March 10, 2008
AAI Date: January 15, 2008
File No. 10204058.19

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SCS ENGINEERS

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City of Tucson Environmental Services
100 North Stone Avenue, 2nd Floor
Tucson, AZ 85701

Subject: Phase I Environmental Site Assessment
Former Adkins Property
APNs 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350
5450 East Fort Lowell Road
Tucson, Arizona

Dear Lynne:

SCS Engineers (SCS) is pleased to submit this Phase I Environmental Site Assessment for the above-referenced project located in Tucson, Arizona. SCS appreciates the opportunity to assist you with this project. If you have any questions regarding this report, please feel free to contact Pat Hartshorne at (520) 696-1617.

Sincerely,

Stephen James
Environmental Technician

Patricia M. Hartshorne, RG
Project Manager
SCS ENGINEERS

SJ/PMH:sj
C:\Documents and Settings\Pat Hartshorne\My Documents\SCS Data\Projects\204058.19 COT Adkins Phase I ESA\Report\Adkins Phase I ESA Final.doc

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EXECUTIVE SUMMARY

City of Tucson Environmental Services (COT ES) retained SCS Engineers (SCS) to perform a Phase I Environmental Site Assessment (ESA) of the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The Pima County Assessor's Parcel Numbers (APNs) for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. The COT purchased the property in 2006. The ESA consisted of a site reconnaissance; interviews; review of environmental, historical, and physical records pertaining to activities on and adjacent to the site; and interpretation and reporting of findings.

The site consisted of a vacant residential/commercial property crossed by unpaved driveways. Several structures, including a former shop building, three former residences, adobe ruins, and a few sheds were located on the site. Concrete pads and a concrete-lined trench containing a drywell were located south of the shop building. Soil piles containing broken asphalt, rocks, and gravel were located in the south portion of the site. Approximately five septic systems may be located on the site. Areas of stained soil, metal debris, and granular materials that were likely associated with metal grinding, sanding, or cutting activities were visible in the vicinity of the shop building and concrete pads and in the central and south portions of the site. An elevated water tank, old windmill tower, and water well were located in the northeast portion of the site. A large concrete water tank on a concrete base and a water well were located in the south portion of the site. A third water well was located in the western portion of the site. The three water wells on the site were unused because they had gone dry.

Based on the historical information reviewed, the site may include a portion of an archaeological site known as the Hardy Site, which was a large community occupied by the Hohokam people between 700 AD and 1200 AD. In historic times, the site was developed in the 1870s as a portion of the Camp Lowell Army Post, later called Fort Lowell. Located on the site were three Officers' quarters, three Officers' kitchens, three privies, Cottonwood Lane, the Adjutant's office, a bake house, a guard house, and parade grounds. After the post was abandoned in 1891, the site was used as a tuberculosis sanitarium beginning in 1905. In 1928, Harvey Adkins purchased the property; the northeast and west residences were constructed in the 1930s. The site was occupied by Adkins Steel and Tank Manufacturing Company (Adkins Steel) from 1934 to 2006; the shop building was built in the 1950s. The COT acquired the site in 2006 through a land swap with a private developer.

Investigations performed by SCS at the site in 1991 included a Phase I ESA, limited sampling investigation, and limited asbestos sampling. SCS performed site cleanup activities in 2006 and 2007, including collection and removal of hazardous materials, asbestos-containing materials (ACMs), and tires. In 2007, SCS also performed closure of two underground storage tanks (USTs) and a surface soil sampling investigation.

Observations of the site while it was occupied by Adkins Steel indicated that there were significant amounts of debris, equipment, and material stockpiles stored on the site, including vehicles, vehicle parts, appliances, metal tanks, miscellaneous steel, scrap metal, buckets, containers, and other materials. A diesel fuel aboveground storage tank (AST), a 3,000-gallon gasoline UST, a 450-gallon diesel fuel UST, numerous 55-gallon drums, and other containers were located on the site. Soil staining, metal debris, and granular materials that were likely

associated with metal grinding, sanding, or cutting activities and were observed in many locations, particularly in the vicinity of the shop building, 55-gallon drum storage areas, adjacent to the concrete pad and work areas, beneath the AST, and at other locations. The current septic tank in the south portion of the site was reportedly placed in the former location of a cesspool, which was observed to contain oily liquids and was next to stained soil and used oil filters during a 1991 site visit.

Limited surface soil sampling performed by SCS in 1991 in areas of staining and at other locations identified detectable concentrations of hydrocarbons; in addition, a sample was collected from 7 feet below grade from the cesspool. The highest concentration of hydrocarbons was detected in the sample from the bottom of the cesspool. Volatile organic compounds (VOCs) detected included acetone, toluene, 4 methyl-2-pentanone (aka methyl isobutyl ketone), and xylenes. Concentrations of VOCs did not exceed the current Arizona Residential Soil Remediation Levels (RSRLs) or Non-Residential Soil Remediation Levels (NRSRLs). The concentration of lead in one sample exceeded the current RSRL.

Eight surface soil samples collected by SCS in 2007 from areas of stained soil; areas where vehicle batteries, drums, ASTs, or other containers of petroleum hydrocarbons or hazardous materials were stored; and other areas of potential impacts observed at the site contained compounds that exceeded the RSRLs or NRSRLs, including the polynuclear aromatic hydrocarbons (PAHs) benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and indeno[1,2,3-cd]pyrene and the metals arsenic and lead. Also detected were petroleum hydrocarbons; the PAHs benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene; and the metals barium, chromium, and mercury.

Properties adjoining the site have consisted of vacant desert, a park, a church, and residences. Adjoining properties do not appear to be a recognized environmental condition (REC) for the site.

The site was identified as a Resource Conservation and Recovery Act (RCRA) large quantity generator; this designation was due to the removal and disposal of hazardous materials during site cleanup activities in 2006. Other environmental regulatory database listings identified in the vicinity of the site included fifteen registered wells. None of the identified environmental regulatory database listings appeared to be a REC for the site.

Recognized Environmental Conditions

SCS has performed a Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05 and COT specifications for the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The APNs for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. Any exceptions to, or deletions from, this practice are described in Section 10 of this report. This assessment has revealed evidence of potential RECs in connection with the site as follows:

- Two unregistered USTs were previously located east and west of the shop building. However, SCS has removed both USTs and performed a closure investigation, as

documented in our report dated October 8, 2007. No releases were identified from these USTs during the closure investigation. Therefore, no additional environmental investigation is recommended for these USTs.

- Numerous areas of soil staining and areas of soil containing large amounts of metal debris and granular materials likely associated with metal grinding, sanding, or cutting activities were observed on the site, particularly in the vicinity of the shop building and concrete pads south and southeast of the shop building.
- Numerous 55-gallon drums and other containers, batteries, scrap metal, debris, and equipment were observed throughout the site prior to cleanup.
- An AST for diesel fuel was previously located east of the shop building; stained soil was observed in this area.
- A cesspool located in the south portion of the site was observed in 1991 to contain oily liquid, and stained soil and used oil filters were located next to the pit. A septic tank was later reportedly placed at this location. Four additional septic tanks may be located on the site in association with two residences and the shop restroom.
- A drywell was located in a concrete-lined trench used for steel bending equipment south of the shop building.
- Three unused water wells were located on the site.

Recommendations

SCS previously submitted a proposal with recommendations for additional environmental investigations at the site. Based on the findings of this Phase I ESA for the site, SCS recommends the following:

- Investigate the nature and extent of potential impacts to surface soils at the site in areas of stained soil; areas where vehicle batteries, drums, ASTs, or other containers of petroleum hydrocarbons or hazardous materials were stored; and other areas of potential impacts observed at the site. Limited soil sampling was performed by SCS in 1991 and 2007; several locations exceeded the RSRLs for arsenic, lead and several PAHs. Additional investigation should be performed at these locations to determine the extent of contamination.
- Investigate the nature and extent of potential impacts to subsurface soils using backhoe excavations and/or soil borings at the septic systems, the former cesspool, and the drywell in the concrete-lined trench.
- Register and abandon the three inactive water wells following Arizona Department of Water Resources (ADWR) guidelines.

- Perform an asbestos survey to evaluate the potential presence of ACMs in the structures on the site.
- Follow proper procedures for removal or abandonment of septic tank systems, which may be a geotechnical concern if not properly excavated and filled prior to construction or redevelopment.

1 INTRODUCTION

PURPOSE

City of Tucson Environmental Services (COT ES) retained SCS Engineers (SCS) to perform a Phase I Environmental Site Assessment (ESA) of the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The Pima County Assessor's Parcel Numbers (APNs) for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. The COT purchased the property in 2006. The ESA consisted of a site reconnaissance; interviews; review of environmental, historical, and physical records pertaining to activities on and adjacent to the site; and interpretation and reporting of findings. A Site Location Map is provided as Figure 1 in Appendix A.

A previous Phase I ESA and limited sampling investigation was performed for the COT by SCS in 1991. The COT acquired the site in 2006 through a land swap with a private developer. SCS has been assisting the COT with environmental services for the property since 2006.

This ESA was conducted to evaluate the potential for recognized environmental conditions (RECs) at the site as defined in the American Society of Testing and Materials (ASTM) Standard E 1527-05 and is intended to fulfill the all appropriate inquiry clause of the "innocent landowner defense" and "bona fide prospective purchaser" clauses of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). ASTM Standard E 1527-05 defines RECs as:

The presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a *material threat* of a 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. The term is not intended to include *de minimis* conditions that generally do 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. Conditions determined to be *de minimis* are not RECs.

DETAILED SCOPE OF SERVICES

This work was performed in accordance with the current City of Tucson (COT) contract No. 071100 and our Proposal No. 10.161207 dated December 17, 2007. Notice to proceed was received from COT ES on January 2, 2008. This ESA was conducted in accordance with the guidelines set forth in the ASTM Standard E 1527-05, and consisted of the following four components:

- **Site Reconnaissance** – A visual reconnaissance of the subject site and surrounding properties;

- **Records Review** – Examination of historical documents and state and federal regulatory agency records;
- **Interviews** – Interviews with individuals and public officials familiar with the site's history; and
- **Report** – Evaluation and Report.

SHELF LIFE OF AAI DOCUMENTS

The AAI rule specifies that all appropriate inquiries must be conducted within a one-year period prior to the date a property is acquired. The United States Environmental Protection Agency (EPA) has defined the acquisition date to be the date on which the property title is transferred. To ensure full coverage under the AAI rule, a valid ESA report must be completed within a 12-month period prior to transfer of title.

However, selected ESA report components and supporting information sources must be updated if they were completed more than six months (180 days) prior to title transfer. The specific ESA components with a 180-day shelf life include:

- Site inspection;
- Interviews with knowledgeable persons;
- Review of government regulatory records;
- Search for environmental cleanup liens; and
- Declaration/signature of certifying Environmental Professional.

The AAI date included on the cover of the report indicates the date that research was performed for the different components of this project, whichever is the earliest.

SIGNIFICANT ASSUMPTIONS

Based on documents reviewed, interviews with knowledgeable people, and a site reconnaissance, SCS assumes that information collected during this ESA is accurate and correct. Unless warranted, information collected has not been independently validated as part of this ESA.

LIMITATIONS AND EXCEPTIONS

This report has been prepared for COT ES with regard to the assessment of environmental conditions of the subject property. This assessment focused on potential sources of hazardous substances or petroleum products that could be considered a REC and a liability due to the presence in significant concentrations (e.g., above acceptable limits set by the federal, state or local government) or due to the potential for contamination migration through exposure pathways (e.g., groundwater). Materials that contain substances that are not currently deemed hazardous by the EPA were not considered as part of this study.

Hazardous substances occurring naturally in plants, soils, and rocks (e.g., heavy metals, naturally occurring asbestos, or radon) are not typically considered in these assessments. Similarly, construction debris (e.g., discarded concrete, asphalt) is not considered unless observation suggests that hazardous substances are likely to be present in significant concentrations or likely to migrate.

The terms “solid waste debris” or “rubbish” are used to describe wastes such as paper, plastic, glass, food packaging, cans, bottles, and other similar materials. These materials do not represent a REC.

The report has been prepared in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants, under similar circumstances at the time the services were performed, in this or similar localities. No other representations, either expressed or implied, and no warranty or guarantee is made as to the professional advice presented herein. SCS assumes no responsibility for the accuracy of information obtained from, compiled, or provided by third-party sources, such as regulatory agency listings.

DATA GAPS

Certain limitations that could affect the accuracy and completeness of these reports are as follows:

- **Site Access Limitations** – None.
- **Physical Obstructions to Observations** – One former residential structure on the property was not accessed due to safety concerns resulting from the poor physical condition of the structure. The interior of much of the structure could be seen through windows and openings in the walls.
- **Outstanding Information Requests** – None.
- **Historical Data Sources Failure** – None.
- **Other** – None.

SPECIAL TERMS AND CONDITIONS

SCS and COT ES agreed upon the terms and conditions set forth in SCS’s proposal. If additional services not normally performed as part of a Phase I ESA are included in the scope of services, these additional services are listed in Section 10. This ESA report does not purport to address safety concerns, if any, associated with the use of the subject site or exposure to safety concerns from adjoining facilities. It is the responsibility of the owner and/or the user of this ESA report to establish appropriate safety and health practices and determine the applicability of regulatory limitations. SCS is not required to identify safety concerns unless otherwise required in the scope of work.

This report does not include assessment of issues described by the ASTM as non-scope: asbestos, radon, lead-based paint (LBP), lead in drinking water, wetlands, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality (including an assessment of potential vapor intrusion into structures), biological agents, mold, and other issues unless otherwise noted. Unless specifically included in our scope of services, consideration of other building materials such as water supply plumbing, urea formaldehyde, and pressure-treated lumber are not considered in this report.

This ESA is not a compliance audit for regulatory compliance with Federal, State, and local statutes, laws, rules or regulations.

Unless otherwise noted, no sampling or laboratory analyses were performed as part of this Phase I ESA. Although this report may provide recommendations regarding the possibility of RECs specific to this site, positive identification of hazardous substances can be accomplished only through sampling and appropriate laboratory analysis.

USER RELIANCE

This report has been prepared at the request and for the exclusive use of the COT. Reliance cannot be transferred without the written permission of the COT and SCS, and only if the other party agrees to the same terms and conditions to which the COT and SCS agreed.

2 SITE DESCRIPTION AND RECONNAISSANCE

LOCATION AND LEGAL DESCRIPTION

The site consists of the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona. The site is approximately 5.2 acres in size. The site is located in the northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Base Line and Meridian, Pima County, Arizona. A Site and Vicinity Map is provided as Figure 2 in Appendix A.

SITE AND VICINITY GENERAL CHARACTERISTICS

The site consists of a former residential/commercial property containing three houses, adobe ruins, a former shop building, a few sheds, cleared areas, and concrete pads. Residential properties, a church, and a park were located in the vicinity of the site.

CURRENT USE OF THE SITE

Methodology and Limiting Conditions

On January 15, 2008, Mr. Stephen James and Ms. Patricia Hartshorne of SCS performed a visual reconnaissance of the site. Current conditions and uses were observed by walking through the site and around the perimeter of the site. SCS also observed the interior of the site structures, except for the west residence. Due to safety concerns and the poor condition of the west residence, the interior was not observed except through windows and openings in the walls. During the site visit, adjoining properties were also observed. Photographs of the site and adjoining properties are included in Appendix B.

General Site Setting

The topography of the site was generally level, with a gentle slope to the north.

Current Site Uses

At the time of the site reconnaissance, a former shop building was located in the north portion of the site, a vacant former residence was located in the northeast portion of the site, and a vacant former residence was located in the west portion of the site. Empty sheds were located south of the northeast residence and south of the shop building. Driveways, concrete pads, and a concrete-lined trench were located south and southeast of the former shop building. A third vacant former residence and the ruins of several adobe buildings were located in the south portion of the site. A fence was located along the boundaries of the site and another fence separated the south portion of the site from the rest of the site. A fenced enclosure was located on the eastern portion of the site.

Evidence of Past Site Uses

Based on the site reconnaissance, it appeared that three vacant structures were formerly used as residences. Commercial operations were formerly performed on the site. The historical review

and interviews, discussed in Sections 5 and 6, indicated that the site was previously used for the manufacture of steel tanks.

Site Improvements

Structures

The site contained one former shop building, three vacant residences, empty sheds, the ruins of several adobe buildings, and several concrete pads. The west residence was deteriorated and contained debris and old household materials. The other structures contained little debris or other materials. An elevated water tank and a former windmill structure were located in the northeast portion of the site, south of the northeast residence. A concrete water tank was located near the south well in the south portion of the site.

Roads

The site is accessed through two gates on Fort Lowell Road and one gate on Craycroft Road. Unpaved driveways were located throughout the site.

Potable Water Supply

Evidence of potable water was observed on the site. Three locked metal vaults containing apparent water valves were present in the central portion of the site. The site is within the City of Tucson Water municipal water service district and Tucson Water informed SCS they provide water service to the site.

Sewage Disposal System

No sewer service is provided to the site. Pima County provides municipal sewer service to the site area.

Septic System

Evidence of a potential septic system, consisting of a covered cylindrical opening, was located east of the northeast residence. Two drain pipes entered this feature on the west and appeared to line up with a pipe entering the wall of the residence at the location of the kitchen. An apparent septic system vault cover was observed southwest of the south residence; according to Mr. Harry Adkins, the former site owner, a cesspool was previously at this location. An apparent septic system was also observed west of the west residence. According to Mr. Adkins, there are two other septic systems at the site, located west of the northeast residence and northeast of the shop building restroom. Evidence of these two septic systems was not observed by SCS during the site reconnaissance.

Heating/Cooling System

The site is within the Tucson Electric Power Company (TEP) electrical service area, which would provide service to the site. According to Southwest Gas Company, natural gas service is provided to the site. Gas piping was observed at the northeast residence.

HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

Hazardous Substances and Petroleum Product Containers

No hazardous substances or petroleum products were observed in association with current uses of the site. No hazardous substance or petroleum product containers were observed on the site. No drums were observed on the site. As part of the engineering services provided by SCS to COT, SCS previously observed the removal of hazardous materials from the site in 2006 and 2007, as discussed in Section 5 under *Site Cleanup*.

Storage Tanks

An elevated water tank adjoining a former windmill and water well was located on the northeast portion of the site, south of the northeast residence, and a large concrete aboveground water tank on a concrete pad was located in the south portion of the site. Two underground storage tanks (USTs) located east and west of the former shop building were previously removed, as discussed in Section 5 under *UST Closure Investigations*. No evidence of other USTs, such as fill ports, vent pipes, and dispensers, was observed on the site. Aboveground storage tanks (ASTs) were reportedly previously located east of the shop building, as discussed in Section 5 under *Previous Phase I ESA*.

Indications of PCBs

One pole-mounted transformer was located outside of the site fence on the north boundary of the site. The transformer appeared in good condition and no stained soil was observed on the ground beneath the transformer. Three pole-mounted transformers were located on the site near the former location of the west UST. The transformers appeared to be in good condition. Tucson Electric Power (TEP) was contacted regarding the polychlorinated biphenyl (PCB) content of the transformers. As of the date of this report, TEP had not provided information regarding the PCB-content of the transformers. TEP would be responsible for any leaks or spills from their transformers.

OTHER CONDITIONS OF POTENTIAL CONCERN

Indications of Solid Waste Disposal

There was no evidence of the burial of solid waste or other materials on the site. Piles of soil, rock, gravel, and broken asphalt were located in the southern portion of the site.

Odors

No strong, pungent, or noxious odors were observed on the site. Slight petroleum odors were observed around the areas of stained soil.

Pools of Liquid

Pools of standing liquid were not observed on the site.

Pits, Ponds, or Lagoons

No pits, ponds, or lagoons were observed on the site.

Wastewater and Other Liquid Discharges

The vacant residence in the northeast portion of the site had PVC piping leading from the apparent location of a former washing machine to an open trench located east of the structure.

Drains and Sumps

No drains or sumps were observed on the site.

Drywells

An apparent drywell was observed on the site in the base of a concrete-lined trench located south of the former shop building. The trench had been located beneath the roller for the former steel plate bending machine.

Wells

Three groundwater wells were observed on the site. One well observed in the northeast portion of the site was connected to a former windmill that was next to an elevated water tank. Another well was located in the south portion of the site next to a large concrete aboveground water tank on a concrete pad. The third well was located in the west portion of the site. At the time of the site reconnaissance, the wells were covered with steel traffic plates to prevent unauthorized access. Additional information regarding these wells is provided in Section 5 under *Well Investigations*.

Stained Soil or Pavement

Stained soil was observed north, east, and south of the former shop building, consisting of dark colored soil containing large amounts of metal debris and exhibiting some petroleum odors. Other areas of soil staining were observed around the concrete pads located near the shop building and at various other locations around the site. Additional discussion is provided in Section 5 under *Surface Soil Investigations*.

Stains or Corrosion Inside Buildings

De minimis staining was observed on the shop floor. Staining other than that caused by water leakage was not observed in the former residences.

Stressed Vegetation

Unnaturally stressed vegetation was not observed on the site.

GENERAL DESCRIPTION OF ADJOINING PROPERTIES

Residential properties, a park, and a church were observed in the area surrounding the site. A brief description of properties adjoining the site, including evidence of past uses, is provided below. Photographs are included in Appendix B.

North

Adjoining the site to the north was East Fort Lowell Road. North of the road, north and northwest of the site, were residential properties.

East

Adjoining the site to the east was North Craycroft Road. East of the road, east, northeast, and southeast of the site, was Fort Lowell Park.

South

Adjoining the site to the south was a triangular segment of land containing a stormwater retention basin; according to information obtained from the Pima County Department of Transportation (PCDOT) MapGuide website, this property belongs to a homeowner's association located west of the southern portion of the site. South of the property was East San Francisco Boulevard. South of the road, south and southwest of the site, was the New Testament Baptist Church and residential properties.

West

Residential properties adjoined the site to the west.

3 RECORDS REVIEW – ENVIRONMENTAL RECORD SOURCES

INTRODUCTION

Allands was retained by SCS to perform a database search of the standard and additional federal, state, tribal, and local environmental record sources for the site, as identified in the table below. The database search was conducted by Allands on January 16, 2008. A copy of the Allands *Regulatory Database Search Report* is included in Appendix C.

The following table lists the reviewed environmental databases, the database compilation dates, the distances searched by Allands from the site boundary, and whether the site or a facility interpreted to be adjacent to the site was identified on each database.

Table 1. Regulatory Database Search Summary

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities	Site	Adjoining Site
Standard Federal ASTM Environmental Record Sources					
NPL (National Priorities List) / Proposed NPL / DOD (Department of Defense Sites)	10/07	1.0	0	No	No
Delisted National Priorities List	10/07	0.5	0	No	No
CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP)	10/07	0.5	0	No	No
RCRA (Resource Conservation and Recovery Act) Large and Small Quantity Generators	10/07	0.125	1	Yes	No
RCRA – CORRACTS TSDFs (Corrective Action Treatment, Storage, and Disposal Facilities)	10/07	1.0	0	No	No
RCRA – Non-CORRACTS TSDFs	10/07	0.5	0	No	No
ERNS (Emergency Response Notification System)	10/07	0.125	0	No	No
Standard State and Tribal ASTM Environmental Record Sources					
WQARF (Water Quality Assurance Revolving Fund) Areas	07/07	1.0	0	No	No
Superfund Program List (replaces ACIDS)	08/04	0.5	0	No	No
Solid Waste Facilities/Landfill Sites - Operating and Closed	05/99 & 5/04	0.5	0	No	No
Control Registries	07/07	Site and adjoining	0	No	No
Brownfields / Voluntary Remediation Program	07/07	0.5	0	No	No
Registered USTs (Underground Storage Tanks)	02/07	0.125	0	No	No
LUSTs (Leaking Underground Storage Tanks) Incident Reports	04/07	0.5	0	No	No
Additional Environmental Record Sources					
RCRA Compliance Facilities	07/07	0.125	0	No	No
Hazardous Materials Incidents Emergency Response Logbook	1984-06/01	0.125	0	No	No

Table 1. Regulatory Database Search Summary

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities	Site	Adjoining Site
Standard Federal ASTM Environmental Record Sources					
ADEQ Drywell Registration Database	12/07	0.125	0	No	No
Environmental Permits	07/07	Site	0	No	No
Arizona Department of Water Resources Well Registration Database	09/07	Site and adjoining	15	No	No

ENVIRONMENTAL RECORD SOURCE FINDINGS

The direction of regional and perched groundwater flow in the site area is generally toward the northwest, as discussed in Section 4 under *Summary of Regional Hydrogeology*. Based on the regional and perched groundwater flow directions in relation to the subject site and the location and status of the environmental database listing, database listings deemed to be potential RECs are discussed below.

Standard Federal ASTM Environmental Record Sources

Federal RCRA Database – Generators

Explanation. The Resource Conservation and Recovery Act (RCRA) database is a list of facilities that have obtained an EPA identification number due to their involvement in the generation, transportation, treatment, storage, or disposal of hazardous waste. The database is compiled and maintained by the EPA. RCRA generators are separated into the following categories:

- Large Quantity Generators (LQG) - produce at least 1,000 kilograms (kg) of hazardous waste per month;
- Small Quantity Generators (SQG) - produce more than 100 but less than 1,000 kg of hazardous waste per month;
- Conditionally Exempt Small Quantity Generators (CEG) - produce less than 100 kg of hazardous waste per month;
- Deactivated generator (DAG); and
- Deactivated transporter of hazardous waste (DAT).

These generator categories are further defined in the regulations regarding the types of hazardous wastes generated, and also the lengths of time the hazardous wastes are allowed to be stored at the facility. RCRA Generator listings do not necessarily indicate a REC. These types of listings are generally indicative of the potential for an environmental concern. This database is searched for the site and adjoining properties.

Search Results. The site was identified on the RCRA database.

Table 2. RCRA Generators Database Results

Facility	Address	Notification Date	Distance/Gradient Direction	Environmental Concern (Y/N)
Tucson, City of / Adkins Property	5460 E Ft Lowell Rd	2/22/2007	Site	N

The site was listed as a RCRA LQG. This was a one-time designation that resulted from the collection and removal of hazardous materials from the site during the cleanup performed in 2006, as discussed in Section 5; the amount of materials removed from the site during this cleanup placed the property into this generator category. This designation is not considered a REC for the site.

Standard State and Tribal ASTM Environmental Record Sources

No listings were identified within the respective search distances from the site on the reviewed state and tribal environmental record sources reviewed.

Additional Environmental Record Sources

Arizona Department of Water Resources Well Registration Database

Explanation. The Arizona Department of Water Resources (ADWR) Well Registration Database contains information provided to the ADWR Operations Division by well drillers and/or owners of wells.

Search Results. Fifteen registered well listings were identified in the Allands report. SCS also reviewed the ADWR Fortis on-line registered well database for the well listings. A total of fifteen wells were located in the vicinity of the site; two wells were located in the same approximate quarter-quarter-quarter section as the site. Groundwater levels were provided for ten of the well listings, ranging from 35 to 175 feet bgs. Owners of the wells and stated uses included private individuals for domestic use (six wells), Southwest Gas Corporation for cathodic protection (three wells), Tucson Medical Center - domestic use (three wells), City of Tucson for municipal use (two wells), and Commonwealth Land for domestic use (one well). None of the listings appeared to be on the site. The two City of Tucson wells appear to have been abandoned. The two wells within the same quarter-quarter-quarter section as the site also appeared to have been abandoned. According to the records that were reviewed, the wells were abandoned in October 2000.

4 RECORDS REVIEW – PHYSICAL SETTING SOURCES

STANDARD PHYSICAL SETTING SOURCE – USGS 7.5-MINUTE TOPOGRAPHIC MAP

The United States Geological Survey (USGS) 7.5-minute topographic map containing the site, *Tucson North, Arizona*, was obtained and reviewed to evaluate the topographic characteristics of the site area. The reviewed map was dated 1984. Also reviewed was a topographic layer on the PCDOT MapGuide website, which showed elevation contours at 2-foot intervals for the site area.

The maps showed the elevation on the site as approximately 2,446 to 2,454 feet above mean sea level. The topography of the site was shown as sloping downward toward the north-northwest at approximately 80 feet per mile toward the Rillito River, which is located about 0.5 mile north of the site; the Pantano Wash, located about 0.4 mile east of the site, flows into the Rillito River northeast of the site. The rivers are dry except during rain storms. Copies of topographic maps of the site area are provided in the *Allands Regulatory Database Search Report* in Appendix C.

OTHER PHYSICAL SETTING SOURCES

Summary of Local Geology

The site is within the Basin and Range Physiographic Province, which is characterized by broad alluvial-filled basins bounded by steep, fault-block mountains. The Tucson Basin is a structural depression within the Basin and Range Physiographic Province. The Tucson Basin fill deposits are characterized by three stratigraphic units (from bottom to top): the Pantano Formation, the Tinaja beds, and the Fort Lowell Formation. Overlying the Fort Lowell Formation are younger, well-preserved surficial alluvium terrace deposits.

The Pantano Formation is thousands of feet thick, and consists of conglomerate, sandstone, mudstone, gypsiferous mudstone, volcanic flows and tuffs, landslide debris, and megabreccia lenses. The Tinaja beds are also thousands of feet thick, and the upper, middle, and lower units consist of silty gravel, conglomerate, volcanic flows and tuffs, gypsiferous and anhydritic clayey silt and mudstone, and sand and clayey silt in the central portion of the basin, grading to gravel and sand near the mountains at the edges of the basin. The Fort Lowell Formation is generally 300 to 400 feet thick, and consists of unconsolidated to moderately consolidated sediments grading from silty gravel at the basin margins to a sandy silt and clayey silt in the center of the basin. The surficial alluvium terrace sediments are generally thin (averaging 30 to 70 feet in thickness) and silty, and become younger and lower in relief closer to the Santa Cruz River (Anderson 1987; McKittrick 1988; Murphy and Hedley 1984).

Summary of Regional Hydrogeology

The site is located within the Tucson sub-area of the Upper Santa Cruz Basin area, in the Tucson Active Management Area. The Pantano Formation, Tinaja beds, and Fort Lowell Formation form a single aquifer; however, the primary source of groundwater in the Tucson sub-area is the Fort

Lowell Formation. The site is located approximately 0.5 mile south of the Rillito River and 0.4 mile west of the Pantano Wash.

Depth to groundwater measured in wells shown on the Murphy and Hedley (1984) map within approximately one mile of the site ranged from 15 to 194 feet below ground surface (bgs). Regional groundwater flow in the vicinity of the site was shown on the Murphy and Hedley (1984) map to be generally toward the northwest. Groundwater flow direction and gradient may be significantly influenced by localized sources of withdrawal and recharge, such as irrigation wells and unlined channels, respectively.

5 RECORDS REVIEW – HISTORICAL USE INFORMATION

STANDARD HISTORICAL SOURCES

A summary of the standard historical sources and the dates researched is provided in the table below.

Table 3. Standard Historical Source Summary

Dates	Aerial Photos	Sanborn Maps	Topographic Maps	City Directories	Building Records	Land Title Records	Other
Pre-1900							1874, 1886 ¹
1900-1904							
1905-1909							
1910-1914							
1915-1919							
1920-1924							
1925-1929						1928 (earliest title reviewed)	
1930-1934				1932			1933 ¹
1935-1939				1937			
1940-1944				1940			
1945-1949				1946			
1950-1954	1953			1951, 1953			
1955-1959				1955			
1960-1964	1960			1962			
1965-1969	1967			1967	1965		
1970-1974	1973			1974			
1975-1979	1979						
1980-1984			1984	1983	1980, 1982		
1985-1989	1988			1989	1984, 1986		
1990-1994	1994			1990			1991 ²
1995-1999	1998			1995			
2000-2004	2000, 2002, 2003			2001			
2005-2009	2005, 2006			2005, 2007	2007		2006, 2007 ²
Able to determine date when site was undeveloped:				<input checked="" type="checkbox"/> YES		<input type="checkbox"/> NO	

Note: Dates shown without highlighting did not have coverage for the site.

¹ Surveyor General's Office maps

² Reviews of previous reports, maps, and assorted other documents

Aerial Photographs

Historical aerial photographs of the site were reviewed for the period 1953 through 2006 to evaluate past uses of the site and adjoining area. Historical aerial photographs were reviewed at Cooper Aerial Survey Company for the years 1953, 1960, 1967, 1973, 1979, 1988, 1994, and 2000 and on the Pima County MapGuide website for the years 1998, 2002, 2003, 2005, 2006, and 2007. In addition, a 2002 aerial photograph was included in the Allands *Regulatory Database Search Report* in Appendix C. Copies of selected historical aerial photographs are included in Appendix D. The most recent historical aerial photograph showing the site after

removal of equipment, vehicles, and debris is used as a base for Figure 2 in Appendix A. The historical aerial photograph from 2005 showing the site prior to cleanup is used as a base for Figure 3 in Appendix A.

Site

In 1953, the site was occupied by the shop building and two residential buildings on the northern portion of the site and three buildings, two building remnants, and the concrete water tank on the south portion of the site; the different areas of the site were delineated by fences or some other means of marking boundaries. Material storage was located south of the west residence. A concrete pad was located south of the shop building. Several parked vehicles were present throughout these areas of the site. In 1960, additional vehicles and materials were visible in the central portion of the site and south of the shop building.

In 1967, approximately four tanks were visible south of the shop and additional materials were visible throughout the central portion of the site. In 1973, approximately 25 tanks were visible south of the shop and east of the concrete pad. Additional vehicles and materials were visible throughout the central portion of the site. The buildings on the southwest portion of the site no longer had roofs.

In 1979, increased amounts of materials were visible south of the shop building, large sheets of steel were located in the central and east-central portions of the site, and approximately 30 vehicles were located throughout the site. In 1988 through 2006, the site appeared essentially the same.

Adjoining Properties

North. In 1953, the road adjoining the north boundary of the site appeared unpaved; the road appeared paved in 1960. A group of five structures with a common roof and vacant desert crossed by dirt roads were located north of the road, north of the site. Northwest of the site was a structure. These properties appeared much the same through 2006, except for some building additions.

East. In 1953, the road adjoining the east boundary of the site appeared unpaved; the road appeared paved in 1960. In 1953 and 1960, the area east of the road, east and southeast of the site, consisted of vacant land crossed by numerous dirt roads, with a structure in the central portion of the property. Linear features visible on the ground surface indicated that the structures located on the south portion of the site were previously associated with former structures located east of the site. A park with baseball diamonds, a swimming pool, additional structures, parking areas, a pond, and grass areas was located on this property from 1967 through 2006.

The property located east of the road, northeast of the site, appeared to be occupied by the same structure, possibly residential, in the 1953 through 2006 aerial photographs.

South. In 1953 and 1960, the area south and southwest of the site was vacant undeveloped desert; south of the undeveloped desert was a dirt road. In 1967 through 2006, the current church was visible south of the road and the area to the southwest contained residences.

West. The area west of the site was vacant desert in the 1953 through 1988 photographs. In 1988, a residence was located west of the southern portion of the site; this area was developed with multiple residential properties in 1994 through 2006. From 1998 through 2006, a residence was present west of the northern portion of the site.

Fire Insurance Maps

Historical fire insurance rate maps, such as those published by the Sanborn Map Company, show locations of structures and other features, and uses of buildings for numerous cities in the United States. There was no coverage for the subject site or adjoining properties.

USGS 7.5-Minute Topographic Maps

The USGS 7.5-minute topographic map containing the site, *Tucson North, Arizona*, was obtained and reviewed. The reviewed map was dated 1984. Five structures were shown on the site. Fort Lowell Park was shown east of the site. Structures were shown north, northeast, and south of the site. A copy of the topographic map of the site area is provided in the *Allands Regulatory Database Search Report* in Appendix C.

Local Street Directories

City directories identify occupants of listed addresses; later directory listings also identify the first year a particular listing was published. SCS performed a search of city directories at the Tucson-Pima Public Library in approximate five-year intervals for addresses in the vicinity of the site from 1932 to 2007. If a particular directory was not available, the directory with the closest available year was reviewed. The following city directories were reviewed: 1932, 1937, 1940, 1946, 1951, 1953, 1955, 1962, 1967, 1974, 1983, 1989, 1990, 1995, 2001, 2005, and 2007.

The 1932 through 1951 directories did not list occupants for the site addresses. Adkins Steel Manufacturing and residences were listed in the 1953 through 2007 directories for the site addresses.

Building Department Records

An on-line search of Pima County Development Services permits was conducted. No permits were identified for the site.

A search was performed at the City of Tucson Building Permit Records for the site addresses 5444, 5450, and 5460 East Fort Lowell Road and 2951 North Craycroft Road. No records were found for 5460 East Fort Lowell Road or 2951 North Craycroft Road. Records for 5444 East Fort Lowell Road included a 1982 business license and contractor permit for Adkins Sprinkler Systems and an expired 1984 electrical permit. Records for 5450 East Fort Lowell Road contained a 1965 electrical permit for connection to a sheet steel roller, a 1980 business license for Adkins Steel Manufacture, a 1986 City of Tucson Hazardous Materials Information sheet that did not list any hazardous materials, and a 2007 UST removal permit.

Property Tax Files

Parcel information, plat maps, and other information were reviewed for the site parcel on the Pima County Assessor website. The site is located on APN 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. The site parcels are owned by the City of Tucson.

City and County Departments of Transportation and Urban Planning

Aerial photographs (1998, 2002, 2003, 2005, and 2006), parcel information, plat maps, site topography, sanitary sewer locations, and other information were reviewed for the site parcel on the PCDOT website and the City of Tucson Department of Transportation (COT DOT) and Urban Planning and Design website. The site was shown as being annexed by the COT in 1959. COT zoning on the site parcel was shown to be R-1 (single-family residential); adjoining parcels had zoning shown as R-2 (medium density residential), HR-1 (historic single-family residential), and HRX-2 (historic low density residential). The site was shown to be within a historic district registered with the National Historic Registry.

Owners of properties adjoining the site parcel were shown as the City of Tucson to the north, east, southeast, and northeast; a trust to the north and northwest; and La Sonrisa Home Owners Association Inc., private individuals, and trusts to the south, southwest, and west.

The water service provider in the site area was shown as Tucson Water. Pima County sanitary sewer lines were shown along Craycroft Road east of the site, dated 1964 and 1972. The site was shown within the Tucson Fire District. No landfills were shown on the site or adjoining properties. The aerial photographs are discussed at the beginning of this section, under *Aerial Photographs*.

Recorded Land Title Records

A historical chain of title search back to 1928 was performed by Allands. The Historical Chain of Title Search's title plant date is December 28, 2007. The title plant date is the date of the report that reflects the most current data made available by the information sources used at the time the research was performed. A copy of the Allands *Historical Title Report* is provided in Appendix E.

Title to the site parcel is currently held by the City of Tucson, and has listed the APNs 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. Owners of the site parcels since 1928 have been various private individuals that were apparently primarily members of the Adkins family and OT Gila, LLC. The site parcels were acquired by COT in 2006. Parcel maps for the site are included in the Allands report.

OTHER HISTORICAL SOURCES

Land Survey Maps

A land survey map by the Surveyor General's Office for the township and range containing the site section indicated the area was surveyed between 1871 and 1873 and filed in 1874. The map showed a cluster of at least eight structures, at least some of which were on the site, and the label

“Commanding officers building at Fort Lowell.” An undated supplemental plat map showed the area of the Camp Lowell Military Reservation; this area included the site section. A third land survey map by the Surveyor General’s Office showed the site section located within the abandoned Camp Lowell Military Reservation (surveyed from 1930 to 1932 and filed in 1933).

History of Fort Lowell

Historical information regarding Fort Lowell and the Adkins site was reviewed on the website for the Old Fort Lowell Neighborhood Association. According to information on the website, the area of the former fort contains archaeological evidence, such as potsherds, that indicate the presence of a large community of prehistoric Hohokam people between 700 and 1200 AD at what is called the Hardy Site. Camp Lowell, which had originally been located in the town of Tucson, was moved to the Fort Lowell and Craycroft Roads location in 1873. The post was used as a supply base for other army posts, protection for citizens against Indian attacks, a guard for supply trains, and protection of settlers. The Camp Lowell Army Post was renamed Fort Lowell in 1885. The post had approximately 30 adobe buildings, including housing, a hospital, a commissary, stables, a store, a guard house, kitchens, and parade grounds. The post was abandoned by 1891.

A plan of Fort Lowell dated 1880 showed three Officers’ quarters, three Officers’ kitchens, and three privies on the south portion of the site south of Cottonwood Lane/Officers Row. In the north portion of the site were a guard house, bake house, and Adjutant’s office. The Parade Grounds were located east of these buildings and north of Cottonwood Lane on the northeast portion of the site. A copy of this map is included in Appendix F.

In 1900, Mrs. Dolly Cates purchased the southwest portion of the former fort property from the Cole family. In 1905, she opened a tuberculosis sanitarium on the site, using the Officers’ quarters and adding cabins and other facilities; these structures included the vacant residence and adobe ruins currently located on the south portion of the site. In 1928, the sanitarium property was purchased by Harvey Adkins, who also built a residence on the site in 1934. Adkins Steel and Tank Manufacturing Company operated on the site from 1934 through 2006; the shop building was constructed in 1954. The City of Tucson purchased the site in 2006 in cooperation with Pima County.

HELPFUL DOCUMENTS

Previous Phase I ESA

SCS performed a previous Phase I ESA investigation for the COT as discussed in the report *Environmental Site Assessment for Adkins Steel Property, 5460 East Fort Lowell Road, Tucson, Arizona*, dated February 11, 1991. A copy of this report is included in Appendix G. The site was occupied by Adkins Steel at the time the assessment was performed; the manufacture of steel tanks was the primary use of the site, which included cutting, bending, sanding, welding, and painting processes. The residence east of the shop building and the residence in the southeast corner of the site were occupied. Significant amounts of debris, equipment, and material stockpiles were observed stored on the site, including vehicles, vehicle parts, appliances, metal tanks, miscellaneous steel, scrap metal, buckets, containers, and other materials.

A water well and storage tank were observed in the northeast portion of the site. One diesel AST was observed east of the shop building. One gasoline UST was located west of the shop building; according to Mr. Adkins, the UST was 3,000-gallons in size, was approximately seven years old, and was no longer in use. Approximately forty 55-gallon drums were observed throughout the site, 12 of which were between the shop building and the concrete pad to the south. About 20 of the drums were full or partially full, and the rest were empty or had unknown contents. Contents included lubricants and rust inhibitors, and one was labeled “contaminated methyl-alcohol, cleaning solvent”.

Soil staining was observed in many locations, including the vicinity of the shop building, 55-gallon drum storage areas, adjacent to the concrete pad and work areas, beneath the AST, and other locations. Stained areas of limited extent included several locations where waste motor oils and oil filters were disposed, such as near the southwest corner of the shop building. A dark granular material, likely associated with metal grinding, sanding, or cutting, was observed on the ground in the area east of the concrete pad used for sanding and grinding of steel plates.

An earthen cesspool was observed in the south portion of the site. The opening was approximately 10 feet in diameter and was filled with liquid to a depth about 4 feet bgs; the bottom of the pit could not be determined. An approximately 4-inch diameter pipe entered the pit from the west at about 3.5 feet bgs. Soil staining and about 30 discarded oil filters were next to the pit.

According to interviews with Mr. Adkins, his family purchased the site in the 1920s and steel tank manufacturing began in 1946; construction of the buildings on the site occurred in the 1880s for the adobe structures in the south portion of the site, the 1930s for the two residential structures on the north portion of the site, and the 1950s for the shop building. Information from the historical aerial photograph and city directory reviews in the previous Phase I ESA report are included in the respective discussions presented earlier in this Section.

No listings were identified on regulatory environmental databases in the previous Phase I ESA report except for registered wells in the vicinity of the site.

A limited soil sampling investigation was performed by SCS in 1991. Twelve samples were collected from surface soils, except for the cesspool sample, which was collected from 7 feet below grade. The samples were collected from the following areas:

- Stained soil north, south, and southwest of the shop building;
- Stained soil at the diesel AST;
- Stained soil at the drum storage areas;
- Stained soil from a battery storage area;
- Stained soil at the south side of the concrete pad;
- Granular materials in the grinding area;
- Sludge in the cesspool; and
- Stained soil adjacent to the cesspool.

Concentrations of total petroleum hydrocarbons (TPH) ranged from 168 to 78,900 mg/kg; the highest concentration was detected in samples collected from the cesspool and adjacent to the

cesspool. Detected volatile organic compounds (VOCs) included acetone (75 to 190 ug/kg), toluene (10 and 11 ug/kg), 4 methyl-2-pentanone (140 ug/kg), and xylenes (11 ug/kg). Lead concentrations in two samples were 150 and 610 mg/kg.

Two slanted borings were drilled to 30 feet bgs on the west side of the gasoline UST. Samples from depths of 20 and 30 feet in the borings were analyzed for TPH; none was detected.

A preliminary asbestos inspection was performed consisting of collection of 10 suspect asbestos-containing materials (ACMs) from the shop building and the west residence. Access was not provided to the other residences on the site. Materials collected included roofing materials, interior and exterior walls, exterior patching, ceiling tiles, plaster, and tile adhesive. Asbestos was not detected in these 10 samples.

The report recommended remediation of near-surface soils that exceeded the suggested soil cleanup levels for TPH in effect at that time; excavation, removal, and investigation of the cesspool; removal of the granulated material containing elevated concentrations of lead in the grinding and sanding area; registration and removal of the gasoline UST; and removal of equipment, debris, and other materials on the site and subsequent inspection of previously obscured areas.

Site Cleanup Activities

SCS visited the site on February 24, 2006 and May 10, 2006 to observe site conditions. Materials observed on the site at that time included numerous tires, vehicle batteries, paint cans, oil, compressed gas tanks, 55-gallon drums, oil filters, transite pipes, and other miscellaneous containers and materials. SCS subsequently observed the collection and removal of materials from the site by Southwest Hazard Control (SHC) in June and July 2006 and April 2007, as described below:

- On June 1 and 2, 2006, SCS observed the collection of hazardous materials and petroleum products from the site by SHC. Identified materials were placed in a staging area on the western portion of the site. Solid waste materials were placed in a roll-off container for later disposal. Materials collected included chlorine pool care tablets; rust coating; vehicle batteries; 55-gallon drums of assorted greases, oils, paint, paint thinners, and water; 55-gallon and 30-gallon drums of roofing cement; paint cans; Freon containers; and fire extinguishers. SHC packed, profiled, and later removed the materials from the site for disposal.
- SCS observed the collection of tires on the site by City staff on June 12 through 13, 2006. Tires without rims were collected and placed into two roll-off containers for later removal. During this work, additional hazardous materials were identified, including batteries, paint cans, a Freon container, and other containers. SHC was on site on June 13, 2006 to collect these materials for profiling and removal.
- On July 24 and August 1, 2006, SCS observed the collection of tires with rims on the site by City staff. The tires were placed in one roll-off container.

- On July 28, 2006, SCS observed the collection of asbestos-containing transite pipes at the site by SHC. Approximately 13 pipes and smaller pipe segments were wrapped and removed from the site for disposal.
- On April 5 and 9, 2007, SCS observed the collection of remaining hazardous materials, asbestos tiles, and pieces of asbestos pipes by SHC on the site; asbestos tiles were also located on the porch roof of the south residence, but were not removed. The materials were packed, wrapped, profiled, and removed from the site later in the week. During this time, after the Adkins family and business had moved off the site, solid waste materials were also being collected and removed from the site by a contractor retained by the COT.

UST Closure Investigations

On August 16, 2007, SCS supervised the removal of a 3,000-gallon gasoline UST west of the shop building, a 450-gallon diesel fuel UST east of the shop building, associated piping, and dispenser and performed soil sampling for closure of the UST systems. A buried brick wall was encountered at the south end of the excavation for the west UST, and work was temporarily halted in this area while archaeologists with Pima County examined the area. Upon removal, both USTs were observed to be in good condition with no apparent holes, except some damage caused during excavation and removal activities.

SCS collected one soil sample from beneath the center of the east UST, two soil samples from beneath the ends of the west UST, four soil samples from beneath the west UST piping at approximately 20-foot intervals, one soil sample from beneath the former dispenser location, and two soil samples from excavated soil stockpiles. No odors or staining were observed, except for faint petroleum odors observed at the east end of the excavated piping. Following sampling, the UST excavations were backfilled with the excavated soil and clean imported fill soil.

The closure samples were analyzed for fuel hydrocarbons and benzene, ethylbenzene, toluene, and xylenes (BTEX) in accordance with ADEQ guidelines for gasoline and diesel UST closures. No fuel hydrocarbons (carbon range C₆-C₃₂) or BTEX were detected at concentrations exceeding the laboratory reporting limits in the soil samples collected from beneath the USTs, piping, dispenser, or from the stockpiled soil for the west UST. Only the sample of stockpiled soil from the east UST (EUST-SP-1) contained detectable concentrations of petroleum hydrocarbons.

There are currently no Arizona Soil Remediation Levels (SRLs) for petroleum hydrocarbons; however, based on the Residential SRLs that were in effect prior to 2007, these concentrations did not exceed the previous standards. Based on the non-detect result for the sample collected beneath the east UST, the fact that an diesel fuel AST was also previously at this location, and surface soil staining was common around the shop building, SCS did not believe that the hydrocarbons detected in the stockpiled soil represented a release from the east UST, but rather surface soil impacts by unspecified activities. Therefore, based on visual observations and laboratory results, there did not appear to have been a release from either of the two UST systems.

Surface Soil Investigations

In November 2007, SCS collected surface soil samples from areas with potential impacts, such as staining or areas where vehicle batteries, drums, ASTs, or other containers of petroleum hydrocarbons or hazardous materials were stored. Seventeen soil samples were collected and analyzed for hydrocarbons (C₁₀-C₃₂) using ADHS Method 8015AZ, volatile organic compounds (VOCs) using EPA Method 8260B, polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8310, and eight RCRA metals using EPA Methods 6010/7471.

Compounds detected in the samples included hydrocarbons; the PAHs benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, fluoranthene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene; and the metals arsenic, barium, cadmium, chromium, lead, and mercury. VOCs were not detected at concentrations exceeding the laboratory reporting limits in the soil samples.

Compounds that exceeded Arizona Residential Soil Remediation Levels (RSRLs) or Non-Residential Soil Remediation Levels (NRSRLs) included the PAHs benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and indeno[1,2,3-cd]pyrene and the metals arsenic and lead. There are currently no Arizona Soil Remediation Levels (SRLs) for hydrocarbons; however, the concentrations in five of the samples (all of which exhibited staining or odors) exceeded the former RSRL (4,100 mg/kg) or NRSRL (18,000 mg/kg) for hydrocarbons that were in effect prior to May 2007.

Eight of the samples had concentrations of chemicals that exceeded the current SRLs; of these, seven samples had concentrations of chemicals that exceeded the RSRLs and three samples had chemicals that exceeded the NRSRLs. Several of the areas appear to be limited in extent and the result of spills or leaks at a relatively defined location. A map showing the sample locations and results is included as Figure 4 in Appendix A.

Well Investigations

On September 18, 2007, a video survey of each of the three wells on the site was performed. None of the interiors of the steel well casings could be observed. The interior of the south and west well casings could not be observed due to the presence of debris (lumber, piping, etc.). The interior of the east well casing could not be observed because of the presence of pump piping and cables remaining inside the well casing. The three wells were covered by steel traffic plates in January and February 2007. The following describes what was known about the three wells at the time this report was prepared. It is based on observations of the three wells, interviews with the former owner Mr. Adkins, and the well videos,

According to Mr. Adkins, all three wells were hand dug to 40 feet bgs, and when those wells went dry, steel well casings were placed in the center of the old wells to depths of 100 feet bgs. These redrilled wells also reportedly went dry.

The west well, located southwest of the west residence, had an approximately 5 x 5 foot concrete pad at the ground surface. Concrete extended down the side of the well to a depth of about 5 feet bgs; below that, the side of the well may have had some sort of concrete or stucco coating. The upper hand-dug portion of the well was about 4 feet in diameter and reportedly extended down to

about 40 feet bgs. The top portion of the central steel well casing was at 31 feet bgs and reportedly extended to 100 feet bgs. The top of debris in the well was at about 32 feet, with a board lodged in the well casing. Debris extended from 32 to 40 feet bgs, depending on the actual depth of the upper well.

The south well was adjacent to a large concrete water tank on the east and historical adobe ruins on the south and north. This well had an approximately 5- or 6-foot square concrete pad on the ground surface. The upper well appeared to be lined with concrete and was approximately 4 feet diameter. A small diameter metal pipe in this well was cut off so that the steel traffic plate could be placed over the well. The central steel well casing was not visible due to debris that started at about 20 feet bgs and extended to 40 feet bgs, depending on the actual depth of the upper well.

The northeast well, located south of the northeast residence, had a windmill frame over the well and was located adjacent to an elevated water tank. The "pit" below the windmill was about 7 feet deep, 7 feet wide, and about 9 or 10 feet long. The old hand-dug well was reportedly below this pit and was reportedly constructed in the same manner as the other two wells. A 7-inch diameter central steel well casing and other piping extended up out of the ground in the center of the pit; the interior of the well casing could not be viewed because the pump equipment was still in the well.

6 INTERVIEWS

INTERVIEW WITH OWNER

An owner questionnaire was completed on February 12, 2008 by Ms. Lynne Birkinbine of the City of Tucson Environmental Services (COT ES). A copy of the owner questionnaire is provided in Appendix H. Ms. Birkinbine stated that the site is currently COT Parks and Recreation property and was previously occupied by Fort Lowell, a sanitarium, and a steel tank manufacturing facility and junk yard. Three originally hand-dug wells were on the site; the COT currently provides water to the site. Sewage service is not provided to the site; approximately four septic systems have been identified on the site at the houses and the shop building. Two USTs were previously on the site east and west of the shop building. Hazardous materials and petroleum products were used and stored on the site, and were removed by the COT in 2006 and 2007; a list of materials removed and the amounts is included in Appendix H. Two ASTs were previously located on the site east of the shop building and near the south residence. Adjoining properties have not been a concern to the site. There has been no litigation relevant to hazardous substances or petroleum products in, on, or from the site.

INTERVIEW WITH SITE MANAGER

There were no managers of the site other than discussed above under the site owner section.

INTERVIEW WITH OCCUPANTS

At the time of the site reconnaissance, there were no occupants of the site. During 2006 and 2007, SCS assisted the COT with cleanup of the site. During this time, the site was occupied by Adkins Steel and was still producing steel tanks. Mr. Harry Adkins, previous owner of the site and the former steel tank manufacturing business located on the site, was interviewed by SCS at various times regarding site features, historical information, and past practices. This information is included in the relevant sections of the report. Mr. Adkins' daughter had been living in the south residence until 2006.

INTERVIEWS WITH STATE AND/OR LOCAL GOVERNMENT OFFICIALS

Fire Department

SCS contacted Ms. Rachael Duarte of the City of Tucson Fire Department (TFD) for a search of UST and AST records for the site addresses. Ms. Duarte stated that there was a record for 5450 East Fort Lowell for removal of USTs in 2007. This is discussed in Section 5 under *UST Closure Investigations*. Ms. Nicki Singleton of TFD was also contacted for a search of records of environmental response at the site addresses. Ms. Singleton stated that there were no records of environmental responses for the site from January 1, 1995 to January 15, 2008.

7 USER PROVIDED INFORMATION

A user questionnaire was completed on January 16, 2008 by Ms. Lynne Birkinbine of COT ES. A copy of the user questionnaire is included in Appendix I. The information included on the questionnaire is discussed below in this section.

TITLE RECORDS

Historical title information was obtained by SCS from Allands, as discussed in Section 5 under *Recorded Land Title Records*. The *Allands Historical Title Report* is included in Appendix E.

ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS (AULS)

Ms. Birkinbine was not aware of environmental cleanup liens or activity and land use limitations (AULs) for the site.

A search of environmental liens, deed restrictions such as Voluntary Environmental Mitigation Use Restrictions (VEMURs) or Declaration of Environmental Use Restrictions (DEURs), and Arizona Department of Environmental Quality (ADEQ) AZURITE tracking system for the site was performed by Allands at the subject county recorder's office. No VEMURs, DEURs, environmental liens, brownfields, institutional controls, engineering controls, or AULs were found for the site. This information is included in the *Allands Regulatory Database Search Report* included in Appendix C and the *Allands Historical Title Report* included in Appendix E.

KNOWLEDGE OR EXPERIENCE REGARDING THE SITE

Ms. Birkinbine stated that she had assisted the previous owner, Mr. Harry Adkins, with removal of hazardous materials from the site and learned the history of the property from him. Past uses of the property included a tuberculosis clinic and a water tank manufacturing facility / junkyard. Petroleum products and batteries were previously located on the site. Ms. Birkinbine was aware of significant soil staining in the vicinity of the former shop building and in other areas where auto mechanic work had taken place. Indications of contamination included the previous owner's lack of housekeeping, industrial activities performed on the site, and soil staining observed at the site.

VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Ms. Birkinbine stated that the purchase price reflected fair market value of the property. The property is valuable due to the historic significance.

OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The current owner, property manager, and occupant of the site parcel are listed below.

- **Owner:** City of Tucson
- **Property Manager:** City of Tucson
- **Occupants:** None

REASON FOR PERFORMING PHASE I ESA

This assessment was performed for COT ES in order to evaluate potential environmental concerns on the site.

OTHER

There was no other user-provided information.

8 FINDINGS AND OPINIONS

SCOPE OF WORK

COT ES retained SCS to perform a Phase I ESA of the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The APNs for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. The ESA consisted of a site reconnaissance; interviews; review of environmental, historical, and physical records pertaining to activities on and adjacent to the site; and interpretation and reporting of findings.

CURRENT CONDITIONS

The site consisted of a vacant residential/commercial property crossed by unpaved driveways. Several structures, including a former shop building, three former residences, adobe ruins, and a few sheds were located on the site. Concrete pads and a concrete-lined trench containing a drywell were located south of the shop building. Soil piles containing broken asphalt, rocks, and gravel were located in the south portion of the site. Approximately five septic systems may be located on the site. Areas of stained soil, metal debris, and granular materials that were likely associated with metal grinding, sanding, or cutting activities were visible in the vicinity of the shop building and concrete pads and in the central and south portions of the site. An elevated water tank, old windmill tower, and water well were located in the northeast portion of the site. A large concrete water tank on a concrete base and a water well were located in the south portion of the site. A third water well was located in the western portion of the site. The three water wells on the site were unused because they had gone dry.

HISTORICAL REVIEW

Based on the historical information reviewed, the site may include a portion of an archaeological site known as the Hardy Site, which was a large community occupied by the Hohokam people between 700 AD and 1200 AD. In historic times, the site was developed in the 1870s as a portion of the Camp Lowell Army Post, later called Fort Lowell. Located on the site were three Officers' quarters, three Officers' kitchens, three privies, Cottonwood Lane, the Adjutant's office, a bake house, a guard house, and parade grounds. After the post was abandoned in 1891, the site was used as a tuberculosis sanitarium beginning in 1905. In 1928, Harvey Adkins purchased the property; the northeast and west residences were constructed in the 1930s. The site was occupied by Adkins Steel and Tank Manufacturing Company (Adkins Steel) from 1934 to 2006; the shop building was built in the 1950s. The COT acquired the site in 2006 through a land swap with a private developer.

Investigations performed by SCS at the site in 1991 included a Phase I ESA, limited sampling investigation, and limited asbestos sampling. SCS performed site cleanup activities in 2006 and 2007, including collection and removal of hazardous materials, ACMs, and tires. In 2007, SCS also performed closure of two USTs and a surface soil sampling investigation.

Observations of the site while it was occupied by Adkins Steel indicated that there were significant amounts of debris, equipment, and material stockpiles stored on the site, including

vehicles, vehicle parts, appliances, metal tanks, miscellaneous steel, scrap metal, buckets, containers, and other materials. A diesel fuel AST, a 3,000-gallon gasoline UST, a 450-gallon diesel fuel UST, numerous 55-gallon drums, and other containers were located on the site. Soil staining, metal debris, and granular materials that were likely associated metal grinding, sanding, or cutting activities were observed in many locations, particularly in the vicinity of the shop building, 55-gallon drum storage areas, adjacent to the concrete pad and work areas, beneath the AST, and at other locations. The current septic tank in the south portion of the site was reportedly placed in the former location of a cesspool, which was observed to contain oily liquids and was next to stained soil and used oil filters during a 1991 site visit.

Limited surface soil sampling performed by SCS in 1991 in areas of staining and at other locations identified detectable concentrations of hydrocarbons; in addition, a sample was collected from 7 feet below grade from the cesspool. The highest concentration of hydrocarbons was detected in the sample from the bottom of the cesspool. VOCs detected included acetone, toluene, 4 methyl-2-pentanone (aka methyl isobutyl ketone), and xylenes. Concentrations of VOCs did not exceed the current Arizona RSRLs or NRSRLs. The concentration of lead in one sample exceeded the current RSRL.

Eight surface soil samples collected by SCS in 2007 from areas of stained soil; areas where vehicle batteries, drums, ASTs, or other containers of petroleum hydrocarbons or hazardous materials were stored; and other areas of potential impacts observed at the site contained compounds that exceeded the RSRLs or NRSRLs, including the PAHs benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and indeno[1,2,3-cd]pyrene and the metals arsenic and lead. Also detected were petroleum hydrocarbons; the PAHs benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene; and the metals barium, chromium, and mercury.

ADJOINING PROPERTIES

Properties adjoining the site have consisted of vacant desert, a park, a church, and residences. Adjoining properties do not appear to be a REC for the site.

REGULATORY REVIEW

The site was identified as a RCRA large quantity generator; this designation was due to the removal and disposal of hazardous materials during site cleanup activities in 2006. Other environmental regulatory database listings identified in the vicinity of the site included fifteen registered wells. None of the identified environmental regulatory database listings appeared to be a REC for the site.

9 CONCLUSIONS AND RECOMMENDATIONS

RECOGNIZED ENVIRONMENTAL CONDITIONS

SCS has performed a Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05 and COT specifications for the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The APNs for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. Any exceptions to, or deletions from, this practice are described in Section 10 of this report. This assessment has revealed evidence of potential RECs in connection with the site as follows:

- Two unregistered USTs were previously located east and west of the shop building. However, SCS has removed both USTs and performed a closure investigation, as documented in our report dated October 8, 2007. No releases were identified from these USTs during the closure investigation. Therefore, no additional environmental investigation is recommended for these USTs.
- Numerous areas of soil staining and areas of soil containing large amounts of metal debris and granular materials likely associated with metal grinding, sanding, or cutting activities were observed on the site, particularly in the vicinity of the shop building and concrete pads south and southeast of the shop building.
- Numerous 55-gallon drums and other containers, batteries, scrap metal, debris, and equipment were observed throughout the site prior to cleanup.
- An AST for diesel fuel was previously located east of the shop building; stained soil was observed in this area.
- A cesspool located in the south portion of the site was observed in 1991 to contain oily liquid and stained soil and used oil filters were located next to the pit. A septic tank was later reportedly placed at this location. Four additional septic tanks may be located on the site in association with two residences and the shop restroom.
- A drywell was located in a concrete-lined trench used for steel bending equipment south of the shop building.
- Three unused water wells were located on the site.

RECOMMENDATIONS

SCS previously submitted a proposal with recommendations for additional environmental investigations at the site. Based on the findings of this Phase I ESA for the site, SCS recommends the following:

- Investigate the nature and extent of potential impacts to surface soils at the site in areas of stained soil; areas where vehicle batteries, drums, ASTs, or other containers of petroleum hydrocarbons or hazardous materials were stored; and other areas of potential impacts observed at the site. Limited soil sampling was performed by SCS in 1991 and 2007; several locations exceeded the RSRLs for arsenic, lead and several PAHs. Additional investigation should be performed at these locations to determine the extent of contamination.
- Investigate the nature and extent of potential impacts to subsurface soils using backhoe excavations and/or soil borings at the septic systems, the former cesspool, and the drywell in the concrete-lined trench.
- Register and abandon the three inactive water wells following ADWR guidelines.
- Perform an asbestos survey to evaluate the potential presence of ACMs in the structures on the site.
- Follow proper procedures for removal or abandonment of septic tank systems, which may be a geotechnical concern if not properly excavated and filled prior to construction or redevelopment.

10 DEVIATIONS AND ADDITIONAL SERVICES

Additions to the general ASTM scope of work for Phase I ESAs included the following: 1) geologic and hydrogeologic information for the site area was researched in order to assess the direction of regional groundwater flow in this area; and 2) additional environmental record sources were automatically included as part of the standard environmental database search report performed by Allands.

Certain business environmental risks associated with a property's current or planned use could have a material environmental or environmentally-driven impact on the business or real estate transaction. The assessment of business environmental risks may involve the investigation of considerations that are outside the subject of the ASTM standard practice (non-ASTM). No implication is intended as to the relative importance of inquiry into such non-ASTM considerations. COT ES did not request investigation of non-ASTM considerations as part of the Scope of Services.

11 REFERENCES

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- McKittrick, Mary Anne. 1988. *Surficial Geologic Maps of the Tucson Metropolitan Area*. Arizona Geological Survey Open-File Report 88-18.
- Murphy, B. A. and J. D. Hedley. 1984. *Maps Showing Groundwater Conditions in the Upper Santa Cruz Basin Area, Pima, Santa Cruz, Pinal and Cochise Counties, Arizona -- 1982*. ADWR Hydrologic Map Series Report Number 11.
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sanitary sewer locations, and other information. (<http://www.asr.pima.gov/> and <http://www.dot.co.pima.az.us/gis/maps/mapguide/>)

Pima County Development Services. On-line search for permits for the site parcel.

Pima County Procurement Department, Design & Construction Division. November 2007. *Solicitation for Qualifications, Professional Planning Services, Historic Fort Lowell Park Master Plan & Restoration Plan for Pima Cultural Resources Department, Tucson, Arizona.*

SCS Engineers. February 11, 1991. *Environmental Site Assessment for Adkins Steel Property, 5460 East Fort Lowell Road, Tucson, Arizona.*

SCS Engineers. November 21, 2006. *Summary of Site Activities, Adkins Property, 5460 East Fort Lowell Road, Tucson, Arizona.*

SCS Engineers. October 8, 2007. *Underground Storage Tank Closure Report, Former Adkins Property, 5450 East Fort Lowell Road, Tucson, Arizona.*

SCS Engineers. January 31, 2008. *Surface Soil Sampling Report, Former Adkins Property, 5450 East Fort Lowell Road, Tucson, Arizona.*

SCS Engineers. 2006 to 2008. Project files for the Adkins property documenting activities performed at the site.

Singleton, Nicki. City of Tucson Fire Department (TFD). Records Review (January 15, 2008)

Tucson-Pima Public Library. Review of city directories for the years 1932, 1937, 1940, 1946, 1951, 1953, 1955, 1962, 1967, 1974, 1983, 1989, 1990, 1995, 2001, 2005, and 2007.

Southwest Gas Company (SWG). Information regarding gas service to site addresses.

Surveyor General's Office. Officially filed January 2, 1874. *Township No. 13 South, Range No. 14, East Gila and Salt River Meridian.* Surveyed in 1871 to 1873.

Surveyor General's Office. Undated. *Township No. 13 South, Range No. 14, East Gila and Salt River Meridian, Office Supplemental Plat Segregating Camp Lowell Military Reservation.*

Surveyor General's Office. Officially filed December 21, 1933. *Township No. 13 South, Range No. 14, East Gila and Salt River Meridian.* Surveyed in 1930 to 1932.

United States Geological Survey (USGS). Topographic map dated 1984. *Tucson North, Arizona.*

12 QUALIFICATION AND SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This report, entitled *Phase I Environmental Site Assessment*, has been prepared for the former Adkins property at 5450 East Fort Lowell Road, Tucson, Arizona (site). The APNs for the property are 110-09-032A, 110-09-032B, 110-09-0330, 110-09-0340, and 110-09-0350. It has been prepared in accordance with the guidelines set forth in the American Society for Testing and Materials (ASTM) Standard E 1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. It has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned. Resumes for the personnel listed below are included in Appendix J.

Patricia M. Hartshorne, RG is a Senior Project Geologist in SCS's Tucson, Arizona office.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312.10. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Patricia M. Hartshorne, RG

Date

APPENDICES

APPENDIX A

FIGURES



Source: Live Search maps website, Microsoft Virtual Earth, 2007 or 2008

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

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City of Tucson Environmental Services
Former Adkins Property
5450 East Fort Lowell Road
Tucson, Arizona

Figure 2
Site and Vicinity Map

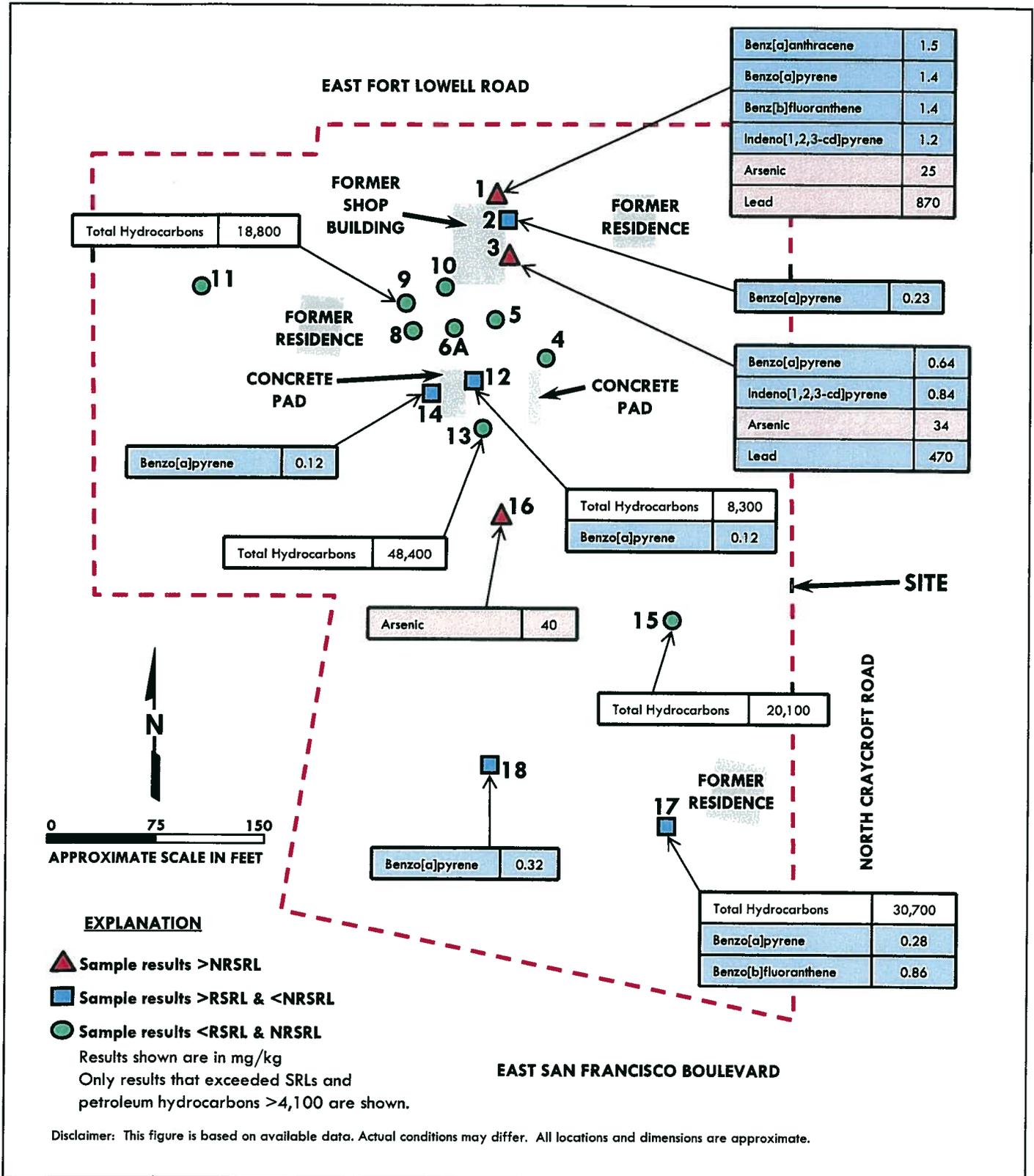
EXPLANATION

- A** Former Shop Building
- B** Vacant Residence
- C** Water Tank
- D** Former Windmill and Water Tank
- ⊗ Well
- ▲ Drywell
- Possible Septic Tank
- Cesspool/Septic Tank
- ▼ Pole-Mounted Transformer
- ▭ Former Underground Storage Tank
- ▭ Former Fuel Dispenser
- - - APPROXIMATE BOUNDARY OF SITE



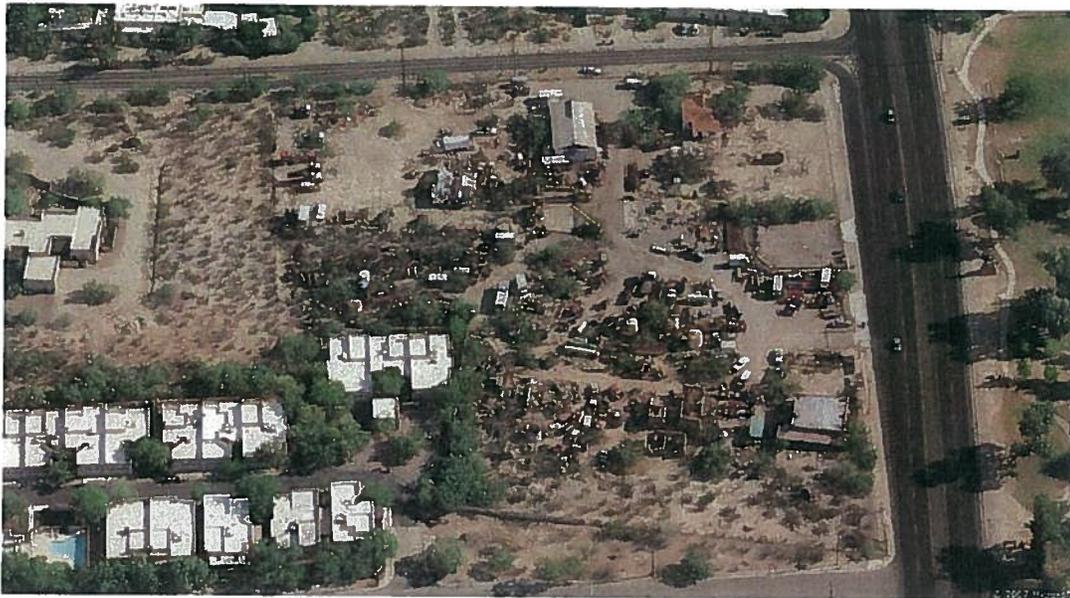
Source: PCDOT MapGuide Website, 2005 aerial

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.



APPENDIX B
PHOTOGRAPHS

RECENT AERIAL VIEWS OF THE SITE (MICROSOFT VIRTUAL EARTH, APPROXIMATELY 2006)



View of the site to the north.



View of the site to the east.



The northern portion of the site. View to the south.

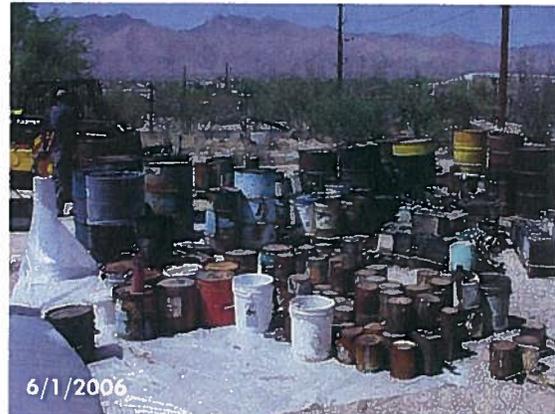


The southern portion of the site. View to the north.

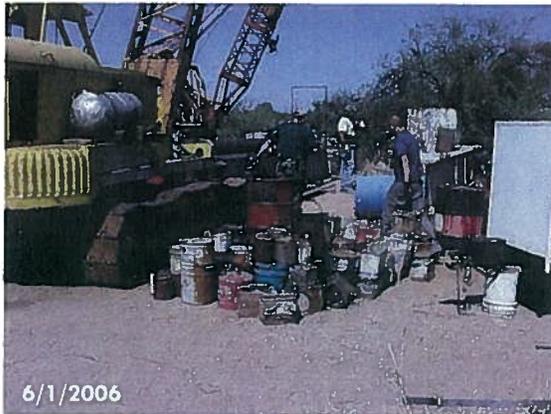
SITE CLEANUP ACTIVITIES - JUNE AND JULY 2006 AND JANUARY, MARCH, AND APRIL 2007



Lumber, transite pipe, concrete block, containers, and broken glass in the southwest portion of the site. View to the south.



Hazardous materials collected and staged in the north portion of the site prior to removal. View to the northwest.



Collecting hazardous materials in the south portion of the site for staging prior to removal.



Tires collected and placed in roll-off containers for removal from the site.



Collecting asbestos-containing transite pipe from the south portion of the site. View to the southeast.



Used oil containers and stained soil near the vacant residence on the south portion of the site. View to the north.

UST CLOSURE INVESTIGATION – AUGUST 16, 2007



Former shop building located on the north portion of the site. Shed containing former fuel dispenser is left of the building. View to the south.



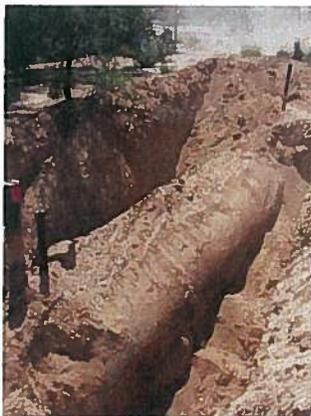
Interior of the dispenser shed. View to the south.



Former diesel fuel UST location east of the former shop building. View to the west.



Removal of the diesel fuel UST east of the shop building, south of the dispensing shed. View to the west.

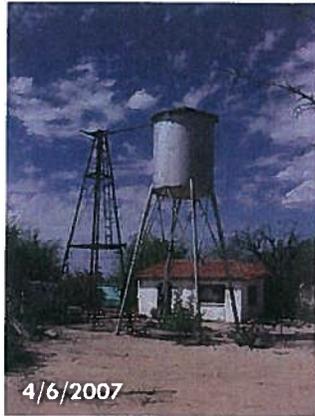


Excavation of the gasoline UST located west of the shop building. View to the south.



Excavation of UST piping north of shop building. View to the northwest.

SITE WELLS



Well, windmill tower, and water tank south of vacant residence. View to the north.



Lumber covering well opening at windmill. View to the south.



Steel traffic plates placed over well opening. View to the southeast.



Interior of well pit showing well casing, piping, and possible covered area in the center.



Well in the west portion of the site. View to the west.



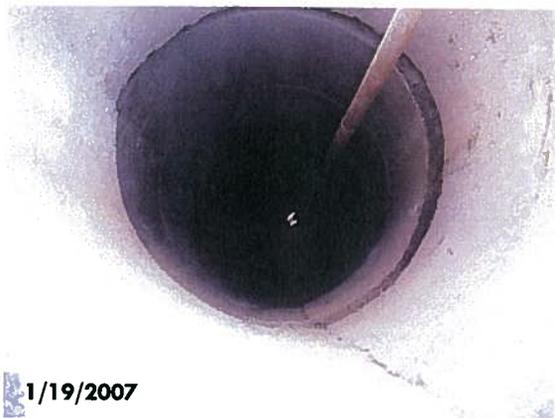
Interior of west well.



Placing steel traffic plate over west well opening. View to the northwest.



Well and piled lumber in the south portion of the site. View to the northwest.

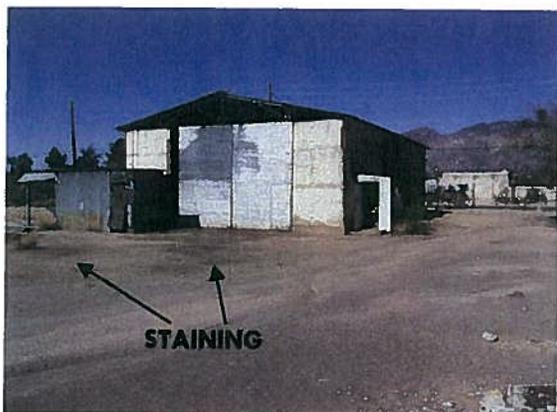


Interior of the south well.



Placing steel traffic plate over the south well opening. View to the northwest.

PHASE I ESA SITE RECONNAISSANCE – JANUARY 15, 2007



South side of the former shop building with a restroom on the right and sheds on the left. View to the north.



Stained concrete in the shop building. View to the northwest.



Stained soil and metal debris east of the concrete pad south of the shop building. View to the northeast.



Drywell in the concrete-lined trench at the former location of the steel plate bending machinery, south of the shop building.



Stained soil southeast of the concrete pad south of the shop building. View to the east.



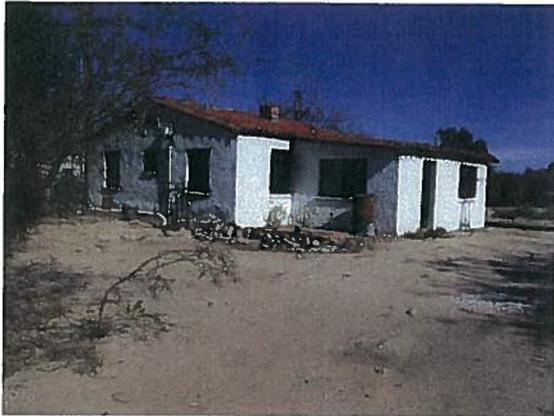
One of three apparent water valves in locked cylindrical vaults along the central driveway.



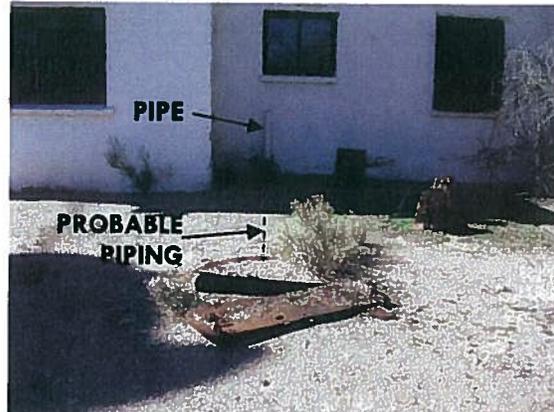
Stained soil southwest of the shop building at the former location of a shed. View to the north.



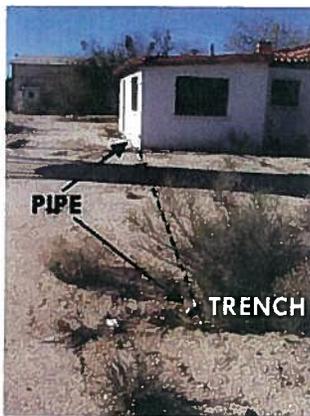
Former location of the west UST and pole-mounted transformers west of the shop building. View to the north.



Vacant residence in the northeast portion of the site.
View to the northeast.



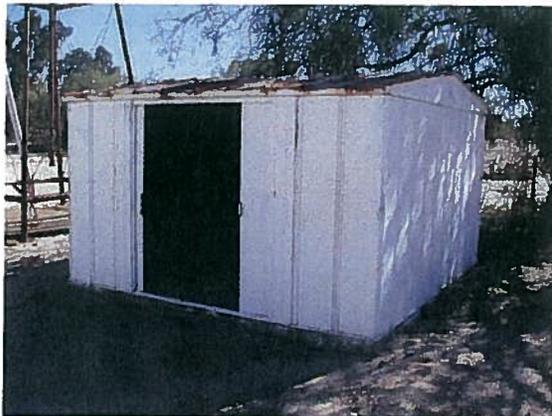
Apparent septic tank located east of the northeast residence. View to the west.



PVC pipe leading to a trench east of the residence, probably from a former washing machine. View to the west.



Interior of the northeast residence. View to the southwest.



Empty shed west of the well and windmill frame and south of the northeast residence. View to the southeast.



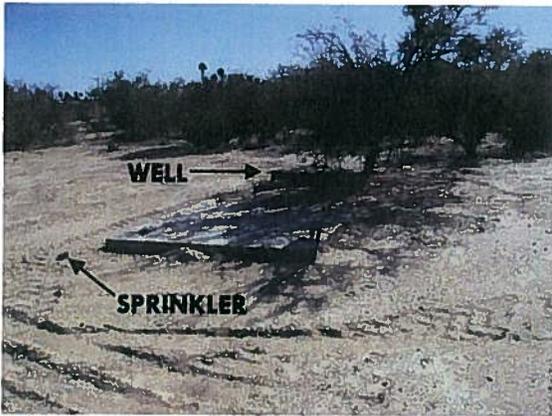
Vacant and deteriorating residence in the west portion of the site. View to the northeast.



Plastic hose in pit and probable septic tank location west of the west residence. View to the southeast.



Interior of west residence.



Irrigation sprinkler near the west well and a concrete pad in the west portion of the site, southwest of the west residence. View to the south.



Round concrete platforms in the far west portion of the site, southwest of the west residence; the former use was not determined. View to the east.



Northwest portion of the site, west of the west residence. View to the northwest.



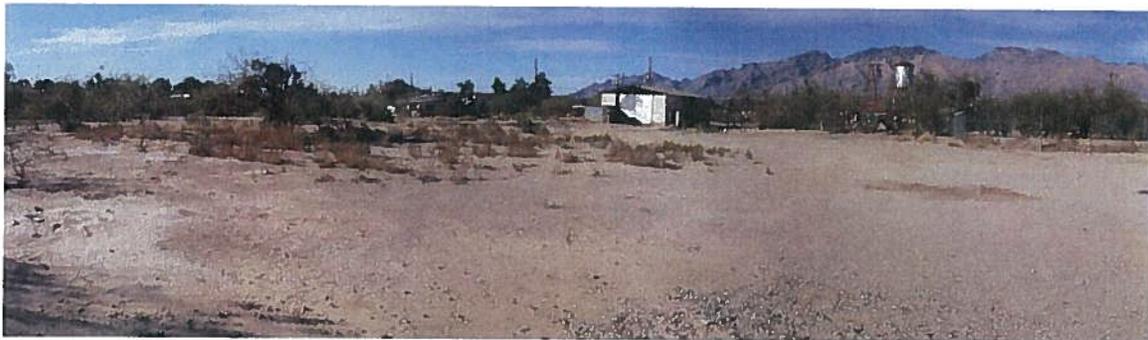
West-central portion of the site, south of the west residence. View to the northwest.



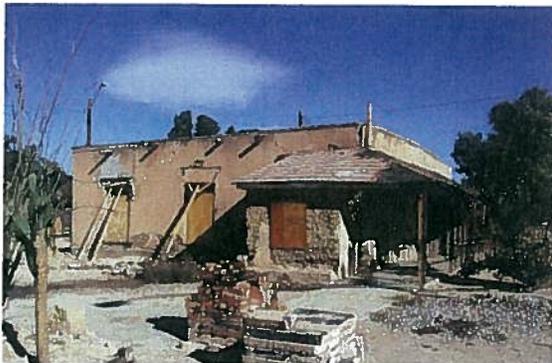
Concrete pad for a former trailer in the central portion of the site. View to the northeast.



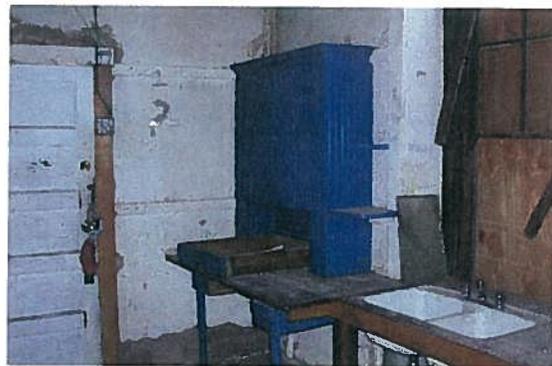
Fenced area on the east-central portion of the site. View to the northeast.



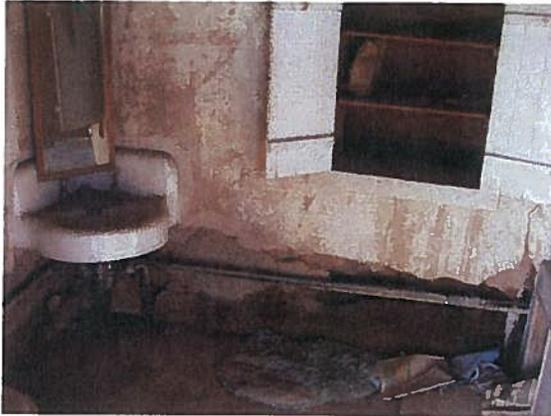
Panorama of the east and central portion of the site. View to the northwest.



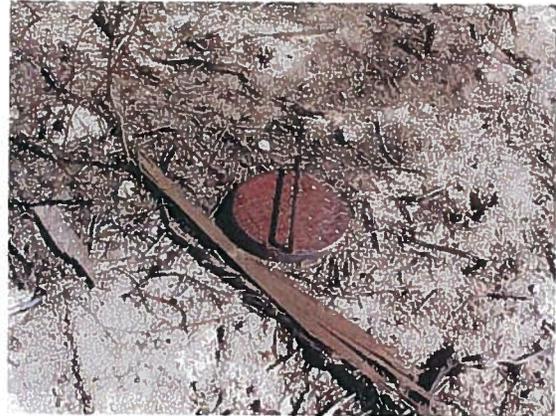
Vacant residence (former Fort Lowell Officers' quarters) located in the south portion of the site. View to the east.



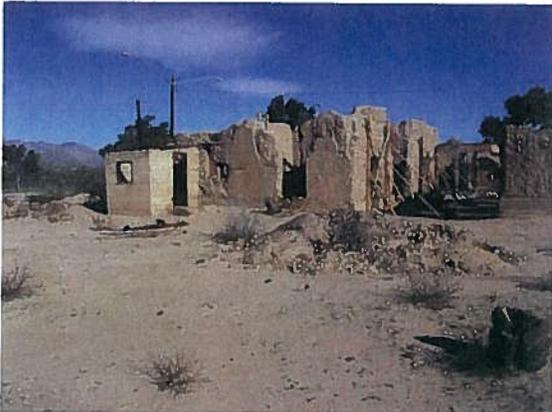
Interior of kitchen in the south residence. View to the southwest.



Interior of bathroom in the south residence. View to the north.



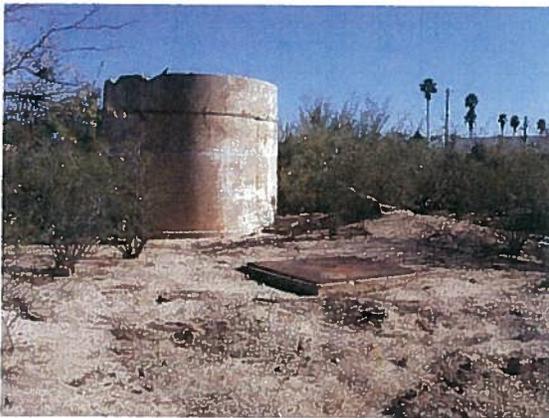
Location of septic tank southwest of the south residence and probable location of former cesspool.



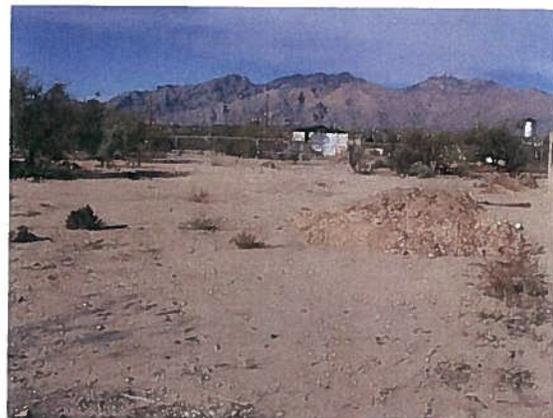
Adobe ruins (former Fort Lowell Officers' quarters and summer kitchens) in the south portion of the site. View to the east.



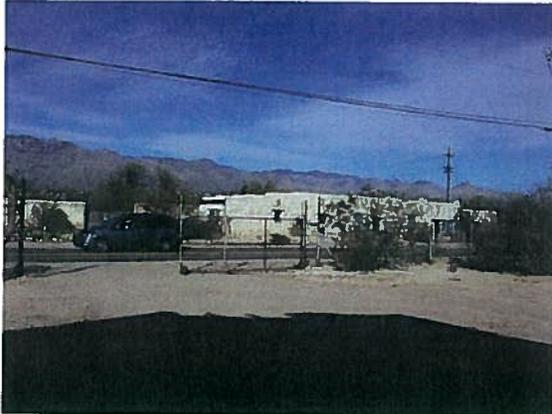
Piles of soil, gravel, rock, asphalt, and concrete south of the adobe ruins on the south portion of the site. View to the east.



South well and concrete water tank on the south portion of the site. View to the southeast.



South portion of the site west of the adobe ruins and east of the well. View to the north.



Fort Lowell Road and the adjoining residential property north and northwest of the site. View to the north.



Residential property adjoining the northern portion of the site to the west. View to the west.



Panorama of Craycroft Road and Fort Lowell Park located east, northeast, and southeast of the site. View to the east.



New Testament Baptist Church and San Francisco Boulevard located south of the site. View to the southeast.



Residential neighborhood located west of the southern portion of the site. View to the northwest.

APPENDIX C

ALLANDS REGULATORY DATABASE SEARCH REPORT



Allands

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

Historical Title and Environmental Research

REGULATORY DATABASE (ASTM) SEARCH

YOUR FILE NO: 10204058.19

ALLANDS FILE NO: 2008-01-015D

DATE: January 16, 2008

ALLANDS hereby reports the search results of Federal and State Databases according to ASTM standards for Phase I Environmental Site Assessments E 1527-05. This is a confidential, privileged and protected document for the use of SCS Engineers. Allands is not responsible for errors in the available records. The total liability is limited to the fee paid for this report.

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

Property located at the Southwest corner of Craycroft Road and Fort Lowell Road, Tucson, Arizona, being in the Northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Base and Meridian.

REGULATORY DATABASE SEARCH SUMMARY

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities
Standard Federal ASTM Environmental Record Sources			
NPL (National Priorities List) / Proposed NPL / DOD (Department of Defense Sites)	10/07	1.0	0
Delisted National Priorities List	10/07	0.5	0
CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP)	10/07	0.5	0
RCRA (Resource Conservation and Recovery Act) Large and Small Quantity Generators	10/07	0.125	1
RCRA – CORRACTS TSDFs (Corrective Action Treatment, Storage, and Disposal Facilities)	10/07	1.0	0
RCRA – Non-CORRACTS TSDFs	10/07	0.5	0
ERNS (Emergency Response Notification System)	10/07	0.125	0
Standard State ASTM Environmental Record Sources			
WQARF (Water Quality Assurance Revolving Fund) Areas	07/07	1.0	0
Superfund Program List (replaces ACIDS)	08/04	0.5	0
Solid Waste Facilities/Landfill Sites – Operating and Closed	05/99 & 05/04	0.5	0
Control Registries	07/07	Site and adjoining	0
Brownfields / Voluntary Remediation Program	07/07	0.5	0
Registered USTs (Underground Storage Tanks)	02/07	0.125	0
LUSTs (Leaking Underground Storage Tanks) Incident Reports	04/07	0.5	0
Additional Environmental Record Sources			
RCRA Compliance Facilities	07/07	0.125	0
Hazardous Materials Incidents Emergency Response Logbook	1984-06/01	0.125	0
ADEQ Drywell Registration Database	12/07	0.125	0
Environmental Permits	07/07	Site	0
Fire Insurance Maps	Various	Site and adjoining	0
Topographical / Aerial Maps	See text	Site and adjoining	2
VEMUR / DEUR / LIENS	07/07	Site	0
Arizona Department of Water Resources Well Registration Database	09/07	Site and adjoining	See Text

Allands contacts the appropriate sources on a monthly 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 October, 2007, 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 October, 2007, 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 October, 2007, and searched for facilities within a 0.5 mile search distance from subject property exterior boundaries.

No CERCLIS / NFRAP facilities were found located within a 0.5 mile search distance from subject property exterior boundaries.

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 October, 2007 and checked for Federal RCRA facilities located within a <=0.125 mile search distance from subject property exterior boundaries.

EPA ID	FACILITY	ADDRESS	NOTIF. DATE	STATUS
AZR000504282	Tucson, City Of / Adkins Property	5460 E Ft Lowell Rd	2/22/2007	LQG

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 October, 2007, 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 October, 2007, 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 October, 2007, and checked for incidents located within a ≤ 0.125 mile search distance from subject property exterior boundaries.

No incidents were found located within a ≤ 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, 2007, 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.

No WQARF Registry List sites were found located within a 1.0 mile search distance from subject property exterior boundaries.

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.

No facilities on the Arizona Superfund Program List were found located within a 0.5 mile search distance from subject property exterior boundaries.

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 1527-05, 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, 2007, 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 July, 2007, 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 February, 2007, and searched for UST sites located within a ≤ 0.125 mile search distance from subject property exterior boundaries.

No registered underground storage tanks were found located within a ≤ 0.125 mile search distance from subject property exterior boundaries.

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 April, 2007, and searched for LUST sites located within a 0.5 mile search distance from subject property exterior boundaries.

No registered leaking underground storage tanks were found located within a 0.5 mile search distance from subject property exterior boundaries.

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, 2007, and searched for compliance facilities within a ≤ 0.125 mile search distance from subject property exterior boundaries.

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

No hazardous material incidents were found located within a ≤ 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. This database is from the ADEQ dry well registration database dated December, 2007, and searched for dry wells located within a ≤ 0.125 mile search distance from subject property exterior boundaries.

No registered dry wells were found located within a ≤ 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, 2007, 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 Maptech, Inc. (www.maptech.com) and are for informational purposes only.

NAME	TYPE	DATE	REVISION	CONTOUR
Tucson North	Topo	1984	None	40 feet
Tucson North SE	Aerial	8-1-2002		
Sabino Canyon	Topo	1957	1975	40 feet
Sabino Canyon SW	Aerial	8-1-2002		

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 recorders 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; Environmental Liens, or activity and use limitations, if any, were found currently recorded against the property as searched at the subject county recorders office.

ARIZONA DEPARTMENT OF WATER RESOURCES WELL REPORT

This database is from the Arizona Department of Water Resources Well Report Operations Division Report, dated September, 2007. 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>

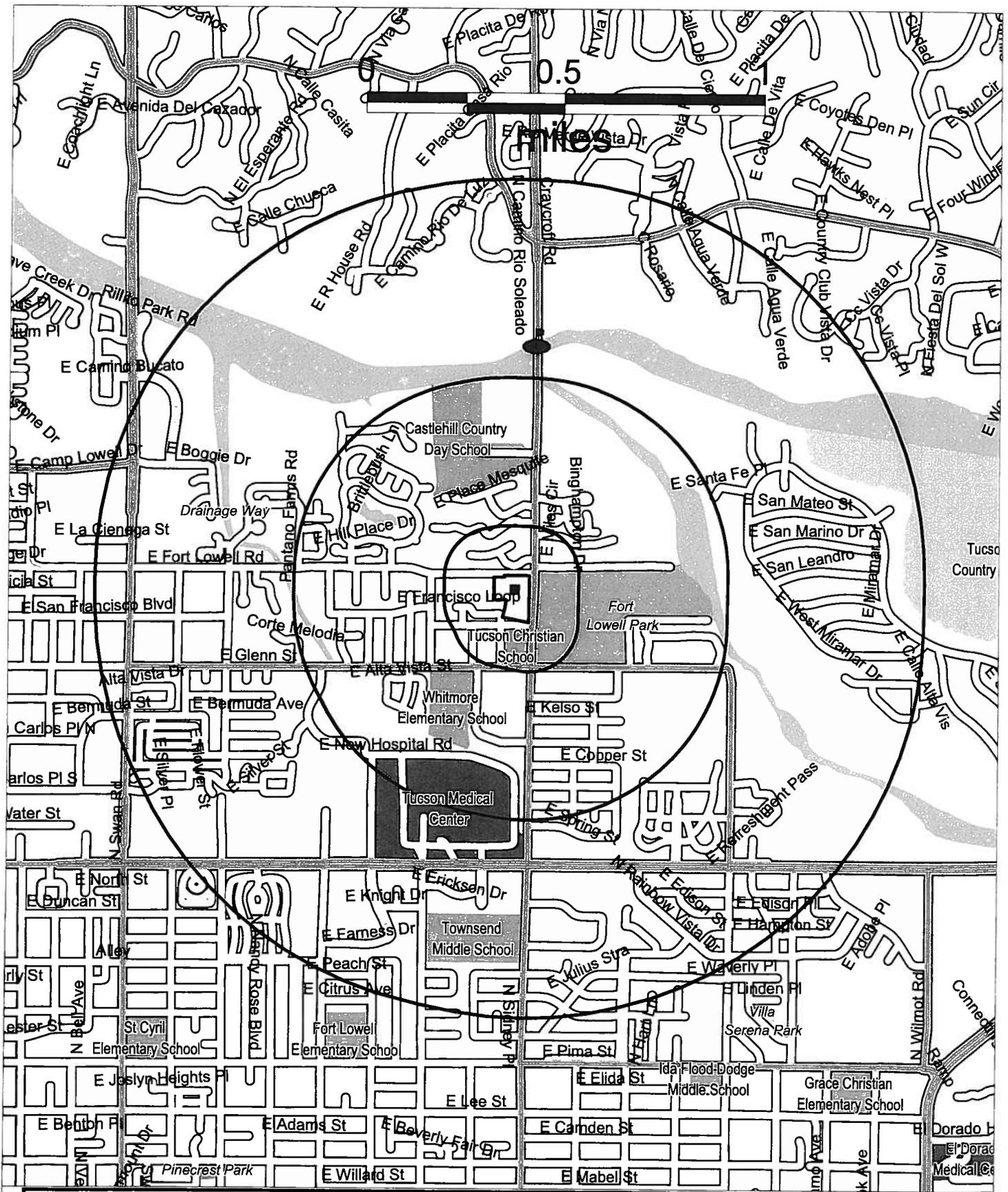
Water Uses (WU)

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
 R Recharge
 T Test
 V dewatering

Legal Description

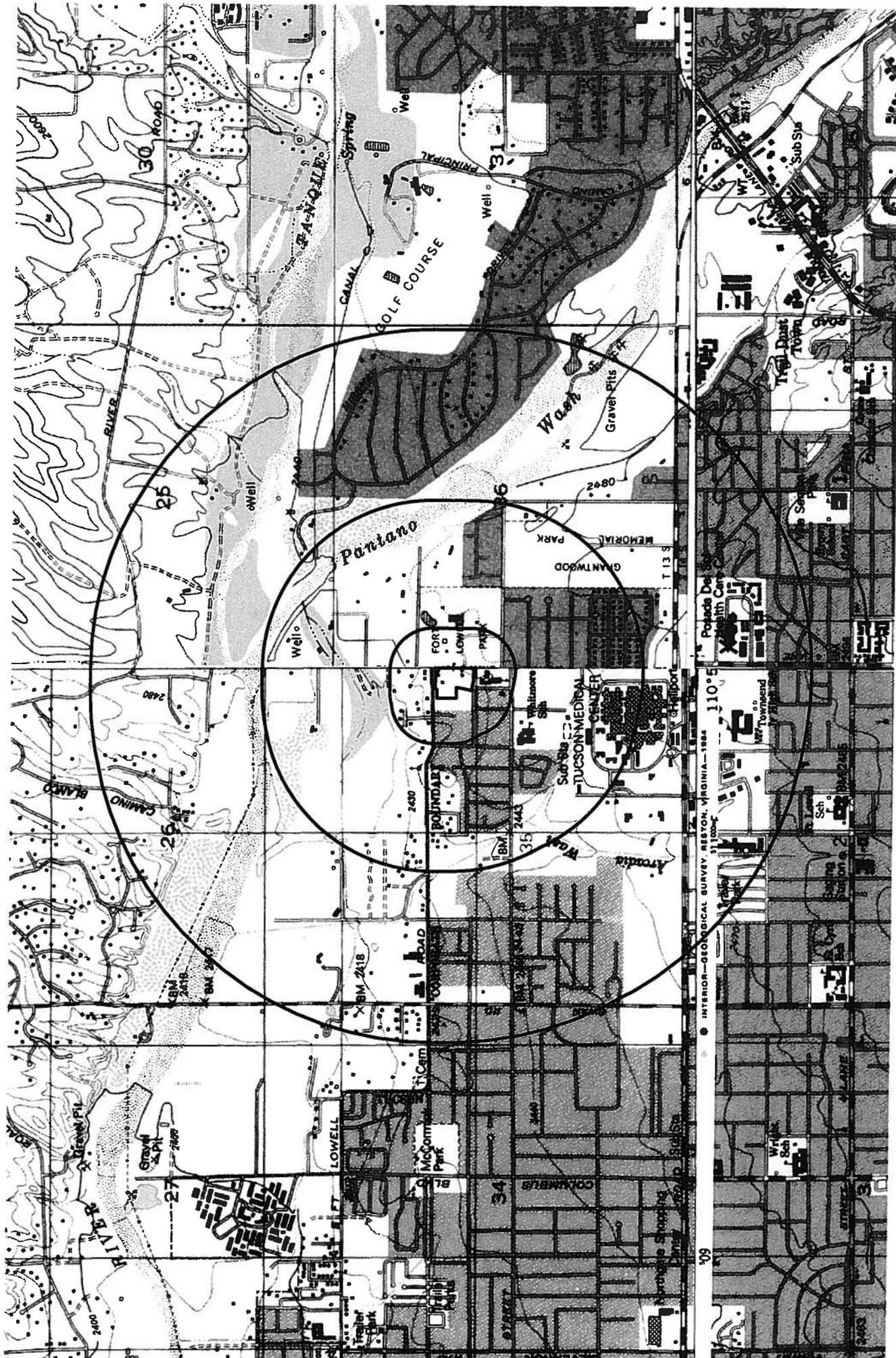
T Township
 N/S North or South
 R Range
 E/W East or West
 S Section
 Q1 Quarter of Section (160 Acres)
 Q2 Quarter Quarter of Section (40 Acres)
 Q3 Quarter Quarter Quarter of Section (10 acres)
 ID Well Registration Number
 WD Well Depth
 WL Water Level
 DIA Casing width

ID	T	N/S	R	E/W	S	Q1	Q2	Q3	WU	WD	WL	DIA	NAME
640136	13	S	14	E	35				D	120	35	3	Cooke,R G
619291	13	S	14	E	35				D	0	0	0	Commonwealth Land,
400278	13	S	14	E	35	NE	SE	NE	D	0	0	0	Fina
400277	13	S	14	E	35	NE	SE	NE	D	0	0	0	Fina
629863	13	S	14	E	35	NE	SE	NW	D	162	121	8	Spicer,E H
524047	13	S	14	E	35	NE	SE	NW	D	251	145	6	Spicer
620194	13	S	14	E	35	NE	SE	SE	E	600	152	0	Tucson, City Of,
605408	13	S	14	E	35	SE			D	520	170	12	Tucson Medical Cntr,
605409	13	S	14	E	35	SE			D	520	175	16	Tucson Medical Cntr,
605407	13	S	14	E	35	SE			D	428	170	12	Tucson Medical Cntr,
531292	13	S	14	E	35	SE	SE	NE	N	228	0	0	Southwest Gas Corp,
534306	13	S	14	E	35	SE	SE	NE	N	230	93	0	Southwest Gas Corp,
519168	13	S	14	E	36				N	220	0	0	Southwest Gas Corp,
640426	13	S	14	E	36				D	287	99	8	Zoslow, Stanley,H
520949	13	S	14	E	36	NW	SW	NW	M	255	154	16	Tucson, City Of,



LEGEND

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

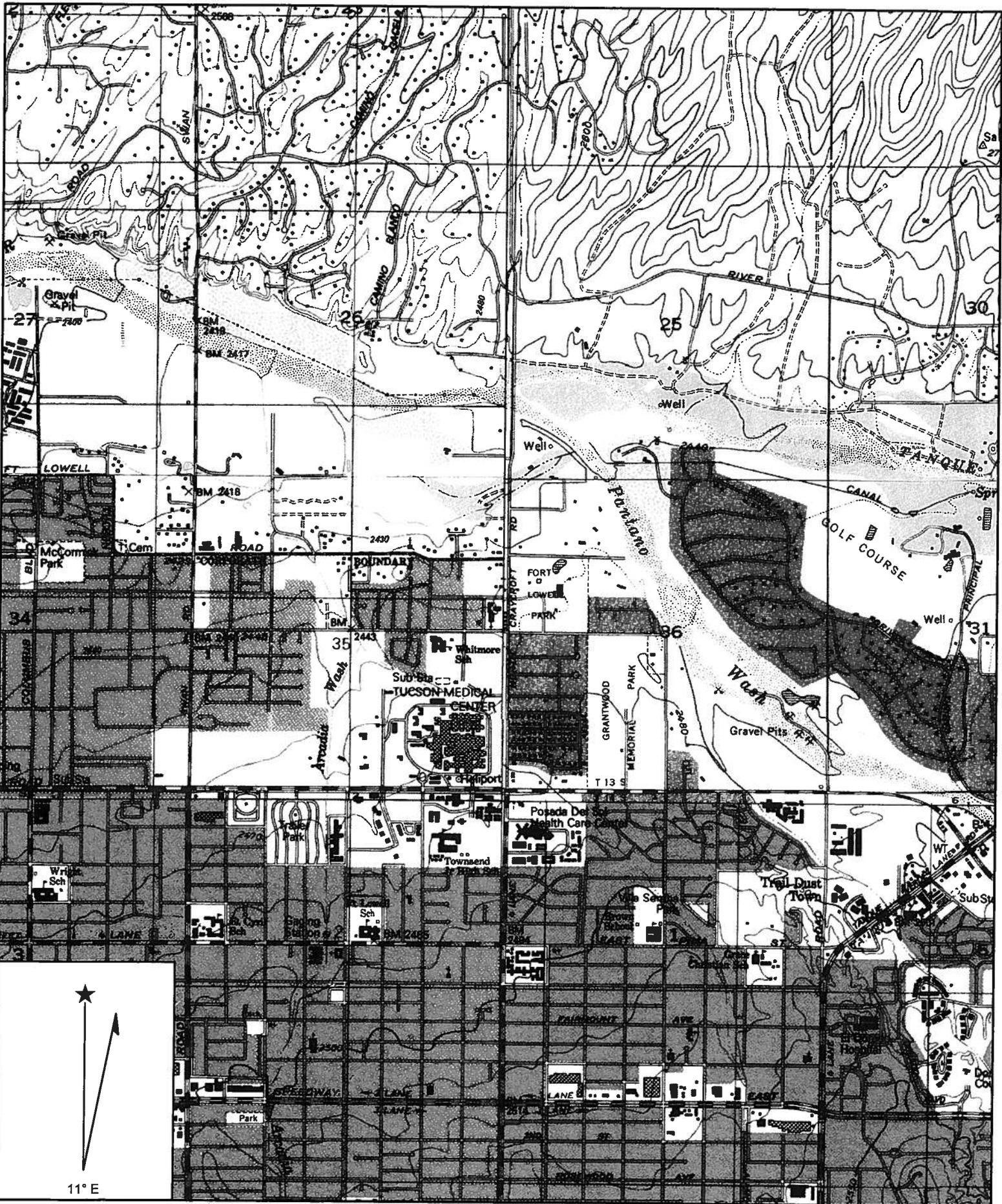


1100'

110°E

INTERIOR-GEODIGITAL SURVEY, ASTON, VIRGINIA-1988

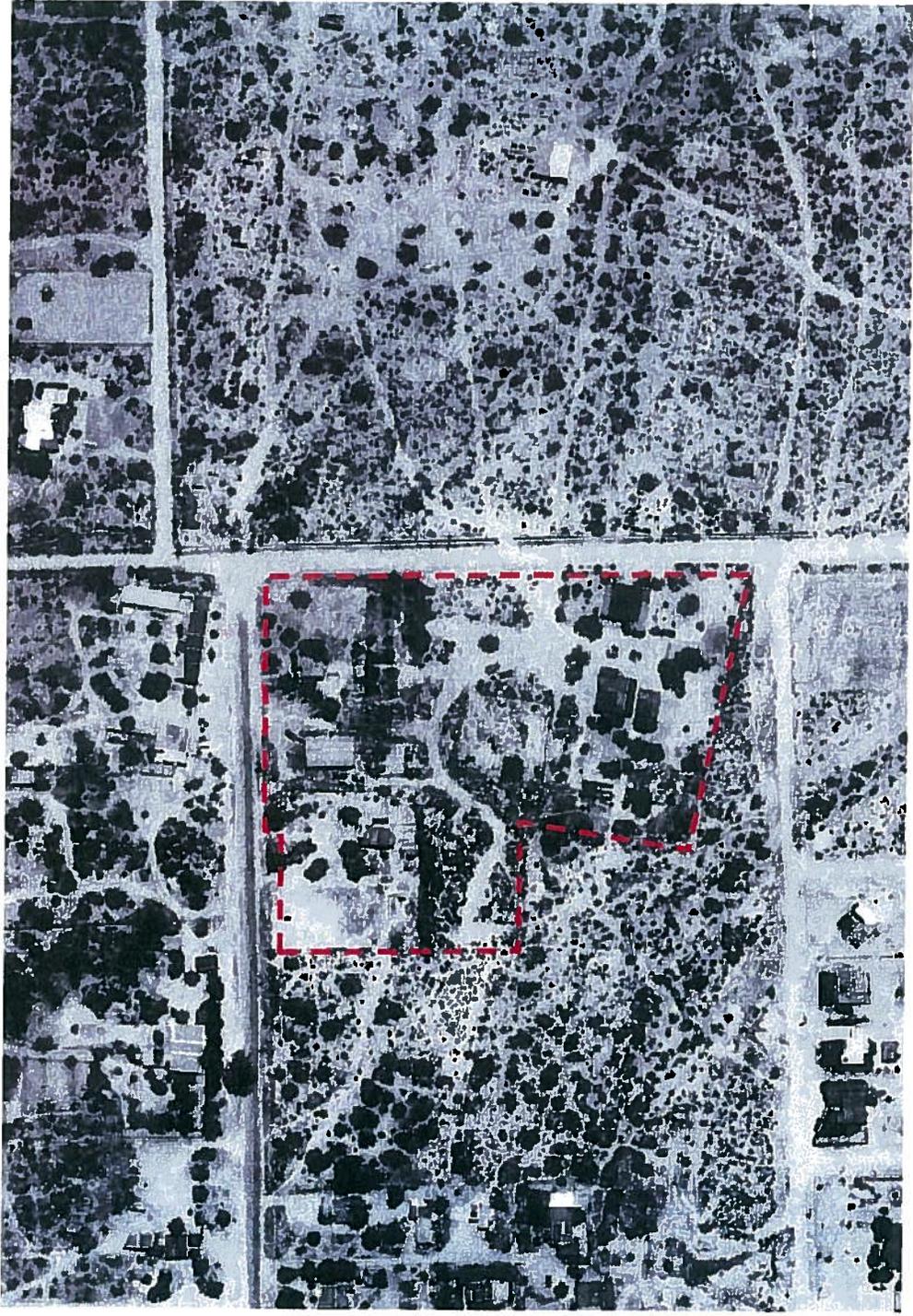




Name: SABINO CANYON
 Date: 1/4/2008
 Scale: 1 inch equals 2000 feet

Location: 032° 15' 33.21" N 110° 52' 32.42" W NAD 83
 Caption: Job No. 2008-01-015
 Contour interval is 40 feet

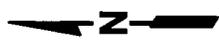
APPENDIX D
HISTORICAL AERIAL PHOTOGRAPHS



Source: Cooper Aerial Survey, 1953

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

--- APPROXIMATE BOUNDARY OF SITE



0 100 300
APPROXIMATE SCALE IN FEET

10204058.19

Historical Aerial Photograph
Former Adkins Property
5450 East Fort Lowell Road
Tucson, Arizona

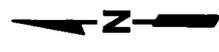
1953



Source: Cooper Aerial Survey, 1973

--- APPROXIMATE BOUNDARY OF SITE

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.



10204058.19

Historical Aerial Photograph
Former Adkins Property
5450 East Fort Lowell Road
Tucson, Arizona

1973



Source: Cooper Aerial Survey, 1994

Disclaimer: This figure is based on available data. Actual conditions may differ. All locations and dimensions are approximate.

--- APPROXIMATE BOUNDARY OF SITE



0 100 300

APPROXIMATE SCALE IN FEET

10204058.19

Historical Aerial Photograph
Former Adkins Property
5450 East Fort Lowell Road
Tucson, Arizona

1994

APPENDIX E
ALLANDS HISTORICAL TITLE REPORT



Allands

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

Historical Title and Environmental Research

HISTORICAL TITLE REPORT

YOUR FILE NO: 10204058.19

ALLANDS FILE NO: 2008-01-015T

DATE***: December 28, 2007

***The date of the report reflects the most current data made available by the information sources used at the time the research was performed.

ALLANDS hereby reports a Historical Title Report to the land described below, subject to the items as shown in Schedule B. This is a historical title report ONLY and is neither a guarantee of title, a commitment to insure or a policy of title insurance. The total liability is limited to the fee paid for this report.

1. Title to the estate or interest covered by this report is vested in: THE CITY OF TUCSON, A MUNICIPAL CORPORATION
2. By virtue of that certain chain of title attached.
3. The land referred to in this report is located in Pima County, Arizona, described as follows:

Assessor's No.: 110-09-032A, 032B, 033, 034 & 035

SEE LEGAL DESCRIPTION ATTACHED

SCHEDULE B

No Leases, VEMUR'S, DEUR'S; Environmental Liens, or activity and use limitations, if any, were found currently recorded against the property as searched at the subject county recorders office. ***

*** 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 recorders 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. Effective July 18, 2000, the Declaration of Environmental Use Restriction (DEUR) replaced the Voluntary Environmental Mitigation Use Restriction (VEMUR) as a restrictive use covenant.

CHAIN OF TITLE

1. Deed from Dollie Cates, a widow to Harvey Adkins and Fronia Adkins, his wife, recorded 2-3-1928 in Book 155 of Deeds, page 4. (all)
2. Deed from Harvey Adkins and Fronia Adkins, his wife to Marion H. Adkins and Lovetta Adkins, his wife, dated 4-8-52, recorded 4-8-52 in Docket 450, page 540. (032A, 032B, 033 and 034)
3. Decree of Distribution of the estate of Harvey Adkins, deceased, awarding property to Virginia Adkins Beam, recorded 3-25-60 in Docket 1591, page 550. (035)
4. Deed from Virginia Adkins Beam, as her sole and separate property to Marion H. Adkins and Lovetta Adkins, his wife, dated 2-3-66, recorded 2-4-66 in Docket 2676, page 137. (035)
5. Deed from Marion H. Adkins and Lovetta Adkins, his wife to Donald E. Adkins, husband of Joyce H. Adkins, as his sole and separate property and Harry R. Adkins, husband of Joy A. Adkins, as his sole and separate property, dated 1-1-72, recorded 2-7-73 in Docket 4437, page 683. (032B and 034)
6. Deed from Marion H. Adkins and Lovetta Adkins, his wife to Belva Noll Cates Cornicelli, a widow, dated 9-7-77, recorded 10-18-78 in Docket 5884, page 1189. (033 and 035)
7. Deed from Belva Noll Cates Cornicelli, a widow to Marion H. Adkins, husband of Joy A. Adkins, dated 9-7-77, recorded 10-18-78 in Docket 5884, page 1190. (033 and 035)
8. Quit-claim Deed from Donald E. Adkins, husband of Joyce H. Adkins, as his sole and separate property to Harry R. Adkins, husband of Joy A. Adkins, as his sole and separate property, dated 9-8-77, recorded 8-18-87 in Docket 8101, page 2785. (032B and 034)

CHAIN OF TITLE CONTINUES

CHAIN OF TITLE CONTINUED

9. Warranty Deed from Lovetta N. Adkins to Lovetta N. Adkins, trustee of the Lovetta N. Adkins Living Trust, dated 5-3-90, recorded 5-16-90 in Docket 8789, page 620. (032A)
10. Warranty Deed from Lovetta N. Adkins to Lovetta N. Adkins, trustee of the Lovetta N. Adkins Living Trust, dated 2-6-91, recorded 2-8-91 in Docket 8973, page 1425. (035)
11. Warranty Deed from Lovetta N. Adkins to Lovetta N. Adkins, trustee of the Lovetta N. Adkins Living Trust, dated 3-5-91, recorded 3-11-91 in Docket 8992, page 812. (033)
12. Warranty Deed from Harry R. Adkins, as successor trustee of the Lovetta N. Adkins Living Trust, dated 9-21-89 and Harry R. Adkins, husband of Joy Adkins, as his sole and separate property, to OT Gila, L L C, an Arizona limited liability company, dated 3-8-06, recorded 3-13-06 in Docket 12759, page 5128. (all)
13. Deed from OT Gila, L L C, an Arizona limited liability company to the city of Tucson, a municipal corporation, dated 3-9-06, recorded 3-13-06 in Docket 12759, page 5132.



009F

012B 0140 017D

019M 019N 019K 006K

017B

010A 017C 018A 018B 019D 019J 006L

E FORT LOWELL RD

N CRAYCROFT RD

013B 012C

E FORT LOWELL RD

01

01

047F 0420 039B

046A 039C

047E 0430

046B 0440 0400

047D 3760 3770 3780 3790

E FRANCISCO LP

3870 3890 3880

0330 032B 032A

037A

0340

0350

510 375A 374B 372B 056A 0550

E FRANCISCO LP

3710 3700 3690 3680

3800 3100 3200 3300 3400 3500 3600

3670 3660 365A 363A 3620

390A

E SAN FRANCISCO BL

E SAN FRANCISCO BL

E FRANCISCO LP

N CRAYCROFT RD

2160 2150 2140 2130

060H 0620 0630 0640 065E 065F

N WOODLAND AV

0680 0690 0820 0830

070D 0810

070C 0800

0710 079A 079B

0720 0780

084A 0870 0880 0890 0900

N SIDNEY BL

N CRAYCROFT RD

01

01

01E



Pima County Department of Transportation

Geographic Information Services Division

Parcel 110-09-032A

Read the [Disclaimer](#). Information is on this page is **unofficial**.

Mail name and address	Legal description
CITY OF TUCSON . . . 00000	W150' E180' S190' N295' SE4 NE4 EXC E30' .65 AC SEC 35-13-14

Situs (property) address

(About situs addresses)

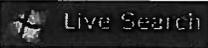
Address sources

Street Address	Jurisdiction	Permits	GIS	Postal City	Zip Code	ZIP+4 Lookup
5460 E FORT LOWELL RD	TUCSON	✓	✓	TUCSON	85712	<input type="text"/>

Additional information for this parcel

- [Assessor Property Inquiry](#) from the [Pima County Assessor's Office](#). See [Tips for Using the Assessor's Web Pages](#) for information on **Assessor Record Maps** and more.
- [Real Estate Property Tax Inquiry](#) from the [Pima County Treasurers's Office](#).
- **Recorder's Information** from the [Pima County Recorder's Office](#)
 - [Recorded Documents](#) for Docket 12759, Page 5132.
 - [Voter Precinct and Districts](#)
- A **Subdivision Plat Map** is not available here because the Assessor parcel record does not have Map/Plat numbers. The parcel may have an associated Map/Plat that isn't documented here. The parcel legal description above may have a subdivision name you can search for in [Subdivision Plat Search](#).
- Pima County [Sanitary Sewer Connection Search](#) and [Connection Records Overview](#).
- [Permits](#) (Ignore Back button. Dismiss new window after viewing.) from [Pima County Development Services](#).

- [Section Information and Maps](#) for Township 13S, Range 14E, Section 35
- **Floodplain Information:** City of Tucson jurisdiction. See City of Tucson [Development Services Site Reviews](#) or call (520) 791-5609.
- **Zoom to maps** of the parcel's area:

 <ul style="list-style-type: none"> • Main map • Orthophoto map • Sanitary Sewer map 	 <p>Oblique aerial photo</p>	<p>Google™</p> <p><input checked="" type="checkbox"/> Parcel marker <input type="checkbox"/> Add markers? <input type="checkbox"/> Add traffic?</p> <p>Google Maps</p> <p>Pick "Satellite" for photo. Help</p>	<p> Area Map</p> <p> Area Map</p> <p> Area Map</p> <p> Area Map</p> <p> Area Map</p>
--	---	---	---

- **Parcel attributes derived from GIS data or by GIS overlay analysis:**
This information is inferred. It does not come from parcel records. Accuracy is limited to that of the underlying GIS parcel data. All data subject to this [disclaimer](#).

Parcel centroid coordinates	Approximately 32.260967 degrees latitude, -110.875615 degrees longitude.
Parcel area	<p>This is only an estimate from GIS data. The Subdivision Plat Map may also specify parcel area. See Finding Parcel Areas.</p> <hr/> Approximately 0.83 acres or 36,015 square feet.



Pima County Department of Transportation
Geographic Information Services Division
Parcel 110-09-032B

Read the [Disclaimer](#). Information is on this page is **unofficial**.

Mail name and address	Legal description
CITY OF TUCSON	W120' E300' S190' N295' SE4 NE4
.	
.	.52 AC SEC 35-13-14
. 00000	

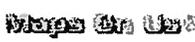
Situs (property) address

(About situs addresses)		Address sources				
Street Address	Jurisdiction	Permits	GIS	Postal City	Zip Code	
5450 E FORT LOWELL RD	TUCSON	✓	✓	TUCSON	85712	ZIP+4 Lookup

Additional information for this parcel

- [Assessor Property Inquiry](#) from the [Pima County Assessor's Office](#). See [Tips for Using the Assessor's Web Pages](#) for information on **Assessor Record Maps** and more.
- [Real Estate Property Tax Inquiry](#) from the [Pima County Treasurers's Office](#).
- **Recorder's Information** from the [Pima County Recorder's Office](#)
 - [Recorded Documents](#) for Docket 12759, Page 5132.
 - [Voter Precinct and Districts](#)
- A **Subdivision Plat Map** is not available here because the Assessor parcel record does not have Map/Plat numbers. The parcel may have an associated Map/Plat that isn't documented here. The parcel legal description above may have a subdivision name you can search for in [Subdivision Plat Search](#).
- Pima County [Sanitary Sewer Connection Search](#) and [Connection Records Overview](#).
- [Permits](#) (Ignore Back button. Dismiss new window after viewing.) from [Pima County Development Services](#).

- [Section Information and Maps](#) for Township 13S, Range 14E, Section 35
- **Floodplain Information:** City of Tucson jurisdiction. See [City of Tucson Development Services Site Reviews](#) or call (520) 791-5609.
- **Zoom to maps** of the parcel's area:

 <ul style="list-style-type: none"> • Main map • Orthophoto map • Sanitary Sewer map 	 <p>Oblique aerial photo</p>	 <p> <input checked="" type="checkbox"/> Parcel marker <input type="checkbox"/> Add markers? <input type="checkbox"/> Add traffic? </p> <p>Google Maps</p> <p>Pick "Satellite" for photo. Help</p>	 Area Map  Area Map  Area Map  Area Map  Area Map
--	---	---	--

- **Parcel attributes derived from GIS data or by GIS overlay analysis:**
This information is inferred. It does not come from parcel records. Accuracy is limited to that of the underlying GIS parcel data. All data subject to this disclaimer.

Parcel centroid coordinates	Approximately 32.260965 degrees latitude, -110.876085 degrees longitude.
Parcel area	<p>This is only an estimate from GIS data. The Subdivision Plat Map may also specify parcel area. See Finding Parcel Areas.</p> <hr/> Approximately 0.56 acres or 24,560 square feet.



Pima County Department of Transportation

Geographic Information Services Division

Parcel 110-09-0330

Read the [Disclaimer](#). Information is on this page is **unofficial**.

Mail name and address	Legal description
CITY OF TUCSON	S190' N295' W200' E500' SE4 NE4 EXC
.	.
.	N20' W158.9' .80 AC SEC 35-13-14
. 00000	

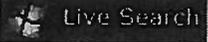
Situs (property) address

Street Address	Jurisdiction	Permits	GIS	Postal City	Zip Code	ZIP+4 Lookup
5444 E FORT LOWELL RD	TUCSON	✓	✓	TUCSON	85712	<input type="text" value="ZIP+4 Lookup"/>

Additional information for this parcel

- [Assessor Property Inquiry](#) from the [Pima County Assessor's Office](#). See [Tips for Using the Assessor's Web Pages](#) for information on **Assessor Record Maps** and more.
- [Real Estate Property Tax Inquiry](#) from the [Pima County Treasurers's Office](#).
- **Recorder's Information** from the [Pima County Recorder's Office](#)
 - [Recorded Documents](#) for Docket 12759, Page 5132.
 - [Voter Precinct and Districts](#)
- A **Subdivision Plat Map** is not available here because the Assessor parcel record does not have Map/Plat numbers. The parcel may have an associated Map/Plat that isn't documented here. The parcel legal description above may have a subdivision name you can search for in [Subdivision Plat Search](#).
- Pima County [Sanitary Sewer Connection Search](#) and [Connection Records Overview](#).
- [Permits](#) (Ignore Back button. Dismiss new window after viewing.) from [Pima County Development Services](#).

- [Section Information and Maps](#) for Township 13S, Range 14E, Section 35
- **Floodplain Information:** City of Tucson jurisdiction. See [City of Tucson Development Services Site Reviews](#) or call (520) 791-5609.
- **Zoom to maps** of the parcel's area:

 <ul style="list-style-type: none"> • Main map • Orthophoto map • Sanitary Sewer map 	 <p>Oblique aerial photo</p>	<p>Google™</p> <p><input checked="" type="checkbox"/> Parcel marker <input type="checkbox"/> Add markers? <input type="checkbox"/> Add traffic?</p> <p>Google Maps</p> <p>Pick "Satellite" for photo. Help</p>	<p> Area Map</p> <p> Area Map</p> <p> Area Map</p> <p> Area Map</p> <p> Area Map</p>
--	---	---	---

- **Parcel attributes derived from GIS data or by GIS overlay analysis:**
This information is inferred. It does not come from parcel records. Accuracy is limited to that of the underlying GIS parcel data. All data subject to this [disclaimer](#).

Parcel centroid coordinates	Approximately 32.260945 degrees latitude, -110.876580 degrees longitude.
Parcel area	<p>This is only an estimate from GIS data. The Subdivision Plat Map may also specify parcel area. See Finding Parcel Areas.</p> <p>Approximately 0.84 acres or 36,710 square feet.</p>



Pima County Department of Transportation Geographic Information Services Division Parcel 110-09-0340

Read the [Disclaimer](#). Information is on this page is **unofficial**.

Mail name and address	Legal description
CITY OF TUCSON . . . 00000	S133' N428' E500' SE4 NE4 1.53 AC SEC 35-13-14

Situs (property) address

(About situs addresses)

Address sources

Street Address	Jurisdiction	Permits	GIS	Postal City	Zip Code
There is no situs address information.					

Additional information for this parcel

- [Assessor Property Inquiry](#) from the [Pima County Assessor's Office](#). See [Tips for Using the Assessor's Web Pages](#) for information on **Assessor Record Maps** and more.
- [Real Estate Property Tax Inquiry](#) from the [Pima County Treasurers's Office](#).
- **Recorder's Information** from the [Pima County Recorder's Office](#)
 - [Recorded Documents](#) for Docket 12759, Page 5132.
 - Voter Precinct and Districts is not available because there is no parcel situs address information.
- A **Subdivision Plat Map** is not available here because the Assessor parcel record does not have Map/Plat numbers. The parcel may have an associated Map/Plat that isn't documented here. The parcel legal description above may have a subdivision name you can search for in [Subdivision Plat Search](#).
- Pima County [Sanitary Sewer Connection Search](#) and [Connection Records Overview](#).
- [Permits](#) (Ignore Back button. Dismiss new window after viewing.) from [Pima County](#)

Development Services.

- Section Information and Maps for Township 13S, Range 14E, Section 35
- **Floodplain Information:** Pima County RFCD Flood Hazard Map. See Floodplain Management for more.
- **Zoom to maps** of the parcel's area:

 <ul style="list-style-type: none"> • Main map • Orthophoto map • Sanitary Sewer map 	 <p>Oblique aerial photo</p>	 <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Parcel marker <input type="checkbox"/> Add markers? <input type="checkbox"/> Add traffic? <p>Google Maps</p> <p>Pick "Satellite" for photo. Help</p>
--	---	---

- **Parcel attributes derived from GIS data or by GIS overlay analysis:**
This information is inferred. It does not come from parcel records. **Accuracy is limited to that of the underlying GIS parcel data. All data subject to this disclaimer.**

Parcel centroid coordinates	Approximately 32.260522 degrees latitude, -110.876119 degrees longitude.
Parcel area	<p>This is only an estimate from GIS data. The <u>Subdivision Plat Map</u> may also specify parcel area. See <u>Finding Parcel Areas</u>.</p> <hr/> <p>Approximately 1.27 acres or 55,196 square feet.</p>



Pima County Department of Transportation

Geographic Information Services Division

Parcel 110-09-0350

Read the [Disclaimer](#). Information is on this page is **unofficial**.

Mail name and address	Legal description
CITY OF TUCSON	SELY PTN NE4 SE4 NE4
.	
.	1.70 AC SEC 35-13-14
. 00000	

Situs (property) address

(About situs addresses)

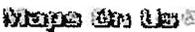
Address sources

Street Address	Jurisdiction	Permits	GIS	Postal City	Zip Code	ZIP+4 Lookup
2951 N CRAYCROFT RD	TUCSON	✓	✓	TUCSON	85712	

Additional information for this parcel

- [Assessor Property Inquiry](#) from the [Pima County Assessor's Office](#). See [Tips for Using the Assessor's Web Pages](#) for information on **Assessor Record Maps** and more.
- [Real Estate Property Tax Inquiry](#) from the [Pima County Treasurers's Office](#).
- **Recorder's Information** from the [Pima County Recorder's Office](#)
 - [Recorded Documents](#) for Docket 12759, Page 5132.
 - [Voter Precinct and Districts](#)
- A **Subdivision Plat Map** is not available here because the Assessor parcel record does not have Map/Plat numbers. The parcel may have an associated Map/Plat that isn't documented here. The parcel legal description above may have a subdivision name you can search for in [Subdivision Plat Search](#).
- Pima County [Sanitary Sewer Connection Search](#) and [Connection Records Overview](#).
- [Permits](#) (Ignore Back button. Dismiss new window after viewing.) from [Pima County Development Services](#).

- [Section Information and Maps](#) for Township 13S, Range 14E, Section 35
- **Floodplain Information:** City of Tucson jurisdiction. See City of Tucson [Development Services Site Reviews](#) or call (520) 791-5609.
- **Zoom to maps** of the parcel's area:

 <ul style="list-style-type: none"> • Main map • Orthophoto map • Sanitary Sewer map 	 <p>Oblique aerial photo</p>	<p>Google™</p> <p><input checked="" type="checkbox"/> Parcel marker <input type="checkbox"/> Add markers? <input type="checkbox"/> Add traffic?</p> <p>Google Maps</p> <p>Pick "Satellite" for photo. Help</p>	 Area Map  Area Map  Area Map  Area Map  Area Map
--	---	---	--

- **Parcel attributes derived from GIS data or by GIS overlay analysis:**
This information is inferred. It does not come from parcel records. Accuracy is limited to that of the underlying GIS parcel data. All data subject to this [disclaimer](#).

Parcel centroid coordinates	Approximately 32.260005 degrees latitude, -110.875854 degrees longitude.
Parcel area	<p>This is only an estimate from GIS data. The Subdivision Plat Map may also specify parcel area. See Finding Parcel Areas.</p> <hr/> Approximately 1.97 acres or 85,924 square feet.

F. ANN RODRIGUEZ, RECORDER
RECORDED BY: BMV
DEPUTY RECORDER
1985 PE2

TFNTI
FIDELITY NATIONAL TITLE
7750 E BROADWAY STE #A200
TUCSON AZ 85710



DOCKET: 12759
PAGE: 5132
NO. OF PAGES: 5
SEQUENCE: 20060480942
03/13/2006
DEED 17:30
PICKUP
AMOUNT PAID \$ 9.00

When Recorded Mail To:

City of Tucson
Attn: Jim Rossi

Escrow No. 60016047jk

Document Title: Deed

100-1000 01-10-2001

5

EXHIBIT "ONE"

Parcel 1:

That part of the Southeast quarter of the Northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

BEGINNING at a point 1020 feet Easterly from the West line and 75 feet Southerly from the North line of said Southeast quarter of the Northeast quarter of said Section 35;

THENCE Southerly, parallel with the East line of said Section 35, 220 feet to a point;

THENCE Easterly, parallel with the North line of said quarter section, 300 feet, more or less, to a point on the East line of said Section 35;

THENCE Northerly along the East line of said Section 35 a distance of 220 feet to a point;

THENCE at right angle Westerly 300 feet, more or less, to the **PLACE OF BEGINNING**.

EXCEPT the West 120 feet thereof;

EXCEPT that part lying within the right of way of Ft. Lowell Road, as shown on the map recorded in Book 1 of Road Maps, Page 12; and

EXCEPT that part lying within Craycroft Road, as shown on the map recorded in Book 1 of Road Maps, Page 151.

Parcel 2:

The West 120 feet of that part of the Southeast quarter of the Northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

BEGINNING at a point 1020 feet Easterly from the West line and 75 feet Southerly from the North line of said Southeast quarter of the Northeast quarter of said Section 35;

THENCE Southerly, parallel with the East line of said Section 35, 220 feet to a point;

THENCE Easterly, parallel with the North line of said quarter section, 300 feet, more or less, to a point on the East line of said Section 35;

THENCE Northerly along the East line of said Section 35 a distance of 220 feet to a point;

THENCE at right angle Westerly 300 feet, more or less, to the **PLACE OF BEGINNING**;

EXCEPT that part lying within Ft. Lowell Road, as shown on the map recorded in Book 1 of Road Maps, Page 12.

Parcel 3:

That part of the Southeast quarter of the Northeast quarter of Section 35, Township 13 South,

100-100-01-1034

Range 14 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

BEGINNING at a point on the North boundary line of the property herein described, said point being distant 820 feet Easterly from the West line and 75 feet Southerly from the North boundary line of said Southeast quarter of the Northeast quarter of Section 35;

THENCE Easterly parallel with the North line of said Southeast quarter of the Northwest quarter of Section 35, 200 feet to a point;

THENCE at right angles Southerly 220 feet to a point;

THENCE Westerly at right angles 200 feet to a point, said point being distant 820 feet Easterly from the West boundary line of said Southeast quarter of the Northeast quarter of Section 35;

THENCE at right angles Northerly 220 feet to the POINT OF BEGINNING;

EXCEPT that part lying within Ft. Lowell Road, as shown on the map recorded in Book 1 of Road Maps, Page 12.

Parcel 4:

That part of the Southeast quarter of the Northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

BEGINNING at a point on the North boundary line of the property now owned by the Grantor herein, said point being distant 820 feet Easterly from the West line and 295 feet Southerly from the North line of the said Southeast quarter of the Northeast quarter of Section 35;

THENCE Southerly, parallel with the East line of Section 35, 133 feet to a point;

THENCE Easterly parallel with North line of said quarter section, 500 feet, more or less, to a point on the East line of Section 35;

THENCE Northerly along the East line of said Section 35 a distance of 133 feet to a point;

THENCE at right angles Westerly 500 feet, more or less, to the PLACE OF BEGINNING;

EXCEPT that part lying within Craycroft Road, as shown on the map recorded in Book 1 of Road Maps, Page 151.

Parcel 5:

That portion of the Southeast quarter of the Northeast quarter of Section 35, Township 13 South, Range 14 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

BEGINNING at a point on the East line of said Section 35, which is Southerly 726 feet from the Northeast corner of the said Southeast quarter of the Northeast quarter of Section 35, said point being the Northeast corner of that parcel of land conveyed to Martha Pottenger by Deed recorded in Book 342 of Dockets at Page 68;

THENCE Northwesterly along the Northerly line of said Pottenger parcel to the Northwest corner thereof, said corner being on the Easterly line of that parcel of land conveyed to Martha

Pottenger by Deed recorded in Book 342 of Dockets at Page 66;

THENCE Northeasterly along the said Easterly line of that parcel of land described by Deed recorded in Book 342 of Dockets at Page 66 a distance of 220 feet, more or less, to the Southerly line of the parcel of land conveyed to Marion H. Adkins et ux by Deed recorded in Book 450 of Dockets at Page 540;

THENCE Easterly along the Southerly line of Adkins Parcel 342 feet, more or less, to the East line of said Section 35;

THENCE Southerly along said East line of Section 35, a distance of 298 feet, more or less, to the POINT OF BEGINNING;

EXCEPT that part lying within Craycroft Road, as shown on the map recorded in Book 1 of Road Maps, Page 151.

APPENDIX F
FORT LOWELL MAP

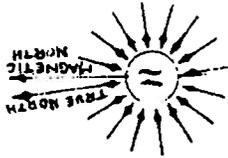
PLAN of FORT LOWELL

ARIZONA TERRITORY
Circa 1880

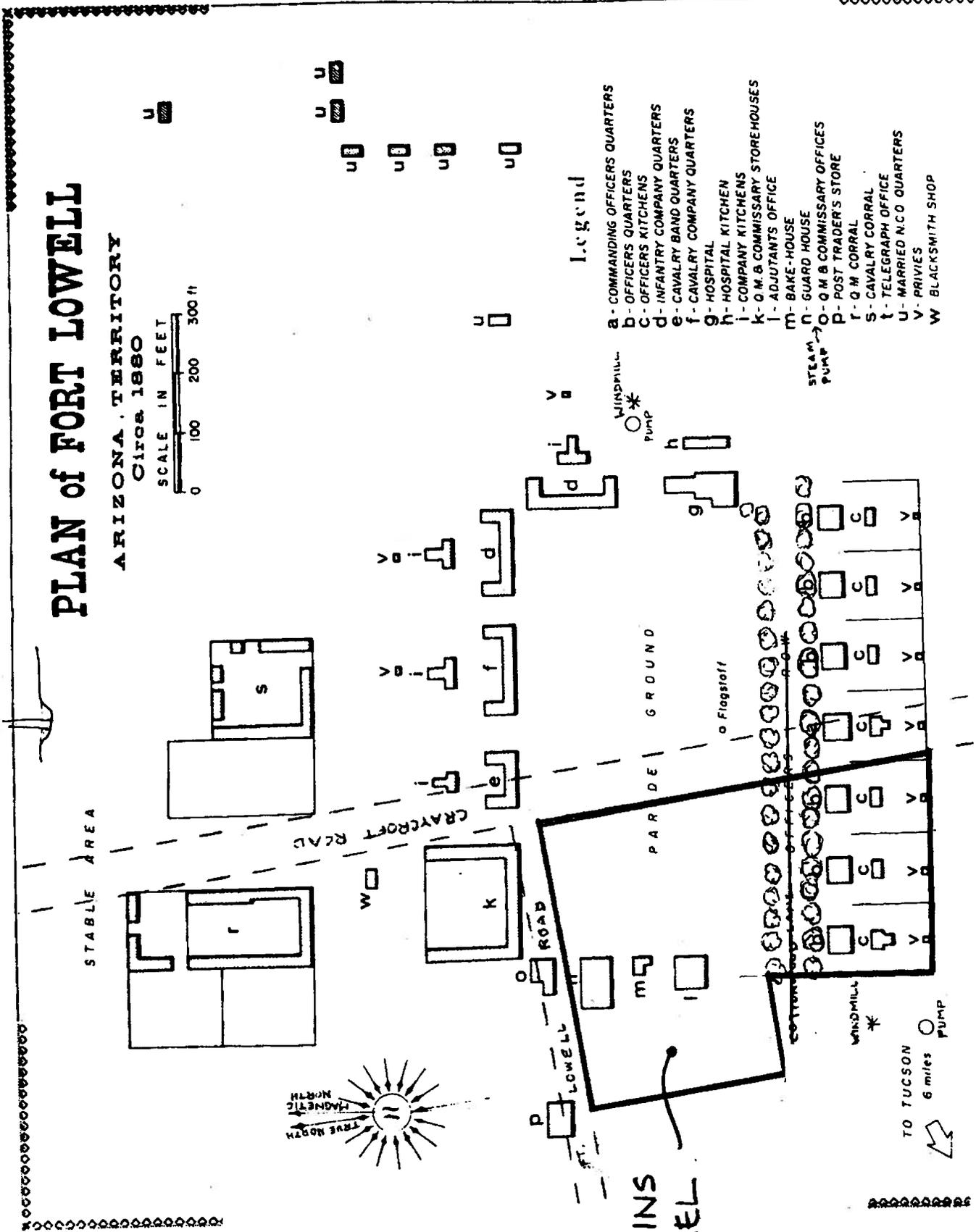
SCALE IN FEET
0 100 200 300 ft

STABLE AREA

TRUE NORTH
MAGNETIC NORTH



ADKINS
PARCEL



Legend

- A - COMMANDING OFFICERS QUARTERS
- B - OFFICERS QUARTERS
- C - OFFICERS KITCHENS
- D - INFANTRY COMPANY QUARTERS
- E - CAVALRY BAND QUARTERS
- F - CAVALRY COMPANY QUARTERS
- G - HOSPITAL
- H - HOSPITAL KITCHEN
- I - COMPANY KITCHENS
- K - Q. M. & COMMISSARY STOREHOUSES
- L - ADJUTANT'S OFFICE
- M - BAKE-HOUSE
- N - GUARD HOUSE
- O - Q. M. & COMMISSARY OFFICES
- P - POST TRADER'S STORE
- T - Q. M. CORRAL
- S - CAVALRY CORRAL
- † - TELEGRAPH OFFICE
- U - MARRIED N. O. QUARTERS
- V - PRIVIES
- W - BLACKSMITH SHOP

STEAM PUMP

WINDMILL PUMP

WINDMILL

TO TUCSON
6 miles
PUMP

APPENDIX G
PREVIOUS PHASE I ESA REPORT

**ENVIRONMENTAL SITE ASSESSMENT
FOR
ADKINS STEEL PROPERTY
5460 EAST FORT LOWELL ROAD
TUCSON, ARIZONA**

Prepared For:

City of Tucson
225 West Alameda Street
Tucson, Arizona

Prepared By:

SCS Engineers
2702 North 44th Street
Suite 105 B
Phoenix, Arizona 85008
(602) 840-2596

February 11, 1991
File No. 10.90035.01

SCS Engineers

2702 North 44th Street
Suite 105B
Phoenix, AZ 85008

602 840-2596
FAX 602 224-0572

SCS ENGINEERS

February 11, 1991
File No. 10.90035.01

Mr. Richard Gallegos
City of Tucson
Purchasing Department
255 West Alameda Street
P.O. Box 27210
Tucson, Arizona 85726-7210

Subject: Environmental Assessment
Adkins Steel Property
5460 East Fort Lowell Road
Tucson, Arizona

Dear Mr. Gallegos:

SCS Engineers is pleased to submit two copies of our Environmental Assessment Report for the above-referenced property in Tucson, Arizona. If you should have any questions regarding this report, please feel free to contact Mr. Brad Johnston at (602) 840-2596.

Sincerely,



Chris C. Robertson
Staff Hydrogeologist



Bradley F. Johnston, P.G.
Senior Project Hydrogeologist

Enclosures

CCR/BFJ/dmg
proj-4.hwe\90035-01.rpt

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EXECUTIVE SUMMARY

SCS was retained by the City of Tucson to perform an environmental assessment to evaluate environmental conditions at the subject property. The assessment consisted of a site reconnaissance, site history search, review of regulatory records pertaining to activities on and adjacent to the site, a preliminary asbestos survey, and a limited surface/subsurface soil investigation.

Based on the findings of our site reconnaissance of surficial features, site history search, and review of regulatory agency records, it was confirmed or reported that the site has been utilized primarily for the manufacturing of steel tanks since 1946. The site currently contains several buildings constructed between the 1880s and the 1950s. Significant accumulations of metal materials, debris, and equipment, were observed on the site; material stockpiles at several locations prevented characterization of the underlying ground surface. An aboveground diesel fuel tank and an underground fuel storage tank were observed on the site; areas of waste oil spillage or disposal, drum storage, and battery disposal were also identified.

Based on these observations and the limited sampling performed at the site, we conclude the following:

- o Surface soil samples collected at the site and analyzed in accordance with EPA Method 418.1 were observed to contain concentrations of total petroleum hydrocarbons (TPH) in excess of the ADEQ suggested soil cleanup level of 100 mg/kg. Sampled areas containing elevated TPH concentrations included, but were not limited to, adjacent to the manufacturing shop, beneath the aboveground diesel fuel storage tank, drum storage area, adjacent to the concrete pad, and the cesspool. With the exception of the cesspool, soil staining was visually observed to be limited to a depth of approximately six inches. The extent of hydrocarbon-containing soils or sludge within the cesspool is unknown.
- o Soil samples analyzed in accordance with EPA Method 8240 for volatile organic compounds (VOCs) did not detect concentrations of VOCs exceeding State Health-Based Guidance Levels (HBGLs). Most VOCs were below laboratory detection limits.

- o One surface soil sample collected from the grinding/cutting area and analyzed for total RCRA Metals contained 600 mg/kg lead. This concentration exceeds the HBGL for ingestion of lead in soil of 400 mg/kg.
- o One surface sample collected adjacent to a pile of broken automotive batteries contained a concentration of lead of 150 mg/kg and a pH of 7.7. The lead content and pH of this sample are within the range normally found in uncontaminated soils.
- o Laboratory analysis of samples collected from two borings located adjacent to the underground storage tank (UST) does not indicate that a significant release of hydrocarbons from the UST has occurred. However, complete evaluation of the integrity of this UST system can only be accomplished by removal of the tank.
- o The UST has not been registered in accordance with State and Federal requirements.
- o A preliminary asbestos survey of structures on the site did not identify the presence of asbestos-containing building materials in structures which may be disturbed by future activities on the site.

SCS recommends excavation and removal of soils containing TPH and lead at concentrations exceeding appropriate guidelines. Further investigation of contamination associated with the cesspool is recommended in order to evaluate the extent of remedial action required in this area. It is also recommended that, if possible, the UST (which must be registered) and all equipment, materials, and debris be removed from the site prior to transfer of the property.

SECTION 1
INTRODUCTION

SCOPE OF WORK

SCS was retained by the City of Tucson to perform an environmental assessment to evaluate environmental conditions at the subject property. The assessment was performed in accordance with our proposal dated October 12, 1990, and consisted of a site reconnaissance, site history search, review of regulatory records pertaining to activities on and adjacent to the site, a preliminary asbestos survey, and a limited surface/subsurface soil investigation.

LIMITATIONS

This report has been prepared in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants, under similar circumstances of the time the services were performed, in this or similar localities. No other representation, either expressed or implied, and no warranty or guarantee is made as to the professional advice presented herein. Sampling of soils and building materials on the site was performed within constraints imposed by the site owner/operator and the presence of materials and equipment which obscured portions of the site. The findings and conclusions in this report are based in part on information made available to SCS Engineers by the referenced agencies and upon regulatory criteria in effect at the time the report was prepared. Because regulatory criteria are subject to change, contaminant concentrations for which remediation is not presently required may, in the future, fall under different regulatory standards.

SECTION 2

SITE INFORMATION

SITE LOCATION

The subject property is located at the southwest corner of Fort Lowell and Craycroft Roads, in Tucson, Arizona; the street address of the site is 5460 East Fort Lowell Road. The site is located within the City of Tucson limits and is approximately six miles northeast of downtown Tucson. A site location map is provided in Figure 1.

SITE DESCRIPTION

As shown in Figure 2, the site is irregular in shape and contains approximately 5.35 acres. Six buildings are currently located on the site. Buildings include a manufacturing shop, office, occupied and abandoned residential buildings, and historic adobe buildings. The shop is located on the north-central portion of the site. An outside work area, comprised of a concrete pad and various metal forming machinery, is located south of this structure. Occupied and abandoned residential structures are located east and west of the shop, respectively. Historic adobe buildings and ruins are located on the southern portion of the site. The site is almost entirely unpaved, although some asphaltic concrete paving was observed on the northwest portion of the site. Chain-link fencing bounds the perimeter of the site, with street access at Fort Lowell and Craycroft Roads. Selected photographs of the site are provided in Appendix A.

Although two occupied residences are located on the property, the site is utilized primarily for the manufacturing of steel tanks. The tank manufacturing process is comprised primarily of cutting, bending and welding of steel plates. Sanding of the steel plates occurs on the east-central portion of the site. Completed tanks are generally painted prior to transportation from the site.

A wide variety of miscellaneous materials, debris, and equipment are located throughout the site. These items include cars and trucks, semi-tractors, trailers, automotive parts, campers, appliances, metal tanks, buckets and containers, wood, concrete, trash and debris, automotive batteries, and large quantities of miscellaneous steel and scrap metal. Also observed on the site were a ground-water well and associated

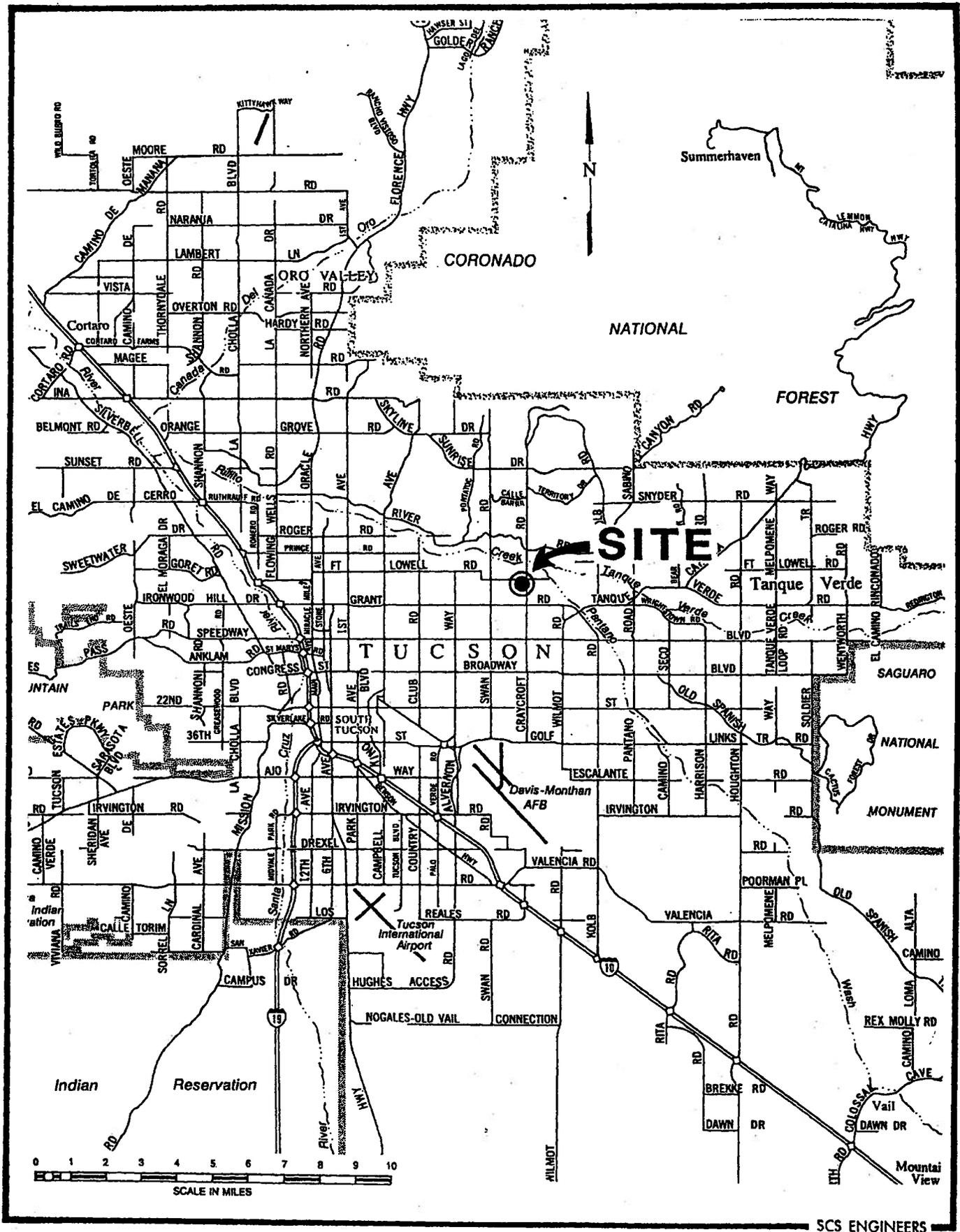


FIGURE 1. SITE LOCATION MAP

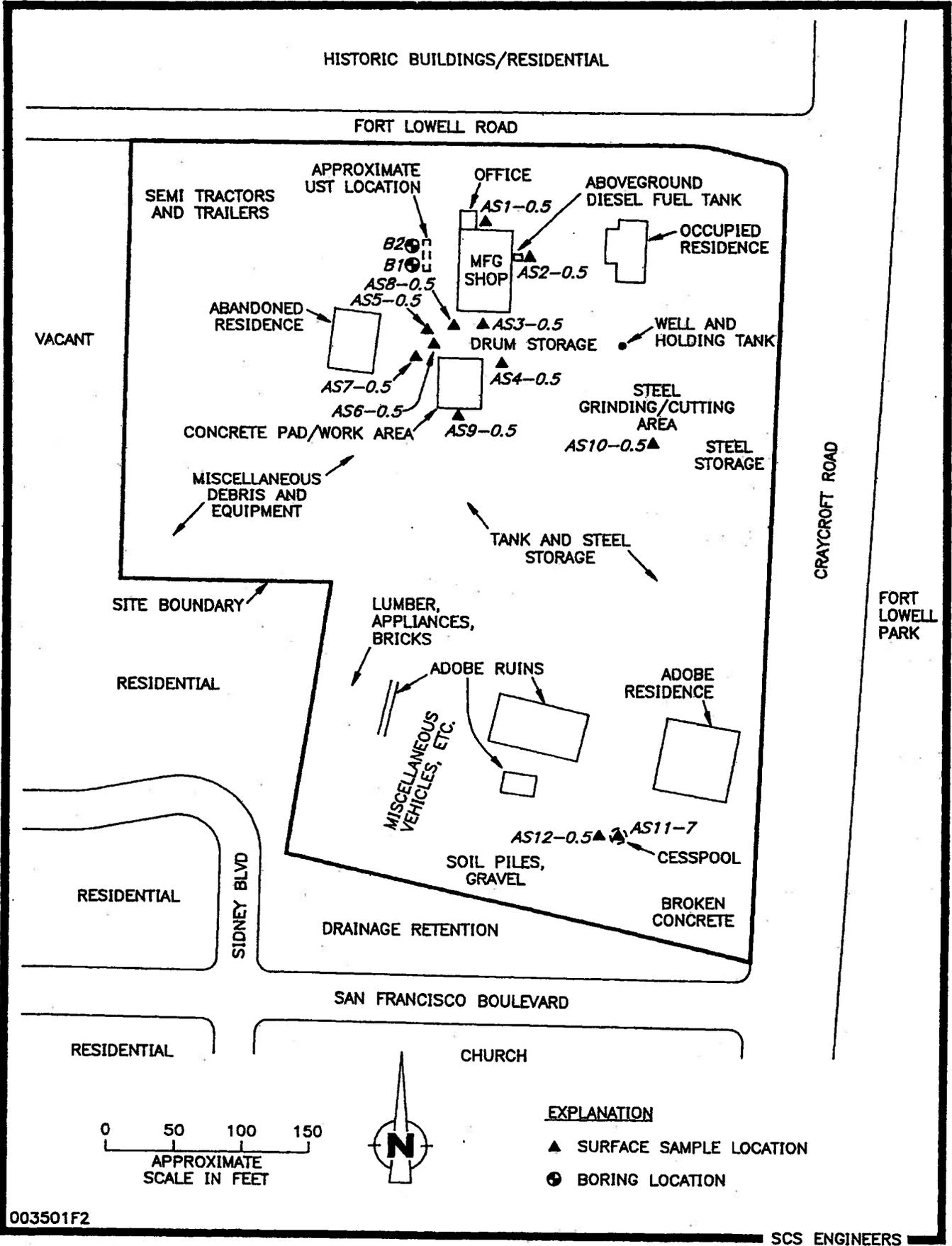


FIGURE 2. SITE AND VICINITY MAP

aboveground holding tank, located on the northeast portion of the site and an aboveground diesel fuel storage tank adjacent to the east side of the shop. An underground gasoline fuel storage tank (UST) is located west of the shop. According to Mr. Harry Adkins, property owner, this UST has a capacity of 3,000 gallons and is approximately seven years old. Mr. Adkins also stated that the tank is no longer in use.

Approximately forty 55-gallon drums were observed throughout the site; approximately twelve of these were located in an area between the concrete pad and the shop. Approximately half of the drums were full or partially-filled, and others empty or contents unknown. Drums in the vicinity of the main shop area were labeled as containing lubricants and rust inhibitors. One partly-full drum observed on the southwest portion of the site was labeled as containing "Contaminated Methyl-Alcohol, Cleaning Solvent."

Surficial soils were observed to be stained in many areas of the site. Soil staining in the vicinity of the shop area was observed adjacent to the building itself, in the vicinity of 55-gallon drums, adjacent to the concrete pad and work areas, beneath the aboveground diesel fuel storage tank, and other areas. An area east of the concrete pad, utilized for sanding/grinding of steel plates, was observed to contain surficial deposits of a dark, granular material.

Waste motor oils have apparently been dumped in several areas of the site. Discarded oil filters and dark staining of soils and vegetation were observed near the southwest corner of the shop. Staining of this nature was observed to be generally limited in areal extent.

An earthen cesspool or septic tank, approximately 10 feet in diameter and filled with liquid to a depth approximately four feet below ground surface, was observed on the south-central portion of the site. An approximate four-inch pipe was observed entering the cesspool from the west, approximately 3.5 feet below ground surface. Soil staining and approximately 30 discarded oil filters were observed adjacent to the cesspool; this staining extended into the cesspool. The bottom of the tank could not be identified due to the presence of liquid.

Due to the large quantity of materials, debris, and equipment located throughout the site, many areas of the ground surface could not be visually observed. It is possible that other areas of potential environmental concern would be identified after removal of these materials.

ADJACENT LAND USE

Properties in the vicinity of the site are generally residential. Adjacent property use is described below and shown on Figure 2.

North

Fort Lowell Road bounds the site to the north. Residential areas consisting of single-family houses and apartment buildings are located north of Fort Lowell Road.

East

Craycroft Road bounds the site to the east. East of Craycroft Road is Fort Lowell Park.

South

Adjacent to the southwest boundary of the site are residential properties. Immediately south of the site, north of San Francisco Boulevard, is a drainage retention area. South of San Francisco Boulevard is the New Testament Baptist Church/Tucson Christian School.

West

Naturally vegetated vacant land is located adjacent to the west boundary of the site.

SECTION 3

REGIONAL SETTING

GEOLOGY

The site is located within the Tucson Basin, a structural depression within the Basin and Range physiographic province. The basin is bounded by mountains comprised primarily of igneous and metamorphic rocks. The site is located approximately five miles south of the Santa Catalina Mountains, a metamorphic core complex comprised of domes of intrusive or metamorphic rock with outer shells of metamorphic rock. The site is located on soils comprised of valley fill, or soils derived from erosion of the adjacent mountain ranges. Regional ground surface in the vicinity of the site slopes generally to the northwest. The site itself is generally flat. Surface water run-off is apparently directed onto Craycroft and Fort Lowell Roads, then generally north into the Rillito River located approximately one-half mile north of the site.

HYDROGEOLOGY

The site is located within the Tucson sub-area of the Tucson Active Management Area. The principal water-bearing units in this area are alluvial units comprised of gravel, sand, silt and clay. According to Mr. Adkins, depth to ground water in the well located on the site is greater than 140 feet, the total depth of the well. According to the Arizona Department of Water Resources Hydrologic Map Series Report No. 11, dated 1982, depth to the regional aquifer in the vicinity of the site is approximately 150 to 160 feet below ground surface. The direction of regional ground-water flow in the vicinity of the site is generally to the south-southwest.

METEOROLOGY

As described by the Pima Association of Governments (1989), the Tucson area is characterized by mild, dry winter and a long, hot season lasting from April through October. Precipitation averages less than 12 inches per year in the area, resulting in semi-desert conditions.

SECTION 4
HISTORICAL LAND USE

HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the site were obtained from Cooper Aerial Survey of Tucson, Arizona, to evaluate past uses of the site and adjacent properties. Eight photographs dated 1953, 1960, 1967, 1973, 1979, 1985, 1988, 1990 were reviewed.

The June 1953 photograph shows the site with the manufacturing shop and two residential buildings on the northern portion of the site. Three adobe buildings are located on the south portion of the site. The concrete pad is in place south of the manufacturing building. Two vehicles are parked near the present location of the underground storage tank; other vehicles are present throughout the site. Craycroft and Fort Lowell Roads are apparently unpaved. Properties west, east, and south of the site are vacant and naturally vegetated. Properties north and southwest of the site are occupied by residential development.

The February 1960 photograph shows additional vehicles and materials accumulating near the central portion of the site. Additional materials and equipment are evident south of the manufacturing structure. Craycroft and Fort Lowell Roads are now paved.

The August 1967 photograph shows approximately four tanks stored south of the manufacturing building. Additional materials are accumulating throughout the central portion of the site. Fort Lowell Park and New Testament Baptist Church are in place east and south of the site, respectively.

The December 1973 photograph shows approximately 25 tanks stored south of the manufacturing shop and east of the concrete pad. More vehicles and materials are accumulating throughout the central portion of the site. Apparent large sheets of steel are shown south and east of the concrete pad area. The adobe buildings on the south-central portion of the site are shown without roofs.

The December 1979 photograph shows the site with abundant materials south of the manufacturing building. Apparent large sheets of steel are stored on the central and east-central portions of the site. Approximately 30 vehicles including cars, trucks and trailers are located throughout the site. Additional materials are accumulating on the central portion and west margin of the site.

The June 1985 photograph shows approximately 30 tanks stored on the east-central portion of the site. Additional materials are shown accumulating throughout the site.

The July 1988 and March 1990 photographs show the site essentially as it appears today. Five semi-trailers and several apparent tractors are located on the northwest portion of the site. Approximately 40 vehicles are located throughout the site.

CITY DIRECTORIES

City of Tucson directories, which identify occupants of listed addresses, were reviewed for years between 1937 and 1989. Reviewed directories included those for the years 1932, 1937, 1940, 1946, 1951, 1953, 1955, 1962, 1967, 1974, 1983, and 1989. Reviewed directories for the years 1953 through 1989 listed Adkins Steel Manufacturing and residences as occupying the site. Reviewed directories for the years 1937 through 1951 did not identify occupants of the site.

U.S. GEOLOGICAL SURVEY TOPOGRAPHIC MAPS

The United States Geological Survey topographic map, Tucson North, Arizona Quadrangle dated 1984 was reviewed to evaluate the presence of mappable structures on the site. The map identifies five structures on the site, generally corresponding to those currently occupying the site.

INTERVIEWS

According to Mr. Adkins, the site has been owned by his family since approximately 1920, and tank

manufacturing activities on the site began in 1946. Mr. Adkins stated that the construction dates of the on-site structures were as follows:

- o adobe buildings, south portion of site, 1880s**
- o two residential buildings, north portion of site, 1930s**
- o tank manufacturing shop, 1950s**

SECTION 5
REGULATORY RECORDS REVIEW

U. S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

The CERCLIS list is a compilation by EPA of the sites which EPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund Act). Sites on the CERCLIS list are evaluated by EPA to determine if a complete site evaluation is warranted; the inclusion of a site on this list does not necessarily indicate that it will be placed on the National Priority List.

The June 13, 1990 CERCLIS database was reviewed to ascertain whether any facilities within one mile of the site have been identified by the EPA as potentially hazardous sites; no facilities listed were within one mile of the site.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ)

Information reviewed from ADEQ includes the following:

- o Registered and Leaking Underground Storage Tanks
- o Directory of Active Solid Waste Landfills and Directory of Closed Solid Waste Landfills and Dumps
- o Water Quality Assurance Revolving Fund (WQARF)
- o Arizona CERCLA Information and Data Systems (ACIDS)
- o Ground-water Quality Database for Arizona
- o Arizona Hazardous Waste Treatment, Storage, & Disposal Facilities
- o RCRA Compliance Log
- o Inventory of Registered Drywells
- o Hazardous Materials Incident Logbook
- o Notices of Disposal (NODs) and Aquifer Protection Permits (APPs)

Registered and Leaking Underground Storage Tanks

Under state and federal law, persons who own or have owned underground storage tanks (USTs) containing "regulated substances" are required to complete a notification form and submit it to the state. The assembled list (current through February 1990) is referred to by ADEQ as the UST list. ADEQ also maintains a leaking underground storage tank (LUST) file of facilities which have reported releases from UST systems.

The UST list was reviewed and there are no registered USTs listed for the site or adjacent properties. Registration of the UST located west of the shop area is required.

A review of the LUST file, dated August 21, 1990, did not identify any releases within one mile of the site.

Directory of Active Solid Waste Landfills and Directory of Closed Solid Waste Landfills and Dumps

ADEQ maintains a statewide list of municipal solid waste and rubbish landfills current through January, 1990. Additionally, ADEQ has compiled a directory of closed solid waste landfills and closed solid waste dumps, current through September, 1990. These directories were reviewed to ascertain if any active landfills are located within one-half mile of the site.

Upon reviewing these records, no active or closed landfills were identified within one mile of the site.

Water Quality Assurance Revolving Fund (WQARF)

The State of Arizona has established a program to remedy sites which may have an actual or potential impact from hazardous substances upon waters of the state. The Water Quality Assurance Revolving Fund (WQARF) program allows the state to identify the extent of contamination and to identify responsible parties.

The WQARF Project Priority List (May, 1990) did not identify WQARF areas within one mile of the site.

Arizona CERCLA Information and Data Systems (ACIDS)

A computer database of locations subject to investigation concerning possible contamination of soil, surface water, or ground water, referred to as the Arizona CERCLA Information and Data System (ACIDS), has been generated by ADEQ. Inclusion of any facility or site on this list does not mean that the site is contaminated, causing contamination, or in violation of state or federal statutes or regulations.

As of September 14, 1990, there were no listed facilities within one mile of the site.

Ground-Water Quality Database for Arizona

ADEQ maintains a list of documented contaminated ground-water wells within the State of Arizona, compiled into a ground-water quality database. Ground-water quality information included in the database is derived from laboratory analysis of water samples drawn from public water supply wells, semi-public supply wells, private domestic drinking water wells, irrigation wells, industrial supply wells and others.

This list, current through 1989, was reviewed to assess whether any of these wells are located in the vicinity of the site. Nine sampled wells were identified within one mile of the site. Sampling of these wells performed in 1989 did not detect VOCs at concentrations exceeding Federal Maximum Contaminant Levels (MCLs) or Arizona Department of Health Services Action Level Guidelines (AALs).

Arizona Hazardous Waste Treatment, Storage, & Disposal Facilities (TSDF)

ADEQ maintains a list of hazardous waste treatment, storage, and disposal facilities in the State of Arizona.

As of June, 1990, no listed facilities were identified within one-half mile of the site.

RCRA Compliance Log

ADEQ maintains a list, current through September 14, 1990, of facilities that are or have been under investigation for non-compliance with RCRA regulations. This list is referred to as the RCRA Compliance Log.

No listed facilities were identified within one-half mile of the site.

Inventory of Registered Drywells

The State of Arizona maintains a list, current list dated September 7, 1990, of approximately 2,100 registered drywells located throughout the state. These wells have been constructed solely for the disposal of storm water.

No registered drywells were listed for the subject site.

Hazardous Materials Incident Logbook

The ADEQ Emergency Response Unit documents chemical spills and incidents which have been referred to ADEQ. These incidents have been compiled by ADEQ into yearly lists.

The 1988 through 1990 lists did not identify any incidents at addresses located within one-half mile of the site.

Notices of Disposal (NODs) and Aquifer Protection Permits (APPs)

A facility planning to dispose of any material which may affect ground-water quality is required to file an Aquifer Protection Permit (APP) application; this application has also been referred to as a Notice of Disposal (NOD). Based on information provided by the APP application or NOD, permitting may be required. ADEQ maintains a list of existing facilities which have filed APP applications or NODs. ADEQ also maintains a listing of permitted facilities which have been issued APPs (formerly known as ground-water protection permits).

No existing or permitted facilities were listed for addresses within one-half mile of the site.

SECTION 6

SURFACE SOIL SAMPLING AND ANALYSIS

INTRODUCTION

During the site reconnaissance, several areas of stained soils were observed. These areas were observed in the vicinity of the shop, concrete pad and work area, drum storage area, cesspool, and beneath the aboveground diesel fuel storage tank. Staining was apparently caused by waste oil spillage or disposal, leakage from the diesel fuel storage tank, and residue from grinding and sanding operations. This limited sampling performed in these and other areas was intended to evaluate the potential presence of hydrocarbons, volatile organic compounds (VOCs), and metals in soils at the site. With the exception of the cesspool, staining was visually observed to be limited to a depth of approximately six inches. The depth of soil staining associated with the cesspool is presently unknown.

SAMPLING METHODOLOGY

On December 6, 1990, SCS personnel collected a total of 12 near-surface soil samples from soils throughout the site; sample locations are shown in Figure 2. Samples were collected from locations identified during the initial site reconnaissance. As summarized in Table 1, sampled locations included areas of soil staining, a battery disposal area, an accumulation of dark-colored granular material, and sludge from within the cesspool. Two soil samples were collected at each location; duplicates were relinquished under chain-of-custody procedures to Mr. Harry Adkins.

All samples, with the exception of AS11-7, were collected from soils at a maximum depth of approximately six inches. Samples were collected utilizing a decontaminated stainless steel scoop. Sample AS11-7 was collected from material at the bottom of the cesspool, at a depth of approximately seven feet below ground surface utilizing a stainless steel hand-driven auger. Soil samples were packed tightly into clean eight-ounce sample jars and immediately capped, labeled and placed on ice for delivery to the SCS Analytical Laboratory. Sampling equipment was decontaminated between sampling locations utilizing Liquinox detergent and double rinsed with deionized water. Additionally, the SCS geologist changed gloves between sampling locations to avoid cross-contamination.

LABORATORY ANALYSES

Analytical results are presented in Table 1; complete analytical reports are presented in Appendix B. All samples analyzed in accordance with EPA Method 418.1 were observed to exceed the ADEQ suggested cleanup level for total petroleum hydrocarbons (TPH) in soil of 100 mg/kg. Samples analyzed in accordance with EPA Method 8240 did not contain concentrations of volatile organic compounds (VOCs) exceeding State of Arizona health-based guidance levels (HBGLs). In most instances, VOCs were not detected at concentrations exceeding laboratory detection limits. Sample AS10-0.5, analyzed for the eight RCRA Metals, was observed to contain 610 mg/kg total lead, exceeding the State of Arizona HBGL for lead in soil of 400 mg/kg. Other RCRA Metals detected in this sample were below HBGLs. Sample AS7-0.5, collected from soils adjacent to a stack of broken automotive batteries, was observed to have a pH of 7.7 and a concentration of 150 mg/kg lead.

TABLE 1
SURFACE SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS

Sample I.D.	Location	Description	EPA 418.1 (mg/kg)	EPA 8240 (ug/kg)	RCRA Metals (mg/kg)	pH
AS1-0.5	North end shop	Stain	1,600	Acetone 140	NA	NA
AS2-0.5	Diesel AST	Stain	2,460	NA	NA	NA
AS3-0.5	South end shop	Stain	29,600	Acetone 190 4 methyl-2-Pentanone 140 Toluene 11 M & P Xylenes 11	NA	NA
AS4-0.5	Concrete pad/drum storage	Stain	2,630	Acetone 120 Toluene 10	NA	NA
AS5-0.5	Southwest of shop	Stain	6,630	NA	NA	NA
AS6-0.5	Southwest of shop	Stain	13,000	NA	NA	NA
AS7-0.5	Southwest of shop	Batteries	NA	NA	Lead 150**	7.7
AS8-0.5	Drum storage area	Stain	38,500	NA	NA	NA
AS9-0.5	South side concrete pad	Stain	168	Acetone 75	NA	NA
AS10-0.5	Grinding area	Granular Material	NA	NA	Lead 610*	NA
AS11-7	Bottom of cesspool	Sludge	78,900	NA	NA	NA
AS12-0.5	Adjacent to cesspool	Stain	42,200	NA	NA	NA

NOTE: * - Lead was only RCRA Metal (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) detected above State of Arizona Health-based Guidance Levels

** - Lead was only metal analyzed

NA - Not analyzed



- indicates detected concentration exceeds Health-Based Guidelines or suggested cleanup guideline

SECTION 7
UNDERGROUND STORAGE TANK SOIL BORINGS

INTRODUCTION

In order to evaluate the potential presence of hydrocarbons in soils adjacent to the underground storage tank (UST), soil samples were collected from borings adjacent to the UST. On December 6, 1990, two soil borings were advanced to a depth of 30 feet below ground surface. Drilling services were provided by Desert Earth Engineering of Tucson, utilizing a CME 75 hollow-stem auger drill rig.

SAMPLING METHODOLOGY

Two soil borings were drilled on the west side of the UST; the east side of the UST was inaccessible to the drill rig due to the presence of stored steel materials. Boring locations are identified as B1 and B2 and are shown on Figure 2. Borings were drilled at an approximate 10-degree slant towards the UST in order to collect soil samples from beneath the UST. Soils penetrated by the borings consisted generally of silty sand with gravel to a depth of approximately 20 feet, underlain by sandy gravel with cobbles to the maximum boring depth of 30 feet. Complete boring logs are provided in Appendix C.

Undisturbed soil samples were collected from depths of 15, 20, and 30 feet in boring B1, and from 15, 20, 25, and 30 feet in boring B2. There was no sample recovery at a depth of 25 feet for boring B1. Samples were collected with a ring sampler lined with brass sleeves. The sampler was driven into the soil beneath the drilling bit with a 140-lb drop hammer, falling 30 inches. Upon removal from the ring sampler, samples were immediately sealed with plastic caps, taped, labeled, and placed on ice. Two samples were collected from each sampling interval; duplicates were relinquished under chain-of-custody procedures to Mr. Adkins. Soils at each sampling interval were monitored for the presence of organic vapors utilizing an H-Nu photoionization detector. No organic vapors or hydrocarbon odors were detected.

LABORATORY ANALYSES

Samples collected from depths of 20 and 30 feet from each boring were selected for analysis in accordance with EPA Method 8015. Laboratory analyses did not identify detectable concentrations of total petroleum hydrocarbon (TPH) in these samples. Complete laboratory reports are provided in Appendix D.

SECTION 8
PRELIMINARY ASBESTOS INSPECTION

A limited asbestos survey was performed during the site reconnaissance, consisting of a visual inspection of the structures on the site and collection of ten samples from suspect asbestos-containing materials (ACMs).

According to Mr. Adkins, the on-site buildings were constructed between the 1880s and 1950s. The adobe buildings on the south portion of site were reportedly built in the 1880s; building materials were observed to consist of wood frame and adobe walls, with clay tile roofing; the residential structures on northwest and northeast portions of site were reportedly built in the 1930s, and generally consist of wood frame and adobe/plaster walls, wood floors, and asphaltic shingle and clay tile roofing. The manufacturing shop, reportedly constructed in the 1950s, consists of metal frame and perlite walls, with bare concrete flooring.

Bulk samples were collected from the manufacturing shop and northwest residential building. Interior portions of the northeast residential building and the historical/residential building on the southeast portion of the site were not inspected. Mr. Adkins would not permit access to these facilities. The materials from which bulk samples were collected included roofing materials, interior and exterior walls, exterior patching, ceiling tiles, plaster, and tile adhesive. No duct work or insulation was observed in the two reviewed buildings.

Bulk samples were obtained by collecting approximately two cubic centimeters of material which was placed into individual sealed and labelled bags. Sampled material was misted with amended water prior to and during disturbance in order to minimize the potential release of airborne asbestos fibers. Where possible, samples were collected from isolated areas to further minimize potential exposure. Sample containers were transported under chain-of-custody procedures to Southwest Hazard Control, Inc. (SHC) in Tucson, Arizona, for laboratory analysis.

Bulk samples were analyzed by SHC using polarized light microscopy (PLM) and dispersion staining in accordance with the EPA Interim Method for the Determination of Asbestos in Bulk Samples (40 CFR 763, Subpart F, Appendix A). This method identifies asbestos fiber bundles utilizing visual properties

displayed when the sample is treated with various dispersion liquids. Asbestos fibers in samples containing less than one percent asbestos are not reliably detected by this technique.

Asbestos was not detected in the ten bulk samples collected from inspected buildings at the site. Complete laboratory reports are provided in Appendix E.

SECTION 9 CONCLUSIONS

Based on the findings of our site reconnaissance of surficial features, site history search, and review of regulatory agency records, it was confirmed or reported that the site has been utilized primarily for the manufacturing of steel tanks since 1946. The site currently contains several buildings constructed between the 1880s and the 1950s. Significant accumulations of metal materials, debris, and equipment, were observed on the site; material stockpiles at several locations prevented characterization of the underlying ground surface. An aboveground diesel fuel tank and an underground fuel storage tank were observed on the site; areas of waste oil spillage or disposal, drum storage, and battery disposal were also identified.

Based on these observations and the limited sampling performed at the site, we conclude the following:

- o Surface soil samples collected at the site and analyzed in accordance with EPA Method 418.1 were observed to contain concentrations of total petroleum hydrocarbons (TPH) in excess of the ADEQ suggested soil cleanup level of 100 mg/kg. Sampled areas containing elevated TPH concentrations included, but were not limited to, adjacent to the manufacturing shop, beneath the aboveground diesel fuel storage tank, drum storage area, adjacent to the concrete pad, and the cesspool. With the exception of the cesspool, soil staining was visually observed to be limited to a depth of approximately six inches. The extent of hydrocarbon-containing soils or sludge within the cesspool is unknown.
- o Soil samples analyzed in accordance with EPA Method 8240 for volatile organic compounds (VOCs) did not detect concentrations of VOCs exceeding State Health-Based Guidance Levels (HBGLs). Most VOCs were below laboratory detection limits.
- o One surface soil sample collected from the grinding/cutting area and analyzed for total RCRA Metals contained 600 mg/kg lead. This concentration exceeds the HBGL for ingestion of lead in soil of 400 mg/kg.

- o One surface sample collected adjacent to a pile of broken automotive batteries contained a concentration of lead of 150 mg/kg and a pH of 7.7. The lead content and pH of this sample are within the range normally found in uncontaminated soils.
- o Laboratory analysis of samples collected from two borings located adjacent to the underground storage tank (UST) does not indicate that a significant release of hydrocarbons from the UST has occurred. However, complete evaluation of the integrity of this UST system can only be accomplished by removal of the tank.
- o The UST has not been registered in accordance with State and Federal requirements.
- o A preliminary asbestos survey of structures on the site did not identify the presence of asbestos-containing building materials in structures which may be disturbed by future activities on the site.

SECTION 10
RECOMMENDATIONS

Based on our conclusions, we recommend the following:

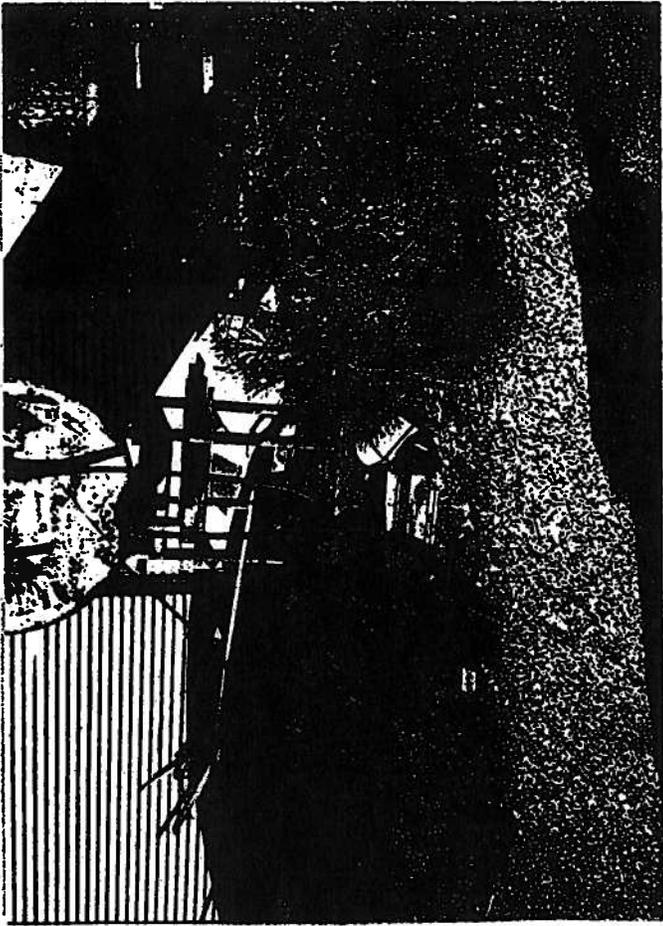
- o Remediation of near-surface soils containing TPH at concentrations exceeding the State suggested cleanup guidance level of 100 mg/kg should be performed. Mitigation may be performed by shallow excavation. Contaminated soils may then be transported to an authorized, secure landfill facility, or they may be treated by bioremediation. Bioremediation may not be effective on heavy hydrocarbons such as waste oil. Remedial actions at the site should be concluded by the collection of verification samples, to confirm the limited vertical extent of TPH in affected areas. Estimated costs for excavation, off-site disposal or bioremediation, and verification sampling range from \$90 to \$120 per cubic yard of soil, based on an estimated 40 cubic yards of soil requiring remediation. The total cost for remediation of these soils is estimated to be in the range of \$3,600 to \$4,800. However, it should be noted that additional stained areas may be identified upon removal of the materials and equipment which presently obscure portions of the site.

- o The extent of TPH-containing soils and sludge in the cesspool should be evaluated. This may be accomplished by excavation and removal of the cesspool and associated material, followed by verification sampling as described above. The estimated costs associated with this additional investigation, assuming that a backhoe is able to completely excavate the cesspool and associated TPH-containing soils, range from \$5,000 to \$6,000. Costs of remediation will be dependent upon the extent of contamination, and cannot at this time be estimated.

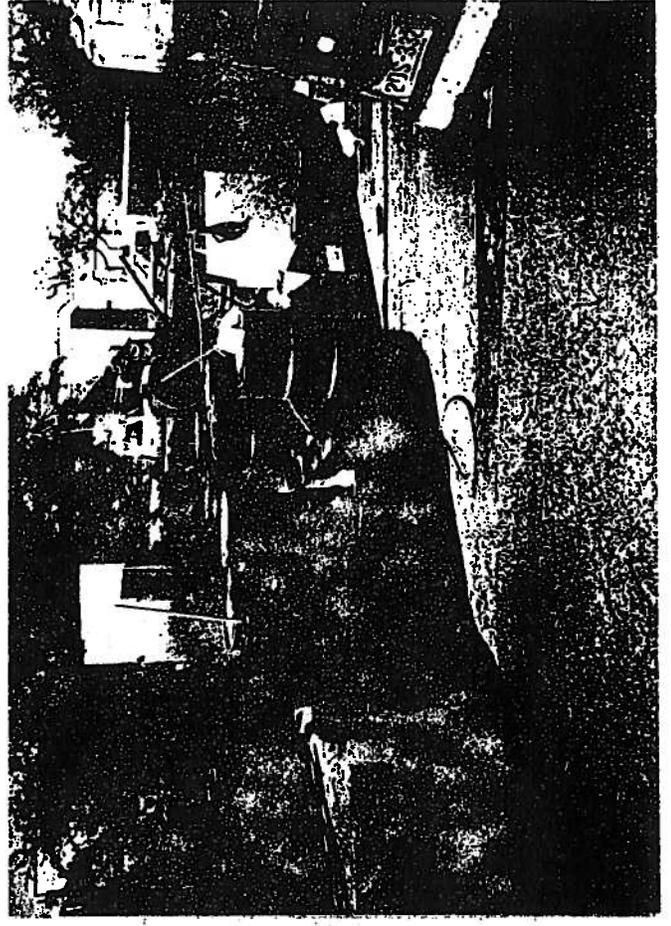
- o Dark-colored, granular material present in the grinding area and containing elevated concentrations of total lead should be removed from the site. If disposed of with petroleum-contaminated soils at a secure, authorized landfill facility, the cost associated with excavation and disposal is estimated at approximately \$110 per cubic yard of soil, based on an estimated 40 cubic yards of soil requiring remediation. The total cost for remediation of these soils is estimated to be \$4,400.

- o SCS recommends that the UST be registered and removed from the site. If possible, this should be performed prior to transfer of the property so that the potential presence of hydrocarbons not detected by the borings can be evaluated and remediated, if necessary. Regardless of the disposition of the UST, it must be registered with the Arizona Department of Environmental Quality. Costs associated with removal of the UST are estimated at \$3,000 to \$4,000, assuming the tank is empty as reported.
- o Prior to transfer of the property, all equipment, debris, and materials should be removed from the site, especially drums, disposed batteries, aboveground tanks, and any other potential sources of hazardous substances. A final inspection of the site, especially in those areas currently concealed by debris and materials, may be advisable.

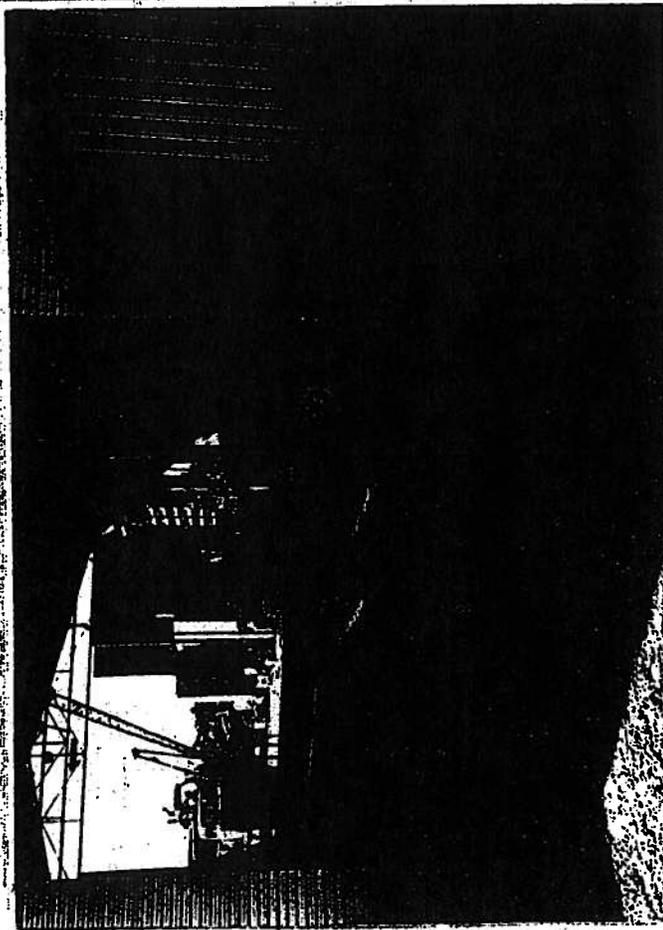
APPENDIX A
SITE PHOTOGRAPHS



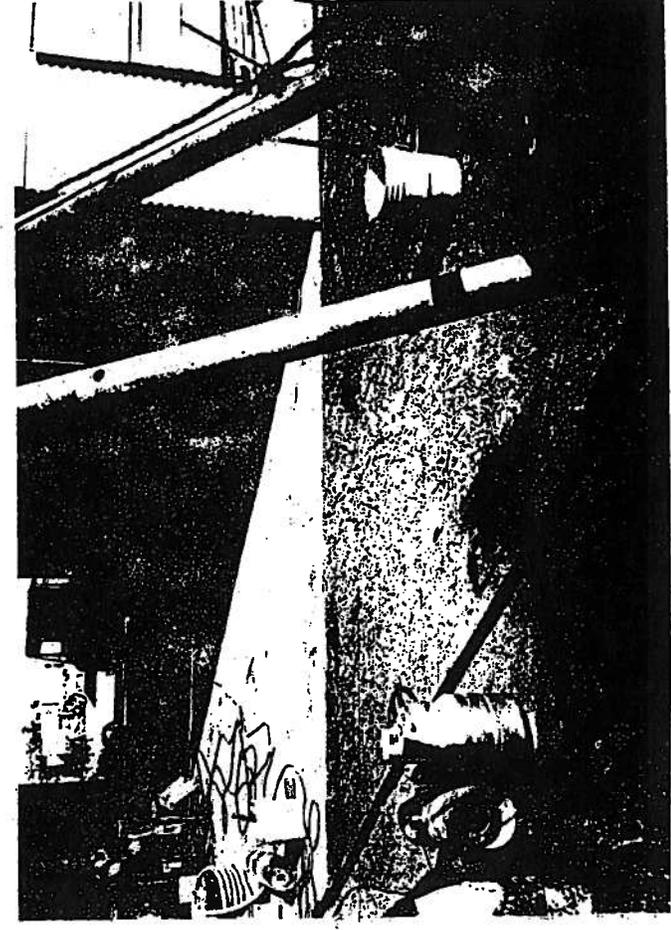
AS2-0.5



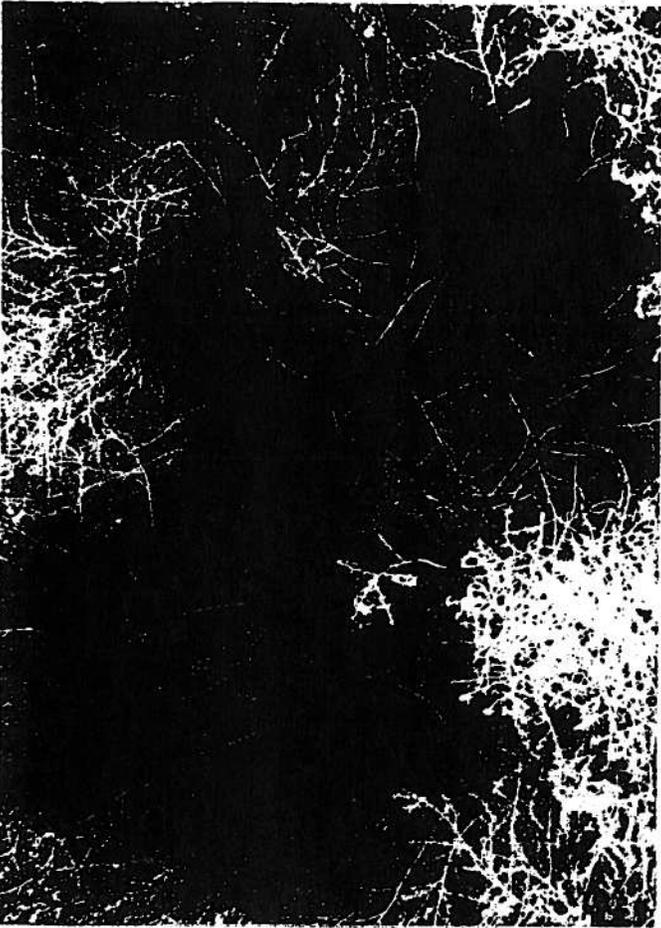
AS4-0.5



AS1-0.5



AS3-0.5



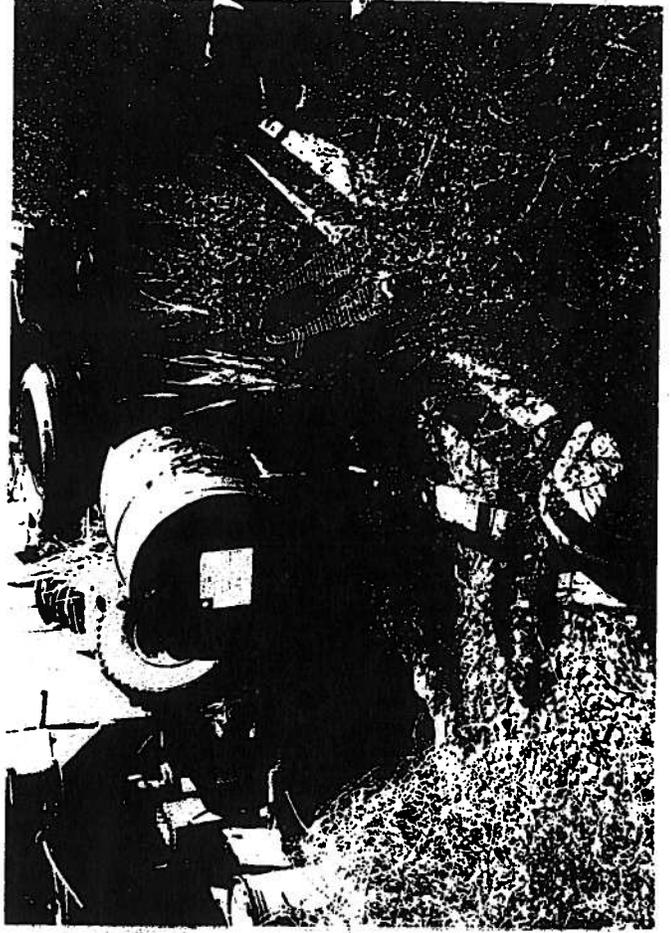
AS5-0.5



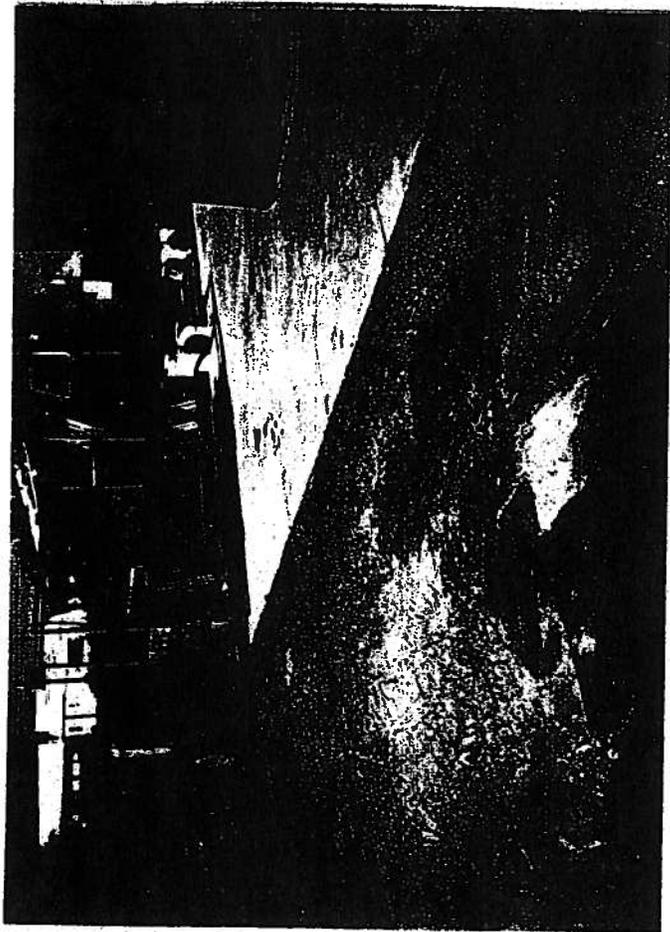
AS6-0.5



AS7-0.5

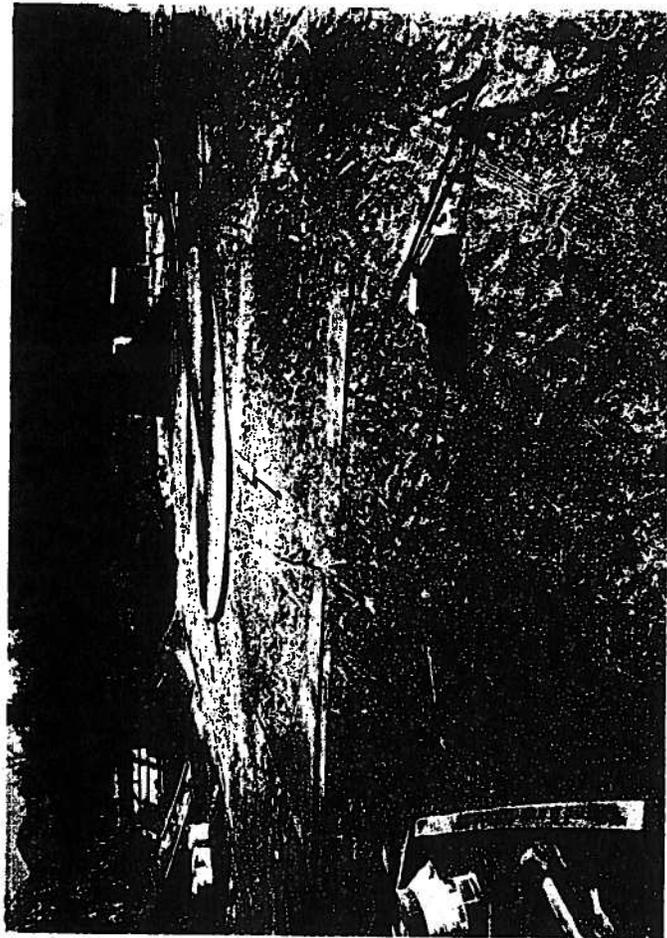


AS8-0.5



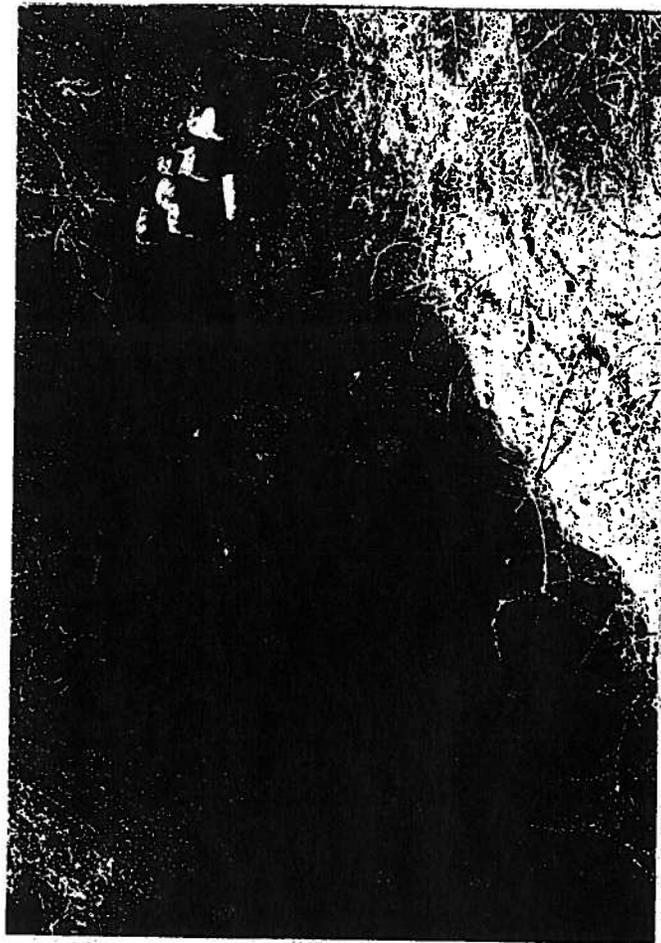
AS9-0.5

AS11-7



AS10-0.5

AS12-0.5



APPENDIX B
SURFACE SOIL SAMPLE LABORATORY REPORTS



2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

To: Chris Robertson

From: Lam V. Ho

December 17, 1990

Job No.: 1090035.01

Page 1 of 10

LABORATORY REPORT

Samples: Twelve (12) soil samples from Adkins Steel Manufacturing, received 12/10/90, analyzed 12/12/90 and 12/14/90.

Sample ID	Site ID	EPA 418.1
-----	-----	----mg/kg----
AS1-0.5	Stain	1600
AS2-0.5	Diesel Tank	2460
AS3-0.5	Stain	29600
AS4-0.5	Drum	2630
AS5-0.5	Stain	6630
AS6-0.5	Stain	13000
AS8-0.5	Drum	38500
AS9-0.5	Stain	168
AS11-7	Septic Tank	78900
AS12-0.5	Stain	42200

Detection Limit 10

Sample ID	Site ID	pH(9045)	Lead(6010)
-----	-----	-----	----mg/kg----
AS7-0.5	Batteries	7.7	150

Detection Limit 10

ND - Not Detected

EPA 8240 and RCRA metals - see attached sheets

David Mikesell
Chemist

Lam V. Ho PhD, REP
Laboratory Director

adkin2.rep



2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Addendum Report, EPA 8240
Page 2 of 10

Sample I.D.: AS1-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result	D.L.
		----ug/kg (ppb)----	
67-64-1	Acetone	140	50
107-02-8	Acrolein	ND	50
107-13-1	Acrylonitrile	ND	50
71-43-2	Benzene	ND	10
75-27-4	Bromodichloromethane	ND	10
75-25-2	Bromoform	ND	10
74-83-9	Bromomethane	ND	30
78-93-3	2-Butanone	ND	50
75-15-0	Carbon Disulfide	ND	10
56-23-5	Carbon Tetrachloride	ND	10
108-90-7	Chlorobenzene	ND	10
124-48-1	Chlorodibromomethane	ND	10
75-00-3	Chloroethane	ND	30
110-75-8	2-Chloroethyl Vinyl Ether	ND	50
67-66-3	Chloroform	ND	10
74-87-3	Chloromethane	ND	30
74-95-3	Dibromomethane	ND	10
110-56-5	1,4-Dichloro-2-butene	ND	10
75-71-8	Dichlorodifluoromethane	ND	10
75-34-3	1,1-Dichloroethane	ND	10
107-06-2	1,2-Dichloroethane	ND	10
75-35-4	1,1-Dichloroethene	ND	10
156-60-5	trans-1,2-Dichloroethene	ND	10
78-87-5	1,2-Dichloropropane	ND	10
10061-01-5	cis-1,3-Dichloropropene	ND	10
10061-02-6	trans-1,3-Dichloropropene	ND	10
64-17-5	Ethanol	ND	10
100-41-4	Ethylbenzene	ND	10
97-63-2	Ethyl Methylacrylate	ND	10
591-78-6	2-Hexanone	ND	30
74-88-4	Iodomethane	ND	10
75-09-2	Methylene Chloride	ND	50
108-10-1	4-Methyl-2-Pentanone	ND	30

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240 (Cont.)
Page 3 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS1-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result	D.L.
		----ug/kg (ppb) ----	
100-42-5	Styrene	ND	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	10
127-18-4	Tetrachloroethene	ND	10
108-88-3	Toluene	ND	10
71-55-6	1,1,1-Trichloroethane	ND	10
79-00-5	1,1,2-Trichloroethane	ND	10
79-01-6	Trichloroethene	ND	10
75-69-4	Trichlorofluoromethane	ND	10
96-18-4	1,2,3-Trichloropropane	ND	10
108-05-4	Vinyl Acetate	ND	30
75-01-4	Vinyl Chloride	ND	30
1330-20-7	m- and p-Xylenes	ND	10
95-47-6	o-Xylene	ND	10
541-73-1	1,3-Dichlorobenzene	ND	10
106-46-7	1,4-Dichlorobenzene	ND	10
95-50-1	1,2-Dichlorobenzene	ND	10

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240
Page 4 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS3-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result	D.L.
		----ug/kg (ppb)----	
67-64-1	Acetone	190	50
107-02-8	Acrolein	ND	50
107-13-1	Acrylonitrile	ND	50
71-43-2	Benzene	ND	10
75-27-4	Bromodichloromethane	ND	10
75-25-2	Bromoform	ND	10
74-83-9	Bromomethane	ND	30
78-93-3	2-Butanone	ND	50
75-15-0	Carbon Disulfide	ND	10
56-23-5	Carbon Tetrachloride	ND	10
108-90-7	Chlorobenzene	ND	10
124-48-1	Chlorodibromomethane	ND	10
75-00-3	Chloroethane	ND	30
110-75-8	2-Chloroethyl Vinyl Ether	ND	50
67-66-3	Chloroform	ND	10
74-87-3	Chloromethane	ND	30
74-95-3	Dibromomethane	ND	10
110-56-5	1,4-Dichloro-2-butene	ND	10
75-71-8	Dichlorodifluoromethane	ND	10
75-34-3	1,1-Dichloroethane	ND	10
107-06-2	1,2-Dichloroethane	ND	10
75-35-4	1,1-Dichloroethene	ND	10
156-60-5	trans-1,2-Dichloroethene	ND	10
78-87-5	1,2-Dichloropropane	ND	10
10061-01-5	cis-1,3-Dichloropropene	ND	10
10061-02-6	trans-1,3-Dichloropropene	ND	10
64-17-5	Ethanol	ND	10
100-41-4	Ethylbenzene	ND	10
97-63-2	Ethyl Methylacrylate	ND	10
591-78-6	2-Hexanone	ND	30
74-88-4	Iodomethane	ND	10
75-09-2	Methylene Chloride	ND	50
108-10-1	4-Methyl-2-Pentanone	140	30

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240 (Cont.)
Page 5 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS3-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result ----ug/kg (ppb) ----	D.L.
100-42-5	Styrene	ND	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	10
127-18-4	Tetrachloroethene	ND	10
108-88-3	Toluene	11	10
71-55-6	1,1,1-Trichloroethane	ND	10
79-00-5	1,1,2-Trichloroethane	ND	10
79-01-6	Trichloroethene	ND	10
75-69-4	Trichlorofluoromethane	ND	10
96-18-4	1,2,3-Trichloropropane	ND	10
108-05-4	Vinyl Acetate	ND	30
75-01-4	Vinyl Chloride	ND	30
1330-20-7	m- and p-Xylenes	11	10
95-47-6	o-Xylene	ND	10
541-73-1	1,3-Dichlorobenzene	ND	10
106-46-7	1,4-Dichlorobenzene	ND	10
95-50-1	1,2-Dichlorobenzene	ND	10

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240
Page 6 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(714) 595-9324
FAX (714) 595-6709

Sample I.D.: AS4-0.5 Drum
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result	D.L.
		----ug/kg (ppb)----	
67-64-1	Acetone	120	50
107-02-8	Acrolein	ND	50
107-13-1	Acrylonitrile	ND	50
71-43-2	Benzene	ND	10
75-27-4	Bromodichloromethane	ND	10
75-25-2	Bromoform	ND	10
74-83-9	Bromomethane	ND	30
78-93-3	2-Butanone	ND	50
75-15-0	Carbon Disulfide	ND	10
56-23-5	Carbon Tetrachloride	ND	10
108-90-7	Chlorobenzene	ND	10
124-48-1	Chlorodibromomethane	ND	10
75-00-3	Chloroethane	ND	30
110-75-8	2-Chloroethyl Vinyl Ether	ND	50
67-66-3	Chloroform	ND	10
74-87-3	Chloromethane	ND	30
74-95-3	Dibromomethane	ND	10
110-56-5	1,4-Dichloro-2-butene	ND	10
75-71-8	Dichlorodifluoromethane	ND	10
75-34-3	1,1-Dichloroethane	ND	10
107-06-2	1,2-Dichloroethane	ND	10
75-35-4	1,1-Dichloroethene	ND	10
156-60-5	trans-1,2-Dichloroethene	ND	10
78-87-5	1,2-Dichloropropane	ND	10
10061-01-5	cis-1,3-Dichloropropene	ND	10
10061-02-6	trans-1,3-Dichloropropene	ND	10
64-17-5	Ethanol	ND	10
100-41-4	Ethylbenzene	ND	10
97-63-2	Ethyl Methylacrylate	ND	10
591-78-6	2-Hexanone	ND	30
74-88-4	Iodomethane	ND	10
75-09-2	Methylene Chloride	ND	50
108-10-1	4-Methyl-2-Pentanone	ND	30

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240 (Cont.)
Page 7 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS4-0.5 Drum
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result ----ug/kg (ppb)----	D.L.
100-42-5	Styrene	ND	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	10
127-18-4	Tetrachloroethene	ND	10
108-88-3	Toluene	10	10
71-55-6	1,1,1-Trichloroethane	ND	10
79-00-5	1,1,2-Trichloroethane	ND	10
79-01-6	Trichloroethene	ND	10
75-69-4	Trichlorofluoromethane	ND	10
96-18-4	1,2,3-Trichloropropane	ND	10
108-05-4	Vinyl Acetate	ND	30
75-01-4	Vinyl Chloride	ND	30
1330-20-7	m- and p-Xylenes	ND	10
95-47-6	o-Xylene	ND	10
541-73-1	1,3-Dichlorobenzene	ND	10
106-46-7	1,4-Dichlorobenzene	ND	10
95-50-1	1,2-Dichlorobenzene	ND	10

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240
Page 8 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS9-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result -----ug/kg (ppb) -----	D.L.
67-64-1	Acetone	75	50
107-02-8	Acrolein	ND	50
107-13-1	Acrylonitrile	ND	50
71-43-2	Benzene	ND	10
75-27-4	Bromodichloromethane	ND	10
75-25-2	Bromoform	ND	10
74-83-9	Bromomethane	ND	30
78-93-3	2-Butanone	ND	50
75-15-0	Carbon Disulfide	ND	10
56-23-5	Carbon Tetrachloride	ND	10
108-90-7	Chlorobenzene	ND	10
124-48-1	Chlorodibromomethane	ND	10
75-00-3	Chloroethane	ND	30
110-75-8	2-Chloroethyl Vinyl Ether	ND	50
67-66-3	Chloroform	ND	10
74-87-3	Chloromethane	ND	30
74-95-3	Dibromomethane	ND	10
110-56-5	1,4-Dichloro-2-butene	ND	10
75-71-8	Dichlorodifluoromethane	ND	10
75-34-3	1,1-Dichloroethane	ND	10
107-06-2	1,2-Dichloroethane	ND	10
75-35-4	1,1-Dichloroethene	ND	10
156-60-5	trans-1,2-Dichloroethene	ND	10
78-87-5	1,2-Dichloropropane	ND	10
10061-01-5	cis-1,3-Dichloropropene	ND	10
10061-02-6	trans-1,3-Dichloropropene	ND	10
64-17-5	Ethanol	ND	10
100-41-4	Ethylbenzene	ND	10
97-63-2	Ethyl Methylacrylate	ND	10
591-78-6	2-Hexanone	ND	30
74-88-4	Iodomethane	ND	10
75-09-2	Methylene Chloride	ND	50
108-10-1	4-Methyl-2-Pentanone	ND	30

D.L. = Detection Limit
ND = Not Detected



Addendum Report, EPA 8240 (Cont.)
Page 9 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS9-0.5 Stain
Date Received: 12/10/90
Date Analyzed: 12/14/90
Matrix: Soil
Project #: 1090035.01
File #: adkin2.rep

CAS #	Compound	Result	D.L.
		----ug/kg (ppb)----	
100-42-5	Styrene	ND	10
79-34-5	1,1,2,2-Tetrachloroethane	ND	10
127-18-4	Tetrachloroethene	ND	10
108-88-3	Toluene	ND	10
71-55-6	1,1,1-Trichloroethane	ND	10
79-00-5	1,1,2-Trichloroethane	ND	10
79-01-6	Trichloroethene	ND	10
75-69-4	Trichlorofluoromethane	ND	10
96-18-4	1,2,3-Trichloropropane	ND	10
108-05-4	Vinyl Acetate	ND	30
75-01-4	Vinyl Chloride	ND	30
1330-20-7	m- and p-Xylenes	ND	10
95-47-6	o-Xylene	ND	10
541-73-1	1,3-Dichlorobenzene	ND	10
106-46-7	1,4-Dichlorobenzene	ND	10
95-50-1	1,2-Dichlorobenzene	ND	10

D.L. = Detection Limit
ND = Not Detected



Addendum Report, RCRA Metals
Page 10 of 10

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

Sample I.D.: AS10-0.5 Black Granular Material
Date Received: 12/10/90
Date Analyzed: 12/12/90
Matrix: Soil
Project: 1090035.01
File #: adkin2.rep

Compound	EPA Number	Result -----mg/kg (ppm)-----	D.L
Arsenic	7060	155	0.2
Barium	6010	131	2
Cadmium	6010	7	4
Chromium	6010	69	1
Lead	6010	610	10
Mercury	7471	0.410	0.009
Selenium	7740	1.0	0.2
Silver	6010	ND	1

ND = Not Detected
D.L. = Detection Limit

CHAIN OF CUSTODY RECORD



PERSONNEL

Name (signature) [Signature]
 Name (print) CHRIS C. ROBERTSON
 Company SCS ENGINEERS
 Address 2702 N. 44TH ST. #105B
 City, State, Zip PHOENIX, AZ 85008
 Telephone 602-840-2596

SITE INFORMATION

2860 WALNUT AVENUE
 LONG BEACH, CALIFORNIA 90806
 (213) 595-9324
 Fax (213) 595-6709

Job Name ADKINS STEEL MFG.
 Job Number 1090035.01
 Sample Location _____
 P.O. Number _____

Relinquished by (Signature) <u>[Signature]</u> <u>12/7/90</u>	Received by (Signature) <u>Marilyn Hubel</u>	Date <u>12/10/90</u>	Time <u>8:45am</u>
Relinquished by (Signature) _____	Received by (Signature) _____	Date _____	Time _____

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
AS1-0.5	SOIL	ONE	STAIN	12/6/90	8240, 418.1	calcd
AS2-0.5	↓	↓	DIESEL TANK	↓	418.1	↓
AS2-0.5	↓	↓	STAIN	↓	8240, 418.1	↓
AS4-0.5	↓	↓	DRUM	↓	8240, 418.1	↓
AS5-0.5	↓	↓	STAIN	↓	418.1	↓
AS6-0.5	↓	↓	STAIN	↓	418.1	↓
AS7-0.5	↓	↓	BATTERIES	↓	pH, TOTAL LEAD	↓
AS8-0.5	↓	↓	DRUM	↓	418.1	↓
AS9-0.5	↓	↓	STAIN	↓	8240, 418.1	↓
AS10-0.5	↓	↓	BLACK GRANULAR MATERIAL	↓	TOTAL PCRA METALS AS, BA, CA, CR, Hg, PL, SE, AG	↓
AS11-7	↓	↓	SEPTIC TANK	↓	418.1	↓
AS12-0.5	↓	↓	STAIN	↓	418.1	↓
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Remarks: _____

APPENDIX C
SOIL BORING LOGS

Project Name: Adkins Steel	Log of Boring No: B1	Page 1 of 1
Logged/Checked by: CCR	Depth of Boring Below LS: 30'	
Drilling Equipment/Contractor: CME 75	WL Datum: Dry	
	Datum Elev:	
Date Started: 12/06/90	WL Below Datum:	
Date Completed: 12/06/90	Date WL Measured:	

Depth (ft)	Geologic Log	Material Description	Blow Counts	PID/OVA	Sample		Comments
					Interval	Number	
0 - 5		Dry, light tan, silty sand					
5 - 10		Moist, light tan, silty sand with gravel					
15 - 20			32 63	0		B1-15	
20 - 25			30 45	0		B1-20	
25 - 30		Moist, sandy gravel with cobbles	130+ 5'		NR	B1-25	
30 - 35			26 31	0		B1-30	No hydrocarbon odors
35 - 40							
40 - 45							
45 - 50							

Project Name: Adkins Steel		Lag of Boring No: B2	Page 1 of 1
Logged/Checked by: CCR		Depth of Boring Below LS: 30'	
Drilling Equipment/Contractor: CME 75		WL Datum: Dry	
Date Started: 12/06/90		Datum Elev:	
Date Completed: 12/06/90		WL Below Datum:	
		Date WL Measured:	

Depth (ft)	Geologic Log	Material Description	Blow Counts	PID/OVA	Sample		Comments
					Interval	Number	
0-5		Dry, tan, silty sand					
5-15		Moist, tan, silty sand with gravel					
15-20			31 52	0		B2-15	No hydrocarbon odors
20-25		Moist, tan, sandy gravel with cobbles	35 70	0		B2-20	
25-30			23 26			B2-25	
30-35			21 23	0		B2-30	No hydrocarbon odors
35-40							
40-45							
45-50							

APPENDIX D
SOIL BORING LABORATORY REPORTS



2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
FAX (213) 595-6709

MEMO

To: Chris Robertson

From: Lam V. Ho

December 17, 1990

Job No.: 1090035.01

Page 1 of 1

LABORATORY REPORT

Samples: Seven (7) soil samples from Adkins Steel, UST Borings, received 12/10/90 and analyzed 12/14/90. Four (4) samples to be analyzed and the remainder to be archived.

Sample ID -----	EPA 8015 -----mg/kg---
B1-20	ND
B1-30	ND
B2-20	ND
B2-30	ND

Detection Limit 1

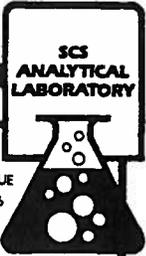
ND - Not Detected

David Mikesell
David Mikesell
Chemist

Lam V. Ho
Lam V. Ho PhD, REP
Laboratory Director

adkin1.rep

CHAIN OF CUSTODY RECORD



PERSONNEL

Name (signature) *Chris C. Robertson*
 Name (print) CHRIS C. ROBERTSON
 Company SCS ENGINEERS
 Address 2702 N. 44th ST. #105B
 City, State, Zip PHOENIX AZ 85008
 Telephone 602 840 2596

SITE INFORMATION

2860 WALNUT AVENUE
 LONG BEACH, CALIFORNIA 90806
 (213) 595-9324
 Fax (213) 595-6709

Job Name ADKINS STEEL
 Job Number 1090035.01
 Sample Location UST BORINGS
 P.O. Number _____

Relinquished by (Signature) *Chris C. Robertson* 12/7/90

Received by (Signature) *Nancy Hotel*

Date 12/10/90

Time 8:45am

Relinquished by (Signature) _____

Received by (Signature) _____

Date _____

Time _____

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
B1-15	SOIL	ONE	UST	12/6/90	ARCHIVE	ok
B1-20	↓	↓	↓	↓	BO15	↓
B1-30	↓	↓	↓	↓	BO15	↓
B2-15	↓	↓	↓	↓	ARCHIVE	↓
B2-20	↓	↓	↓	↓	BO15	↓
B2-25	↓	↓	↓	↓	ARCHIVE	↓
B2-30	↓	↓	↓	↓	BO15	↓

Remarks: _____

APPENDIX E
ASBESTOS BULK SAMPLE LABORATORY REPORTS



Southwest HAZARD CONTROL

"Solving Environmental Concerns Efficiently, Effectively & Ethically"

December 19, 1990

SCS ENGINEERS

ATTN: Chris Robertson
2702 N. 44th ST., Suite 105B
Phoenix, Arizona 85008

RE: ASBESTOS BULK SAMPLING ANALYSIS: ADKINS STEEL CO.
1090035.01

Dear Mr. Robertson:

Please find enclosed the results of the asbestos bulk sample analysis performed on the sample(s) that were submitted to the laboratory of Southwest Hazard Control, Inc. Identification of asbestos requires the determination of optical properties through the application of Polarized Light Microscopy (PLM) using the Environmental Protection Agency (EPA) 600/M4-82-020 Dec. 1982 Test Method.

We are a National Institute of Standards and Technology - National Voluntary Laboratory Accreditation Program (NIST-NVLAP) accredited laboratory, Lab #1747, and are involved in several quality control programs to ensure accurate and precise analysis. We follow all Asbestos Hazard Emergency Response Act (AHERA) requirements for the analysis of asbestos containing materials.

This test report relates only to the items tested and may not be reproduced except in full and with the approval of the laboratory. The report should not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Please feel free to contact me if you have any questions.

Sincerely,

SOUTHWEST HAZARD CONTROL, INC.

John B. Lewis
Laboratory Director
JBL
Enc.

5400 West Massingale Road
Tucson, Arizona 85743
(602) 744-1060

4900 Hawkins NE
Albuquerque, NM 87109
(505) 344-0446

**SOUTHWEST HAZARD CONTROL, INC. LABORATORY ANALYSIS REPORT FOR:
SCS ENGINEERS PROJECT: 1090035.01**

<u>LAB LOG #</u>	<u>SAMPLE #</u>	<u>PROJECT #</u>	<u>DATE TAKEN</u>	<u>MATERIAL TYPE</u>	<u>MAT'L COLOR</u>	<u>ASBESTOS %</u>
12A051-90	BAS1-01	1090035.01	12/06/90	EXTERIOR PATCHING	OFF WHITE	NO ASBESTOS DETECTED
12A052-90	BAS1-02	1090035.01	12/06/90	EXTERIOR WALL	BEIGE	NO ASBESTOS DETECTED
12A053-90	BAS2-03	1090035.01	12/06/90	EXTERIOR STUCCO	LT. GRAY	NO ASBESTOS DETECTED
12A054-90	BAS2-04	1090035.01	12/06/90	INTERIOR STUCCO	BEIGE	NO ASBESTOS DETECTED
12A055-90	BAS2-05	1090035.01	12/06/90	INTERIOR WALL	BEIGE/WHITE	NO ASBESTOS DETECTED
12A056-90	BAS2-06	1090035.01	12/06/90	CEILING TILE	LT. BROWN	NO ASBESTOS DETECTED
12A057-90	BAS2-07	1090035.01	12/06/90	PLASTER	WHITE/LT. GRAY	NO ASBESTOS DETECTED
12A058-90	BAS2-08	1090035.01	12/06/90	TILE ADHESIVE	BEIGE	NO ASBESTOS DETECTED
12A059-90	BAS2-09	1090035.01	12/06/90	ROOFING	BLACK/WHITE	NO ASBESTOS DETECTED
12A060-90	BAS2-10	1090035.01	12/06/90	ROOFING	SILVER/BLACK	NO ASBESTOS DETECTED

**SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS**

CLIENT NAME	: SCS ENGINEERS		
ADDRESS	: 2702 N. 44TH ST. SUITE 105B	SAMPLE #	: BAS2-03
CITY	: PHOENIX		
STATE	: ARIZONA	LAB LOG #	: 12A053-90
ZIP CODE	: 85008		
PROJECT NAME	: ADKINS STEEL CO. PROJECT #	: 1090035.01
DATE TAKEN	: 12/06/90	DATE ENTERED	: 12/19/90
DATE ANALYZED	: 12/18/90	HOMOGENOUS	: NO
ANALYST/LAB	: JOHN LEWIS	# OF LAYERS	: 2
METHOD	: PLM W/DISPERSION STAINING	ASBESTOS %	: NO ASBESTOS DETECTED
TREATMENT	: NONE		
MATERIAL TYPE	: EXTERIOR STUCCO	FIBER 1	: CELLULOSE %: 1-3
MAT'L LOCATION:		FIBER 2	: %:
		FIBER 3	: %:
		FIBER 4	: %:
MAT'L COLOR	: LT. GRAY	NONFIBER MAT'L:	CLAY %: 25-30
MAT'L TEXTURE	: GRANULAR	NONFIBER MAT'L:	QUARTZ %: 60-70
REMARKS	:		

**SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS**

CLIENT NAME	: SCS ENGINEERS		
ADDRESS	: 2702 N. 44TH ST. SUITE 105B	SAMPLE #	: BAS2-04
CITY	: PHOENIX		
STATE	: ARIZONA	LAB LOG #	: 12A054-90
ZIP CODE	: 85008		
PROJECT NAME	: ADKINS STEEL CO. PROJECT #	: 1090035.01
DATE TAKEN	: 12/06/90	DATE ENTERED	: 12/19/90
DATE ANALYZED	: 12/18/90	HOMOGENOUS	: YES
ANALYST/LAB	: JOHN LEWIS	# OF LAYERS	:
METHOD	: PLM W/DISPERSION STAINING	ASBESTOS %	: NO ASBESTOS DETECTED
TREATMENT	: NONE		
MATERIAL TYPE	: INTERIOR STUCCO	FIBER 1	: CELLULOSE %: 1-3
MAT'L LOCATION:		FIBER 2	: %:
		FIBER 3	: %:
		FIBER 4	: %:
MAT'L COLOR	: BEIGE	NONFIBER MAT'L:	CLAY %: 15-20
MAT'L TEXTURE	: GRANULAR	NONFIBER MAT'L:	QUARTZ %: 65-75
REMARKS	:		MICA %: 3-8

**SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS**

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-05
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A055-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO.
PROJECT # : 1090035.01
DATE ENTERED : 12/19/90
HOMOGENOUS : NO
OF LAYERS : 3

DATE TAKEN : 12/06/90
DATE ANALYZED : 12/18/90
ANALYST/LAB : JOHN LEWIS
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : INTERIOR WALL FIBER 1 : CELLULOSE %: 1-5
MAT'L LOCATION: FIBER 2 : %:
FIBER 3 : %:
FIBER 4 : %:

MAT'L COLOR : BEIGE/WHITE NONFIBER MAT'L: CLAY %: 20-25
MAT'L TEXTURE : GRANULAR NONFIBER MAT'L: QUARTZ %: 50-60
REMARKS : CALCITE %: 20-25

**SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS**

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-06
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A056-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO.
PROJECT # : 1090035.01
DATE ENTERED : 12/19/90
HOMOGENOUS : YES
OF LAYERS :

DATE TAKEN : 12/06/90
DATE ANALYZED : 12/18/90
ANALYST/LAB : JOHN LEWIS
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : CEILING TILE FIBER 1 : CELLULOSE %: 95-99
MAT'L LOCATION: FIBER 2 : %:
FIBER 3 : %:
FIBER 4 : %:

MAT'L COLOR : LT. BROWN NONFIBER MAT'L: %:
MAT'L TEXTURE : FIBROUS NONFIBER MAT'L: %:
REMARKS :

SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-07
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A057-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO. *****
PROJECT # : 1090035.01
DATE TAKEN : 12/06/90 DATE ENTERED : 12/19/90
DATE ANALYZED : 12/18/90 HOMOGENOUS : NO
ANALYST/LAB : JOHN LEWIS # OF LAYERS : 3
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : PLASTER
MAT'L LOCATION: FIBER 1 : %:
FIBER 2 : %:
FIBER 3 : %:
FIBER 4 : %:

MAT'L COLOR : WHITE/LT. GRAY NONFIBER MAT'L: QUARTZ %: 45-50
MAT'L TEXTURE : GRANULAR NONFIBER MAT'L: CALCITE %: 40-45
REMARKS : CLAY %: 10-15

SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-08
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A058-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO. *****
PROJECT # : 1090035.01
DATE TAKEN : 12/06/90 DATE ENTERED : 12/19/90
DATE ANALYZED : 12/18/90 HOMOGENOUS : NO
ANALYST/LAB : JOHN LEWIS # OF LAYERS : 2
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : TILE ADHESIVE
MAT'L LOCATION: FIBER 1 : CELLULOSE %: 1-5
FIBER 2 : %:
FIBER 3 : %:
FIBER 4 : %:

MAT'L COLOR : BEIGE NONFIBER MAT'L: CLAY %: 60-70
MAT'L TEXTURE : FINE GRAINED NONFIBER MAT'L: QUARTZ %: 10-15
REMARKS :

SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-09
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A059-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO.
PROJECT # : 1090035.01
DATE TAKEN : 12/06/90 DATE ENTERED : 12/19/90
DATE ANALYZED : 12/18/90 HOMOGENOUS : NO
ANALYST/LAB : JOHN LEWIS # OF LAYERS : 3
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : ROOFING FIBER 1 : CELLULOSE %: 25-30
MAT'L LOCATION: FIBER 2 : %:
FIBER 3 : %:
FIBER 4 : %:
MAT'L COLOR : BLACK/WHITE NONFIBER MAT'L: QUARTZ %: 30-35
MAT'L TEXTURE : GRANULAR/FIBROUS/RESINOUS NONFIBER MAT'L: BITUMEN %: 35-40
REMARKS :

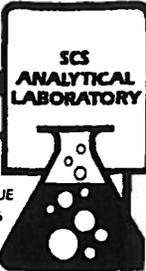
SOUTHWEST HAZARD CONTROL, INC.
ASBESTOS BULK SAMPLE ANALYSIS FOR SCS ENGINEERS

CLIENT NAME : SCS ENGINEERS
ADDRESS : 2702 N. 44TH ST. SUITE 105BSAMPLE # : BAS2-10
CITY : PHOENIX
STATE : ARIZONA LAB LOG # : 12A060-90
ZIP CODE : 85008

PROJECT NAME : ADKINS STEEL CO.
PROJECT # : 1090035.01
DATE TAKEN : 12/06/90 DATE ENTERED : 12/19/90
DATE ANALYZED : 12/18/90 HOMOGENOUS : NO
ANALYST/LAB : JOHN LEWIS # OF LAYERS : 3
METHOD : PLM W/DISPERSION STAINING ASBESTOS % : NO ASBESTOS DETECTED
TREATMENT : NONE

MATERIAL TYPE : ROOFING FIBER 1 : CELLULOSE %: 20-25
MAT'L LOCATION: FIBER 2 : SYNTHETIC %: 10-15
FIBER 3 : %:
FIBER 4 : %:
MAT'L COLOR : SILVER/BLACK NONFIBER MAT'L: BITUMEN %: 25-35
MAT'L TEXTURE : GRANULAR/FIBROUS/RESINOUS NONFIBER MAT'L: MINERAL %: 35-40
REMARKS :

CHAIN OF CUSTODY RECORD



PERSONNEL

SITE INFORMATION

2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(213) 595-9324
Fax (213) 595-6709

Name (signature) *Chris C. Robertson*
 Name (print) CHRIS C. ROBERTSON
 Company SCS ENGINEERS
 Address 2702 N. 44th ST. #105B
 City, State, Zip PHOENIX, AZ 85008
 Telephone 602-840-2596

Job Name ADKINS STEEL CO.
 Job Number 1090035.01
 Sample Location BUILDINGS #1 & #2
 P.O. Number _____

Relinquished by (Signature) <u><i>Chris C. Robertson</i></u>	12/13/90	Received by (Signature) <u><i>John Lewis</i></u>	Date <u>12/17/90</u>	Time <u>0810</u>
Relinquished by (Signature) _____	_____	Received by (Signature) _____	Date _____	Time _____

Analysis laboratory should complete "sample cond. upon receipt" section below, sign, and return copy to Shipper

Sample Number	Sample Type	No. of Cont.	Site Identification	Date Sampled	Analysis Requested	Sample Cond. Upon Receipt
BAS1-1	BULK	ONE	EXTERIOR PATCHING	12/6/90	PLM	GOOD <u>sl</u>
BAS1-2	↓	↓	EXTERIOR WALL	↓	↓	↓
BAS2-3	↓	↓	EXTERIOR STUCCO	↓	↓	↓
BAS2-4	↓	↓	INTERIOR STUCCO	↓	↓	↓
BAS2-5	↓	↓	INTERIOR WALL	↓	↓	↓
BAS2-6	↓	↓	CEILING TILES	↓	↓	↓
BAS2-7	↓	↓	PLASTER	↓	↓	↓
BAS2-8	↓	↓	TILE ADHESIVE	↓	↓	↓
BAS2-9	↓	↓	ROOFING	↓	↓	↓
BAS2-10	↓	↓	ROOFING	↓	↓	↓
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Remarks: _____

APPENDIX H
OWNER QUESTIONNAIRE

**PHASE I ENVIRONMENTAL ASSESSMENT REPORT
INTERVIEW QUESTIONNAIRE**

PROJECT NAME: Former Adkins Property
PROJECT #: 10204058.19

DATE:		TIME:		SCS EMPLOYEE: PMH	
<input type="checkbox"/> In Person		<input type="checkbox"/> Telephone		<input checked="" type="checkbox"/> In Writing (mail/delivery)	
				<input type="checkbox"/> E-Mail	
				<input type="checkbox"/> Other:	
CONTACT NAME/TITLE: Lynne Birkinbine, Environmental Manager					
<input checked="" type="checkbox"/> User		<input checked="" type="checkbox"/> Owner		<input type="checkbox"/> Occupant	
<input type="checkbox"/> Past Owner		<input type="checkbox"/> Past Occupant		<input type="checkbox"/> Past Operator	
<input type="checkbox"/> Other (Explain):				<input type="checkbox"/> Key Site Manager	
CONTACT COMPANY: City of Tucson Environmental Services					
ADDRESS: 100 North Stone Avenue, 2 nd Floor					
CITY: Tucson		STATE: AZ		ZIP CODE: 85701	
TELEPHONE #: 520-791-5414			MOBILE #:		
FAX #: 520-791-5417			EMAIL:		
ADDITIONAL CONTACT DATES					
PROJECT ADDRESS/LOCATION: 5450 East Fort Lowell Road (SWC Fort Lowell and Craycroft Roads)					

A. QUESTIONS: Please be as specific as reasonably feasible in answering questions regarding current and past conditions on the site. Please answer in good faith and to the extent of your knowledge regarding conditions that you personally observed or heard about. If more room is needed for answers, please continue on additional pages.

1. What is (are) the current site use(s)? City of Tucson Parks and Recreation property
2. Were there other past site use(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know What were they and when did they occur? Ft. Lowell (1880's), Tuberculosis Clinic (1900), steel tank manufacturing and junk yard (1920-2007)
3. Do you know of past site owners or occupants? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Who were they and when did they own or occupy the site? Harry Adkins and family (1920-2007)
4. Have there been significant changes to the site structures, roads, and other features? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe on a separate page.
5. Is or was there potable water on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, what is (was) the source (e.g., on-site well, municipal service, etc.)? Originally 3 hand dug wells (~100' deep) provided water until they went dry. Site is currently hooked up to City water.
6. Is or was there sewage service to the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know If yes, who is (was) the provider? When was the site hooked up to the system?

**PHASE I ENVIRONMENTAL ASSESSMENT REPORT
INTERVIEW QUESTIONNAIRE**

<p>7. Are or were there septic systems, cesspools, or other on-site waste disposal methods used on site (or evidence of clean-out ports or manholes)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know 4 identified septic systems If yes, what are their locations and what portions of the site drain(ed) into them? House (SE), house (NE), shop, house (NW)</p>
<p>8. Are or were heating and/or cooling systems located on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Type of heating (e.g., natural gas, electric, heating oil, propane, etc.): fireplace, space heaters Type of cooling (e.g., evaporative cooler, AC, etc.): evaporative</p>
<p>9. Are or were hazardous materials used, stored, disposed, treated, etc. on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please describe in detail (types, uses, amounts, contents, locations, etc.) on a separate page.</p>
<p>10. Have there been any spills or chemical releases that have taken place on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know If yes, please describe in detail (when, types, amounts, locations, etc.) on a separate page.</p>
<p>11. ARE OR WERE ANY OF THE FOLLOWING LOCATED ON THE SITE? If yes, please describe in detail (numbers, ages, construction, sizes, contents, locations, staining, spills, leaks, etc.) on a separate page.</p>
<p>a. <input checked="" type="checkbox"/> Drums, pails, buckets, or other containers of hazardous materials, petroleum products, or wastes</p>
<p>b. <input checked="" type="checkbox"/> Storage areas for hazardous materials, petroleum products, or wastes</p>
<p>c. <input checked="" type="checkbox"/> Underground storage tanks (USTs) or evidence of vent pipes, fill pipes, dispensers, pads, etc.</p>
<p>d. <input checked="" type="checkbox"/> Aboveground storage tanks (ASTs) or evidence of stands, containment areas, etc.</p>
<p>e. <input type="checkbox"/> Electrical transformers or other electrical equipment that may contain PCBs</p>
<p>f. <input type="checkbox"/> Hydraulic elevators</p>
<p>g. <input type="checkbox"/> Burial, landfilling, dumping, burning, etc. of solid or other wastes, or evidence such as mounds, pits, depressions, etc.</p>
<p>h. <input type="checkbox"/> Fill dirt (and source if known)</p>
<p>i. <input type="checkbox"/> Strong, pungent, or noxious odors</p>
<p>j. <input type="checkbox"/> Pools of liquid, pits, ponds, lagoons, wastewater, or other liquid discharges</p>
<p>k. <input type="checkbox"/> Drains, separators, sumps, grates, vaults, etc. and where the inlets and outlets are located</p>
<p>l. <input type="checkbox"/> Drywells</p>
<p>m. <input checked="" type="checkbox"/> Water wells (active, inactive, or abandoned)</p>
<p>n. <input type="checkbox"/> Injection wells</p>
<p>o. <input checked="" type="checkbox"/> Stained soil or pavement</p>
<p>p. <input checked="" type="checkbox"/> Corrosion or staining inside buildings</p>
<p>Note: Examples of types of hazardous materials or petroleum products include fuel, oil, solvents, antifreeze, acid, batteries, paint, etc.</p>
<p>12. ADJOINING PROPERTY USES: Are there properties adjacent to the site with current or past occupants that use, store, treat, dispose, etc. hazardous materials or petroleum products? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know If yes, please provide information.</p>
<p>13. Have there been any spills or chemical releases that have taken place on properties that are adjacent to the site? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know If yes, please describe in detail (when, types, amounts, locations, etc.) on a separate page, and indicate whether the site may have been impacted.</p>

**PHASE I ENVIRONMENTAL ASSESSMENT REPORT
INTERVIEW QUESTIONNAIRE**

B. HELPFUL DOCUMENTS: Do you know whether any of the documents listed below exists and, if so, whether copies can and will be provided to SCS Engineers within a reasonable time and cost, preferably before the site visit?

	Yes	No	Don't know	
1.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Environment site assessment reports
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment compliance audit reports
3.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits)
4.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Registrations for USTs and ASTs
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Registrations for underground injection systems
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Material safety data sheets (MSDSs)
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community right-to-know plan
8.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Reports regarding hydrogeologic conditions on the property or surrounding area
10.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property
11.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hazardous waste generator notices or reports
12.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Geotechnical studies
13.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Risk assessments
14.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Recorded Activity and Use Limitations (AULs)
15.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Historical photographs

C. PROCEEDINGS INVOLVING THE PROPERTY: Do you know of any of the following proceedings listed below. If yes, please provide information regarding the type of proceeding, what violations or laws are involved, status of the proceeding, etc.

	Yes	No	Don't know	
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property
3.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

D. COMMENTS:

Phase I Environmental Assessment Report
Interview Questionnaire

9. Hazardous materials used, stored, disposed, treated, etc. on the site

The City of Tucson removed the following hazardous materials:

April 2007-

Waste Paint Related Material 1500 pounds
Waste Flammable Liquids (kerosene, paint thinner) 30 pounds
Hydrogen Peroxide 5 pounds
Waste Aerosols, flammable 30 pounds
Asbestos tiles 9.84 tons

March 2007-

3,000 gallon gasoline UST
500 gallon gasoline UST

June 2006-

Waste Paint Related Material 1400 pounds
Flammable, liquid (mineral spirits and asphalt) wastes 900 pounds
Rust inhibiting paint waste 20 pounds
Pool disinfectant waste (Trichloroisocyanuric acid) 20 pounds
Inorganic, basic, caustic, liquid waste (sodium hydroxide) 250 pounds
100 automobile batteries
Asbestos transit pipe 20-30 pieces

- 10. a. Found throughout the site, collected and removed as shown in #9.
- 10. b. Found throughout the site, collected and removed as shown in #9.
- 10. c. Two USTs (one 3,000 gallon gasoline and the other 500 gallon gasoline)
- 10. d. Two ASTs – one on east side of shop, one near house on SE corner, unknown what they contained and size
- 10.m. Three dry hand dug wells ~100 feet deep, one in NE portion of site, one NW portion, and third in SW corner.
- 10.o. Stained soil in area near shop (all sides)
- 10.p. Staining in shop building.

APPENDIX I
USER QUESTIONNAIRE

USER QUESTIONNAIRE¹

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user (you) must provide the following information (if available) to the environmental professional (SCS Engineers). Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

(1) Environmental Cleanup Liens: Are you aware of any environmental cleanup liens against the property that are filed or recorded against the site under federal, tribal, state, or local law?

No

Yes If Yes, explain:

(2) Activity and Land Use Limitations (AULs): Are you aware of any AULs, such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

No

Yes If Yes, explain:

(3) Specialized Knowledge or Experience: As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

Yes

If Yes, explain:

I assisted the previous owner Mr. Harry Adkins with the removal of hazardous materials & learned about the history of the property from him.

(4) Purchase Price vs. Fair Market Value: Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

No

Yes *Property is valuable due to historic significance.*

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

No

Yes If Yes, explain:

¹ The document is designed to comply with Section X3. User Questionnaire, of ASTM E1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and the USEPA AAI regulations (40 CFR §312).

USER QUESTIONNAIRE (continued)

(5) Commonly Known or Reasonably Ascertainable Information: Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional (SCS Engineers) to identify conditions indicative of releases or threatened releases? For example, as the user,

- (a) Do you know the past uses of the property?
 No Yes Fort Lowell, tuberculosis clinic, water tank manufacturing/
- (b) Do you know of specific chemicals that are present or once were present at the property?
 No Yes Petroleum products, batteries ^{junkyard}
- (c) Do you know of spills or other chemical releases that have taken place at the property?
 No Yes Significant amount of soil staining around the shop buildings
- (d) Do you know of any environmental cleanups that have taken place at the property? ^{in areas where}
 No Yes ^{auto mechanic work was conducted}

If you answered Yes to any of the above, explain:

(6) Obvious Indications of Contamination: As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

- No
 Yes

If Yes, explain:

Previous owners lack of housekeeping, industrial activities being performed. Soil staining.

Name: Lynne Barkinbine

Organization: City of Tucson Environmental Services

Title: Environmental Manager

Date: 4/16/08

APPENDIX J

RESUMES

PATRICIA M. HARTSHORNE, RG

Education

BS – Geology, University of Wisconsin, Madison, 1985

MS – Geology, University of Arizona, 1988

Professional Licenses

Registered Geologist – Arizona

Specialty Certifications

OSHA Hazardous Waste Site Investigation and Manager/Supervisor

AHERA Certified Asbestos Building Inspector and Contractor/Supervisor

EPA Certified Lead Inspector and Risk Assessor

Professional Affiliations

Arizona Geological Society

Arizona Hydrological Society

Arizona State Bar - Environment and Natural Resources

Association for Women Geoscientists

ASTM Committee E50 on Environmental Assessment, Risk Management & Corrective Action

ASTM Committee E47.05 on Risk Assessment, Communications, & Management

National Ground Water Association

Southern Arizona Environmental Management Society

Professional Experience

Ms. Patricia M. Hartshorne, RG has been performing environmental and solid waste management projects for SCS Engineers since 1990. Ms. Hartshorne's qualifications include management, interpretation, and presentation of data generated by small and large multi-task projects. She has extensive experience in Phase I and II Environmental Site Assessments (ESAs) of industrial, commercial, and agricultural sites, remedial activities at hazardous and non-hazardous project sites, and landfill investigations. This includes historical and regulatory research; collection of soil, groundwater, landfill gas, and suspect asbestos or lead containing material samples; supervision of subcontractors; health and safety compliance; data management; interpretation of laboratory analytical results; remediation oversight; and technical report preparation. She has performed, managed, and assisted with more than 450 environmental assessments, remedial investigations, and landfill investigations in Arizona, California, New Mexico, Missouri, Colorado, Louisiana, Texas, and Ohio. Below is a partial listing of representative projects.

Phase I and II ESA Projects in Pima County, Arizona. Performed numerous projects throughout Pima County, including Phase I ESAs of residential properties, commercial properties, agricultural land, a former mine ore rail site, and vacant land; pre-demolition asbestos surveys of

12 structures along Wetmore Road; sampling of soil piles potentially contaminated by metals; and a Phase II ESA investigation of a former service station property.

Redevelopment Projects in Tucson, Arizona. Performed and managed Brownfields redevelopment projects for the City of Tucson, including a former railroad depot, the Fox Theatre, Presidio Terrace, El Campo Tire property, and two structures on Broadway Road. Various tasks performed for the projects included Phase I ESAs, Phase II ESAs, and/or comprehensive asbestos surveys prior to building demolition. The El Campo Tire project also included preparation of a Sampling and Analysis Plan (SAP) and submittal to EPA, a geophysical survey, closure and assessment of on-site USTs, investigation of contamination associated with off-site USTs, excavation of exploratory test pits, drilling of soil borings, collection and analysis of soil samples, data validation of laboratory reports, and preparation of technical reports.

Agricultural Land Near Arlington, Arizona. Performed a Phase I ESA for 240 acres of agricultural land near Arlington, Arizona, including agricultural fields, riparian areas, a former residence, and former weed spraying business. Limited soil sampling was performed in an area of yellow-stained soil at the former weed spraying business, and remediation of soils exceeding pesticide cleanup levels was recommended.

Automatic People Mover Project, Sky Harbor International Airport, Phoenix, Arizona. Performed extensive file and historical aerial photograph reviews of former and current aboveground and underground storage tank systems and other issues of potential environmental concern within the planned Automatic People Mover Phase I Project Site Study Area at Sky Harbor International Airport for the City of Phoenix. Prepared a report documenting each of the tanks, other features, and environmental issues identified within the study area, and the potential concerns associated with each feature and issue.

Vacant Desert in Bullhead City, Arizona. Performed a Phase I ESA of multiple parcels of land located in Bullhead City, Arizona. The site consisted of 590 acres of vacant and undeveloped native desert that contained wildcat dumping of solid waste materials in areas that were readily accessible by vehicles, including at least five wrecked and partially burned motor vehicles and several containers with hazardous or unidentified substances.

Yuma Area Service Highway, Yuma, Arizona. Performed an Environmental Baseline Survey of a portion of the proposed alignment for the Yuma Area Service Highway for Arizona Department of Transportation. The site portion of the proposed alignment extends approximately nine miles across a vacant portion of the Barry M. Goldwater Range (BMGR) east of Yuma. Because no vehicles were allowed in the BMGR, SCS performed an aerial reconnaissance of the area by flying over the route and adjoining areas in a small plane, and then performed a site reconnaissance by walking through selected areas of the site. Other tasks performed for this project were a regulatory database search interviews, review of previous reports, and preparation of a report.

Traffic Interchanges in North Phoenix, Arizona. Performed a Phase I ESA of two planned future highway traffic interchanges in northern Phoenix, Arizona. The site area included all or portions of approximately 42 parcels, and was occupied by residences, a roofing company, plant

nurseries, a landscaping company, a commercial garage, a municipal well property, a cell tower, river channels, and vacant undeveloped land.

Right-of-Way Projects, Phoenix, Arizona. Performed or provided technical review of many Phase I and Phase II ESAs for the City of Phoenix to evaluate risks associated with acquisition of portions of commercial, residential, and vacant parcels for street construction and urban renewal projects, including the Light Rail and Community Noise Reduction Projects. Site reconnaissances, site history searches, and regulatory records reviews were performed and reports were prepared for numerous separate projects. Phase II ESA investigations included soil gas surveys, evaluation of the potential presence of contamination from solid waste disposal sites, collection of soil samples, etc.

Former Feedlot Near Arlington, Arizona. Performed Phase I and Phase II ESA investigations at an inactive 40-acre cattle feedlot for the Arizona State Land Department. The Phase II ESA investigation included groundwater sampling for nitrates, collection of samples from surface soil and soil borings, asbestos sampling, characterization of the nature and volume of veterinary and solid wastes, and evaluation of cleanup alternatives for solid waste and pesticide-contaminated soils.

Los Reales Landfill West Side Closure Project, Tucson, Arizona. Performed closure investigations for the west side of the Los Reales Landfill, including extensive file review and historical research; installation and sampling of groundwater monitoring wells; excavation of numerous test pits; oversight of geotechnical borings, geophysical surveys, and soil vapor investigations; soil vapor extraction system pilot testing; and preparation of technical reports. Managed and performed excavation and test boring investigations to evaluate a former industrial waste burial area for proposed clean closure. Prepared a detailed Site Characterization Report for work performed to date and a Remedial Action Plan for the clean closure area.

Ranch Land in New Mexico. Performed a Phase I ESA of an approximately 64,000-acre ranch in New Mexico. The assessment was facilitated by conducting an aerial over-flight of the property prior to performing the on-ground reconnaissance in order to focus on areas of potential environmental concern.

Vacant Land Near Casa Grande, Arizona. Performed Phase I ESAs of vacant former agricultural land near Casa Grande, Arizona totaling more than 4,000 acres. The properties contained gravel pits and abandoned mining areas. Oversaw excavation of backhoe test pits throughout and around former waste disposal areas to characterize waste types and the extent of waste disposal, and to evaluate whether hazardous wastes had been disposed.

Chase Field (Formerly Bank One Ballpark), Phoenix, Arizona. Performed Phase I environmental assessments of 20 parcels within the Chase Field (formerly Bank One Ballpark) project area in Phoenix, Arizona. Assessments included extensive historical research and compilation of findings, management of large amounts of data, review and summarization of groundwater contamination issues in that portion of the East Washington WQARF area, and preparation of technical reports. Also performed Phase II ESA investigations for historical features of concern, including collection of soil samples, and oversight of geophysical surveys, soil vapor surveys, soil borings, and excavations.

STEPHEN JAMES

Education

Pima Community College – City of Tucson Environmental Technician Program

Specialty Certifications

OSHA Hazardous Waste Site Investigation Certification
AHERA Certified Asbestos Building Inspector

Professional Experience

Mr. Stephen James joined SCS Engineers in 2007 after completing training as an environmental technician under a Brownfields grant to the City of Tucson. The following is a partial listing of representative projects.

Phase I Environmental Site Assessments, Arizona. Assisted with the preparation of Phase I Environmental Site Assessments (ESAs) for vacant, residential, commercial, and other types of properties.

Former Pioneer Paints and Associated Properties, Tucson, Arizona. Assisted with soil and groundwater sampling at a Brownfields redevelopment project for the City of Tucson at the currently vacant former Pioneer Paints property. Various tasks performed for the project included drilling of 22 soil borings and collection and analysis of soil and groundwater samples.

Sunflower, Arizona. Assisted with the removal of free product from groundwater monitoring wells and collection of groundwater samples.

Papago Park Military Reservation, Phoenix, Arizona. Assisted with the collection of surface soil samples at the Papago Park Military Reservation for the Arizona Army National Guard to evaluate the environmental suitability for multiple sites planned for military readiness centers.

Separator Monitoring Program, City of Phoenix Airports, Arizona. Assisted with the annual monitoring of separators at the Sky Harbor International Airport and other City of Phoenix airports for the Aviation Department. Various tasks performed for the project included collection of water samples from the separators for laboratory analysis.

Asbestos Survey of Vacant Warehouse, Tucson, Arizona. Assisted with a demolition asbestos survey of a vacant warehouse structure in downtown Tucson, Area. More than 80 bulk suspect asbestos-containing material samples were collected.