



Appendix G

Hazardous Materials Investigations

**Phase I Environmental Site Assessment
North La Cholla Boulevard
West Ruthrauff Road to West River Road
Tucson, Pima County, Arizona**

Prepared for:
Pima County Department of Transportation

Prepared by:
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HDR project number 047-059914

October 2, 2007

October 2, 2007

Ms. Gloria Browne
Pima County Department of Transportation
Environmental Compliance Division
201 North Stone Avenue, 3rd Floor
Tucson, Arizona 85701

Re: *Phase I Environmental Site Assessment* Report Submittal
North La Cholla Boulevard, West Ruthrauff Boulevard to West River
Road
Pima County, Arizona

Dear Ms. Gloria Browne:

We are pleased to provide you with the above-referenced *Phase I Environmental Site Assessment* (ESA) report. The attached report presents our methodology, findings, opinions, conclusions, and recommendations regarding environmental conditions at the project site.

HDR appreciates the opportunity to serve Pima County Department of Transportation (PCDOT) on this important project. If you have any questions or comments, please feel free to contact Kelly W. Kading at 602.522.4321.

Cordially,

HDR ENGINEERING, INC.



Joel P. Hennings
Hazardous Materials Specialist
JH/KWK/lis



Kelly W. Kading CPG CHMM
Environmental Project Manager

Distribution: Addressee: five bound originals for team distribution

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List of Acronyms

AIRS	Aerometric Information Retrieval System
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	Corrective Action Report
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Index System
FRDS	Federal Reporting Data System
FURS	Federal Underground Injection Control
HWS Permit	Active TSD facilities
LUST	leaking underground storage tank
MINES	Mines Master Index File
NFRAP	No Further Remedial Action Planned
NPL	National Priority List
NWI	National Wetlands Inventory
RCRA	Resource Conservation and Recovery Act
RCRIS LQG	Resource Conservation and Recovery Information System Large Quantity Generators
RCRIS SQG	Resource Conservation and Recovery Information System Small Quantity Generators
RCRIS TSD	Resource Conservation and Recovery Information System Treatment, Storage, and Disposal
REC	Recognized Environmental Condition
SI	Site Inspection
Spills	Spills Database
SRP	Site Remediation Program
SWF/LF	Solid Waste Facilities/Landfill
TSCA	Toxic Substances Control Act
USGS	United States Geological Survey
UST	underground storage tank

Note: A more complete acronym list is located in the EDR Report, Appendix C.

1.0 Executive Summary

HDR Engineering, Inc. (HDR) has conducted a Phase I Environmental Site Assessment (ESA) of North La Cholla Boulevard between West Ruthrauff Road (southern terminus of the project) and West River Road (northern terminus of the project) in unincorporated Pima County, Arizona. The roadway segment, referred to as the “project area” or the “project corridor” in this report, includes a linear corridor approximately 0.75 miles in length. Land use along North La Cholla Boulevard consists of residential and light commercial uses, specifically active service stations, a historic service station, an inactive landfill, and residential properties. According to HDR’s review of historical sources, including historical aerial photographs, city telephone directories, and personal interviews, the project corridor has developed over the past 40 years as a transportation facility that serves north central Tucson. Before development, the area was scrub desert.

This Phase I ESA identifies Recognized Environmental Conditions (RECs) for the project corridor that may adversely affect roadway construction or project corridor right-of-way acquisition (if required). This ESA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05. This Phase I ESA includes a summary of the site reconnaissance conducted on March 18, 2007, a review of environmental databases, a review of historical data sources, and on-site and telephone interviews.

HDR has performed this Phase I ESA in general conformance with the scope and limitations of ASTM E 1527-05 for the project corridor, defined as North La Cholla Boulevard between West Ruthrauff Road and West River Road, in unincorporated Pima County, Arizona. Any exceptions to or deletions from these ASTM practices are described later in this report. This report has revealed evidence of RECs in connection with the project corridor.

HDR has concluded that the risk of contamination within the corridor exists due to the presence of operating service stations, former service stations, and inactive landfill facilities. Implementation of *Recommendations* will depend on proposed construction and property use, and property acquisitions. Because of this conclusion, HDR makes the following recommendation:

Recommendation 1

HDR recommends further investigation in the form of a Preliminary Site Investigation (PSI). In order to determine whether residual impacts exist at sites A, B, and C. A drilling and sampling program should be implemented to verify or refute the existence of actionable concentrations of released hazardous materials. A specific and targeted analytical program should be implemented to determine the concentration of residual impacts, if present. The analytical program should focus on hazardous compounds that are specifically regulated by ADEQ.

Recommendation 2

HDR recommends further investigation in the form of a sub-surface characterization of potential landfill material. Test pits will be advanced and excavated materials will be categorized into waste types. Any potentially hazardous materials will be collected for laboratory analysis for contaminants of concern. The analytical program should focus on hazardous compounds that are specifically regulated by ADEQ.

2.0 Introduction

2.1 Purpose and Involved Parties

This Phase I ESA documents the evaluation of the project area for indications of “recognized environmental conditions.” A recognized environmental condition (REC) is defined by ASTM Practice E 1527-05 as: “The presence or likely presence of any hazardous substances or petroleum products on a project site 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 project site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations. The term is not intended to include *de minimus* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies. Conditions determined to be *de minimus* are not recognized environmental conditions.”

HDR received authorization from the Pima County Department of Transportation (PCDOT) to conduct a Phase I ESA of the project corridor, defined as North La Cholla Boulevard from West Ruthrauff Road to West River Road, in unincorporated Pima County. This Phase I ESA has been prepared for PCDOT, and only PCDOT has the right to rely on the contents of this Phase I ESA.

2.2 Scope of Services, Significant Assumptions, and Limitations

The services provided for this project consisted of the following:

- Provide a description of the project area including current land uses
- Provide a general description of the topography, soils, geology, and groundwater flow direction
- Review reasonably ascertainable and reviewable regulatory information published by federal, state, local, tribal, health, and/or environmental agencies pertaining to the project area
- Review historical data sources for the project area, including aerial photographs, topographic maps, fire insurance maps, city directories, and other readily available development data
- Conduct an area reconnaissance and an environmental review—including a visual inspection of adjoining properties—with a focus on indications of hazardous substances, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal pits and sumps, and utilities
- Interview current owners and occupants of businesses located near the project area that are likely to use hazardous materials in their operations and interview other persons with knowledge of the development history of the project area
- Prepare a written report of methods, findings, and conclusions

The goal of this scope of services is to assist the user in identifying conditions in the project area that may indicate risks regarding hazardous materials storage, disposal, or other impacts. The resulting report may qualify the user for relief from liabilities as one of three “defenses” identified in the 2002 Brownfields Amendments to the Comprehensive

Environmental Response, Compensation, and Liability Act (CERCLA) Section 9607 (All Appropriate Inquiry subsections). These three defenses include:

1. The “innocent landowner” defense to potential liabilities under 42 United States Code [U.S.C.] § 9601
2. The “contiguous project corridor owner” defense pursuant to 42 U.S.C. § 9607q
3. The “bona fide prospective purchaser” defense pursuant to 42 U.S.C. §9607r

Federal regulations at 40 Code of Federal Regulations [C.F.R.] Part 312, promulgated by the United States (U.S.) Environmental Protection Agency (EPA), require that liability release be based (in part) on completion of All Appropriate Inquiries (AAI) prior to purchase of a property. Those inquiries are documented by Phase I reports, or Environmental Site Assessments (ESAs). EPA has agreed that the recently developed ASTM guidance (ASTM Practice E 1527-05) specifies and interprets AAI requirements.

A user is defined by ASTM Practice E 1527-05 as the party seeking to use Practice E 1527 to complete an ESA of the project area and may include a potential purchaser of land in the project area, a potential tenant of the project area, an owner of land in the project area, a lender, or a project area manager. Investigative areas not included in the standard ASTM ESA scope include: asbestos, lead-based paint, lead in drinking water, radon or urea formaldehyde, wetland issues, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines. The scope of services for ESA projects also does not include the completion of soil borings, the installation of groundwater monitoring wells, or the collection of soil or groundwater samples. Likely sources of vapor intrusion, from potential on-site or off-site sources, are identified. State and national policies and standards relevant to vapor intrusion are in flux and subject to change.

HDR has made certain assumptions in preparing the scope of this assessment:

- Data gathered from public information sources (i.e., libraries or public regulatory agencies) are accurate and reliable.
- Site operations reflect site conditions relative to potential releases and no intentional concealment of environmental conditions or releases has occurred.
- Interview information is directly reported as gathered by the assessor and is limited by the accuracy of the interviewee’s recollection and experience.
- Published geologic information and site observations made by the environmental professional are used to estimate likely contaminant migration pathways in the subsurface. These estimates by the environmental professional are limited in accuracy and are generally cross-referenced with existing information about similar sites and environmental releases in the area.
- Regulatory information is limited to sites discovered after the late 1980s because reliable records were not kept by regulatory agencies prior to that time frame.

Where a REC has resulted from historical uses or conditions, but apparently no longer persists at the site, the term “historical REC” is used.

The findings and conclusions presented in this report are based on the procedures described in ASTM Practice E 1527-05, informal discussions with various agencies, a review of the available literature cited in this report, conditions noted at the time of this Phase I ESA, and

HDR's interpretation of the information obtained as part of this Phase I ESA. The findings and conclusions are limited to the specific project and properties described in this report, and by the accuracy and completeness of the information provided by others.

An ESA cannot entirely eliminate uncertainty regarding the potential for RECs. Conducting this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with a project area within reasonable limits of time and cost. In conducting its services, HDR used a degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended. This Phase I ESA generally conforms to the level of documentation required in ASTM Practice E 1527-05. Deviations from the ASTM standard included deletion of certain records sources deemed to be inapplicable, or of limited value, to the specific needs of this client.

3.0 Site Description

3.1 Project Area Location

The study area includes North La Cholla Boulevard from West Ruthrauff Road to West River Road, in unincorporated Pima County, Arizona. The study area is located in Township 13 South – Range 13 East – Sections 15, 16, 21, and 22. A Project Location Map and a Site Detail Map is included as Appendix A. The Site Detail Map also includes a summary of sites identified in the ISA. Photographic documentation is provided in Appendix B.

3.2 Site and Vicinity Characteristics

The 1995 Jaynes, Arizona, United States Geological Survey (USGS) quadrangle map indicates that the project area is approximately 2262 feet above mean sea level (amsl). The topography near the site slopes to the north and northwest. The topography and geographic location suggest that shallow groundwater flows north and northwest.

3.3 Area Geology and Hydrogeology

The site is located within the Basin and Range Lowland Physiographic Province, which includes an area extending from the northwest corner of the state, southeasterly across the southern half of the state. Landforms present within the Basin and Range Province consist of predominantly northwest-southwest trending, block-faulted mountain ranges, separated by broad, gently sloping alluvial basins. The mountains in this province consist of tilted blocks of Precambrian, Paleozoic, Mesozoic, and Cenozoic rocks.

The corridor is located in the Tucson Basin. The Tucson Basin is an extensive basin containing alluvium varying up to approximately 12,000 feet in thickness. The alluvium is highly variable and ranges from sand, gravel, and cobble deposits to silts, clays and heavily cemented sandy clay. Characteristics of granular soils include high hydraulic transmissivity. The project area is bound to the north-northeast by the Santa Catalina Mountains, to the east by the Rincon Mountains, and to the west by the Tucson Mountains.

The Santa Cruz River is the principal drainage feature through the Tucson Basin. The Santa Cruz River is located approximately 1.5 miles west of the project area. The Rillito River is ephemeral and the principal drainage feature within the project area. The Rillito River is located approximately 0.5 mile north of Ruthrauff Road and ultimately drains northwesterly into the Santa Cruz River.

Groundwater flow in the project area is expected to be to the north-northwest. Local groundwater flow is heavily influenced by municipal wells that induce drawdown cones at the well. This local condition is further complicated by the sporadic nature of pumping from these wells, with variable pumping rates and durations. Depth to groundwater in the project area is approximately 125 feet bgs (USGS online).

4.0 User-Provided Information

The user of the report did not provide a property tax map, survey map, property zoning information, title abstract, or abstract report.

5.0 Records Review

5.1 Environmental Records Review

Environmental Data Resources, Inc. (EDR), was contracted by HDR to complete a database search of federal, state, and tribal environmental records for the project site. The federal and state databases searched consisted of the following:

Federal ASTM Standard

- NPL – National Priority List
- Proposed NPL – Proposed National Priority List
- Delisted NPL – National Priority List Deletions
- CERCLIS – Comprehensive Environmental Response, Compensation, and Liability Information System
- CERCLIS-NFRAP – CERCLIS No Further Remedial Action Planned
- CORRACTS – Corrective Action Report
- RCRA TSD – Resource Conservation and Recovery Act Treatment, Storage, and Disposal Facilities
- RCRA Small Quantity Generators (SQG)
- RCRA Large Quantity Generators (LQG)
- Institutional Control/Engineering Controls Registries
- ERNS – Emergency Response Notification System

Federal ASTM Supplemental

- NPL Recovery – Federal Superfund Liens
- DOD – Department of Defense Sites
- FUDS – Formerly Used Defense Sites
- U.S. Brownfields – Listing of Brownfields Sites
- CONSENT – Superfund (CERLA) Consent Decrees
- ROD – Records of Decision
- UMTRA – Uranium Mill Tailing Sites
- ODI – Open Dump Inventory
- SSTS – Section 7 Tracking Systems

- ICIS – Integrated Compliance Information System
- MINES – Mines Master Index File
- HMIRS – Hazardous Materials Incident Report System
- TRIS – Toxic Chemical Release Inventory System
- TSCA – Toxic Substances Control Act
- FTTS – FIFRA, TSCA, and EPCRA Tracking Systems
- PADS – PCB Activity Database System
- MLTS – Material Licensing Tracking System
- FINDS – Facility Index System
- RAATS – RCRA Administration Action Tracking System

State ASTM Standard

- SPL – State Superfund Program List
- WQARF – Arizona Water Quality Assurance Revolving Fund Sites
- ZipAcids – Arizona Hazardous Waste Sites
- SWF/LF – Directory of Solid Waste/Landfill Facilities
- SWTIRE – Solid Waste/Tire Facilities
- AOCONCERN – Superfund GIS Program
- AST – List of Aboveground Storage Tanks
- AZ Spills – Hazardous Material Logbook
- AUL – Deed or Environmental Use Restriction (DUER) Database
- VCP – Voluntary Cleanup Program
- DRYCLEANERS – Drycleaner Facility Listing
- AZ DOD – U.S. Department of Defense Sites
- BROWNFIELDS – Brownfields Tracking System
- CDL – Clandestine Drug Labs Listing
- Aquifer – Wastewater Treatment Facilities
- AZ AIRS – Arizona Air Quality Database
- AZURITE – Remediation and DUER/VEMUR Tracking System

Tribal ASTM Standard

- INDIAN RESERV – Indian Reservations
- INDIAN LUST – Leaking Underground Storage Tanks on Indian Land
- INDIAN UST – Underground Storage Tanks on Indian Land

A computerized environmental information database search was performed for the project site by EDR on March 6, 2007. The databases searched included federal, state, local, tribal, and EDR proprietary databases as defined by ASTM E 1527-05. The results of the database search are summarized in the following table (Table 1) and paragraphs. A complete copy of the EDR environmental database report is included in Appendix C. Sites listed in Table 1 may or may not be of concern to the project. Only sites listed in Table 1 that are located adjacent to the corridor are discussed in the descriptive paragraphs.

Table 1 – Summary of Environmental Database Search

Database	Description	Facilities listed	Sites of concern to the project
Federal			
NPL	The National Priorities List (NPL) is the U.S. EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund program.	0	0
Delisted NPL	The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) established the criteria that the EPA uses to delete sites from the NPL.	0	0
CERCLIS/ NFRAP	The CERCLIS database is a compilation of facilities that the 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 (CERCLA) of 1980. No Further Remedial Action Planned (NFRAP) refers to facilities that have been removed and archived from its inventory of CERCLA sites.	4	2
RCRA CORRACTS/ TSD	The EPA maintains a database of Resource Conservation and Recovery Act (RCRA) facilities associated with treatment, storage, and disposal (TSD) of hazardous materials that are undergoing "corrective action." A "corrective action" order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.	0	0
RCRA Non- CORRACTS/ TSD	The RCRA Non-CORRACTS/TSD Database is a compilation by the EPA of facilities that report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.	0	0
RCRA INFO	The RCRA INFO database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as large, small, or conditionally exempt. Large quantity generators (LQG) produce at least 1,000 kg/month of nonacutely hazardous waste or 1 kg/month of acutely hazardous waste. Small quantity generators (SQG) produce 100 to 1,000 kg/month of nonacutely hazardous waste. Conditionally exempt small quantity generators (CESQG) are those that generate less than 100 kg/month of nonacutely hazardous waste.	0	0
ERNS	Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances.	0	0
HMIRS	Hazardous Materials Information Reporting System (HMIRS) contains hazardous material spill incidents reported to USDOT.	0	0
US ENG Controls	A listing of sites with engineering controls in place.	0	0
US INST Controls	A listing of sites with institutional controls in place.	0	0
PADS	PCB Activity Database System (PADS) identifies generators, transporters, commercial storers, and/or brokers and disposers of PCBs who are required to notify the EPA of such activities.	0	0

Database	Description	Facilities listed	Sites of concern to the project
RAATS	RCRA Administrative Action Tracking System (RAATS) contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA.	0	0
MLTS	MLTS is maintained by the Nuclear Regulatory Commission (NRC) and contains a list of approximately 8,100 sites that possess or use radioactive materials and are subject to NRC licensing requirements.	0	0
TRIS	Toxic Chemical Release Inventory System (TRIS) identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313.	0	0
FINDS	Facility Index System/Facility Registry System (FINDS) contains both facility information and 'pointers' to other sources that contain further detail.	0	0
TSCA	Toxic Substances Control Act (TSCA) identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list.	0	0
FTTS	FIFRA/TSCA Tracking System, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/Toxic Substances Control Act (TSCA). FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA, and EPCRA (Emergency Planning and Community Right-to-Know Act).	0	0
State and Local			
SWF/LF State Landfill/ Historical Landfill	The Arizona Department of Environmental Quality (ADEQ) maintains a list of Solid Waste Facilities/Landfill Sites (SWF/LF), including active and inactive, permitted and nonpermitted solid waste disposal facilities.	2	2
SHWS State Hazardous Waste List	ADEQ's Superfund Programs List (SPL) is the state version of the federal CERCLIS list. Sites on the SPL list come from three sources: the Water Quality Assurance Revolving Fund (WQARF) list and potential sites WQARF list, the federal Superfund list (NPL), and Department of Defense sites that require Superfund oversight.	27	2
VCP Site Remediation Program	ADEQ's Voluntary Cleanup Program (VCP) list includes all sites currently enrolled in the ADEQ Voluntary Cleanup Program. These sites are listed by site, not by Remediation Applicant (RA), because the RA often is not involved in the cleanup action.	0	0
State LUST	Leaking Underground Storage Tanks (LUST) Site List – ADEQ provides a computer-generated database of the LUSTs within the specified area based on LUST incident reports and cleanup actions underway.	2	2
State UST	Underground Storage Tank (UST) Database – ADEQ provides a database of registered Underground Storage Tanks within the specified area. This database may also include registered Aboveground Storage Tanks (ASTs).	5	3
AZ Spills	ADEQ lists chemical spills and incidents referred to the Emergency Response Unit.	0	0
AZ AIRS	A listing of air permits and emissions information	0	0

Database	Description	Facilities listed	Sites of concern to the project
Brownfields	A brownfield site is an industrial or commercial project corridor that is abandoned, inactive, or underutilized, on which expansion or redevelopment is complicated because of the actual or perceived environmental contamination.	0	0

5.2 Summary of Listed Records of Concern to the Project

State and Local Records

LUST Sites

A review of the LUST list, as provided by EDR and dated March 6, 2007, has revealed that two LUST sites are located within the project corridor. The Family Food Store, located at 2100 West Ruthrauff Road, was listed as a former Mustang / Whiting or Giant Station # 922 (Site C). This facility is listed as having two closed LUST cases. The Circle K Store # 2700592 (Site B), located at 2080 West Ruthrauff Road, is listed as reporting a release resulting in an undefined or unknown soil contamination (open LUST).

UST Sites

A review of the UST list, as provided by EDR and dated March 6, 2007, has revealed that three UST sites are located within the project corridor. The UST sites are located at the southeast corner of West Ruthrauff Road and North La Cholla Boulevard (Site A, Chevron Food Market), the northeast corner of West Ruthrauff Road and North La Cholla Boulevard (Site B, Circle K), and at the southwest corner of West River Road and North La Cholla Boulevard (Site F, Circle K). Site F is a new facility and is located hydrologically down-gradient and approximately 300 feet west of La Cholla Boulevard. This site is not listed as a LUST case and is not expected to be impacted by the La Cholla widening project.

Solid Waste Facilities/ Landfill Sites

A review of the SWF/LF sites list, as provided by EDR and dated March 6, 2007, has revealed that two closed landfills are located within the project corridor. La Cholla #1 (Site D) is located on the west side of North La Cholla Boulevard south of the Rillito River. Site D was in operation from 1968 to 1972. La Cholla #2 (Site E) is located on the east side of North La Cholla Boulevard south of the Rillito River. Site E was in operation from 1968 to 1969. The boundaries of La Cholla #1 and La Cholla #2 are not well defined. Therefore the distance for the river and ROW are unknown. Pima county records do not indicate an estimate of aerial coverage, however they state the landfill were intermittent through the area.

State Hazardous Waste Sites

A review of SHWS sites list, as provided by EDR and dated March 6, 2007 has revealed that two SHWS are located within the project corridor (Sites A and C). This database repeats the sites listed in the UST and LUST databases.

5.3 Local Government Information

One interview was performed with a representative of ADEQ, Leonor Najera of ADEQ's Tank Programs Division. The results of this interview are included in Section 6.2.

5.4 Historical Use Information

The objective of reviewing historical use information is to develop a history of previous land uses in the vicinity of the project area and to assess these uses for potential hazardous materials impacts that may affect the project. HDR reviewed those historical sources that were readily available and reviewable and likely to provide useful information, given the time and cost constraints inherent in ESA projects.

Fire Insurance Maps

Fire insurance maps are produced by private fire insurance companies to indicate uses of the project area on specified dates. HDR requested fire insurance maps from EDR, the copyright holder for the Sanborn map collection; however, no Sanborn fire insurance map coverage exists for the project corridor.

City Directory Information

HDR obtained city telephone directory information for addresses located along the project corridor (4800 to 5400 North La Cholla Boulevard and 2000 to 2200 West Ruthrauff Road). City directories were researched by HDR at the Phoenix Public Library, Arizona Room, Special Collections. Thirteen directories were reviewed for the years between 1962 and 2006 (intervals of approximately five years). The following information was gathered for the three listed risk sites.

- Site A – La Cholla Chevron Food Market, 2075 West Ruthrauff Road – This site was first listed in 1992 and has been consistently listed from that date until the present.
- Site B – The Circle K Store # 2700592, 2080 North Ruthrauff Road – This site was first listed in 1972 and has been consistently listed from that date until the present.
- Site C – The Family Food Store, 2100 West Ruthrauff Road – This site is first listed as a Pasco Petro in 1982. Then the site is listed as a Whitting service station from 1987 to 2001. Next the site was listed as a Giant Express service station from 2002 to 2004. The Family Food Store is listed from 2005 to the present.
- Site D – Closed West La Cholla #1– This site was not listed in the directory search. It is possible that the site did not have a phone number listed.
- Site E– Closed East La Cholla #2– This site was not listed in the directory search. It is possible that the site did not have a phone number listed.

Historical Aerial Photographs

Historical aerial photographs are valuable for the environmental assessor to review features of properties along the project corridor over a long period of time. HDR reviewed historical aerial photographs at Landiscor in Phoenix, Arizona (a private collection of aerial images for sites throughout Arizona). Historical aerial photographs were reviewed from 1963 through 2006. Coverage was available for 29 years of that 43-year span, with the longest gap in

coverage being 8 years (between 1963 and 1975). Information relating to observed features or the five listed risk sites is presented below.

1963 – Residential development was minimal, present only north of West Ruthrauff Road on the east and west sides of North La Cholla Boulevard. No commercial development was present within the project corridor. None of the identified risk sites were present.

1975 – Residential development had expanded east and west of North La Cholla Boulevard. Site B was present. Ground disturbance was present in the vicinity of Sites D and E. No site operations appeared to be active. No other commercial development had taken place. None of the other listed risk sites were present.

1982 – Residential development had begun to fill in undeveloped parcels. Site C was present. Site B was active. None of the other listed risk sites were present.

1989 – Commercial development was present on the east side of North La Cholla Boulevard south of the Rillito River. Sites A, B and C were present.

1992 – Sites A, B and C were present. Multi-family structures were present along West Ruthrauff Road, east of North La Cholla Boulevard.

1998 – Site A was paved, but no building was present. Sites B and C were present. This aerial photograph is similar to the 1992 photograph.

2002 – Sites B and C were present, Site A is similar to the 1998 photograph. Residential properties have begun to be built on the west side of North La Cholla Boulevard.

2006 – Sites A, B and C were present in their current configuration.

Historical Topographic Maps

Historical topographic maps provide an overview of the area relative to potential previous land uses. HDR reviewed historical topographic maps of the project corridor and adjoining properties for the years 1974 and 1975 (photo-revised 1995 and 1997, respectively). These maps served to verify the information gathered in the historic aerial photograph review.

5.5 Environmental Liens and Additional Information

No information regarding the chain-of-title ownership history or environmental liens recorded against the project corridor was provided by the user. Environmental lien searches were not conducted as part of the scope of work for this project.

5.6 Summary of Previous Environmental Investigations

Site B- A previous report entitled *Site Characterization Report* was prepared for the site by ATC Associates Inc. (ATC) in 2005. The report was in response to a possible release of petroleum from a UST. Borings were advanced to a maximum depth of 50 feet bgs in the vicinity of the tanks. Groundwater was not encountered. Concentrations of benzene were detected at concentration greater than the ADEQ established residential soil remediation levels (rSRL) at a depth of 15, 20, 25, 30, and 35 feet bgs in soil sample SB-1/VE-1, located approximately 50' east of La Cholla Boulevard.

Site C- A previous report entitled *Site Characterization Report, Former Mustang Station No. 6922* was prepared for the site by Allen, Stephenson and Associates (ASA) in 2003. The

report was in response to a possible release of petroleum from an UST during the tank removal. Borings were advanced to a maximum depth of 50 feet bgs in the vicinity of the tanks. Groundwater was not encountered. No concentrations of any regulated contaminant of concern above rSRL were encountered.

ADEQ has closed this case.

6.0 Site Reconnaissance and Interviews

6.1 Site Reconnaissance

On May 18, 2007, HDR conducted a reconnaissance of the project area. Land use along North La Cholla Boulevard consists of residential and light commercial uses, and includes active service stations, a historic service station, an inactive landfill, and municipal properties.

During the site reconnaissance, the assessor searched for several indicators of potential environmental impacts to the project site. Some of these indicators include the presence of distressed vegetation, illegal disposal of household or construction waste, and the presence of pits, ponds, or lagoons. HDR did not observe any of these indicators. Various areas of *de minimus* (as defined in ASTM E1527-05) staining on paved surfaces within the project area were present, primarily in vehicle parking lots and roadways.

The topography of the project area is relatively flat. No discerning features of Sites D and E were visible.

6.2 Interviews

Site Interviews

HDR personnel met with representatives of Site A, B and C on May 18, 2007. These representatives provided HDR with limited information, and the results of those interviews are summarized below.

Site A - Mr. Christopher Nolen, Store Manager, Chevron (Valero) service station indicated that the facility operates five 12,000 gallon USTs. The site has been in operation for approximately one year. Mr. Nolen was unaware of any releases.

Site B – Mr. Bill Bunch, Corporate Environmental Manager, Circle K Corporation, Tempe, Arizona reported that the Circle K store is listed in the company database as an active UST site. He reported that the site is currently listed as a LUST case (undefined extent of release). He reported that the site is located at 2080 West Ruthrauff Road and was built in 1972.

Site C- Mr. Sam Zumot, Store Owner, Family Food Store (former Mustang Service Station) indicated that the building was constructed in 2005. Mr. Zumot was aware that the site was a former service station. He was unaware of any releases from the former tanks.

Off-Site Interviews

After the site reconnaissance was completed, HDR personnel contacted a representative of ADEQ's Tank Programs Division and requested a review of pertinent files for the UST and LUST cases identified. Ms. Leonor Najera of ADEQ's Tank Programs Division provided files and an interview opportunity.

Leonor Najera, Data Specialist for ADEQ, provided files for the listed risk sites. Site A and B were listed as active UST sites, with current tank fees paid. Site B is listed as having a documented release. Site C is listed as a closed UST.

6.3 Utilities and PCBs

HDR did not observe signs indicating subsurface utilities other than typical municipal utilities such as water, sewer, electrical, telecommunications cable, and residential gas. Pole-mounted transformers were noted in a few locations, but no large power substations or step-down transformers were noted. Tucson Electric Power (the power provider for the area) maintains a test-and-replace policy for PCB-containing transformers. Given the age of the development of the area, it is unlikely that PCB-containing transformers would be present. Additionally, no spills or hazardous materials response events were noted in the EDR report.

7.0 Data Gap Analysis

The ASTM E 1527-05 standard requires a listing of “data gaps” encountered during the investigative process that may affect the validity of the conclusions drawn by the environmental professional. The ASTM E 1527-05 standard also requires that the environmental professional estimate the relative importance of the data gaps. Generally, gaps in available data are related to the availability of historical data sources for specific sites of concern. The environmental professional uses multiple historical data sources as a method to provide coverage for data gaps. Historical information is collected on a recurring basis, and the passage of time between data sets may or may not constitute a significant gap in data coverage. For this project, the following items may constitute a data gap as defined by ASTM:

- Absence of Sanborn fire insurance maps
- Absence of aerial photography prior to 1963

The inability to obtain and review the Sanborn fire insurance maps, and the lack of aerial photography prior to 1963, do not appear to present significant data gaps because of the presence of other supporting historical information and the lack of development in the area prior to 1963.

8.0 Findings and Conclusions

HDR has conducted a Phase I ESA of the project corridor, identified as North La Cholla Boulevard between West Ruthrauff Road and West River Road, in unincorporated Pima County, Arizona. The ESA was performed in general conformance with the scope and limitations of ASTM Practice E 1527-05. Any exceptions to, or deletions from, this practice are described previously in this report.

HDR personnel observed recognized environmental conditions (RECs), as defined in ASTM Practice E 1527-05, in connection with the project corridor. The Site Detail Map indicates the location of sites that HDR considers to be moderate to high risk. HDR offers the following description of these sites and issues as follows:

- Site A – La Cholla Chevron Food Market, 2075 West Ruthrauff Road. This facility is an operating service station/convenience store with USTs. Although this facility is not currently listed as a LUST site, this type of facility is often the source of unreported/undiscovered subsurface impacts. Given the location of the UST system near the North La Cholla Boulevard right-of-way, and the relative location of the site (adjacent to North La Cholla Boulevard), HDR has ranked this site as a **Moderate to High Risk site**.

- Site B – The Circle K Store # 2700592, 2080 West Ruthrauff Road. This facility is an operating service station/convenience store with USTs. The site is currently listed as a LUST site with an undefined release. This facility is located adjacent to North La Cholla Boulevard. It is possible that the site may be acquired. HDR has ranked this site as a **High Risk site**.
- Site C – The Family Food Store (former Mustang / Whiting and Giant service station) 2100 West Ruthrauff Road. This facility is a historic service station with a known release of petroleum fuels to the subsurface from USTs. This site has been redeveloped as a grocery store. Although this facility is a closed LUST site, this type of facility is often the source of unreported/undiscovered subsurface impacts. This facility is located adjacent to North La Cholla Boulevard. HDR has ranked this site as a **High Risk site**.
- Site D – Closed West La Cholla #1 landfill, located west of North La Cholla Boulevard, south of the Rillito River. This site was in operation from 1968 to 1972. It is possible the eastern boundary of the closed landfill may encroach on current right-of-way, HDR has ranked this site as a **Moderate to High Risk site**.
- Site E – Closed East La Cholla #2 landfill, located east of North La Cholla Boulevard, south of the Rillito River. This site was in operation from 1968 to 1969. It is possible the western boundary of the closed landfill may encroach on current right-of-way, HDR has ranked this site as a **Moderate to High Risk site**.

9.0 Recommendations

Recommendations included in this report have been developed through the investigative procedures described in the *Scope of Services, Significant Assumptions, and Limitations* section of this report. These findings should be reviewed within the context of the limitations provided in the *Limitations* section. Based on the location and specific details of the identified risk sites, HDR has “recognized environmental conditions” (RECs) on the project corridor. This conclusion has led to the inclusion of the following statement as required by ASTM E 1527-05:

HDR has performed this Phase I ESA in general conformance with the scope and limitations of ASTM E 1527-05 for the project corridor, defined as North La Cholla Boulevard between West Ruthrauff Road and West River Road, in unincorporated Pima County, Arizona. Any exceptions to or deletions from these ASTM practices are described later in this report. This report has revealed evidence of RECs in connection with the project corridor.

HDR has concluded that the risk of contamination within the corridor exists due to the presence of operating service stations, former service stations, and inactive landfill facilities. Implementation of *Recommendations* will depend on proposed construction and property use, and property acquisitions. Because of this conclusion, HDR makes the following recommendations:

Recommendation 1

HDR recommends further investigation in the form of a Preliminary Site Investigation (PSI). In order to determine whether residual impacts exist at sites A, B, and C. A drilling and sampling program should be implemented to verify or refute the existence of actionable concentrations of released hazardous materials. A specific and targeted analytical program should be implemented to determine the concentration of residual impacts, if present. The

analytical program should focus on hazardous compounds that are specifically regulated by ADEQ.

Recommendation 2

HDR recommends further investigation in the form of a sub-surface characterization of potential landfill material. Test pits will be advanced and excavated materials will be categorized into waste types. Any potentially hazardous materials will be collected for laboratory analysis for contaminants of concern. The analytical program should focus on hazardous compounds that are specifically regulated by ADEQ.

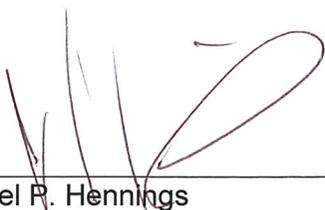
10.0 Qualifications of Environmental Professionals

10.1 Signatures and Qualifications

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in Section 312.10 of 42 Code of Federal Regulations [C.F.R.] Part 312. This Phase I ESA was conducted under the supervision of a qualified environmental professional.

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 preformed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

The preceding report has been prepared in general conformance with standard industry practice for performance of Environmental Site Assessments and includes the applicable portions of the investigation procedures codified in ASTM E 1527-05, *Standard Practice for Environmental Site Assessments: Environmental Site Assessment Process*. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated in this report and in the ASTM standard. The report also complies with specific requirements supplied by the client.



Joel R. Hennings
Hazardous Materials Specialist
HDR Engineering, Inc.



Kelly W. Kading CPG CHMM
Environmental Project Manager
HDR Engineering, Inc.

Qualifications of Environmental Professionals

This Phase I ESA was performed by the following HDR personnel.

Mr. Joel P. Hennings, HDR's qualified environmental professional, as defined by ASTM Practice E 1527-05, has more than six years of experience in assessment and remediation of impacted properties and compliance with environmental regulations. He has a B.S. in Environmental Sciences from the University of Nebraska. He specializes in forensic investigation of hazardous materials impacted properties for federal, state, and municipal agencies, as well as commercial clients. His experience covers assessment of more than 150 properties ranging from agricultural land to federal nuclear testing sites. He is knowledgeable of federal, state, and local environmental regulations and standards.

Qualifications of QA/QC Review Professionals

Reviews for quality assurance and quality control were performed by the following HDR personnel: Scott Stapp, René Tanner and Kelly Kading. Kelly Kading provided technical peer review for the report.

Mr. Kelly W. Kading, CPG CHMM, HDR's qualified environmental professional, as defined by ASTM Practice E 1527-05, has more than 19 years of experience in the assessment and remediation of impacted properties and compliance with environmental regulations. He has a B.S. in Geology from Colorado State University and is a Certified Professional Geologist (#9173), and a Certified Hazardous Materials Manager (#1995). Mr. Kading specializes in the forensic investigation of hazardous materials-impacted properties for municipal and state agencies, as well as for commercial clients. His experience covers the assessment of more than 2,500 properties, ranging from agricultural land to multigenerational industrial properties in 32 states and 2 foreign countries. He is highly knowledgeable of federal, state, and local environmental regulations and standards and has served on the National Board of Directors of the Academy of Certified Hazardous Materials Managers.

11.0 References

Arizona Department of Environmental Quality, 2007. Tank Programs Division, Department Web site, <<http://www.azdeq.gov/envIRON/ust/index.html>>.

ASTM Practice E 1527-05, 2005. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

Environmental Data Resources, Inc., Report, 2007. *North La Cholla Blvd, River Rd. to Ruthrauff ISA, Tucson, AZ 85705*. The EDR DataMap Corridor Study, Inquiry Number 1871325.1s. March 6, 2007.

Interview, May 2007. Bill Bunch, Circle K Corporate Environmental Manager.

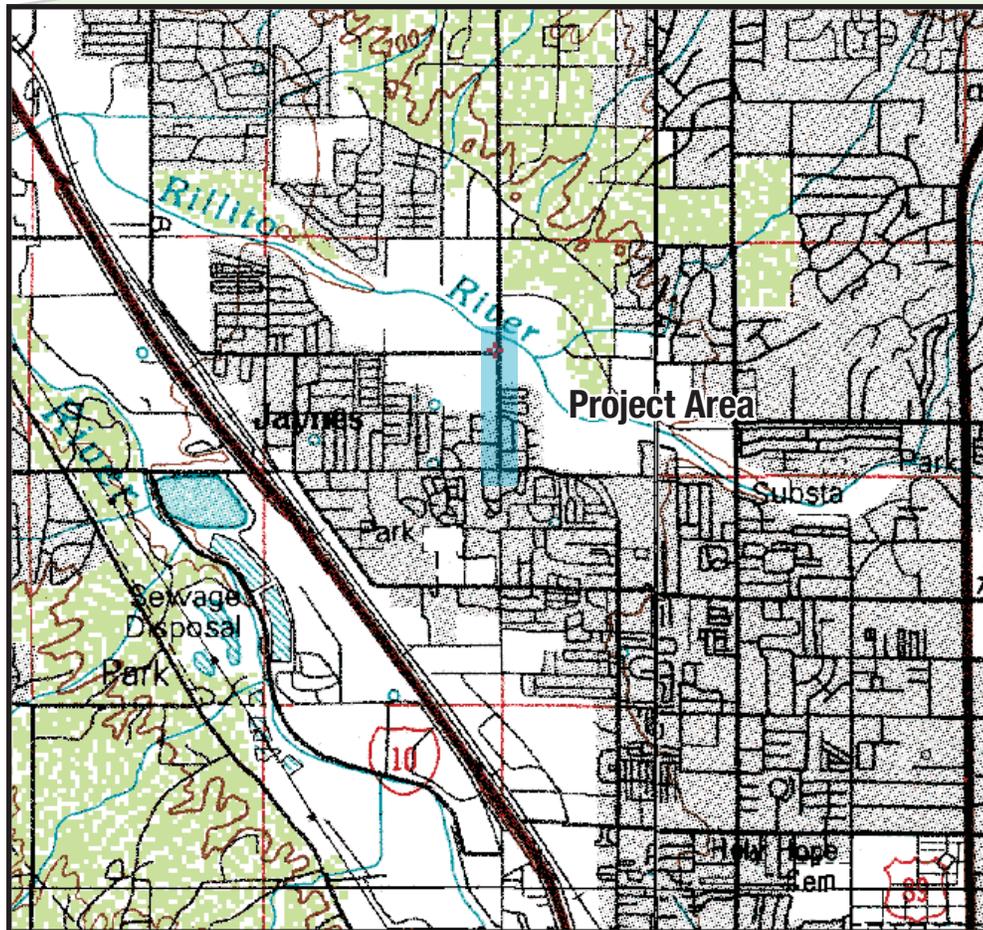
Interview, May 2007. Leonor Najera, ADEQ Tank Programs Division.

Site Characterization Report, August 2003. Allen, Stephenson and Associates. *Former Mustang Station No. 6922, 2100 West Ruthrauff Road*.

Site Characterization Report, June 2005. ATC and Associates. *Circle K Store No. 00592, 2080 West Ruthrauff Road*.

Appendix A

Figures



0 0.6 1.2 1.8 2.4 3 km
0 0.4 0.8 1.2 1.6 2 mi

UTM 12 498914E 3573657N (NAD27)
USGS Jaynes (AZ) Quadrangle
Projection is UTM Zone 12 NAD83 Datum

M
G
M=11.85
G=-0.007

Project Name

Figure Name



Initial Site Assessment
North La Cholla Boulevard,
West Ruthrauff Road to
West River Road, Tucson, AZ.

Project Location Map

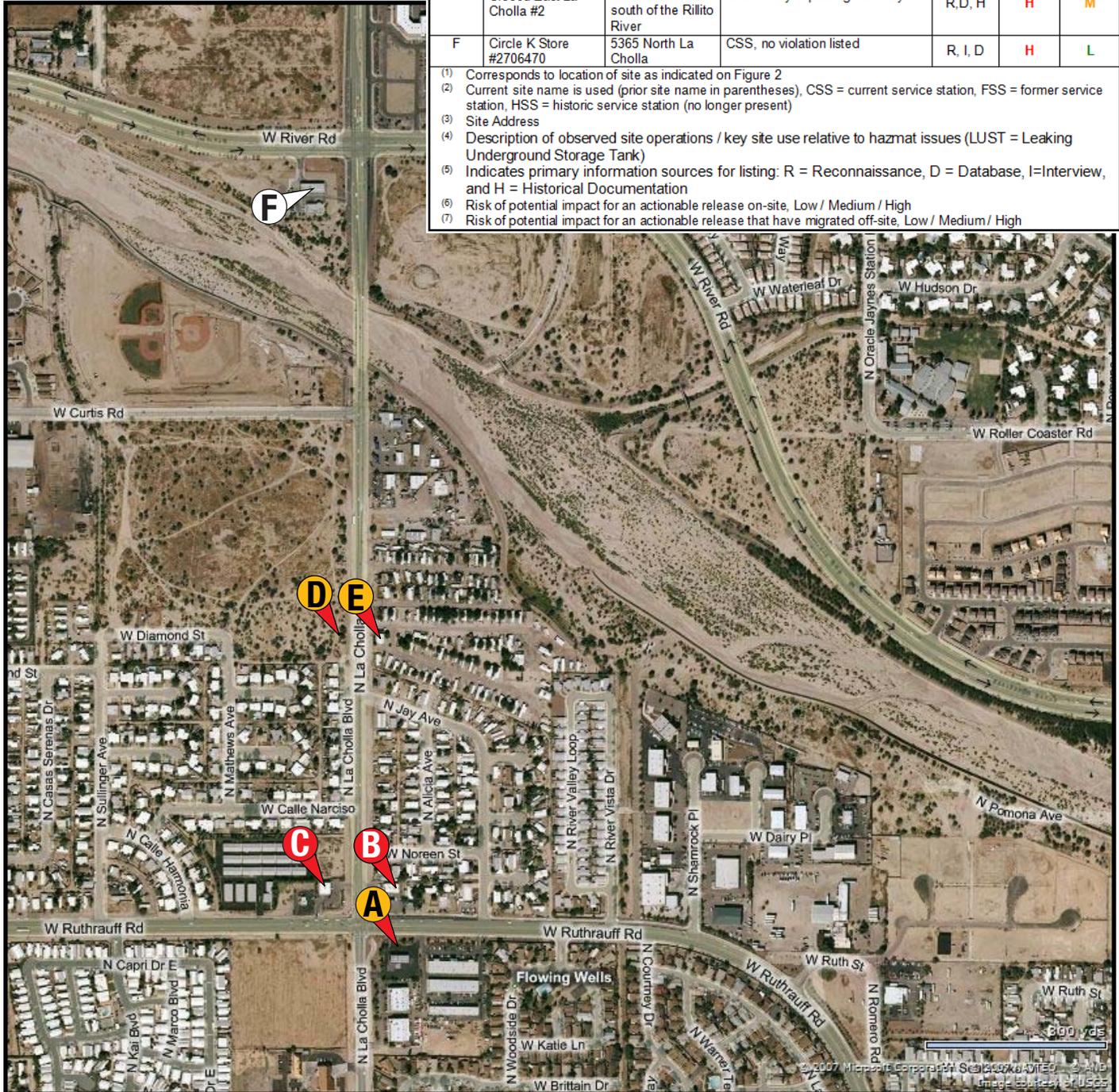
Figure 1



Table 2 – ISA DATA SUMMARY

Map Code (1)	Site Name/Former Name (2)	Address (3)	Site Operations – Key site use relative to hazmat issues (4)	Data Source (5)	Impact On Site L/M/H (6)	Impact Off Site L/M/H (7)
A	La Cholla Chevron Food Market	2075 West Ruthrauff Road	CSS, no violation listed	R,I,D, H	H	M
B	Circle K Store # 2700592	2080 West Ruthrauff Road	CSS, LUST (reported undefined release)	R,I,D, H	H	H
C	Family Food Store	2180 West Ruthrauff Road	HSS, LUST case closed	R,I,D, H	H	H
D	Closed West La Cholla #1	West side of North La Cholla and south of the Rillito River	Closed landfill, eastern edge of landfill may impact right-of-way	R,D, H	H	M
E	Closed East La Cholla #2	East side of North La Cholla and south of the Rillito River	Closed landfill, eastern edge of landfill may impact right-of-way	R,D, H	H	M
F	Circle K Store #2706470	5365 North La Cholla	CSS, no violation listed	R, I, D	H	L

- (1) Corresponds to location of site as indicated on Figure 2
- (2) Current site name is used (prior site name in parentheses), CSS = current service station, FSS = former service station, HSS = historic service station (no longer present)
- (3) Site Address
- (4) Description of observed site operations / key site use relative to hazmat issues (LUST = Leaking Underground Storage Tank)
- (5) Indicates primary information sources for listing: R = Reconnaissance, D = Database, I=Interview, and H = Historical Documentation
- (6) Risk of potential impact for an actionable release on-site, Low / Medium / High
- (7) Risk of potential impact for an actionable release that have migrated off-site, Low / Medium/ High



Project Name

Figure Name

	Initial Site Assessment North La Cholla Boulevard, West Ruthrauff Road to West River Road, Tucson, AZ.	Site Detail Map	Figure 2
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Appendix B

Site Photographs



Photo 1 –La Cholla Chevron Food Market (Site A), view to the south.



Photo 2 –Circle K Store # 2700592 (Site B), view to the north.



Photo 3 –The Family Food Store (Site C), view to the west.



Photo 4 –Closed West La Cholla #1 (Site D), view to the west.



Photo 5 – Vicinity of the Closed East La Cholla #2 (Site E), view to the south.



Photo 6 – Overview of topography, view to the southeast.



Photo 7 – Circle K Store at the southwest corner of West River Road and North La Cholla Boulevard, view to the northwest.



Photo 8 – Southeast corner of West River Road and La Cholla Boulevard, view to the northeast.



Photo 9 – La Cholla Boulevard, bridge over the Rillito River, view to the southwest.



Photo 10 – Rillito River at La Cholla Boulevard, view to the east.



Photo 11 – La Cholla Boulevard and Curtis Road intersection, view to the east.



Photo 12 – La Cholla Boulevard and Curtis Road intersection, view to the southeast.



Photo 13 – La Cholla Boulevard, view to the north.



Photo 14 – La Cholla Boulevard, view to the south.



Photo 15 – Southeast corner of the La Cholla Boulevard and Ruthrauff Road intersection, view to the north.



Photo 16 – Northeast corner of the La Cholla Boulevard and Ruthrauff Road intersection, view to the south.

Appendix C

EDR Information



EDR® Environmental
Data Resources Inc

The EDR Radius Map™ Report

**N. La Cholla Blvd.
River Road/N. La Cholla Blvd.
Tucson, AZ 85705**

Inquiry Number: 1871325.1s

March 06, 2007

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Map Findings	6
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Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

RIVER ROAD/N. LA CHOLLA BLVD.
TUCSON, AZ 85705

COORDINATES

Latitude (North): 32.299800 - 32° 17' 59.3"
Longitude (West): 111.012000 - 111° 0' 43.2"
Universal Transverse Mercator: Zone 12
UTM X (Meters): 498870.2
UTM Y (Meters): 3573478.5
Elevation: 2262 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 32111-C1 JAYNES, AZ
Most Recent Revision: 1995

East Map: 32110-C8 TUCSON NORTH, AZ
Most Recent Revision: 1995

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
Delisted NPL..... National Priority List Deletions
NPL RECOVERY..... Federal Superfund Liens
CORRACTS..... Corrective Action Report
RCRA-TSDF..... Resource Conservation and Recovery Act Information
RCRA-LQG..... Resource Conservation and Recovery Act Information

EXECUTIVE SUMMARY

RCRA-SQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
RADINFO	Radiation Information Database
US CDL	Clandestine Drug Labs
LUCIS	Land Use Control Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SPL	Superfund Program List
AZ WQARF	Water Quality Assurance Revolving Fund Sites
SWTIRE	Solid Waste Tire Facilities
AOCONCERN	Superfund GIS Information
UST	Underground Storage Tank Listing
AST	List of Aboveground Storage Tanks
AZ MANIFEST	Facility and Manifest Data
AZ Spills	Hazardous Material Logbook
AUL	DEUR Database
VCP	Voluntary Remediation Program Sites
DRYCLEANERS	Drycleaner Facility Listing
AZ DOD	Department of Defense Sites
BROWNFIELDS	Brownfields Tracking System
CDL	Clandestine Drug Labs
Aquifer	Waste Water Treatment Facilities
WWFAC	Waste Water Treatment Facilities
Dry Wells	Drywell Registration
AZ AIRS	Arizona Airs Database
AZURITE	Remediation and DEUR/DEMUR Tracking System

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants
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EXECUTIVE SUMMARY

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 11/28/2006 has revealed that there is 1 CERCLIS site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
<i>AERO RENTAL, INC.</i>	<i>2425 W. CURTIS RD.</i>	<i>1/4 - 1/2 WNW 5</i>		<i>8</i>

CERCLIS-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 12/20/2006 has revealed that there are 3 CERC-NFRAP sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
PIMA PAVING, INC.	5180 N. LA CHOLLA BLVD.	0 - 1/8 N	A1	6
WHITING STATION	2100 W. RUTHRAUFF RD.	1/4 - 1/2 S	B9	11
LA CHOLLA CHEVRON FOOD MARKET	2075 W. RUTHRAUFF RD.	1/4 - 1/2 S	B10	12

EXECUTIVE SUMMARY

STATE AND LOCAL RECORDS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Quality's ZipAcids database.

A review of the SHWS list, as provided by EDR, and dated 01/03/2000 has revealed that there are 27 SHWS sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
PIMA PAVING, INC.	5180 N. LA CHOLLA BLVD	0 - 1/8 N	A2	6
WHITING STATION #138	2100 W. RUTHRAUFF	1/4 - 1/2 S	B7	10
LA CHOLLA CHEVRON FOOD MART	2075 W. RUTHRAUFF RD.	1/4 - 1/2 S	B11	12
AGM	4620 SULLINGER RD.	1/4 - 1/2 SSW	12	13
VALPAR INTERNATIONAL CORP.	2450 W. RUTHRAUFF #180	1/2 - 1 SW	13	13
RYDER TRUCK RENTAL CO.	1717 W. RILLITO ST.	1/2 - 1 SE	16	15
ANDERSON METAL FABRICATING	2107 WEST WETMORE ROAD	1/2 - 1 S	23	18
THERMAL ENGINEERING	2250 W. WETMORE	1/2 - 1 SSW	25	18
PREMDOR WEST	2300 W. WETMORE #200	1/2 - 1 SSW	27	19
BOB'S MATERIAL SUPPLY	2341 W. WETMORE	1/2 - 1 SSW	28	20
AZ PIPELINE	2402 W. WETMORE	1/2 - 1 SSW	30	20

<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
AERO RENTAL, INC.	2425 W. CURTIS RD.	1/4 - 1/2 WNW	5	8
RAY KIDD TOWING SVC.	2530 W. CURTIS RD.	1/2 - 1 W	14	13
PRECISION PLATING INC.	2557 W. VIOLET AVE.	1/2 - 1 SW	15	14
BUMPER-TO-BUMPER	2545 W. ZINNIA ST.	1/2 - 1 SW	C17	15
BOB'S CUSTOM ROOFING	2560 W ZINNIA AVE	1/2 - 1 SW	C18	15
AZ DRY MIXED MATERIALS	2565 W. ZINNIA ST.	1/2 - 1 SW	C19	16
QUALITY PAVING & UTILITY CO.	2450 W. POPPY RD.	1/2 - 1 SW	D20	17
RACE CAR CO.	2450 W. POPPY AVE.	1/2 - 1 SW	D21	17
VROMAN'S AUTO BODY	2729 W. RUTHRAUFF	1/2 - 1 WSW	22	17
FOAM EXPERT ROOFING	2534 W. POPPY	1/2 - 1 SW	E24	18
RALPH HAYS ROOFING CO INC	2550 W POPPY AVE	1/2 - 1 SW	E26	19
PARSONS STEEL CO.	4580 N. HIGHWAY DR.	1/2 - 1 SW	29	20
BONITA STEEL	2439 W. WETMORE	1/2 - 1 SSW	31	21
A.A. MCDANIEL WELL & MACHINE C	2838 W. RUTHRAUFF RD.	1/2 - 1 WSW	F32	21
AMERICAN BODY & PAINT	4419 N. HIGHWAY DR.	1/2 - 1 SW	33	21
GILBERT PUMP OF TUCSON	2840 W RUTHRAUFF RD	1/2 - 1 WSW	F34	22

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Quality's Municipal Solid Waste Landfills.../Closed Solid Waste Landfills...database.

A review of the SWF/LF list, as provided by EDR, and dated 08/26/2004 has revealed that there are 2 SWF/LF sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
PIMA COUNTY - LA CHOLLA #2	WEST SIDE OF LA CHOLLA	1/8 - 1/4 NNE	3	7
LA CHOLLA #1	EAST SIDE OF LA CHOLLA	1/8 - 1/4 WNW	4	7

EXECUTIVE SUMMARY

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST File Listing by Zip Code.

A review of the LUST list, as provided by EDR, and dated 05/01/2005 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

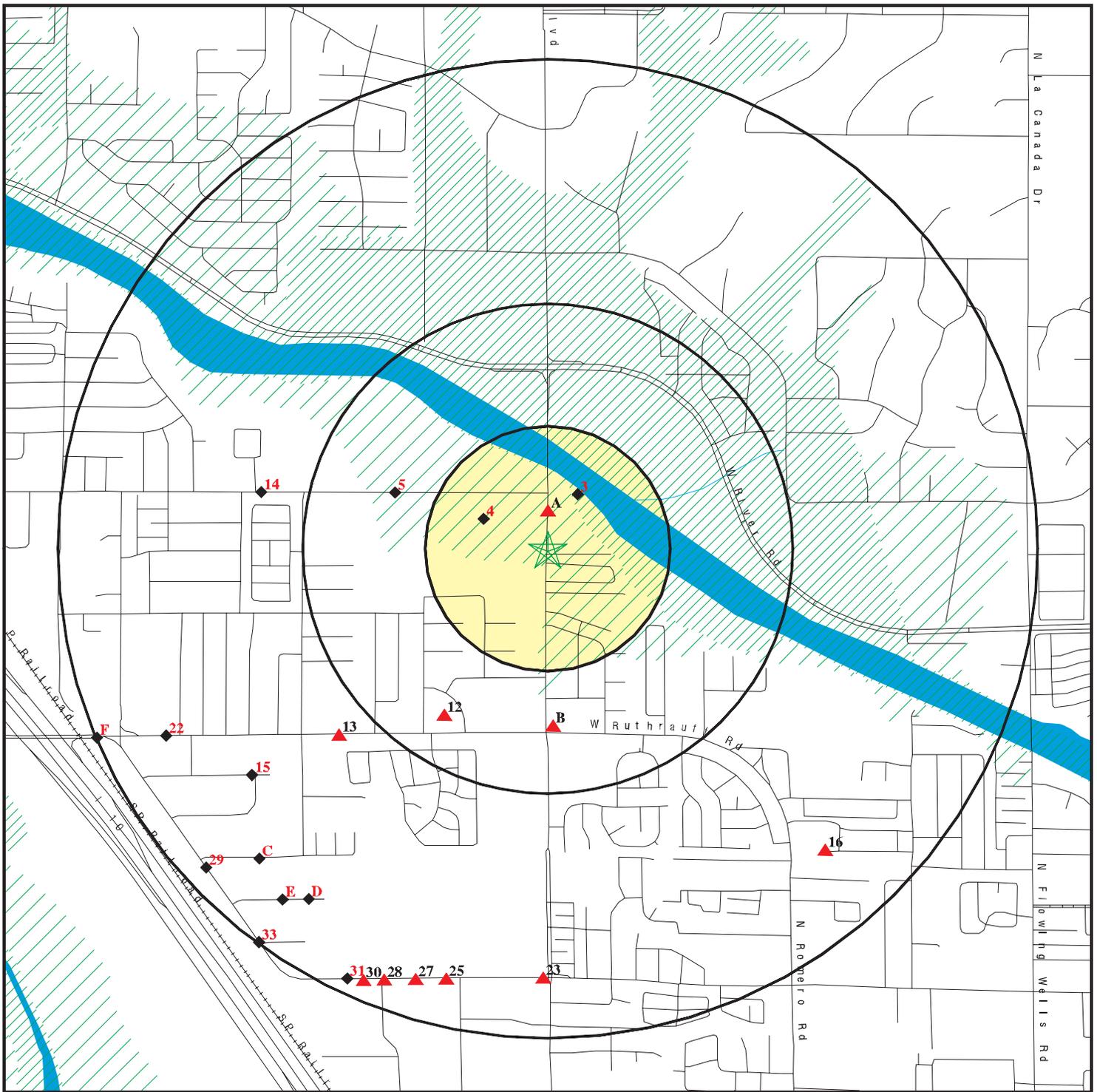
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
CIRCLE K STORE #2700592 Date Closed: / /	2080 N RUTHRAUFF	1/4 - 1/2 S	B6	9
GIANT #922 Date Closed: 09/14/98 Date Closed: 11/07/03	2100 W RUTHRAUFF RD	1/4 - 1/2 S	B8	10

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
SOUTHERN PACIFIC RAILROAD	AZ Spills, BROWNFIELDS, VCP
WQ-FAGAN LAKE	SHWS
JAIL ANNEX LANDFILL	SHWS
ARTFUL DUSTERS	SHWS
PIMA COUNTY - ROGER RD. WWTP	SHWS
INA RD LANDFILL	SHWS
EL CAMINO DEL CERRO LDFL	CERCLIS, FINDS
D & D ENTERPRISES	CERC-NFRAP
RYLAND	SWF/LF
SAHUARO MONUMENT	SWF/LF
LINDA LANDFILL	SWF/LF
SASABE	SWF/LF
CIRCLE K STORE #2706470	UST
CABALLO LOCO RANCH	AST
ADEQ EL CAMINO DEL CERRO WQARF	FINDS, RCRA-LQG
IN A WASH 1/4 MI SE OF THE 2600 BLK N SILVERBELL	ERNS
EXXON STATION, 501 N PARK	ERNS
EXXON STATION, 501 N PARK	ERNS
2123 N EDISON TERRANCE	US CDL
4842 N SHANNON APT 7	US CDL

OVERVIEW MAP - 1871325.1s



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

▲ Manufactured Gas Plants

■ National Priority List Sites

■ Landfill Sites

■ Dept. Defense Sites

■ Indian Reservations BIA

▲ Oil & Gas pipelines

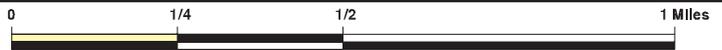
■ 100-year flood zone

■ 500-year flood zone

■ DOD Sites: AZ DEQ

■ Water Quality Assurance Revolving Fund Areas

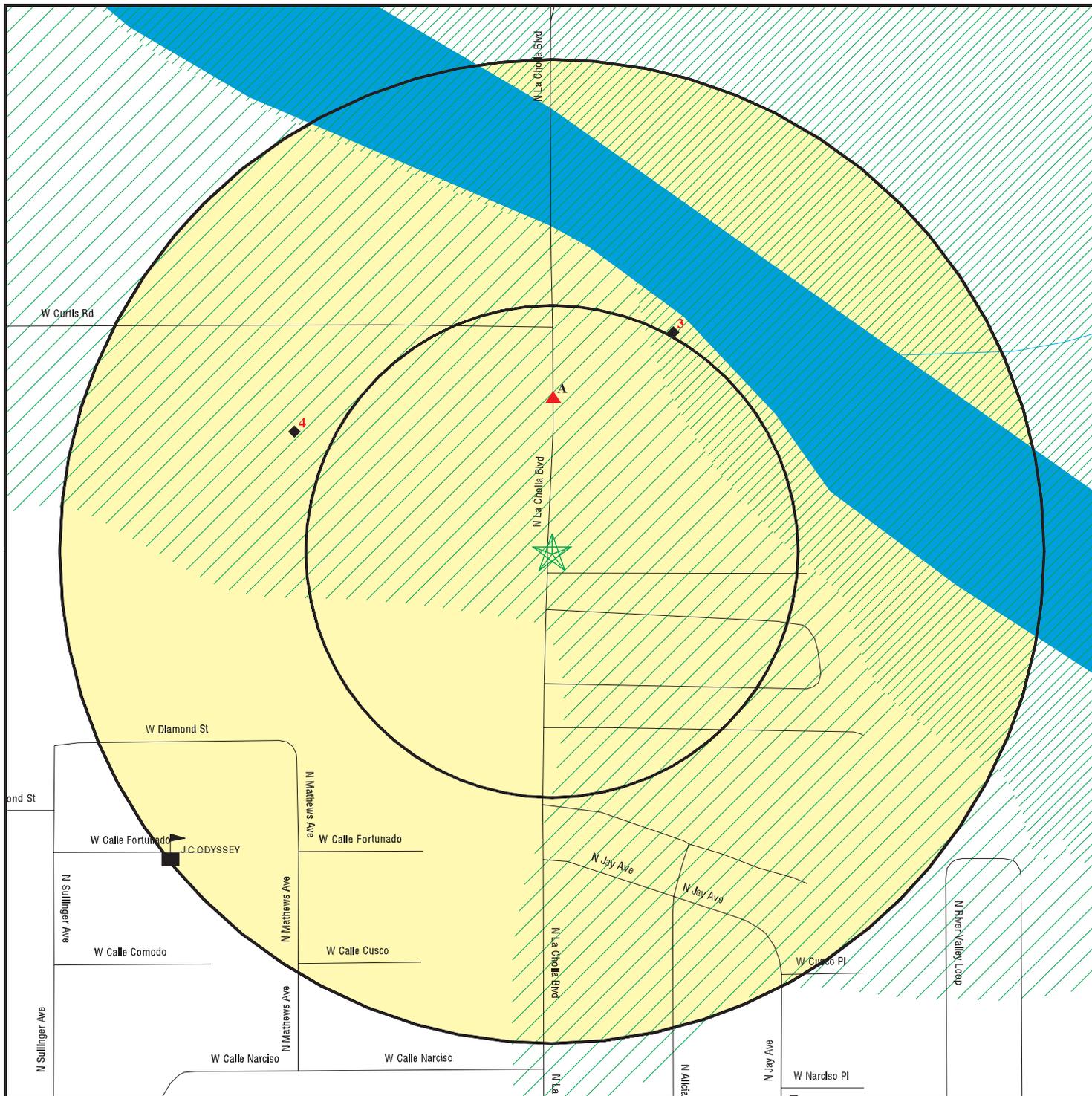
■ Areas of Concern



SITE NAME: N. La Cholla Blvd.
 ADDRESS: River Road/N. La Cholla Blvd.
 Tucson AZ 85705
 LAT/LONG: 32.2998 / 111.0120

CLIENT: HDR
 CONTACT: Joel Hennings
 INQUIRY #: 1871325.1s
 DATE: March 06, 2007 2:19 pm

DETAIL MAP - 1871325.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚡ Manufactured Gas Plants
- ⚠ Sensitive Receptors
- 🚫 National Priority List Sites
- 🗑️ Landfill Sites
- 🏢 Dept. Defense Sites

- 🏠 Indian Reservations BIA
- 🛢️ Oil & Gas pipelines
- 🌊 100-year flood zone
- 🌊 500-year flood zone

- 🏠 DOD Sites: AZ DEQ
- 🌊 Water Quality Assurance Revolving Fund Areas
- 🏠 Areas of Concern



SITE NAME: N. La Cholla Blvd.
ADDRESS: River Road/N. La Cholla Blvd.
 Tucson AZ 85705
LAT/LONG: 32.2998 / 111.0120

CLIENT: HDR
CONTACT: Joel Hennings
INQUIRY #: 1871325.1s
DATE: March 06, 2007 2:19 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>FEDERAL RECORDS</u>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY	TP		NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	1	NR	NR	1
CERC-NFRAP		0.500	1	0	2	NR	NR	3
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS	TP		NR	NR	NR	NR	NR	0
HMIRS	TP		NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
<u>STATE AND LOCAL RECORDS</u>								
SPL		1.000	0	0	0	0	NR	0
AZ WQARF		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	1	0	4	22	NR	27
State Landfill		0.500	0	2	0	NR	NR	2
SWTIRE		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	2	NR	NR	2
AOCONCERN		1.000	0	0	0	0	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
MANIFEST		0.250	0	0	NR	NR	NR	0
AZ Spills	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AUL		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
AZ DOD		0.500	0	0	0	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
Aquifer		TP	NR	NR	NR	NR	NR	0
WWFAC		0.500	0	0	0	NR	NR	0
Dry Wells		TP	NR	NR	NR	NR	NR	0
AZ AIRS		TP	NR	NR	NR	NR	NR	0
AZURITE		0.500	0	0	0	NR	NR	0
<u>TRIBAL RECORDS</u>								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
<u>EDR PROPRIETARY RECORDS</u>								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

A1
North
< 1/8
415 ft.

PIMA PAVING, INC.
5180 N. LA CHOLLA BLVD.
TUCSON, AZ 85705

CERC-NFRAP **1003879805**
AZD983480534

Site 1 of 2 in cluster A

Relative:
Equal

CERC-NFRAP:
 Site ID: 0904725
 Federal Facility: Not a Federal Facility
 NPL Status: Not on the NPL
 Non NPL Status: NFRAP

Actual:
2262 ft.

CERCLIS-NFRAP Site Contact Name(s):
 Contact Name: Matt Mitguard
 Contact Tel: (415) 972-3096
 Contact Title: Site Assessment Manager (SAM)

 Contact Name: Dawn Richmond
 Contact Tel: (415) 972-3097
 Contact Title: Site Assessment Manager (SAM)

Site Description: Not reported

CERCLIS-NFRAP Assessment History:
 Action: DISCOVERY
 Date Started: Not reported
 Date Completed: 12/07/1992
 Priority Level: Not reported

 Action: PRELIMINARY ASSESSMENT
 Date Started: Not reported
 Date Completed: 09/28/1995
 Priority Level: NFRAP (No Futher Remedial Action Planned)

 Action: SITE INSPECTION
 Date Started: 09/01/1993
 Date Completed: 09/28/1995
 Priority Level: NFRAP (No Futher Remedial Action Planned)

 Action: ARCHIVE SITE
 Date Started: Not reported
 Date Completed: 01/23/1996
 Priority Level: Not reported

A2
North
< 1/8
415 ft.

PIMA PAVING, INC.
5180 N. LA CHOLLA BLVD
TUCSON, AZ 85705

SHWS **1000709242**
N/A

Site 2 of 2 in cluster A

Relative:
Equal

SHWS:
 EPA ID: AZD983480534
 Program: PA/SI
 Site Code: 100135
 Facility Id: 1188
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARF Area: Not reported
 Lat: Not reported

Actual:
2262 ft.

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

MAP FINDINGS

PIMA PAVING, INC. (Continued)

EDR ID Number
 EPA ID Number

1000709242

Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

3
NNE
1/8-1/4
672 ft.

PIMA COUNTY - LA CHOLLA #2
WEST SIDE OF LA CHOLLA RD. SOUTH RILLITO RIVER
PIMA (County), AZ

SWF/LF S103895167
N/A

Relative:
Lower

SWF/LF:
 Facility Status: Closed
 FACILITY TYPE: CSWLF
 Operator: Pima County
 Operator Address: 131 W. Congress Rd.
 Operator City,St,Zip: Tucson, Az 85701
 Operator Phone: Not reported
 Directions: West side of La Cholla Rd. south Rillito River
 Contact: Not reported
 Mail Address: Not reported
 Mail City: Not reported
 Mail State: Not reported
 Mail Zip: Not reported
 Mail City,St,Zip: Not reported
 Area Code: Not reported
 Telephone: Not reported
 Facility Addr 2: Not reported
 Owner: Not reported
 Owner Address: Not reported
 Owner City,St,Zip: Not reported
 Owner Phone: Not reported

Actual:
2257 ft.

4
WNW
1/8-1/4
761 ft.

LA CHOLLA #1
EAST SIDE OF LA CHOLLA RD. SOUTH OF RILLITO RIVER
PIMA (County), AZ

SWF/LF S103895161
N/A

Relative:
Lower

SWF/LF:
 Facility Status: Closed
 FACILITY TYPE: CSWLF
 Operator: Pima County
 Operator Address: 131 W. Congress Rd.
 Operator City,St,Zip: Tucson, Az 85701
 Operator Phone: Not reported
 Directions: East side of La Cholla Rd. south of Rillito River
 Contact: Not reported
 Mail Address: Not reported
 Mail City: Not reported
 Mail State: Not reported
 Mail Zip: Not reported
 Mail City,St,Zip: Not reported
 Area Code: Not reported
 Telephone: Not reported
 Facility Addr 2: Not reported
 Owner: Not reported
 Owner Address: Not reported
 Owner City,St,Zip: Not reported

Actual:
2253 ft.

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

LA CHOLLA #1 (Continued)

EDR ID Number
EPA ID Number

Database(s)

Owner Phone: Not reported

S103895161

5
WNW
1/4-1/2
1751 ft.

AERO RENTAL, INC.
2425 W. CURTIS RD.
TUCSON, AZ 85705

CERCLIS 1000709203
SHWS AZD983480120
FINDS

Relative:
Lower

CERCLIS:
Site ID: 0904681
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP

Actual:
2254 ft.

CERCLIS Site Contact Name(s):

Contact Name: Matt Mitguard
Contact Tel: (415) 972-3096
Contact Title: Site Assessment Manager (SAM)

Contact Name: Dawn Richmond
Contact Tel: (415) 972-3097
Contact Title: Site Assessment Manager (SAM)

Site Description: Not reported

CERCLIS Assessment History:

Action: DISCOVERY
Date Started: Not reported
Date Completed: 12/07/1992
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 10/01/1993
Priority Level: High

Action: SITE REASSESSMENT
Date Started: Not reported
Date Completed: 06/21/2000
Priority Level: NFRAP (No Further Remedial Action Planned)

SHWS:

EPA ID: AZD983480120
Program: PA/SI
Site Code: 100025
Facility Id: 1146
Discovery Date: 19921210
Source: Not reported
Operable Unit: 0
QWARF Area: Not reported
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: Not reported

FINDS:

Other Pertinent Environmental Activity Identified at Site

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

Database(s)
EPA ID Number

EDR ID Number
EPA ID Number

AERO RENTAL, INC. (Continued)

1000709203

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

B6
South
1/4-1/2
1907 ft.

CIRCLE K STORE #2700592
2080 N RUTHRAUFF
TUCSON, AZ 85705

LUST U003153624
UST N/A

Site 1 of 6 in cluster B

Relative:
Higher

LUST:

Actual:
2268 ft.

Facility ID: 0-001264
Leak Priority: UNDEFINED OR UNKNOWN SOIL CONTAMINATION
Notification: 07/02/04
Date Closed: / /
Lust Number: 5406.01

UST:

Facility ID: 0-001264
Owner: CIRCLE K STORES INC
Tank ID: 1
In Use: YES
Closed In Ground: / /
Date Closed: / /
Removed: / /

Facility ID: 0-001264
Owner: CIRCLE K STORES INC
Tank ID: 2
In Use: YES
Closed In Ground: / /
Date Closed: / /
Removed: / /

Facility ID: 0-001264
Owner: CIRCLE K STORES INC
Tank ID: 3
In Use: YES
Closed In Ground: / /
Date Closed: / /
Removed: / /

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

B7
 South
 1/4-1/2
 1985 ft.

WHITING STATION #138
 2100 W. RUTHRAUFF
 TUCSON, AZ 85705

SHWS S101570970
 N/A

Site 2 of 6 in cluster B

Relative:
Higher

SHWS:

Actual:
2268 ft.

EPA ID: AZD983480641
 Program: PA/SI
 Site Code: 100009
 Facility Id: 1205
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWART Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

B8
 South
 1/4-1/2
 1985 ft.

GIANT #922
 2100 W RUTHRAUFF RD
 TUCSON, AZ 85705

LUST U001626133
 UST N/A

Site 3 of 6 in cluster B

Relative:
Higher

LUST:

Actual:
2268 ft.

Facility ID: 0-002780
 Leak Priority: CLOSED SOIL LVL MEETS TIER1
 Notification: 05/15/97
 Date Closed: 09/14/98
 Lust Number: 4697.01

Facility ID: 0-002780
 Leak Priority: CLOSED SOIL LVL MEETS TIER1
 Notification: 06/13/03
 Date Closed: 11/07/03
 Lust Number: 4697.02

UST:

Facility ID: 0-002780
 Owner: GIANT INDUSTRIES ARIZONA INC
 Tank ID: 1
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 06/05/03

Facility ID: 0-002780
 Owner: GIANT INDUSTRIES ARIZONA INC
 Tank ID: 2
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 06/05/03

Facility ID: 0-002780
 Owner: GIANT INDUSTRIES ARIZONA INC
 Tank ID: 3

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation Site

MAP FINDINGS

Database(s) EDR ID Number
 EPA ID Number

GIANT #922 (Continued)

U001626133

In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 06/05/03

Facility ID: 0-002780
 Owner: GIANT INDUSTRIES ARIZONA INC
 Tank ID: 4
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 06/05/03

B9
South
1/4-1/2
1985 ft.

WHITING STATION
2100 W. RUTHRAUFF RD.
TUCSON, AZ 85705

CERC-NFRAP 1003879815
AZD983480641

Relative:
Higher

Site 4 of 6 in cluster B

CERC-NFRAP:
 Site ID: 0904740
 Federal Facility: Not a Federal Facility
 NPL Status: Not on the NPL
 Non NPL Status: NFRAP

CERCLIS-NFRAP Site Contact Name(s):
 Contact Name: Matt Mitguard
 Contact Tel: (415) 972-3096
 Contact Title: Site Assessment Manager (SAM)

Contact Name: Dawn Richmond
 Contact Tel: (415) 972-3097
 Contact Title: Site Assessment Manager (SAM)

CERCLIS-NFRAP Site Alias Name(s):
 Alias Name: WHITING BROS. STATION
 Alias Address: Not reported
 AZ
 Site Description: Not reported

CERCLIS-NFRAP Assessment History:

Action: DISCOVERY
 Date Started: Not reported
 Date Completed: 12/07/1992
 Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
 Date Started: Not reported
 Date Completed: 09/22/1993
 Priority Level: NFRAP (No Futher Remedial Action Planned)

Action: ARCHIVE SITE
 Date Started: Not reported
 Date Completed: 09/22/1993
 Priority Level: Not reported

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

B10
South
1/4-1/2
1995 ft.

LA CHOLLA CHEVRON FOOD MARKET
2075 W. RUTHRAUFF RD.
TUCSON, AZ 85705

CERC-NFRAP **1003879771**
AZD983480153

Site 5 of 6 in cluster B

Relative:
Higher

CERC-NFRAP:
 Site ID: 0904684
 Federal Facility: Not a Federal Facility
 NPL Status: Not on the NPL
 Non NPL Status: NFRAP

Actual:
2269 ft.

CERCLIS-NFRAP Site Contact Name(s):
 Contact Name: Matt Mitguard
 Contact Tel: (415) 972-3096
 Contact Title: Site Assessment Manager (SAM)

 Contact Name: Dawn Richmond
 Contact Tel: (415) 972-3097
 Contact Title: Site Assessment Manager (SAM)

CERCLIS-NFRAP Site Alias Name(s):
 Alias Name: APSI CHEVRON
 Alias Address: Not reported
 AZ
 Site Description: Not reported

CERCLIS-NFRAP Assessment History:
 Action: DISCOVERY
 Date Started: Not reported
 Date Completed: 12/07/1992
 Priority Level: Not reported

 Action: PRELIMINARY ASSESSMENT
 Date Started: Not reported
 Date Completed: 09/15/1994
 Priority Level: NFRAP (No Futher Remedial Action Planned)

 Action: ARCHIVE SITE
 Date Started: Not reported
 Date Completed: 09/15/1994
 Priority Level: Not reported

B11
South
1/4-1/2
1995 ft.

LA CHOLLA CHEVRON FOOD MART
2075 W. RUTHRAUFF RD.
TUCSON, AZ 85705

SHWS **S101570935**
N/A

Site 6 of 6 in cluster B

Relative:
Higher

SHWS:
 EPA ID: AZD983480153
 Program: PA/SI
 Site Code: 100128
 Facility Id: 1181
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARF Area: Not reported
 Lat: Not reported

Actual:
2269 ft.

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

LA CHOLLA CHEVRON FOOD MART (Continued)

EDR ID Number
EPA ID Number

Database(s)

Long: Not reported
Lat/Long Method: 80
Comments: Not reported

S101570935

12
SSW
1/4-1/2
2107 ft.

AGM
4620 SULLINGER RD.
TUCSON, AZ 85705

SHWS S101570898
N/A

Relative:
Higher

SHWS:
EPA ID: AZD980881429
Program: PA/SI
Site Code: Not reported
Facility Id: 460
Discovery Date: 19000101
Source: Not reported
Operable Unit: 0
QWARF Area: MM
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: Not reported

Actual:
2268 ft.

13
SW
1/2-1
3010 ft.

VALPAR INTERNATIONAL CORP.
2450 W. RUTHRAUFF #180
TUCSON, AZ 85705

SHWS S101570966
N/A

Relative:
Higher

SHWS:
EPA ID: AZD982039000
Program: PA/SI
Site Code: 100143
Facility Id: 1201
Discovery Date: 19921210
Source: Not reported
Operable Unit: 0
QWARF Area: Not reported
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: Not reported

Actual:
2263 ft.

14
West
1/2-1
3146 ft.

RAY KIDD TOWING SVC.
2530 W. CURTIS RD.
TUCSON, AZ 85705

SHWS S101570953
N/A

Relative:
Lower

SHWS:
EPA ID: AZD983480575
Program: PA/SI
Site Code: 110032
Facility Id: 1193
Discovery Date: 19921210
Source: Not reported
Operable Unit: 0

Actual:
2253 ft.

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

RAY KIDD TOWING SVC. (Continued)

EDR ID Number
EPA ID Number

Database(s)

S101570953

QWARF Area: Not reported
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: Not reported

**15
SW
1/2-1
4013 ft.**

**PRECISION PLATING INC.
2557 W. VIOLET AVE.
TUCSON, AZ 85705**

**SHWS S101570945
AZ Spills N/A**

**Relative:
Lower**

SHWS:
EPA ID: AZD982489668
Program: PA/SI
Site Code: Not reported
Facility Id: 1059
Discovery Date: 19000101
Source: Not reported
Operable Unit: 0
QWARF Area: Not reported
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: Not reported

**Actual:
2251 ft.**

AZ Spills:
Incident Date: 06/05/1989
Facility ID: 100584214
Property Mngmt: Private
Chemicals: Sulfuric Acid (16%)
Response Date: N/A
Report / Assist: 06/13/1989
Type: Release
Referred to: HWIU
Fund Amount: Pvt/Unk
Quantity: 60 gallons
Incident Number: 89-167
Referral Date: 06/13/1989
Structure: Piping

Incident Date: 06/26/1992
Facility ID: 100584214
Property Mngmt: Private
Chemicals: ALDET
Response Date: N/A
Report / Assist: 06/29/1992
Type: Fire
Referred to: N/A
Fund Amount: Pvt/Unk
Quantity: 300 gals.
Incident Number: 92-087-C
Referral Date: / /
Structure: Tank

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

16
SE
1/2-1
4414 ft.

RYDER TRUCK RENTAL CO.
1717 W. RILLITO ST.
TUCSON, AZ 85705

SHWS **S101570954**
N/A

Relative:
Higher

SHWS:
 EPA ID: AZD982485039
 Program: PA/SI
 Site Code: 110031
 Facility Id: 1194
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 99
 Comments: Not reported

Actual:
2282 ft.

C17
SW
1/2-1
4500 ft.

BUMPER-TO-BUMPER
2545 W. ZINNIA ST.
TUCSON, AZ 85705

SHWS **1000709217**
N/A

Site 1 of 3 in cluster C

Relative:
Lower

SHWS:
 EPA ID: AZD983480278
 Program: PA/SI
 Site Code: 100116
 Facility Id: 1159
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

Actual:
2255 ft.

C18
SW
1/2-1
4523 ft.

BOB'S CUSTOM ROOFING
2560 W ZINNIA AVE
TUCSON, AZ 85705

SHWS **1000709213**
LUST **N/A**
UST

Site 2 of 3 in cluster C

Relative:
Lower

SHWS:
 EPA ID: AZD983480237
 Program: PA/SI
 Site Code: 100035
 Facility Id: 1155
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

Actual:
2255 ft.

Map ID
Direction
Distance
Distance (ft.)
Elevation Site

MAP FINDINGS

Database(s) EDR ID Number
EPA ID Number

BOB'S CUSTOM ROOFING (Continued)

1000709213

LUST:
Facility ID: 0-000734
Leak Priority: LUST CASE COMBINED - CLOSED OUT
Notification: 12/16/93
Date Closed: 04/20/98
Lust Number: 3111.033111.02

Facility ID: 0-000734
Leak Priority: CLOSED SOIL LVL MEETS TIER1
Notification: 09/17/93
Date Closed: 04/30/96
Lust Number: 3111.01

Facility ID: 0-000734
Leak Priority: CLOSED SOIL LVL MEETS TIER1
Notification: 12/16/93
Date Closed: 04/30/96
Lust Number: 3111.02

UST:
Facility ID: 0-000734
Owner: BOB'S CUSTOM ROOFING
Tank ID: 1
In Use: NO
Closed In Ground: / /
Date Closed: / /
Removed: 12/15/93

**C19
SW
1/2-1
4563 ft.**

**AZ DRY MIXED MATERIALS
2565 W. ZINNIA ST.
TUCSON, AZ 85705**

**SHWS S101570903
N/A**

**Relative:
Lower**

Site 3 of 3 in cluster C

**Actual:
2255 ft.**

SHWS:
EPA ID: AZD983480161
Program: PA/SI
Site Code: 110054
Facility Id: 1149
Discovery Date: 19921210
Source: Not reported
Operable Unit: 0
QWARF Area: Not reported
Lat: Not reported
Long: Not reported
Lat/Long Method: 80
Comments: FULL PA

MAP FINDINGS

Map ID			
Direction			
Distance			
Distance (ft.)			EDR ID Number
Elevation	Site	Database(s)	EPA ID Number

D20	QUALITY PAVING & UTILITY CO.	SHWS	S101570948
SW	2450 W. POPPY RD.		N/A
1/2-1	TUCSON, AZ 85705		
4573 ft.			

Site 1 of 2 in cluster D

Relative:	SHWS:		
Lower	EPA ID:	AZD983480559	
	Program:	PA/SI	
Actual:	Site Code:	100137	
2258 ft.	Facility Id:	1190	
	Discovery Date:	19921210	
	Source:	Not reported	
	Operable Unit:	0	
	QWARF Area:	Not reported	
	Lat:	Not reported	
	Long:	Not reported	
	Lat/Long Method:	80	
	Comments:	Not reported	

D21	RACE CAR CO.	SHWS	S101570951
SW	2450 W. POPPY AVE.		N/A
1/2-1	TUCSON, AZ 85705		
4573 ft.			

Site 2 of 2 in cluster D

Relative:	SHWS:		
Lower	EPA ID:	AZD983480567	
	Program:	PA/SI	
Actual:	Site Code:	100138	
2258 ft.	Facility Id:	1191	
	Discovery Date:	19921210	
	Source:	Not reported	
	Operable Unit:	0	
	QWARF Area:	Not reported	
	Lat:	Not reported	
	Long:	Not reported	
	Lat/Long Method:	80	
	Comments:	Not reported	

22	VROMAN'S AUTO BODY	SHWS	S100412197
WSW	2729 W. RUTHRAUFF		N/A
1/2-1	TUCSON, AZ 85705		
4579 ft.			

Relative:
Lower

Actual:
2247 ft.

MAP FINDINGS

Map ID			
Direction			
Distance			
Distance (ft.)			EDR ID Number
Elevation	Site	Database(s)	EPA ID Number

23 South 1/2-1 4624 ft.	ANDERSON METAL FABRICATING 2107 WEST WETMORE ROAD TUCSON, AZ 85749	SHWS	1000486428 N/A
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Relative: Higher	SHWS: EPA ID: AZD983474792 Program: PA/SI
Actual: 2284 ft.	Site Code: Not reported Facility Id: 962 Discovery Date: 19000101 Source: Not reported Operable Unit: 0 QWARK Area: Not reported Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: Not reported

E24 SW 1/2-1 4739 ft.	FOAM EXPERT ROOFING 2534 W. POPPY TUCSON, AZ 85705	SHWS	1000709229 N/A
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Relative: Lower	Site 1 of 2 in cluster E SHWS: EPA ID: AZD983480393 Program: PA/SI
Actual: 2257 ft.	Site Code: 110044 Facility Id: 1172 Discovery Date: 19921210 Source: Not reported Operable Unit: 0 QWARK Area: Not reported Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: WILL BE SITE INSPECTION

25 SSW 1/2-1 4763 ft.	THERMAL ENGINEERING 2250 W. WETMORE TUCSON, AZ 85705	SHWS	1000709250 N/A
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Relative: Higher	SHWS: EPA ID: AZD983480617 Program: PA/SI
Actual: 2272 ft.	Site Code: 110028 Facility Id: 1198 Discovery Date: 19921210 Source: Not reported Operable Unit: 0 QWARK Area: Not reported Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: Not reported

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

E26
SW
1/2-1
4773 ft.

RALPH HAYS ROOFING CO INC
2550 W POPPY AVE
TUCSON, AZ 85705

SHWS **U003050837**
LUST **N/A**
UST

Site 2 of 2 in cluster E

Relative:
Lower

SHWS:

Actual:
2257 ft.

EPA ID: AZD982505877
 Program: PA/SI
 Site Code: 100139
 Facility Id: 1192
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

LUST:

Facility ID: 0-008073
 Leak Priority: CLOSED SOIL LVL MEETS TIER1
 Notification: 01/25/93
 Date Closed: 05/25/00
 Lust Number: 2657.01

UST:

Facility ID: 0-008073
 Owner: RALPH HAYS
 Tank ID: 1
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 03/04/93

27
SSW
1/2-1
4853 ft.

PREMDOR WEST
2300 W. WETMORE #200
TUCSON, AZ 85705

SHWS **S101570946**
N/A

Relative:
Higher

SHWS:

Actual:
2267 ft.

EPA ID: AZD983480542
 Program: PA/SI
 Site Code: 100136
 Facility Id: 1189
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

28
SSW
1/2-1
4967 ft.

BOB'S MATERIAL SUPPLY
2341 W. WETMORE
TUCSON, AZ 85705

SHWS **1000709214**
N/A

Relative:
Higher

SHWS:
 EPA ID: AZD983480245
 Program: PA/SI
 Site Code: 110051
 Facility Id: 1156
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: MM
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

Actual:
2263 ft.

29
SW
1/2-1
5037 ft.

PARSONS STEEL CO.
4580 N. HIGHWAY DR.
TUCSON, AZ 85705

SHWS **1000709241**
N/A

Relative:
Lower

SHWS:
 EPA ID: AZD983480518
 Program: PA/SI
 Site Code: 100134
 Facility Id: 1186
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

Actual:
2254 ft.

30
SSW
1/2-1
5056 ft.

AZ PIPELINE
2402 W. WETMORE
TUCSON, AZ 85705

SHWS **S103932019**
N/A

Relative:
Equal

SHWS:
 EPA ID: AZD983480187
 Program: PA/SI
 Site Code: 110056
 Facility Id: 1150
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARK Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

Actual:
2262 ft.

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Distance (ft.)			
Elevation	Site	Database(s)	

31 SSW 1/2-1 5115 ft.	BONITA STEEL 2439 W. WETMORE TUCSON, AZ 85705	SHWS	1000709215 N/A
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Relative: Lower	SHWS: EPA ID: AZD983480252 Program: PA/SI Site Code: 100113 Facility Id: 1157 Discovery Date: 19921210 Source: Not reported Operable Unit: 0 QWARK Area: MM Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: Not reported
Actual: 2261 ft.	

F32 WSW 1/2-1 5190 ft.	A.A. MCDANIEL WELL & MACHINE CO. 2838 W. RUTHRAUFF RD. TUCSON, AZ 85705	SHWS	1000709202 N/A
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Relative: Lower	Site 1 of 2 in cluster F SHWS: EPA ID: AZD983480112 Program: PA/SI Site Code: 110040 Facility Id: 1145 Discovery Date: 19921210 Source: Not reported Operable Unit: 0 QWARK Area: Not reported Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: Not reported
Actual: 2242 ft.	

33 SW 1/2-1 5260 ft.	AMERICAN BODY & PAINT 4419 N. HIGHWAY DR. TUCSON, AZ 85705	SHWS	1000709205 N/A
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Relative: Lower	SHWS: EPA ID: AZD983480146 Program: PA/SI Site Code: 110058 Facility Id: 1148 Discovery Date: 19921210 Source: Not reported Operable Unit: 0 QWARK Area: Not reported Lat: Not reported Long: Not reported Lat/Long Method: 80 Comments: Not reported
Actual: 2258 ft.	

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

F34
WSW
1/2-1
5266 ft.

GILBERT PUMP OF TUCSON
2840 W RUTHRAUFF RD
TUCSON, AZ 85703

SHWS **U001625882**
LUST **N/A**
UST
WWFAC

Site 2 of 2 in cluster F

Relative:
Lower

SHWS:

Actual:
2241 ft.

EPA ID: AZD983480401
 Program: PA/SI
 Site Code: 100096
 Facility Id: 1175
 Discovery Date: 19921210
 Source: Not reported
 Operable Unit: 0
 QWARF Area: Not reported
 Lat: Not reported
 Long: Not reported
 Lat/Long Method: 80
 Comments: Not reported

LUST:

Facility ID: 0-002297
 Leak Priority: SOIL CONTAMINATION DEFINED BUT > SSCLS IN GROUND
 Notification: 12/14/89
 Date Closed: / /
 Lust Number: 1573.01

Facility ID: 0-002297
 Leak Priority: SOIL CONTAMINATION DEFINED BUT > SSCLS IN GROUND
 Notification: 09/26/91
 Date Closed: / /
 Lust Number: 1573.02

Facility ID: 0-002297
 Leak Priority: SOIL CONTAMINATION DEFINED BUT > SSCLS IN GROUND
 Notification: 01/06/93
 Date Closed: / /
 Lust Number: 1573.03

UST:

Facility ID: 0-002297
 Owner: GILBERT PUMP & EQUIPMENT CO
 Tank ID: 1
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 03/19/93

Facility ID: 0-002297
 Owner: GILBERT PUMP & EQUIPMENT CO
 Tank ID: 2
 In Use: NO
 Closed In Ground: / /
 Date Closed: / /
 Removed: 02/08/91

Facility ID: 0-002297
 Owner: GILBERT PUMP & EQUIPMENT CO

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GILBERT PUMP OF TUCSON (Continued)

EDR ID Number
EPA ID Number

Database(s)

U001625882

Tank ID: 3
In Use: NO
Closed In Ground: / /
Date Closed: / /
Removed: 09/26/91

Facility ID: 0-002297
Owner: GILBERT PUMP & EQUIPMENT CO
Tank ID: 4
In Use: NO
Closed In Ground: / /
Date Closed: / /
Removed: 09/26/91

WWFAC:
Place ID: 1405
Inventory ID: 101382
Facility Code: COMM
Facility Type: COMMERCIAL PROPERTY

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PIMA COUNTY	S103895169	RYLAND	WEST END OF 40TH ST. AND SANTA CRUZ RIVER		SWF/LF
PIMA COUNTY	S103895170	SAHUARO MONUMENT	1 MILE SOUTHEAST OF VISTORS CENTER		SWF/LF
PIMA COUNTY	S103895162	LINDA LANDFILL	NORTH OF ALAMEDA AND EAST OF SANTA CRUZ		SWF/LF
PIMA COUNTY	S102286938	SASABE	PRESUMIDO PEAK QUADRANT .5 MILES NORTH OF US-MEXIC		SWF/LF
PIMA COUNTY	S101570019	WQ-FAGAN LAKE	T17S R16E SEC 34 SE 1/4		SHWS
TUCSON	94369129	IN A WASH 1/4 MI SE OF THE 2600 BLK N SILVERBELL	IN A WASH 1/4 MI SE OF THE 2600 BLK N SILVERBELL		ERNS
TUCSON	A100170444	CABALLO LOCO RANCH	17500 W. BANNER RANCH RT.8		AST
TUCSON	S106197422	SOUTHERN PACIFIC RAILROAD	1255 S. CAMPBELL AVE TRACK 470		AZ Spills, BROWNFIELDS, VCP
TUCSON	1004675127	ADEQ EL CAMINO DEL CERRO WQARF	CASA GRANDE HWY AND CURTIS RD	85741	FINDS, RCRA-LQG
TUCSON	1009618703	2123 N EDISON TERRANCE	2123 N EDISON TERRANCE		US CDL
TUCSON	93354262	EXXON STATION, 501 N PARK	EXXON STATION, 501 N PARK		ERNS
TUCSON	93353452	EXXON STATION, 501 N PARK	EXXON STATION, 501 N PARK		ERNS
TUCSON	1003879788	D & D ENTERPRISES	5266 N. HWY DR.	85705	CERC-NFRAP
TUCSON	U003936074	CIRCLE K STORE #2706470	5365 N LA CHOLLA	85705	UST
TUCSON	1009618709	4842 N SHANNON APT 7	4842 N SHANNON APT 7		US CDL
TUCSON	S101570892	JAIL ANNEX LANDFILL	SILVER BELL RD/POLICE ACADEMY	85704	SHWS
TUCSON	1000486421	ARTFUL DUSTERS	3450 N STONE AVE/205	85705	SHWS
TUCSON	1000588273	PIMA COUNTY - ROGER RD. WWTP	SWEETWATER RD.	85705	SHWS
TUCSON	1003878112	EL CAMINO DEL CERRO LDFL	1/4 MI W OF I10/EL CAMINO BLVD	85704	CERCLIS, FINDS
TUCSON	S103932017	INA RD LANDFILL	1/2 MI W OF I10 E OF INA RD	85704	SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/27/2006	Source: EPA
Date Data Arrived at EDR: 11/01/2006	Telephone: N/A
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 01/31/2007
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/30/2007
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/27/2006	Source: EPA
Date Data Arrived at EDR: 11/01/2006	Telephone: N/A
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 02/23/2007
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/30/2007
	Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/27/2006	Source: EPA
Date Data Arrived at EDR: 11/01/2006	Telephone: N/A
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 01/31/2007
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/30/2007
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 02/19/2007
Number of Days to Update: 56	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 11/28/2006	Source: EPA
Date Data Arrived at EDR: 12/19/2006	Telephone: 703-603-8960
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 12/19/2006
Number of Days to Update: 41	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/20/2006	Source: EPA
Date Data Arrived at EDR: 01/29/2007	Telephone: 703-603-8960
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 12/18/2006
Number of Days to Update: 29	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 01/04/2007	Source: EPA
Date Data Arrived at EDR: 01/18/2007	Telephone: 800-424-9346
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 03/05/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/04/2007
	Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006	Source: EPA
Date Data Arrived at EDR: 06/28/2006	Telephone: 800-424-9346
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 02/27/2007
Number of Days to Update: 56	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/12/2006	Telephone: 202-260-2342
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 01/24/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/23/2007
	Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 11/28/2006	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 01/17/2007	Telephone: 202-366-4555
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 01/17/2007
Number of Days to Update: 41	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/18/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/14/2006	Telephone: 703-603-8905
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/02/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 04/02/2007
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/24/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/31/2007	Telephone: 703-603-8905
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 01/02/2007
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/02/2007
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 703-692-8801
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 02/08/2007
Number of Days to Update: 62	Next Scheduled EDR Contact: 05/07/2007
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2005	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 09/20/2006	Telephone: 202-528-4285
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 01/02/2007
Number of Days to Update: 63	Next Scheduled EDR Contact: 04/02/2007
	Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients--States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/17/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/20/2006	Telephone: 202-566-2777
Date Made Active in Reports: 12/13/2006	Last EDR Contact: 12/11/2006
Number of Days to Update: 54	Next Scheduled EDR Contact: 03/12/2007
	Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 02/15/2005	Telephone: Varies
Date Made Active in Reports: 04/25/2005	Last EDR Contact: 02/06/2007
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/23/2007
	Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/10/2007	Source: EPA
Date Data Arrived at EDR: 01/24/2007	Telephone: 703-416-0223
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 01/22/2007
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/02/2007
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 11/08/2006	Telephone: 505-845-0011
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 12/18/2006
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004	Source: EPA
Date Data Arrived at EDR: 06/22/2006	Telephone: 202-566-0250
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 12/19/2006
Number of Days to Update: 62	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 01/15/2007
Number of Days to Update: 46	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/19/2006	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 10/27/2006	Telephone: 202-566-1667
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 12/18/2006
Number of Days to Update: 26	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 10/19/2006	Source: EPA
Date Data Arrived at EDR: 10/27/2006	Telephone: 202-566-1667
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 12/18/2006
Number of Days to Update: 26	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004	Source: EPA
Date Data Arrived at EDR: 05/11/2006	Telephone: 202-564-4203
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 01/29/2007
Number of Days to Update: 11	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/21/2006	Telephone: 202-564-5088
Date Made Active in Reports: 05/11/2006	Last EDR Contact: 01/15/2007
Number of Days to Update: 20	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Quarterly

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005	Source: Department of the Navy
Date Data Arrived at EDR: 12/11/2006	Telephone: 843-820-7326
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 12/11/2006
Number of Days to Update: 31	Next Scheduled EDR Contact: 03/12/2007
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/30/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/31/2007	Telephone: 202-343-9775
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 01/31/2007
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/30/2007
	Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/01/2006	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 01/08/2007	Telephone: 202-307-1000
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/08/2007
Number of Days to Update: 3	Next Scheduled EDR Contact: 03/26/2007
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/17/2006
Date Data Arrived at EDR: 11/29/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 43

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 03/02/2007
Next Scheduled EDR Contact: 05/07/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/11/2007
Date Data Arrived at EDR: 01/26/2007
Date Made Active in Reports: 02/27/2007
Number of Days to Update: 32

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/02/2007
Next Scheduled EDR Contact: 04/02/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/15/2006
Date Data Arrived at EDR: 12/28/2006
Date Made Active in Reports: 01/29/2007
Number of Days to Update: 32

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/28/2006
Next Scheduled EDR Contact: 03/26/2007
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2007
Date Data Arrived at EDR: 01/23/2007
Date Made Active in Reports: 02/27/2007
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 01/02/2007
Next Scheduled EDR Contact: 04/02/2007
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 03/05/2007
Next Scheduled EDR Contact: 06/04/2007
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/06/2007
Next Scheduled EDR Contact: 06/11/2007
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SPL: Superfund Program List

The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 08/25/2004
Date Data Arrived at EDR: 12/03/2004
Date Made Active in Reports: 01/25/2005
Number of Days to Update: 53

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 03/02/2007
Next Scheduled EDR Contact: 05/28/2007
Data Release Frequency: Semi-Annually

WQARF: Water Quality Assurance Revolving Fund Sites

Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 07/17/2006
Date Data Arrived at EDR: 10/11/2006
Date Made Active in Reports: 10/31/2006
Number of Days to Update: 20

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 12/20/2006
Next Scheduled EDR Contact: 03/19/2007
Data Release Frequency: Annually

SHWS: ZipAcids List

The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/2000
Date Data Arrived at EDR: 04/11/2000
Date Made Active in Reports: 05/16/2000
Number of Days to Update: 35

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 01/15/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: No Update Planned

SWF/LF: Directory of Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/26/2004
Date Data Arrived at EDR: 12/29/2006
Date Made Active in Reports: 02/01/2007
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 602-771-2300
Last EDR Contact: 12/29/2006
Next Scheduled EDR Contact: 03/26/2007
Data Release Frequency: Annually

SWTIRE: Solid Waste Tire Facilities

A waste tire "facility" means a solid waste facility at which waste tires are stored outdoors on any day.

Date of Government Version: 11/01/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/15/2006
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 602-771-4132
Last EDR Contact: 12/29/2006
Next Scheduled EDR Contact: 03/26/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Storage Tank Listing

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 05/01/2005
Date Data Arrived at EDR: 05/19/2005
Date Made Active in Reports: 06/09/2005
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 602-771-4345
Last EDR Contact: 02/08/2007
Next Scheduled EDR Contact: 05/07/2007
Data Release Frequency: Semi-Annually

AOCONCERN: Superfund GIS Information

A gis coverage for Department of Environmental Quality superfund sites, included WAQRF, DOD and NPL.

Date of Government Version: 02/10/2006
Date Data Arrived at EDR: 06/10/2006
Date Made Active in Reports: 06/30/2006
Number of Days to Update: 20

Source: Department of Environmental Quality
Telephone: 602-771-6517
Last EDR Contact: 12/18/2006
Next Scheduled EDR Contact: 03/19/2007
Data Release Frequency: Varies

UST: Underground Storage Tank Listing

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/01/2005
Date Data Arrived at EDR: 05/19/2005
Date Made Active in Reports: 06/09/2005
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 602-771-4345
Last EDR Contact: 02/08/2007
Next Scheduled EDR Contact: 05/07/2007
Data Release Frequency: Annually

AST: List of Aboveground Storage Tanks

Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/31/2000
Date Data Arrived at EDR: 01/22/2001
Date Made Active in Reports: 02/16/2001
Number of Days to Update: 25

Source: Department of Building & Fire Safety
Telephone: 602-364-1003
Last EDR Contact: 01/08/2007
Next Scheduled EDR Contact: 04/09/2007
Data Release Frequency: No Update Planned

MANIFEST: Manifest Information

Hazardous waste manifest information

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/20/2006
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 02/05/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: Annually

SPILLS: Hazardous Material Logbook

Chemical spills and incidents referred to the Emergency Response Unit.

Date of Government Version: 06/30/2001
Date Data Arrived at EDR: 03/29/2004
Date Made Active in Reports: 04/16/2004
Number of Days to Update: 18

Source: Department of Environmental Quality
Telephone: 602-771-4153
Last EDR Contact: 12/29/2006
Next Scheduled EDR Contact: 03/26/2007
Data Release Frequency: Varies

AUL: DEUR Database

Activity and use limitations include both engineering controls and institutional controls. DEUR and VEMUR sites. DEUR: Declaration of Environmental Use Restriction. A restrictive land use covenant that is required when a property owner elects to use an institutional (i.e., administrative) control or engineering (i.e., physical) control as a means to meet remediation goals. The DEUR runs with and burdens the land, and requires maintenance of any institutional or engineering controls. VEMUR: Voluntary Environmental Mitigation Use Restriction. A restrictive land use covenant that, prior to July 18, 2000, was required when a property owner elected to remediate the property to non-residential uses. Effective July 18, 2000, the DEUR replaced the VEMUR as a restrictive use covenant.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/16/2007
Date Data Arrived at EDR: 01/16/2007
Date Made Active in Reports: 02/01/2007
Number of Days to Update: 16

Source: Department of Environmental Quality
Telephone: 602-771-4398
Last EDR Contact: 01/15/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: Varies

VCP: Voluntary Remediation Program Sites
Sites involved in the Voluntary Remediation Program.

Date of Government Version: 07/11/2006
Date Data Arrived at EDR: 07/13/2006
Date Made Active in Reports: 08/02/2006
Number of Days to Update: 20

Source: Department of Environmental Quality
Telephone: 602-771-4411
Last EDR Contact: 01/15/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facility Listing
A listing of drycleaner facilities in Arizona.

Date of Government Version: 01/20/2006
Date Data Arrived at EDR: 01/25/2006
Date Made Active in Reports: 02/15/2006
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 602-771-4335
Last EDR Contact: 01/29/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: Varies

DOD: Department of Defense Sites
These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 07/17/2006
Date Data Arrived at EDR: 10/11/2006
Date Made Active in Reports: 10/31/2006
Number of Days to Update: 20

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 12/20/2006
Next Scheduled EDR Contact: 03/19/2007
Data Release Frequency: Annually

BROWNFIELDS: Brownfields Tracking System
Information relating to Brownfields sites in Arizona.

Date of Government Version: 07/11/2006
Date Data Arrived at EDR: 07/13/2006
Date Made Active in Reports: 08/02/2006
Number of Days to Update: 20

Source: Department of Environmental Quality
Telephone: 602-771-4401
Last EDR Contact: 01/15/2007
Next Scheduled EDR Contact: 04/16/2007
Data Release Frequency: Varies

CDL: Clandestine Drug Labs
A listing of drug lab seizures in Arizona.

Date of Government Version: 01/24/2007
Date Data Arrived at EDR: 01/24/2007
Date Made Active in Reports: 02/01/2007
Number of Days to Update: 8

Source: Board of Technical Registration
Telephone: 602-364-4931
Last EDR Contact: 01/22/2007
Next Scheduled EDR Contact: 04/23/2007
Data Release Frequency: Varies

AQUIFER: Waste Water Treatment Facilities
Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 12/13/2006
Date Data Arrived at EDR: 12/19/2006
Date Made Active in Reports: 02/01/2007
Number of Days to Update: 44

Source: Department of Environmental Quality
Telephone: 602-771-4623
Last EDR Contact: 02/19/2007
Next Scheduled EDR Contact: 05/21/2007
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DRY WELLS: Drywell Registration

A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 12/18/2006	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/18/2006	Telephone: 602-771-4686
Date Made Active in Reports: 02/01/2007	Last EDR Contact: 12/18/2006
Number of Days to Update: 45	Next Scheduled EDR Contact: 03/19/2007
	Data Release Frequency: Semi-Annually

WWFAC: Waste Water Treatment Facilities

Statewide list of waste water treatment facilities.

Date of Government Version: 08/09/2006	Source: Department of Environmental Quality
Date Data Arrived at EDR: 01/02/2007	Telephone: 602-771-4623
Date Made Active in Reports: 02/01/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 30	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

AZ AIRS: Arizona Airs Database

Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 08/01/2006	Source: Department of Environmental Quality
Date Data Arrived at EDR: 08/17/2006	Telephone: 602-771-2344
Date Made Active in Reports: 09/26/2006	Last EDR Contact: 01/29/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/30/2007
	Data Release Frequency: Semi-Annually

AZURITE: Remediation and DEUR/VEUR Tracking System

ADEQ maintains a repository listing sites remediated under programs administered by the department.

Date of Government Version: 01/16/2007	Source: Department of Environmental Quality
Date Data Arrived at EDR: 01/16/2007	Telephone: 601-771-4396
Date Made Active in Reports: 02/01/2007	Last EDR Contact: 01/15/2007
Number of Days to Update: 16	Next Scheduled EDR Contact: 04/16/2007
	Data Release Frequency: Quarterly

RADON: State Radon Data

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: 11/15/2002	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: 04/02/2004
Number of Days to Update: 0	Next Scheduled EDR Contact: N/A
	Data Release Frequency: N/A

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 02/06/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 02/08/2007
Number of Days to Update: 339	Next Scheduled EDR Contact: 05/07/2007
	Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006	Source: EPA Region 1
Date Data Arrived at EDR: 12/01/2006	Telephone: 617-918-1313
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 59	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 12/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/19/2006	Telephone: 415-972-3372
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/21/2006	Source: EPA Region 10
Date Data Arrived at EDR: 12/08/2006	Telephone: 206-553-2857
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/21/2007
	Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/30/2006	Source: EPA Region 8
Date Data Arrived at EDR: 12/08/2006	Telephone: 303-312-6271
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Minnesota, Mississippi and North Carolina.

Date of Government Version: 08/24/2006	Source: EPA Region 4
Date Data Arrived at EDR: 09/11/2006	Telephone: 404-562-8677
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 02/19/2007
Number of Days to Update: 58	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/06/2006	Source: EPA Region 7
Date Data Arrived at EDR: 10/04/2006	Telephone: 913-551-7003
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 02/19/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005	Source: EPA Region 6
Date Data Arrived at EDR: 01/21/2005	Telephone: 214-665-6597
Date Made Active in Reports: 02/28/2005	Last EDR Contact: 02/19/2007
Number of Days to Update: 38	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 08/24/2006	Source: EPA Region 4
Date Data Arrived at EDR: 09/11/2006	Telephone: 404-562-9424
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 02/19/2007
Number of Days to Update: 58	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004	Source: EPA Region 5
Date Data Arrived at EDR: 12/29/2004	Telephone: 312-886-6136
Date Made Active in Reports: 02/04/2005	Last EDR Contact: 02/19/2007
Number of Days to Update: 37	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 11/30/2006	Source: EPA Region 8
Date Data Arrived at EDR: 12/08/2006	Telephone: 303-312-6137
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 11/21/2006	Source: EPA Region 10
Date Data Arrived at EDR: 12/08/2006	Telephone: 206-553-2857
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

A listing of underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006	Source: EPA, Region 1
Date Data Arrived at EDR: 12/01/2006	Telephone: 617-918-1313
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 59	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 12/19/2006	Source: EPA Region 9
Date Data Arrived at EDR: 12/19/2006	Telephone: 415-972-3368
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 01/11/2007	Source: EPA Region 6
Date Data Arrived at EDR: 01/12/2007	Telephone: 214-665-7591
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 02/19/2007
Number of Days to Update: 17	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006	Source: EPA Region 7
Date Data Arrived at EDR: 10/04/2006	Telephone: 913-551-7003
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 02/19/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 05/21/2007
	Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

APACHE COUNTY:

Apache County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COCHISE COUNTY:

Cochise County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COCONINO COUNTY:

Coconino County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GILA COUNTY:

Gila County Special Tax Assessments

Date of Government Version: 11/01/2006
Date Data Arrived at EDR: 11/20/2006
Date Made Active in Reports: 11/29/2006
Number of Days to Update: 9

Source: N/A
Telephone: N/A
Last EDR Contact: 10/27/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GRAHAM COUNTY:

Graham County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GREENLEE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Greenlee County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

LA PAZ COUNTY:

La Paz County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

MARICOPA COUNTY:

Maricopa County Noise Contour Areas

Date of Government Version: 10/28/2003
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 09/19/2006
Number of Days to Update: 19

Source: N/A
Telephone: N/A
Last EDR Contact: 07/26/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

Maricopa County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

MOHAVE COUNTY:

Mohave County Special Tax Assessments

Date of Government Version: 11/01/2006
Date Data Arrived at EDR: 11/06/2006
Date Made Active in Reports: 11/29/2006
Number of Days to Update: 23

Source: N/A
Telephone: N/A
Last EDR Contact: 10/13/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

NAVAJO COUNTY:

Navajo County Special Tax Assessments

Date of Government Version: 10/17/2006
Date Data Arrived at EDR: 10/17/2006
Date Made Active in Reports: 11/29/2006
Number of Days to Update: 43

Source: N/A
Telephone: N/A
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

PIMA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Pima County Noise Contour Areas

Date of Government Version: 08/17/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 09/19/2006
Number of Days to Update: 19

Source: N/A
Telephone: N/A
Last EDR Contact: 08/17/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

Pima County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

PINAL COUNTY:

Pinal County Special Tax Assessments

Date of Government Version: 10/01/2006
Date Data Arrived at EDR: 10/11/2006
Date Made Active in Reports: 11/30/2006
Number of Days to Update: 50

Source: N/A
Telephone: N/A
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

SANTA CRUZ COUNTY:

Santa Cruz County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

YAVAPAI COUNTY:

Yavapai County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

YUMA COUNTY:

Yuma County Noise Contour Areas

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 09/19/2006
Number of Days to Update: 19

Source: N/A
Telephone: N/A
Last EDR Contact: 08/02/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Yuma County Special Tax Assessments

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 12/11/2006
Next Scheduled EDR Contact: 03/12/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 11/29/2006
Date Made Active in Reports: 01/05/2007
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 03/02/2007
Next Scheduled EDR Contact: 05/28/2007
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 04/11/2006
Date Data Arrived at EDR: 10/31/2006
Date Made Active in Reports: 12/18/2006
Number of Days to Update: 48

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 12/18/2006
Next Scheduled EDR Contact: 03/19/2007
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 02/06/2007
Next Scheduled EDR Contact: 04/09/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities & Group Homes

Source: Department of Health Services
Telephone: 602-674-4220

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Associated with Perennial Waters

Source: State Land Department
Telephone: 602-542-4094

STREET AND ADDRESS INFORMATION

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Appendix D

Excerpts from Reviewed Regulatory Files



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

CERTIFIED MAIL Governor Jane Dee Hull Russell F. Rhoades, Director
Return Receipt Request
UST Ref. #98-0015711
September 14, 1998

Mr. Randall Morris
Kaibab Industries
P.O. Box 52111
Phoenix, Arizona 85072

RE: CASE CLOSURE FOR LUST FILE #4697.01
Facility ID #0-002780
Pima County

Whiting Station #158
2100 West Ruthrauff Road
Tucson, Arizona 85705

Dear Mr. Morris:

The Arizona Department of Environmental Quality (ADEQ), Underground Storage Tank (UST) Corrective Action Section (UST Section) staff have reviewed the referenced case file. Based on this review, it has been determined that Section investigative and remedial requirements have been satisfied. The UST release discovered on or about May 14, 1997 at this facility does not appear to be a significant threat to groundwater quality. This letter concerns the gasoline release reported to the ADEQ on May 15, 1997. Further response concerning this release is, therefore, not required at this time.

This LUST case file has been closed for the following reasons:

1. The referenced UST system release area was investigated.
2. The vertical extent of laboratory detectable soil contamination was defined to approximately 35 feet below the ground surface (bgs) beneath the release location(s).
3. The lateral extent of laboratory detectable soil contamination was defined to a radius of approximately 10 feet around the release location(s).
4. Depth to groundwater beneath this facility has been estimated or measured to be approximately 120 feet bgs. The source of this information is the Department of Water Resources, 1995.
5. The ADEQ has determined that the extent of contamination appears to have been adequately defined as of May 19, 1997.
6. The documented results, to date, for the referenced UST releases indicate that contaminant concentration remaining in the vadose zone is at or below the remediation standard(s) specified in R18-7-205.

The ADEQ is not requiring additional work for the referenced UST release at this facility at this time. However, if, in the future, evidence of previously undocumented contamination is discovered at, or emanating from, this facility, the ADEQ will require additional investigation including any necessary additional remediation.

FINANCIAL RESPONSIBILITY REQUIREMENTS - Mark the boxes which describe the financial assurance mechanisms being used to satisfy responsibility requirements.

<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

Self-Insurance
Commercial Insurance
Risk Retention Group

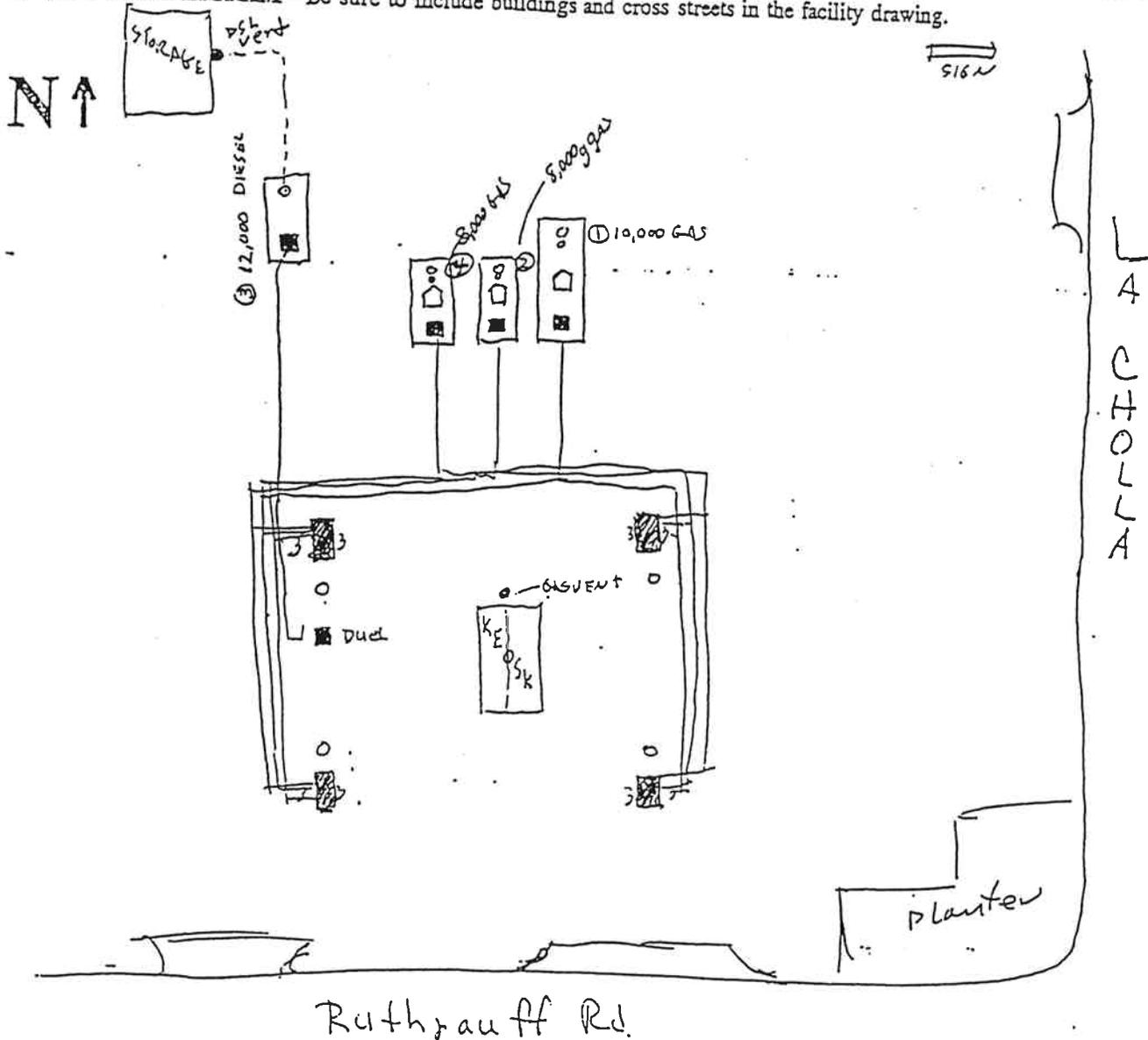
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Guarantee
Surety Bond
Letter of Credit

<input checked="" type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

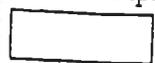
State Assurance Fund
Trust Fund
Other Method Allowed (specify):

8. MAP AND DIAGRAM - Be sure to include buildings and cross streets in the facility drawing.



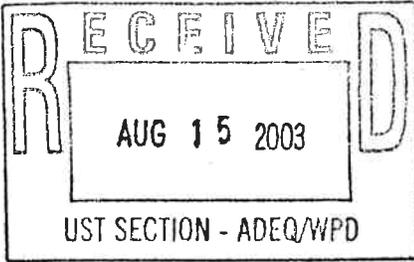
Legend - Use all symbols that apply

- Fill Tubes
- Vent Lines
- ◆ Dispensers
- Piping



Tank
(Tank numbering must match with Sections 9 & 10)

- Manway to Suction Pump
- ▲ Vapor Monitoring Wells
- * Groundwater Monitoring Wells
- ◊ Manway to Automatic Tank Gauging
- Manway to Submersible Pump and Line Leak Detector



Allen
Stephenson
Associates

SITE CHARACTERIZATION REPORT
Former Mustang Station No. 6922
2100 West Ruthrauff Road
Tucson, Arizona
LUST No. 4697.02 (North End of UST #3)
Facility No. 0-002780

Prepared for

Giant Industries
Attn: Mr. Tim Littlewood
7324 Fourth Street NW
Albuquerque, New Mexico 87107

Tracking 03-00616620
Facility 0-002780
Lust # 4697.02
Lust # _____
Date 8/15/03 Initial UN

Prepared by

Allen, Stephenson & Associates
1130 E. Missouri Avenue., Suite 110
Phoenix, Arizona 85014

August 15, 2003

Job No. 425.01

Allen, Stephenson & Associates
1130 E. Missouri Avenue, Suite 110
Phoenix, Arizona 85014

August 15, 2003

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LIST OF FIGURES
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Figure 1 – Site Location Map

Figure 2 – Site Plan Showing Former UST Pit Location and Exploratory Soil Boring Location

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Appendix A – Exploratory Boring Log

Appendix B – Soil Analytical Laboratory Report and Chain-of-Custody Documentation

Appendix C – Owner/Operator/Volunteer Certification for LUST Case Closure Request

1.0 INTRODUCTION

Allen, Stephenson & Associates, (ASA) was retained by Giant Industries (Giant) to assess and report the extent of petroleum hydrocarbon impact associated with the reported leaking underground storage tank (LUST) release which occurred within the former underground storage tank (UST) pit at the former location of Mustang Station #6922. Assessment of the UST pit was completed in response to the Arizona Department of Environmental Quality (ADEQ) correspondence (UST Ref. #03-0004979) dated June 20, 2003. Subsequent to Giant receiving the ADEQ correspondence, LUST release case number 4697.02 was assigned to the site by ADEQ.

1.1 Facility Identification, Location and Adjoining Property Uses

The former Mustang Station #6922 (site) is situated within Pima County and located at 2100 West Ruthrauff Road in Tucson, Arizona (Figure 1). The cadastral coordinates for the site are the southeast quarter of the southeast quarter of the southeast quarter of Section 16, Township 13 North, Range 13 East of the Gila and Salt River Base and Meridian. The site was the location of a fuel station that reportedly operated until just recently, when the USTs formerly located at the site were removed. Since the removal of the USTs in June 2003, the property has remained vacant.

Properties adjoining the site consist of a vacant lot to the north and to the south of the site (across Ruthrauff Road) and operating commercial properties to the east and west. The nearest permitted UST facility is the Circle K #592 Station located across La Cholla Boulevard at 2080 West Ruthrauff Road, approximately fifty feet east of the site. According to the ADEQ LUST database, which records LUST file numbers that have been placed on facilities where releases have occurred, this Circle K Station has not had any open or closed LUSTs reported.

2.0 BACKGROUND

Fuel dispensing operations at the site ceased prior to May 30, 2003, when all remaining product and accumulated sludge were removed from the USTs in preparation for UST removal activities at the sSite. The dispensers were also removed from the site at or before this date; however the dispenser islands and associated canopy and convenience store still exist at the site. According to a UST removal report prepared by Tank Solutions, the UST excavation was located approximately five feet due north of the canopy at the site, and adjacent to the north edge of the convenience store, as shown on Figure 2. Reportedly, three 10,000-gallon gasoline USTs were removed from the primary UST pit at the site on June 12, 2003. One 12,000-gallon diesel fuel UST was also removed from an adjacent separate UST pit on that date. Each of the USTs appeared to be in good condition and did not contain corrosion holes along the tank exterior. The report also states that no visual or olfactory evidence was discovered that would indicate a release had occurred. Based upon this information, samples were collected in the required locations and the excavation was backfilled with the fill material surrounding the former USTs and topped off with imported fill material. The collected soil samples were then submitted to an analytical laboratory for the analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Following removal of the USTs, soil samples were collected from beneath the north and south ends of each of the UST locations, at approximately 14 feet below ground surface (bgs). Soil samples were also collected from beneath the product lines that connect the USTs to the dispenser islands. The soil analytical laboratory results indicated the presence of a low concentration of benzene in the soil sample collected from beneath the north end of the central gasoline UST (referenced as UST #3 in the UST removal report), at 0.43 milligrams per kilogram (mg/kg). No other BTEX constituents were reported above their respective laboratory reporting limits in that sample or in any of the other samples submitted for analysis. Given that the tanks appeared in good condition, and that the benzene concentration was low, the source of the benzene is likely attributable to overfilling of the USTs and/or



pipng leaks in the vicinity of the former USTs. The age and volume of the release is unknown. This reportable benzene concentration is the release location for which ADEQ assigned LUST case file #4697.02, and the subsequent characterization and assessment of this UST pit release is the subject of this site characterization report.

3.0 ENVIRONMENTAL SETTING

The site is located within the Basin and Range Lowlands Physiographic Province, which includes an area extending from the northwest corner of the state, southeasterly across the southern half of the state. The Basin and Range Province is bounded to the north by the Central Highlands Province, which includes the Colorado Plateau and associated Mogollon Rim. Landforms present within the Basin and Range Province consist of predominantly northwest-southeast trending, block-faulted mountain ranges, separated by broad, gently sloping alluvial basins. The site is situated within one of these alluvial basins, and is bounded to the north-northeast by the Santa Catalina Mountains, to the east by the Rincon Mountains, and to the west by the Tucson Mountains.

The Rillito Creek, an ephemeral principal drainage for the site vicinity and the nearest surface water feature to the site, lies approximately one-half mile north of the site and drains northwest. Based upon a search of the Arizona Department of Water Resources database, a well owned by the City of Tucson was reviewed, which was installed in July 2000 and is located approximately one-half mile west of the site. The groundwater level in the well was shown to be 128 feet bgs. Based upon the distance and the similar topography between the well location and the site, it is reasonable to expect that the groundwater levels at the site would be a similar depth.

Exploratory drilling at the site encountered principally alluvial sediments, consisting of moderately cemented, variably interbedded silty sands and silty clays, from the surface to approximately 41 feet bgs. From 41 feet to the termination of the boring at 50 feet bgs, an increase in coarse sand and gravel was observed, concomitant with a decrease in fines. From 48 feet bgs to 50 feet bgs, the boring was completed in sandy gravel, most likely originating from previous historic meandering of the Rillito Creek.

4.0 SITE CHARACTERIZATION METHODS – ADEQ LUST CASE FILE #4697.02

The assessment of the release in the UST pit consisted of one exploratory soil boring in the location of the impacted area, with the collection of soil samples at five-foot intervals. This approach was based upon the fact that the previously reported benzene concentration was below the ADEQ residential and non-residential soil remediation levels (SRLs), and that the sample collected at the greatest depth, beneath the north end of UST #3 exhibited a target analyte above the laboratory reporting limit.

On July 18, 2003, one exploratory boring (SB-01) was drilled at the location of impact to assess the vertical extent of petroleum hydrocarbon impact discovered during the UST removal activities at the site (Figure 2).

4.1 *Drilling Method*

Exploratory boring SB-01 was drilled using a CME-55 hollow-stem auger-drilling rig. Mr. Steven Sutherland, a registered geologist with ASA, logged the lithology encountered during on-site drilling activities in general accordance with ASTM Method D2488-93. Soil samples were collected at approximate five-foot intervals, beginning in the native material, from 15 feet bgs to 50 feet bgs. The original scope of work called to terminate the boring at 30 feet bgs; however, due to olfactory observations and preliminary screening results with a photo-ionization detector (PID), the boring was extended until no indicators of possible negative impact were encountered.

Soil samples were collected with an 18-inch split-spoon sampler equipped with three 6-inch brass sleeves. At the desired depth, the sampler was driven approximately 12 inches into the subsurface soils with an approximate 140-pound slide hammer, or to sample refusal (greater than 50 blows per 6-inch interval).

Following retrieval of the split-spoon sampler, it was opened and the brass sleeve nearest the shoe or bottom of the sampler was retrieved and sealed for submittal to an analytical laboratory for analysis. The side of that brass sleeve that coincided with the greatest sampling depth was marked, so that the analytical laboratory would use that portion of the sample. Additional soil collected from the sampler was screened for the presence of volatile organic compounds (VOCs) with a PID, calibrated to 100 parts per million (ppm) volume of isobutylene. The results of PID screening are reported on the boring log, located in Appendix A.

Each sample sleeve collected for analysis was covered at each end with a Teflon® sheet, then a sheet of aluminum foil and capped with a tight fitting plastic end cap. The sample number, date, time, ASA job number, and the sampler's initials were then recorded on the sample and the laboratory chain-of-custody, and then placed into a sealable plastic bag and into an insulated cooler on ice until submittal to the laboratory for analysis.

4.2 *PID Screening*

Field screening for the presence of VOC vapors was accomplished by utilizing a Rae Systems model MiniRae 2000 PID. The PID provides a relative indication of the presence of VOCs, including gasoline and/or BTEX. The presence of VOC vapors was accomplished by placing the soil collected from the sampler shoe into a sealable plastic bag, allowing the sample and bag to volatilize for approximately 10-15 minutes, and then carefully inserting the PID tube into the bag to collect a reading. PID readings were then recorded onto the exploratory soil boring field log (Appendix A).

4.3 Soil Sample Analytical Laboratory Methods

Soil samples collected from exploratory boring SB-01 were analyzed for various compounds, in accordance with ADEQ requirements for vertical characterization of impacted soil where a LUST file number has been assigned. Based upon ADEQ requirements, soil samples SB-01-25, SB-01-30, SB-01-35, SB-01-40 and SB-01-45 (collected at 25, 30, 35, 40 and 45 feet bgs, respectively) were analyzed for BTEX via U. S. Environmental Protection Agency (EPA) Method 8260B. Soil samples SB-01-15, SB-01-20, and SB-01-50 (collected at 15, 20 and 50 feet bgs, respectively) were analyzed for VOC constituents via EPA Method 8260B. The full VOC analysis also includes BTEX constituents. Soil sample SB-01-15 was also analyzed for polynuclear aromatic hydrocarbons (PAHs) via EPA Method 8310. Sample analyses were performed by Precision Analytical Laboratories, Inc., a State-certified analytical laboratory (Arizona Department of Health & Safety License #AZ0610). The analytical laboratory report and chain-of-custody documentation are presented in Appendix B. The analytical report identifies the analytical method, sample media and collection date, extraction date, analyses date, and reporting limits of the laboratory analyses.

5.0 SITE CHARACTERIZATION RESULTS - ADEQ LUST CASE FILE #4697.02

ASA's site characterization activities were initiated at the site on July 18, 2003, and consisted of drilling a single exploratory boring (SB-01) to a maximum depth of 50 feet bgs. The exploratory boring was positioned in the center the reported release area. This location coincided with the north end of the central UST (UST #3). Soil samples were collected at a depth commencing at 15 feet bgs (native soil began at 14 feet bgs) and extending to a depth of 50 feet bgs. The results and findings of ASA's site characterization activities are described in further detail below.

5.1 Soil Sample Analytical Results

ASA's site characterization activities were successful in determining the vertical extent of petroleum hydrocarbon impacted soil beneath the former location of the north end of the central UST (UST #3) in the former UST pit. Results of the analyses of the samples indicated the presence of methyl tert-butyl ether (MTBE, a gasoline additive) in the two most shallow soil samples collected (SB-01-15 and SB-01-20). The results were respectively 0.40 mg/kg and 0.55 mg/kg. Neither of these reportable concentrations exceed the ADEQ residential or non-residential SRLs for MTBE, established at 320 mg/kg and 3,300 mg/kg. No other VOC constituents were detected above their respective laboratory reporting limits in any of the samples submitted for VOC analysis. In addition, no benzene or other BTEX constituents were detected in any of the samples submitted for analysis. PAH analysis of sample SB-01-15 did not indicate the presence of any PAH constituents.

6.0 EXPOSURE CONCERNS

Soil analytical laboratory results obtained during the site characterization indicate that the soil directly beneath the north end of the former centrally located UST (UST #3) was only impacted with remnants of a gasoline release, where only MTBE was discovered in samples collected at 15 and 20 feet bgs, respectively. Neither of these results exceed the ADEQ SRLs for MTBE and, as such, exposure concerns to contaminated soil are minimal. Published groundwater information in the near vicinity of the site indicates groundwater level. The previously reported release has been vertically characterized to a maximum depth of approximately 20 feet bgs. Based upon this information, impact to the groundwater is unlikely.

7.0 CONCLUSIONS AND RECOMMENDATIONS

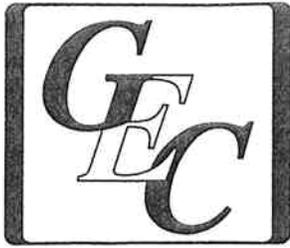
Based on a review of the data compiled from the UST removal documentation and ASA's site characterization activities, the following conclusions and recommendations are made:

7.1 Conclusions

- A release of petroleum hydrocarbons (benzene specifically) was confirmed based upon analytical data from the UST removal activities in June 2003. According to the laboratory documentation, a low benzene result of 0.43 mg/kg was detected in the soil sample collected from approximately 14 feet bgs.
- On July 18, 2003, the UST release (LUST #4697.02) was vertically assessed with the installation of an exploratory soil boring SB-01 at the location of the reportable benzene concentration. Low levels of MTBE were detected in the two shallowest samples. No other ADEQ contaminants of concern were detected above their respective laboratory reporting limits in any of the samples submitted for analysis. ASA concludes that the vertical extent of the release has been fully defined.

7.2 Recommendations

- The petroleum hydrocarbon impact related to the UST pit release does not appear to exceed applicable SRLs, nor does it appear that the release has migrated to or impacted groundwater beneath the site. Based on the available documentation presented in this report, closure of ADEQ's LUST #4697.02 is requested. The UST "Owner/Operator/Volunteer Certification for LUST Case Closure Request" form has been signed by the responsible party and is presented in Appendix C.



Geotechnical and Environmental Consultants, Inc.

2447 West 12th Street, Suite 4 • Tempe, Arizona 85281 • (602) 966-8631

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Kaibab Petroleum Company
P.O. Box 52111
Phoenix, Arizona 85072

July 16, 1997

Attention: Mr. Randy Morris

Subject: Site Characterization Sampling and Testing
UST Reference No. 97-0007463
ADEQ LUST File No. 4697.01
ADEQ Facility ID No. 0-002780
Whiting Station #158
2100 West Ruthrauff Road
Tucson, Arizona

Dear Mr. Morris:

This report presents the results of sampling and testing performed by Geotechnical and Environmental Consultants, Inc. (GEC) at the referenced site. The purpose of our sampling and testing was to obtain preliminary data to aid in evaluating the site for the presence of significant quantities of petroleum hydrocarbons caused by a suspected dispenser release. These services have been provided in accordance with our proposal contract dated May 19, 1997.

We drilled two test borings to depths of approximately 35 to 40 feet in the vicinity of the northwest dispenser area. Sixteen soil samples were collected during the test drilling and selected samples were submitted for laboratory testing.

Based on the results of our sampling and testing, no petroleum hydrocarbons were detected in any samples obtained at the site at levels exceeding the current residential soil remediation standards (SRSS). A completed site characterization report form is presented in Appendix A. Based on the results, we feel the site has been suitably characterized in accordance with typical Arizona Department of Environmental Quality (ADEQ) requirements, and no further investigation or remediation is warranted. We recommend Kaibab submit a copy of this report to ADEQ along with a request for closure of the LUST File.

Project Background

The site is located at the northwest corner of Ruthrauff Road and La Cholla Boulevard in Tucson, Arizona as shown on Figure 1. The street address is 2100 West Ruthrauff Road. The site is located in the southeast quarter of the southeast quarter of the southeast quarter of Section 16 in



Township 13 South, Range 13 East of the Gila and Salt River Base Line and Meridian, in Pima County, Arizona. An aerial photograph of the site vicinity is presented in Figure 2.

At the time of our services, the site was developed with a Whiting/Unocal 76 station that was closed for renovation. The site improvements included a canopy, cashier's booth, restrooms, air/water stations, and landscaping. The site contained four underground storage tanks (USTs) for the storage of unleaded, premium, and unleaded plus gasoline, and diesel fuel. The dispensers, product piping, dispenser islands, and pavement had been removed and the tops of the USTs had been exposed as part of the renovation.

We understand a suspected release source was discovered during renovation work at the site on May 14, 1997. A faulty valve was found in the northwest dispenser when it was removed. The product released was unleaded gasoline, and the amount released is unknown. GEC reported the release by telephone to ADEQ on May 15, 1997. GEC submitted a Release Confirmation and 14-day Report Form to ADEQ on May 29, 1997.

Since ADEQ's State Assurance Fund rules allow for the drilling of a single test boring near the point of the release to determine the vertical extent of petroleum hydrocarbons without pre-approval, a test boring was drilled adjacent to the release source. At the request of Kaibab, this boring was completed as a vapor extraction well in an effort to reduce costs if remediation of the release were required in the future. Kaibab also requested that we drill a second boring approximately 15 feet west of the release point to evaluate the horizontal extent. Soil samples were collected from each test boring and selected samples were analyzed for total petroleum hydrocarbons (TPH), and benzene, toluene, ethylbenzene and, and xylenes (BTEX).

Geologic/Hydrologic Setting

The site lies on relatively flat land in the central portion of the Tucson Basin. The Tucson Basin is located in the Basin and Range Province which includes the southwestern portion of Arizona as well as parts of southern Nevada, California, New Mexico, and northern Mexico. The Basin and Range Province is characterized by elongated mountain ranges trending northwest-southwest and separated by broad alluvial valleys. The mountains in this province consist of tilted blocks of Precambrian, Paleozoic, Mesozoic, and Cenozoic rocks. The mountain blocks are bounded by faults and are usually severely eroded.

The Tucson Basin is an extensive basin containing alluvium varying up to approximately 12,000 feet in thickness. The alluvium, often called "Valley Fill," is highly variable and ranges from dense sand, gravel, and cobble deposits to silts and clays. In many areas, deposits of heavily cemented sandy clay and clayey sand ("caliche") are encountered. Caliche often has the characteristics of soft rock.

The alluvium and rock of the Tucson Basin include three major units that in general form a single, unconfined aquifer. They are the Fort Lowell Formation, the Tinaja Beds, and the Pantano Formation. The Fort Lowell Formation, which generally comprises the upper 300 to 400 feet, provides most of the groundwater that is withdrawn from the basin. It is comprised of interbedded



silts, sands, and gravel. The Tinaja Beds underlie the Fort Lowell Formation and, in many areas, are separated from the Fort Lowell Formation by an aquitard which inhibits flow between the two. The Tinaja Beds are comprised of upper beds, which are sand and gravel, and lower beds, which are gypsiferous clayey silt and mudstones. Beneath the Tinaja Beds, at depths of several thousand feet in the central portion of the basin, is the Pantano Formation. The Pantano Formation is generally a reddish-brown silty sandstone that overlies bedrock.

The Santa Cruz River is the principal drainage feature through the Tucson Basin. It drains northerly and is located approximately 1.5 miles west of the site. It is highly variable in flow, ranging from traces during dry seasons to torrential flows during flood events. The nearest significant drainage feature to the site was Rillito Creek. Rillito Creek, a principal tributary to the Santa Cruz River, is located approximately one-half mile north of the site.

Groundwater data (Ref.1) provided by the City of Tucson Water, Planning, and Technical Services Division indicated that the groundwater elevation in 1992 in the site vicinity was approximately 2,142 feet above mean sea level, as shown on Figure 3. The direction of groundwater flow beneath the site was westerly in 1992 based on the groundwater contours and individual well data shown on Figure 3. A topographic map of the site vicinity is shown on Figure 4. The elevation of the ground surface at the site is approximately 2,266 feet as shown on Figure 4. Therefore, the depth to groundwater at the site was approximately 124 feet in 1992. GEC also contacted the Arizona Department of Water Resources (ADWR) for depth to groundwater data in the site vicinity. ADWR indicated the depth to groundwater in a well near the site was approximately 125 feet in January 1995.

Sampling and Testing

The field exploration and soil sampling was conducted on May 16, 1997. Mr. David E. Foreman, P.E. and Mr. John J. Nolan of GEC supervised the test drilling, logged the soil borings, performed sampling equipment decontamination, and kept the samples in their custody until delivery to the laboratory.

Two test borings were drilled in the vicinity of the suspected dispenser release at the locations shown on Figure 5. The test borings were designated as TB-1 and TB-2. Boring TB-1 was drilled at the approximate location of the release point to evaluate the vertical extent of the release. Boring TB-2 was drilled approximately 15 feet west of TB-1 to evaluate the horizontal extent of the release.

TB-1 was drilled to a depth of approximately 36.5 feet and TB-2 was drilled to a depth of approximately 41.5 feet. TB-1 was located in an area that had been excavated to a depth of about 5 feet as part of the renovation work. Therefore, the ground surface at the location of TB-1 was about 5 feet below the ground surface level of the rest of the site. The top of TB-1 was approximately five feet below the natural grade at the location of TB-2.



All test borings were drilled with a CME-75 drill rig and OSHA-trained crew supplied by Enviro International, Inc. of Tucson, Arizona. The borings were advanced using 7-inch OD hollow-stem augers. Soil samples were obtained using clean brass-sleeve-lined samplers (2.0-inch ID California split-spoon) driven through the end of the augers. Enviro International steam-cleaned the hollow-stem augers and other downhole equipment at its yard prior to arriving on site. Samplers were decontaminated prior to obtaining each sample by washing with Alconox detergent and water, double rinsing with deionized water, rinsing with methanol, and allowing to air dry.

All drilling and sampling operations were monitored using a portable photoionization detector (PID-Thermo Environmental Instruments, Inc. Model 580B, 10.0 eV lamp) to aid in determining which samples to test, and to aid in determining if higher levels of personnel protection (beyond OSHA Level D) were required for the project. The PID detects volatile organic compounds (VOCs) in air, including those associated with gasoline and diesel fuel, with detection limits on the order of 0.2 units (approximately 0.2 parts per million). Background PID readings at the site ranged up to 15 units due to the ongoing renovation work. Relatively low PID readings were obtained at both boring locations as shown on the boring logs. Higher levels of personnel protection were not required during the test drilling.

Soil samples were obtained every five feet throughout each test boring starting at a depth of five feet. An additional soil sample was obtained at a depth of three feet in test boring TB-1. The samples were obtained by driving a split-spoon sampler 18 inches through the end of the hollow stem augers. The split-spoon sampler was fitted with two 2-inch-diameter by 3-inch-long brass sleeves and two 6-inch-long brass sleeves.

The bottom 3-inch sleeve was removed from the sampler, and each end of the sleeve was sealed with a sheet of Teflon™ and a sheet of aluminum foil followed by a plastic end cap. The plastic end caps were secured by wrapping the cap and sleeve with Teflon™ tape. Each sleeve was labeled with the sample identification number, the initials of the person who obtained the sample, the date, the time, and the sample locations. Each sleeve was sealed in a manner which will indicate tampering by placing a gummed seal around the wrap of Teflon™ tape. All of the samples were stored in a cooler with ice, and kept in the possession of GEC personnel at all times until they were delivered to the laboratory under-chain-of-custody documentation. A portion of soil from the second 3-inch sleeve from each sample was monitored with the PID.

TB-1 was completed as a vapor extraction well for possible use if remediation was required in the future. The well was constructed of 2-inch diameter PVC and extended to a depth of 35 feet below the natural site grade. Thirty feet of 0.020-inch slot well screen was placed between depths of 5 and 35 feet. A sand pack using #8-16 size silica sand was placed around the well screen. A 1-foot seal of 1/4-inch bentonite pellets was placed on top of the sand pack. The remainder of the annulus between the well and the wall of the test boring was backfilled with drill cuttings. TB-2 was abandoned by backfilling the drill cuttings back into the test boring.



Soil Conditions

The subsurface soil encountered at each of the test boring locations was generally a stratified dark brown clayey sand to sandy clay deposit. This deposit was medium dense to dense, exhibited low plasticity, and contained coarse gravel and cobbles from approximately 3 to 7 feet in TB-1 and approximately 6 to 15.5 feet in TB-2.

A light reddish brown silty sand deposit was encountered at approximately 35 feet in TB-1 and between 20 and 25 feet in TB-2. This deposit was medium dense to very dense, nonplastic, and predominately fine to medium grained. Soil moisture contents were described as damp. Groundwater was not encountered in any of the test borings during test drilling. Boring logs are presented in Appendix B.

Description of the Laboratory Testing

Six samples from the test borings were analyzed for TPH using ADHS Test Method 418.1AZ. Ten samples were analyzed for BTEX according to EPA Test Method 8020. Turner Laboratories, Inc. (Turner-Tucson, Arizona, ADHS license #AZ0066) conducted the laboratory analyses.

Laboratory Test Results

The laboratory report and chain-of-custody documentation are presented in Appendix C. The laboratory report indicates the analytical methods, sample collection dates, extraction dates, analyses dates, and detection limits of the laboratory test. A summary of the analytical laboratory results is presented below:

Sample ID/Depth (ft)	PID Reading (units)	Method 418.1AZ TPH (mg/kg)	EPA Method 8020 (mg/kg)			
			B	T	E	X
TB-1-3	15	<20	<0.05	<0.1	<0.1	<0.1
TB-1-5	40	--	<0.05	<0.1	<0.1	<0.1
TB-1-10	65	<20	0.22	<0.1	<0.1	0.2
TB-1-15	14	--	<0.05	<0.1	<0.1	<0.1
TB-1-20	13	--	<0.05	<0.1	<0.1	<0.1
TB-1-25	15	--	<0.05	<0.1	<0.1	0.13
TB-1-30	16	<20	<0.05	<0.1	<0.1	<0.1



Sample ID/Depth (ft)	PID Reading (units)	Method 418.1AZ TPH (mg/kg)	EPA Method 8020 (mg/kg)			
			B	T	E	X
TB-1-35	15	<20	<0.05	<0.1	<0.1	0.1
TB-2-20	2	<20	<0.05	<0.1	<0.1	<0.1
TB-2-40	1	<20	<0.05	<0.1	<0.1	<0.1
Current Residential SRSs (mg/kg)		7,000	47	23,000	12,000	230,000

- Notes: 1. -- = The sample was not analyzed by this method.
2. The numbers presented in bold represent analytical laboratory results equal to or above laboratory detection limits.

Discussion

ADEQ recently promulgated interim soil remediation rules. These rules present predetermined soil remediation standards (SRSs) based on residential and non-residential health based guidance levels (HBGLs). These SRSs are typically used for evaluating soil contamination, unless the contamination is at or near the groundwater level. We also understand that ADEQ typically requires that the vertical extent of a release be defined to a level at/or below the minimum required detection limits of the particular analysis.

The results of the drilling, sampling, and testing indicate the extent of petroleum hydrocarbons beneath the northwest dispenser was limited to a depth of about 35 feet. No TPH were detected in any of the soil samples analyzed and only three samples from TB-1 contained relatively low concentrations of benzene and/or xylenes. The deepest sample from TB-1 was obtained at a depth of 35 feet and it contained only xylenes at a concentration of 0.1 mg/kg, which was equal to the detection limit of the test. All concentrations detected were well below the respective residential SRSs. Relatively low PID readings were observed in the soil samples; however, background PID readings ranging up to 15 units were recorded due to the ongoing renovation work which included the removal of product piping and exposing the top of the USTs. The laboratory analysis did not indicate the presence of significant concentrations of VOCs in the soil samples which supports our belief that the PID readings were background readings due to the renovation work.

Groundwater was not encountered at either boring location and is reportedly at a depth of about 125 feet in the site vicinity. Based on this data, the vertical extent of the release is separated from groundwater by a distance of approximately 90 feet.

Based on the data presented in this report, we believe the vertical extent of petroleum hydrocarbons, has been defined in accordance with ADEQ requirements and no further investigation or remediation is warranted. We recommend Kaibab submit a copy of the report to ADEQ along with a request for closure of the LUST File.



Limitations

This report was prepared for the sole use of Kaibab Petroleum Company, exclusively, and is subject to the terms presented in our contract. No other person may rely on this report without the express written permission of Geotechnical and Environmental Consultants, Inc. Geotechnical and Environmental Consultants, Inc. is not a law firm, and therefore makes no representations regarding any potential liability of any person for site conditions. Results of sampling and testing presented in this report represent site conditions only at the designated locations and times specified. Additional information which was not readily available to Geotechnical and Environmental Consultants, Inc. at the time of this report may result in modification of this report.

We appreciate the opportunity to perform this work. If there are any questions or we can be of further assistance, please do not hesitate to call.

Sincerely,

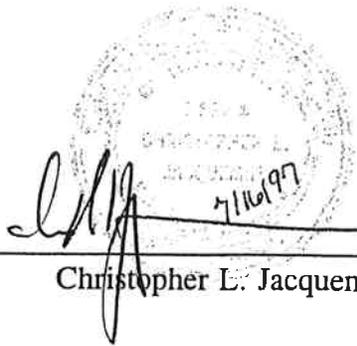
**GEOTECHNICAL AND ENVIRONMENTAL
CONSULTANTS, INC.**



By: David E. Foreman
David E. Foreman, P.E.



And: Jeffrey W. Owens
Jeffrey W. Owens, P.E.



Reviewed By: Christopher L. Jacquemin
Christopher L. Jacquemin, P.E.

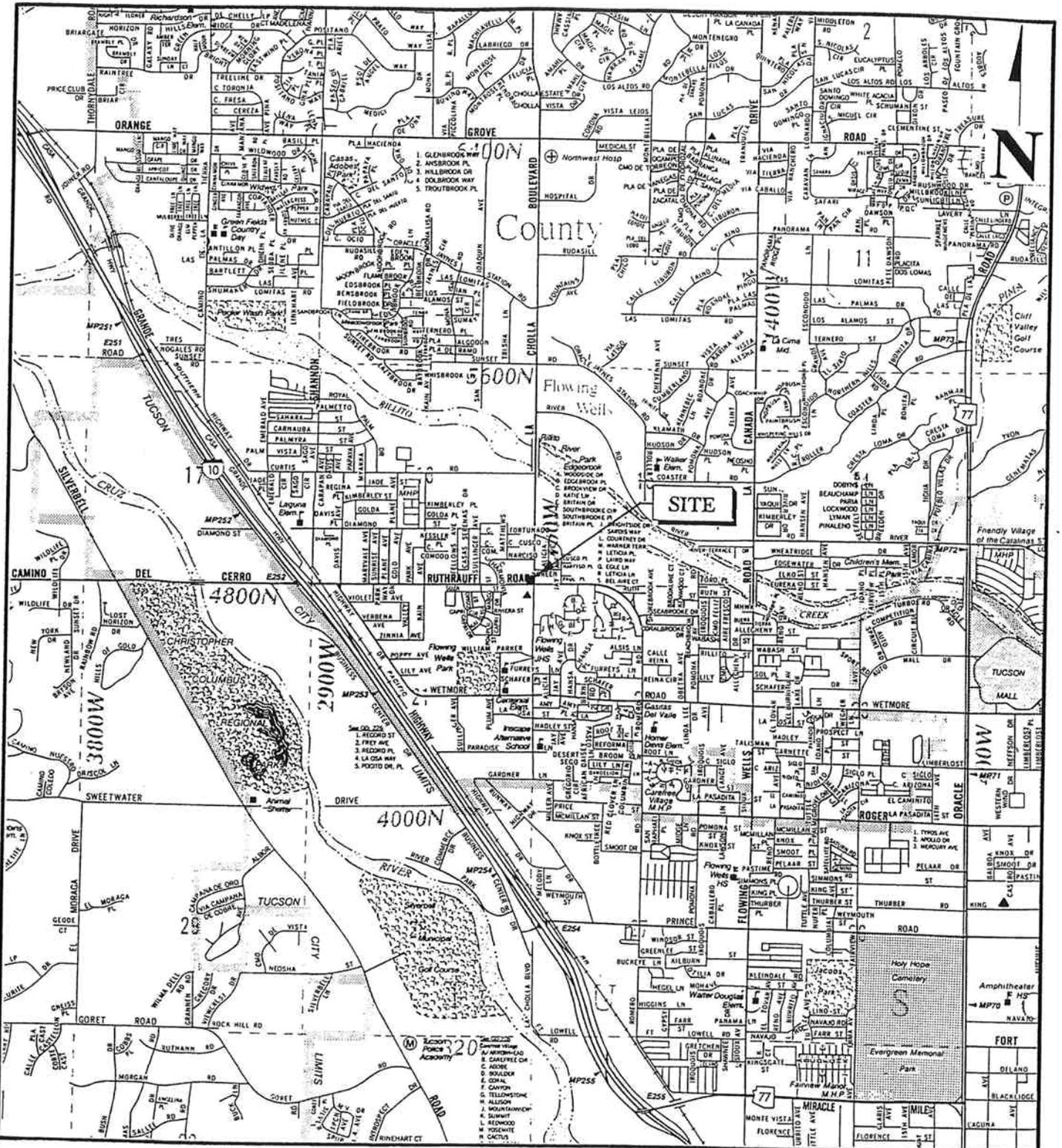
Copies to: Addressee (2)
ADEQ (1)



References

1. *Annual Static Water Level Basic Data Report, Tucson Basin and Avra Valley, Pima County, Arizona--1992*; City of Tucson, Tucson Water, Planning and Technical Services Division, Plate 2, Prepared Under The Direction Of R. Bruce Johnson, Chief Hydrologist, Hydrology Section, August 1994.





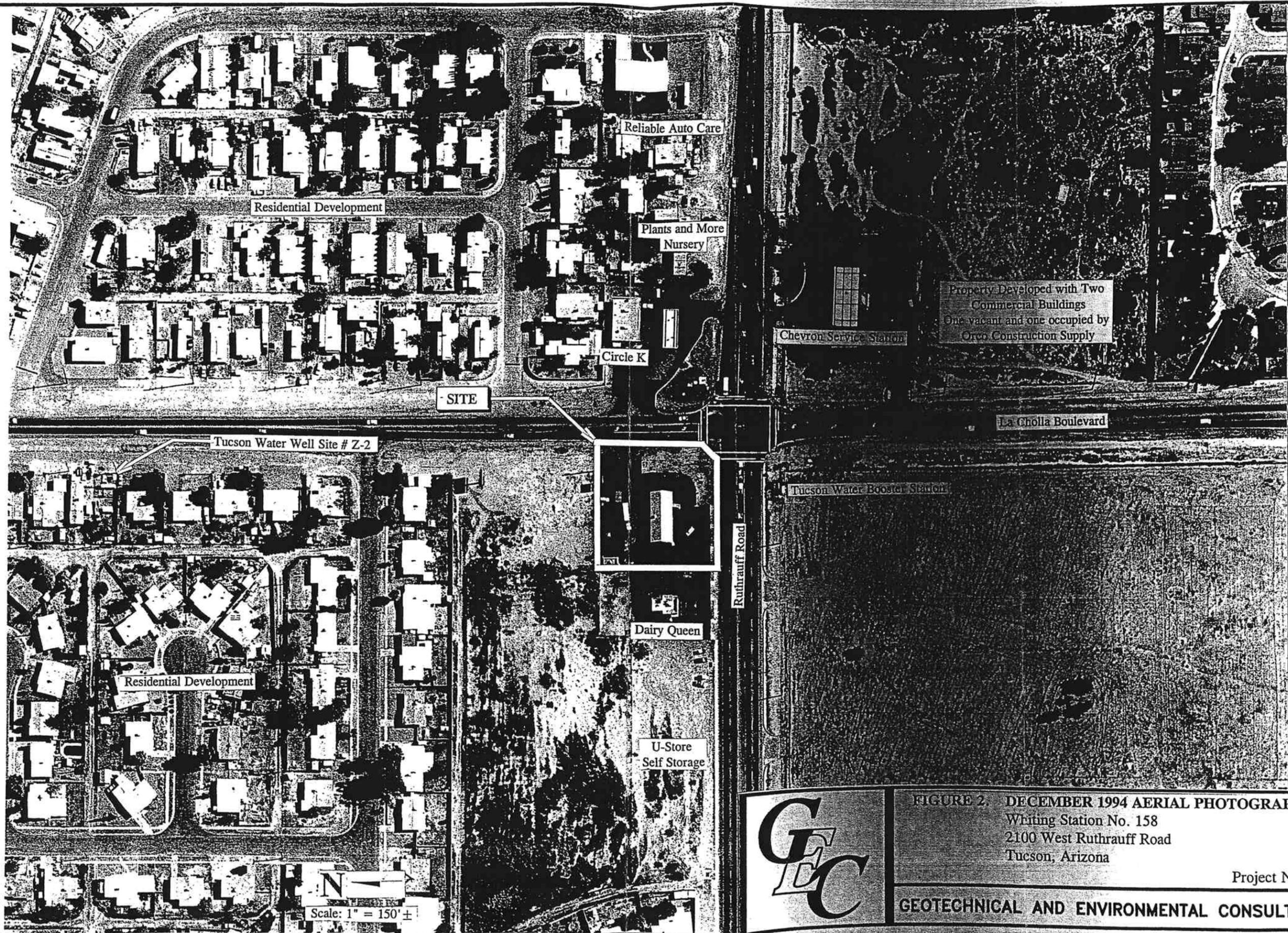
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FIGURE 1. SITE LOCATION MAP
 Whiting Station No. 158
 2100 West Ruthrauff Road
 Tucson, Arizona

Project No. 97-0068

Geotechnical and Environmental Consultants, Inc.





Residential Development

Reliable Auto Care

Plants and More
Nursery

Circle K

SITE

Tucson Water Well Site # Z-2

Residential Development

Dairy Queen

U-Store
Self Storage

Chevron Service Station

Property Developed with Two
Commercial Buildings
One vacant and one occupied by
Orco Construction Supply

La Cholla Boulevard

Tucson Water Booster Station

Ruthrauff Road

Scale: 1" = 150' ±

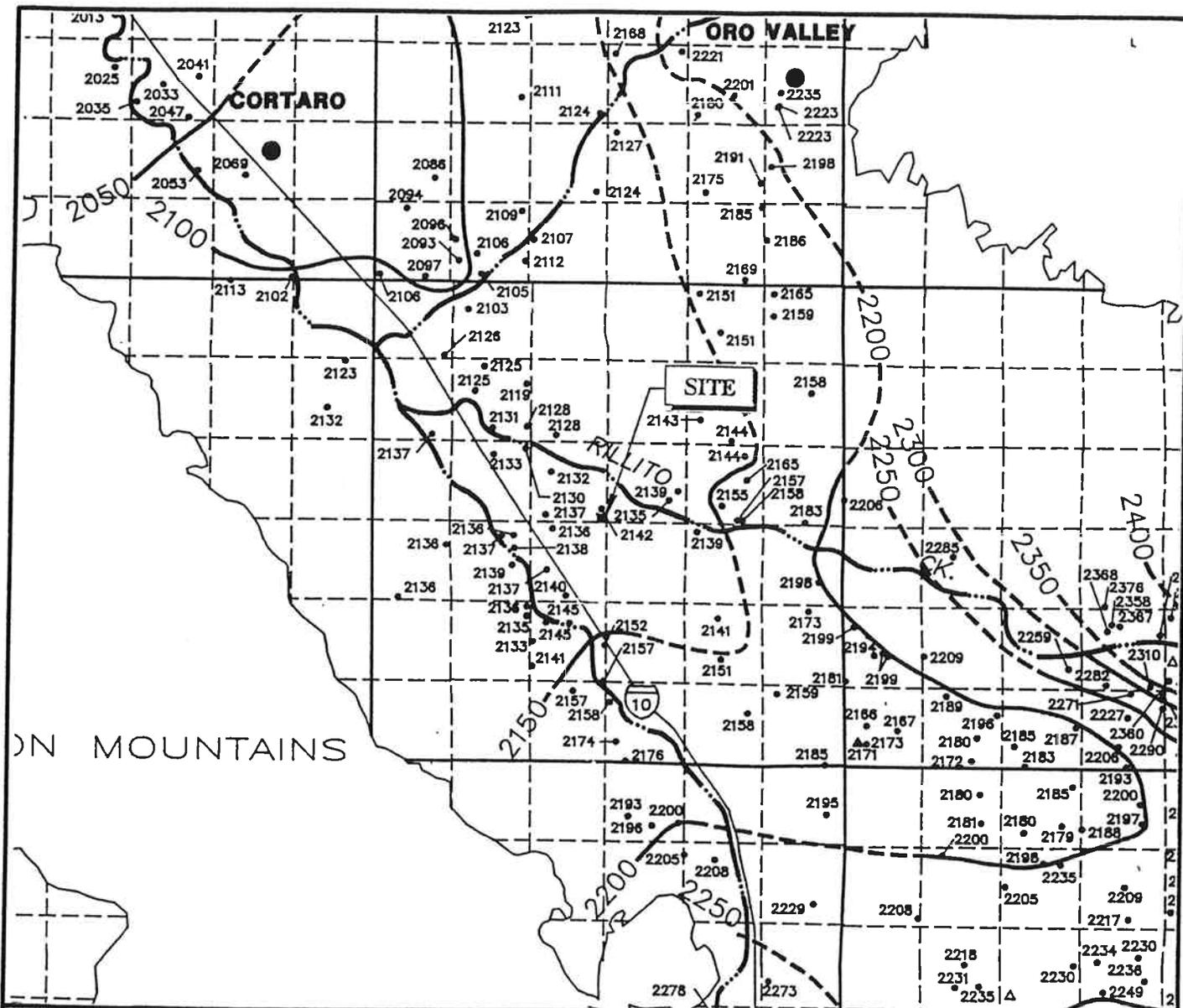


FIGURE 2. DECEMBER 1994 AERIAL PHOTOGRAPH

Writing Station No. 158
2100 West Ruthrauff Road
Tucson, Arizona

Project No. 97-0068

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.



LEGEND (Tucson Basin and Avra Valley Water Table Elevation Map Plate 2)

- 2915 ELEVATION OF WATER TABLE IN FEET ABOVE MEAN SEA LEVEL
- LOCATION OF WELL
- LOCATION OF WELL WHERE WATER LEVEL DOES NOT REPRESENT REGIONAL AQUIFER SYSTEM.
- ▲ LOCATION OF SUBSIDENCE MONITOR WELL
- Δ LOCATION OF PIEZOMETER NEST
- WATER TABLE ELEVATION CONTOUR 50 FOOT INTERVAL. DASHED WHERE INFERRED.
- ZONE OF SUSPECTED PERCHED GROUND WATER



Scale: 1" = 2 Miles

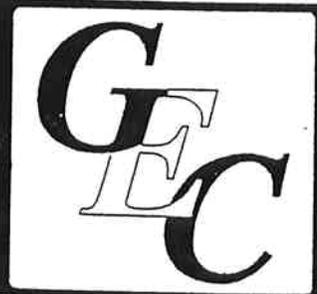
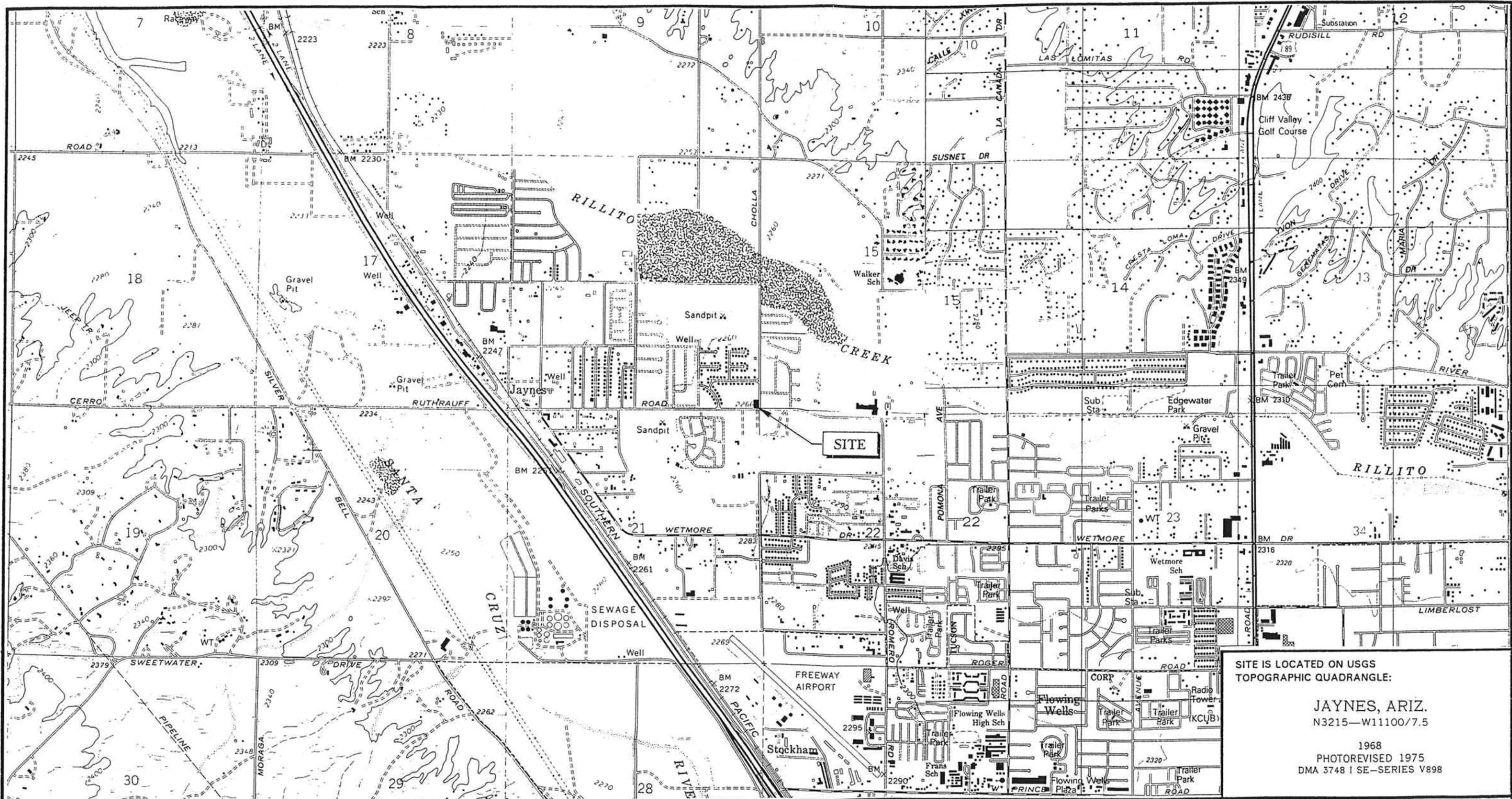


FIGURE 3. GROUNDWATER CONTOUR MAP
 Whiting Station No. 158
 2100 West Ruthrauff Road
 Tucson, Arizona

Project No. 97-0068

Geotechnical and Environmental Consultants, Inc.

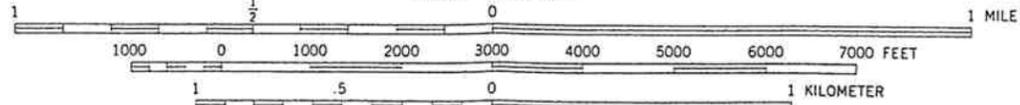


SITE IS LOCATED ON USGS
TOPOGRAPHIC QUADRANGLE:

JAYNES, ARIZ.
 N3215—W11100/7.5

 1968
 PHOTOREVISED 1975
 DMA 3748 I SE—SERIES V898

SCALE 1 INCH EQUALS 2000 FEET
 SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 10-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



FIGURE 4. SITE VICINITY TOPOGRAPHIC MAP
 Whiting Station No. 158
 2100 West Ruthrauff Road
 Tucson, Arizona

Project No. 97-0068

Geotechnical and Environmental Consultants, Inc.

Legend

⊕ Approximate Test Boring Location



Scale: 1" = 30'

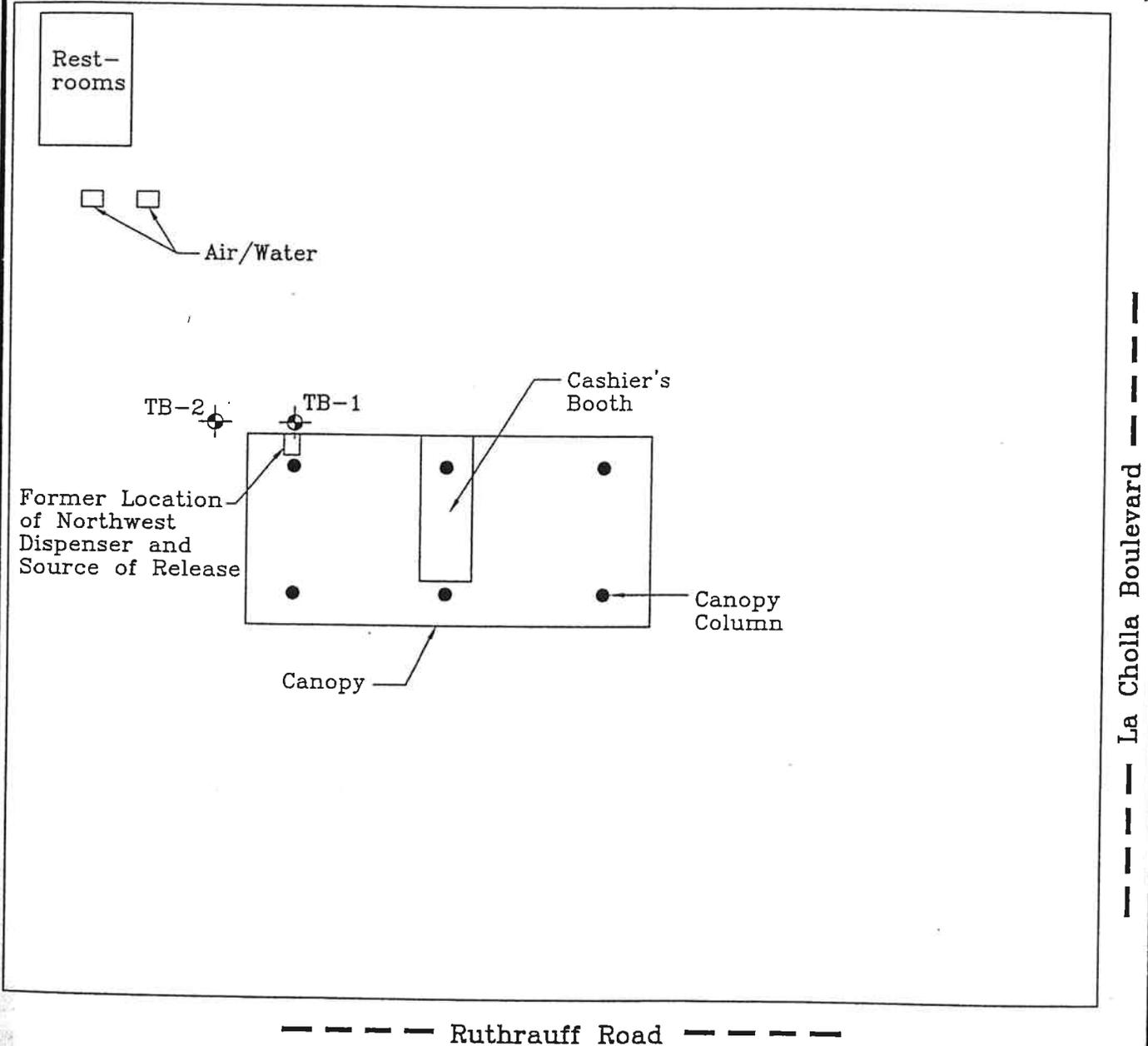


FIGURE 5. SITE PLAN

Whiting Station No. 158
2100 West Ruthrauff Road
Tucson, Arizona

Project No. 97-0068



GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.

SITE CHARACTERIZATION REPORT

Circle K Store No. 00592
2080 West Ruthrauff Road
Tucson, Arizona 85705

- c) **Property Owner:** Cadence Corporation
6855 North Los Leones Drive
Tucson, Arizona 85718
Phone: NA Fax: NA

- d) **Facility Contact:** Nathan Russell, Project Manager, Shaw E & I,
Approved service provider of ConocoPhillips-Risk
Management & Remediation
ConocoPhillips Company
1230 West Washington Street, Suite 212
Tempe, Arizona 85281
Phone: (602) 452-2511 Fax: (602) 452-2509

3.0 CONSULTANT INFORMATION

Company Name: ATC Associates Inc. (ATC)
Contact: Robert Taylor
Title: Project Manager
Address: 9185 South Farmer Avenue, Suite 105
Tempe, Arizona 85284
Phone: (480) 894-2056 Fax: (480) 894-2497

4.0 SITE HISTORY, LITHOLOGY AND AREA HYDROGEOLOGY

4.1 Site Background

Circle K Store No. 00592 (the site) is located on the northeast corner of the intersection of West Ruthrauff Road and North La Cholla Boulevard in Tucson, Arizona. The general site location and layout are illustrated on Figure 1, Site Vicinity Map and Figure 2, Site Map, respectively. The site is currently operated by Circle K Stores, Inc. (Circle K) as a convenience store with retail gasoline sales.

According to ConocoPhillips Company (ConocoPhillips) files associated with Circle K Store No. 00592, three fiberglass reinforced plastic 10,000-gallon underground storage tanks (USTs) containing regular unleaded, unleaded plus and premium unleaded gasoline, four product dispensers and associated lateral product piping were installed on the property in 1987.

The UST system was removed from the site in July 1995. Subsequent to the UST system removal, three 10,000-gallon, single-walled, fiberglass-reinforced plastic USTs, two product dispenser islands and associated double-walled fiberglass lateral product piping were installed on the property. Spill and overfill protection devices as well as a vapor recovery system were also installed at the site in July 1995.

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According to the ADEQ LUST Database and information obtained through a review of ConocoPhillips files for the site, Circle K Store No. 00592 has not had any prior LUST file numbers assigned to the site (Section 1.0[b]).

On June 8, 2003, ConocoPhillips Company was informed of a possible release from the 10,000-gallon premium unleaded UST system at the referenced site. ADEQ was notified of a possible release from the premium unleaded tank on June 9, 2003. Repairs to the UST system were conducted by Xerxes, the manufacturer of the tank, during the week of June 25, 2003. Following repairs to the UST, tank testing activities were conducted by Westest Inc. of Phoenix, Arizona, on June 27 and 30, 2003. Both tests indicated that the tank tested tight.

On July 11, 2003, a representative from ATC met with personnel from Yellow Jacket Drilling (YJD) of Phoenix, Arizona, to conduct a subsurface investigation near the premium unleaded UST. Two soil borings (UST-N-17' and UST-S-17') were drilled, one at each end of the premium unleaded UST to a total depth of approximately 17 feet below ground surface (bgs). The borings were placed as close to each end of the tank as possible. One soil sample was collected from each boring at approximately 17 feet bgs, the estimated bottom of the UST. Following drilling, the borings were backfilled with soil cuttings and capped with concrete to match the existing grade.

The collected soil samples were sent under chain of custody documentation to Arizona Department of Health Services (ADHS) certified Del Mar Analytical Laboratories (Del Mar) in Phoenix, Arizona for analysis. Both samples were analyzed for C₁₀ to C₃₂ range extractable fuel hydrocarbons (HC) and volatile fuel hydrocarbons using ADHS Method 8015AZR1 and for benzene, toluene, ethylbenzene and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) Method 8021B. Laboratory analytical results indicated that soil sample UST-S-17' did not contain constituent concentrations above their respective method reporting limit (MRL) with the exception of benzene (0.17 milligrams per kilogram [mg/kg]). Laboratory analytical results indicate that soil sample UST-N-17' did not contain concentrations of constituents above their respective MRL. The residential soil remediation level (rSRL) established by ADEQ for benzene is 0.62 mg/kg.

On February 19 and 20, 2004, a due diligence drilling and soil sampling investigation was conducted by Blaes Environmental Management, Inc. (Blaes; 2004) as part of the ConocoPhillips transfer in ownership of Circle K to Alimentation Couche-Tard Inc. (ACTI). This investigation included four hollow-stem auger drilled borings (T1 through T4) advanced at various locations adjacent to the UST basin and two angled hand auger borings (D1 and D2) advanced adjacent to the dispensers (Figure 2). Groundwater was not encountered in any of the borings, which were advanced to a reported maximum depth of 36.5 bgs. Soil samples were collected from each boring at approximate five-foot vertical intervals. Four selected soil samples were analyzed for volatile

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Of the soil samples selected for analysis, one soil sample (2700592-T3-30) was collected at approximately 30 feet bgs from boring T3 (Figure 2). Laboratory analytical data indicated detectable concentrations of benzene (0.17 mg/kg) and toluene (0.34 mg/kg), in soil sample 2700592-T3-30. Select soil analytical data from the Blaes due diligence assessment are included in Table 1, Summary of Soil Sample Analytical Data. Based on the laboratory analytical results reported by Blaes (2004), ADEQ assigned a Suspect Release to the area in the vicinity of soil boring T3 (ADEQ, 2004a).

In response to the Suspect Release assigned by ADEQ, ATC (2004) advanced one soil boring on May 26, 2004, in the area of boring T3 (Figure 2). Soil samples collected at 15 and 25 feet bgs were analyzed for VOCs by EPA Method 8260B and HC by ADHS Method 8015AZR1. Laboratory analysis indicated concentrations of benzene (21 mg/kg) at 15 feet bgs exceeded its ADEQ established rSRL. Soil analytical data from the Suspect Release investigation is included in Table 1.

As a result of the Suspect Release investigation, ADEQ (2004b) assigned LUST File No. 5406.01 to the gasoline UST(s). The release point identified by LUST File No. 5406.01 (Figure 2) is the focus of this site characterization report (SCR).

4.2 Previous Groundwater Investigations

According to historical ConocoPhillips files and available ADEQ data associated with Circle K Store No. 00592, there is no record of any groundwater investigations having been performed at the site.

4.3 Previous Remedial Activities

According to historical ConocoPhillips files and available ADEQ data associated with Circle K Store No. 00592, there is no record of any remedial activities having been performed at the site.

4.4 Site and Area Lithology

Soil types encountered during ATC's characterization activities generally consisted of sand, silty sand and gravel and gravelly sand from the surface to approximately 50 feet bgs, the maximum depth of exploration. A horizon of silty clay was encountered in soil boring SB-1/VE-1 at a depth of approximately 30 to 35 feet bgs. Detailed information regarding subsurface lithology is provided in the boring logs included in Appendix A.

4.5 LUST Facilities

According to the ADEQ LUST Database, there is one LUST facility with two LUST file numbers located within a one-quarter mile radius of the subject site. According to the database, petroleum hydrocarbon impacts were limited to the soil media and each LUST file number has been closed.

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Information regarding the identified LUST site is summarized in Table 2, ADEQ LUST Facilities within a One-Quarter Mile Radius.

4.6 Area Hydrology and Hydrogeology

The site is situated at an elevation of approximately 2,266 feet above mean sea level according to the Jaynes, Arizona, United States Geological Survey (USGS) 1:24,000 topographic map dated 1992. Rillito Creek is located approximately 2,000 feet to the northeast of the site.

Review of an April 5, 2005, search of the Arizona Department of Water Resources (ADWR) Wells-55 Registry, indicates seven registered wells are possibly located within a one-half mile radius of the subject site (Figure 1). The depth to groundwater is reported in six of these wells. The reported water levels (no dates specified) range from 96 to 325 feet bgs. Select information pertaining to the wells is presented in Table 3, ADWR Registered Wells within a One-Half Mile Radius.

4.7 Sensitive Receptors

ATC conducted a site walk survey in order to identify potentially sensitive receptors located within approximately 500 feet of the subject site. During this site walk, no potentially sensitive receptors were identified. Single-family residential homes are located north adjacent to the site, and residences northwest and south of the site. Although located in close proximity to the site, based on the findings of this investigation (Section 6.0), ATC does not consider these residences potential receptors for LUST File No. 5406.01.

No hospitals or nursing homes were observed within a one-half mile radius of the site.

5.0 SCOPE OF WORK

In response to the aforementioned LUST file assignment by ADEQ, ATC, on behalf of ConocoPhillips, initiated site characterization activities in March 2005. The objective of the assessment was to define the on-site extent of petroleum hydrocarbon impact to soil associated with ADEQ LUST File No. 5406.01 (Figure 2). This assessment was performed in general accordance with the ADEQ (2002) Release Reporting and Corrective Action Guidance and in accordance with the ADEQ (2004b) request for a SCR. The scope of work included: preparation of a Health and Safety Plan (HASP), permitting, utility clearance, drilling, soil sampling, soil vapor monitor well installation, organic vapor monitoring, data evaluation and report preparation. Each activity is described below.

5.1 Health and Safety Plan

ATC's primary mechanism to ensure employee, environmental and public safety at the project site is the HASP. Prior to conducting field activities ATC personnel prepared, approved and implemented a site- and task-specific HASP for this project. All individuals working under the

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purview of ATC were required to read and sign the HASP to acknowledge their understanding of the information contained in it. A copy of the HASP is included in Appendix B.

5.2 Underground Utility Clearance

Prior to conducting intrusive drilling activities, ATC contacted Arizona Blue Stake and contracted Affordable Locating, a private utility locator, to locate utilities in the vicinity of the proposed boring locations. The boreholes were excavated using an air knife to a depth of approximately five to eight feet bgs and inspected prior to drilling to avoid contact with underground utilities that had not been previously identified.

5.3 Drilling and Vapor Well Installation

On March 15 and 16, 2005, characterization activities were initiated with the advancement of soil boring/vapor extraction well SB-1/VE-1 situated in the vicinity of previous soil boring SB-1 drilled by ATC during the May 2004 Suspect Release investigation. Soil borings SB-2, SB-3 and SB-4 were advanced in the vicinity of the UST basin (Figure 2). Drilling activities were conducted by YJD using a truck-mounted hollow-stem auger drill rig.

Soil samples were collected from boring SB-1 at five-foot vertical intervals beginning at 15 feet bgs and continuing to the terminus of the boring. Soil samples were collected from boring SB-2 beginning at five feet bgs, and then collected at 10-foot vertical intervals beginning at 10 feet bgs. Soil samples were collected from borings SB-3 and SB-4 at 10-foot vertical intervals beginning at 10 feet bgs and continuing to the terminus of the borings. All four borings were drilled and sampled in general accordance with ATC's Arizona Standard Operating Procedure – Hollow-Stem Auger Drilling and Soil Sampling (Appendix C). The soil samples were delivered utilizing chain of custody documentation to an ADHS-certified on-site mobile laboratory for extraction and analysis and/or for delivery to the fixed-base laboratory for analysis.

The collected soil samples were submitted to an on-site mobile laboratory for BTEX and MTBE (screening) analyses utilizing EPA Method 8021B and HC analysis using ADHS Method 8015AZ. The soil samples collected at five, 25 and 40 feet bgs from boring B-1 were also submitted to a fixed-base laboratory for analysis of VOC and PAH utilizing EPA Methods 8260B and 8310, respectively.

Vapor extraction well VE-1, constructed of two-inch diameter Schedule 40 PVC casing, with 0.020-inch machine slots extending from approximately 15 to 30 feet bgs, was installed in boring SB-1. Vapor well VE-1 construction details are included on the edited boring log in Appendix A. The vapor well was constructed in general accordance with ATC's Arizona Standard Operating Procedure – Vapor Monitoring Well Installation (Appendix C).

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5.4 Organic Vapor Monitoring

To obtain data regarding petroleum hydrocarbon impacted soil and for health and safety air monitoring, representative samples were collected from all borings and field screened for volatile organic vapors utilizing a photoionization detector (PID) in general accordance with ATC's Arizona Standard Operating Procedure - Field Soil Vapor Monitoring (Appendix C).

5.5 Laboratory Analysis and Results

Analytical services for the March 2005 site assessment conducted by ATC included mobile and fixed-base laboratory support provided by Transwest Geochem, Inc. (TGI), an ADHS-certified laboratory. Mobile laboratory analyses included BTEX and MTBE (screening) utilizing EPA Method 8021B and HC utilizing ADHS Method 8015AZ. Fixed-base laboratory analyses included VOC utilizing EPA Method 8260B and PAH utilizing EPA Method 8310.

Soil laboratory analytical data was compared to the Tier I Corrective Action Standards established by ADEQ (2002). Based on the fact that groundwater was not encountered, (maximum boring depth of 50 bgs), ATC determined that the applicable Tier I Corrective Action Standards for soil are the rSRLs.

Benzene was detected at concentrations greater than its ADEQ established rSRL in the soil samples collected at 15 feet bgs (23 mg/kg), 20 feet bgs (23 mg/kg), 25 feet bgs (110 mg/kg), 30 feet bgs (4.2 mg/kg) and 35 feet bgs (3.7 mg/kg) from boring SB-1/VE-1. No other VOC or PAH constituents were detected at concentrations in excess of their respective rSRL. HC was not detected in excess of its established rSRL.

Soil laboratory analytical results are presented in Table 1. Laboratory analytical reports and chain of custody documents are included in Appendix D.

5.6 Data Evaluation

Holding times were met for all soil and groundwater samples submitted for analysis. Various data flags were noted in the laboratory analytical reports associated with this investigation and can be found in the Case Narrative section of each report (Appendix D).

It is ATC's opinion that the laboratory data is valid for the purposes of this investigation.

5.7 Investigation Derived Waste

Cuttings generated during characterization activities were contained in 11 labeled Department of Transportation (DOT) approved, 17H 55-gallon drum and stored temporarily at the site. Once profiling was complete, a waste profile number was issued by Allied Waste (Profile No. 755Y57574). On June 13, 2005, Red J Environmental Corporation transported the drums from the

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site to the Southwest Regional Landfill in Buckeye, Arizona for disposal (Ticket No. 088919). Disposal documentation is presented in Appendix E.

6.0 FINDINGS

Based on field observations and laboratory analysis of soil samples collected by ATC, the findings of the assessment at Circle K Store No. 00592 are as follows:

- Laboratory analyses of soil samples collected from boring SB-1 indicated that benzene was present at concentrations in excess of its ADEQ established rSRL from 15 to less than approximately 40 feet bgs in the vicinity of boring SB-1/VE-1 (Table 1).
- Laboratory analysis of all remaining soil samples from SB-1 (40 to 50 feet bgs), and SB-2 through SB-4 did not indicate any exceedances of the applicable Tier I Correction Action Standards (Table 1)

7.0 CONCLUSIONS

Based on the findings presented in the preceding section, ATC offers the following:

- The vertical extent of petroleum hydrocarbon constituent impacted soil related to LUST File No. 5406.01 has been adequately characterized.
- The lateral extent of petroleum hydrocarbon constituent impacted soil related to LUST File No. 5406.01 has been characterized by borings SB-2, SB-3 and SB-4.

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8.0 REFERENCES

- Arizona Department of Environmental Quality (ADEQ), 2004a, Request for Submission of the Release Status Report (14-Day Report) and Release Confirmation Report (90-day report). March 26.
- ADEQ, 2004b, Notification of Case File Number Information and Request for Submission of the Release Status Report (14-day Report) and Site Characterization Report. July 6.
- ADEQ, 2002. Release Reporting and Corrective Action Guidance. August 20.
- Blaes Environmental Management, Inc., 2004. Environmental Due Diligence Site Assessment Report, Circle K Store #2700592, 2080 West Ruthrauff Road, Tucson, Arizona. March 18.
- ATC Associates Inc., 2004. 90-Day Release Confirmation Report, Circle K Store #2700592, 2080 West Ruthrauff Road, Tucson, Arizona. July 2.

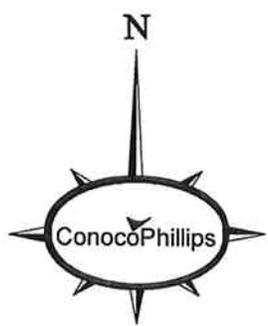
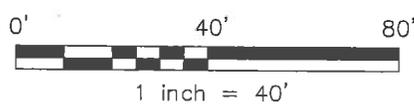
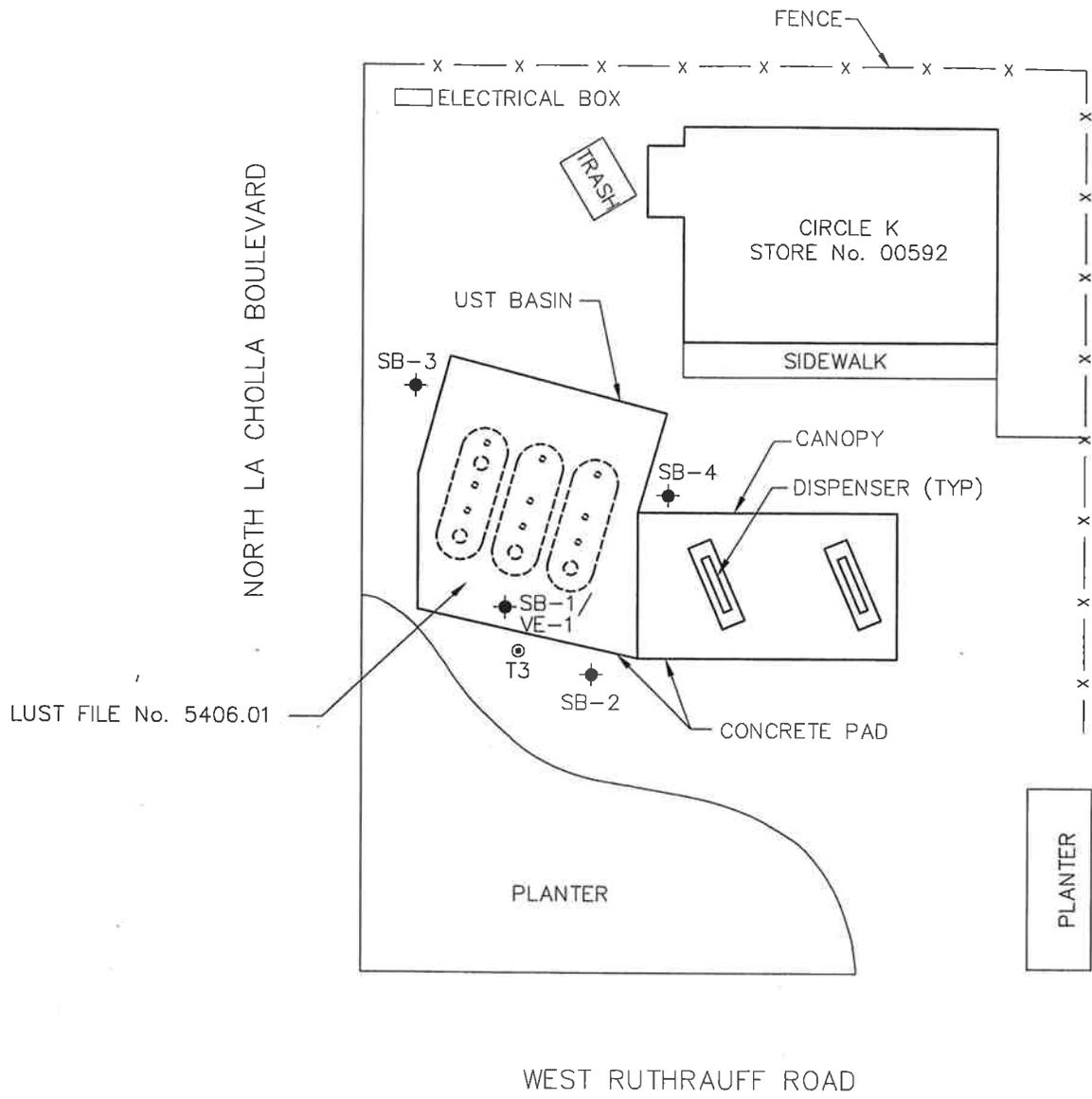
9.0 LIMITATIONS AND CERTIFICATION

The interpretation of data and the findings and conclusions presented in this SCR are based on professional opinions and experience with regard to the subject matter. These findings and conclusions have been developed in accordance with currently accepted geological and engineering standards and practices applicable to this location. No warranty or guarantee, whether expressed or implied, is made with respect to the data or reported findings or conclusions, which are based solely upon the reported site conditions in existence at the time of the referenced field investigations.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information.



Girard E. Morgan
Arizona Registered Geologist No. 32827
Principal Geologist
ATC Associates Inc.



LEGEND

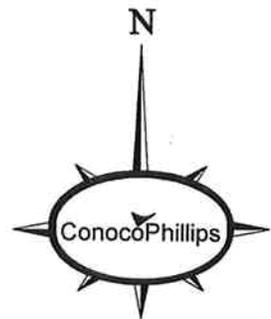
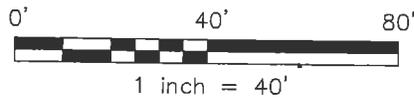
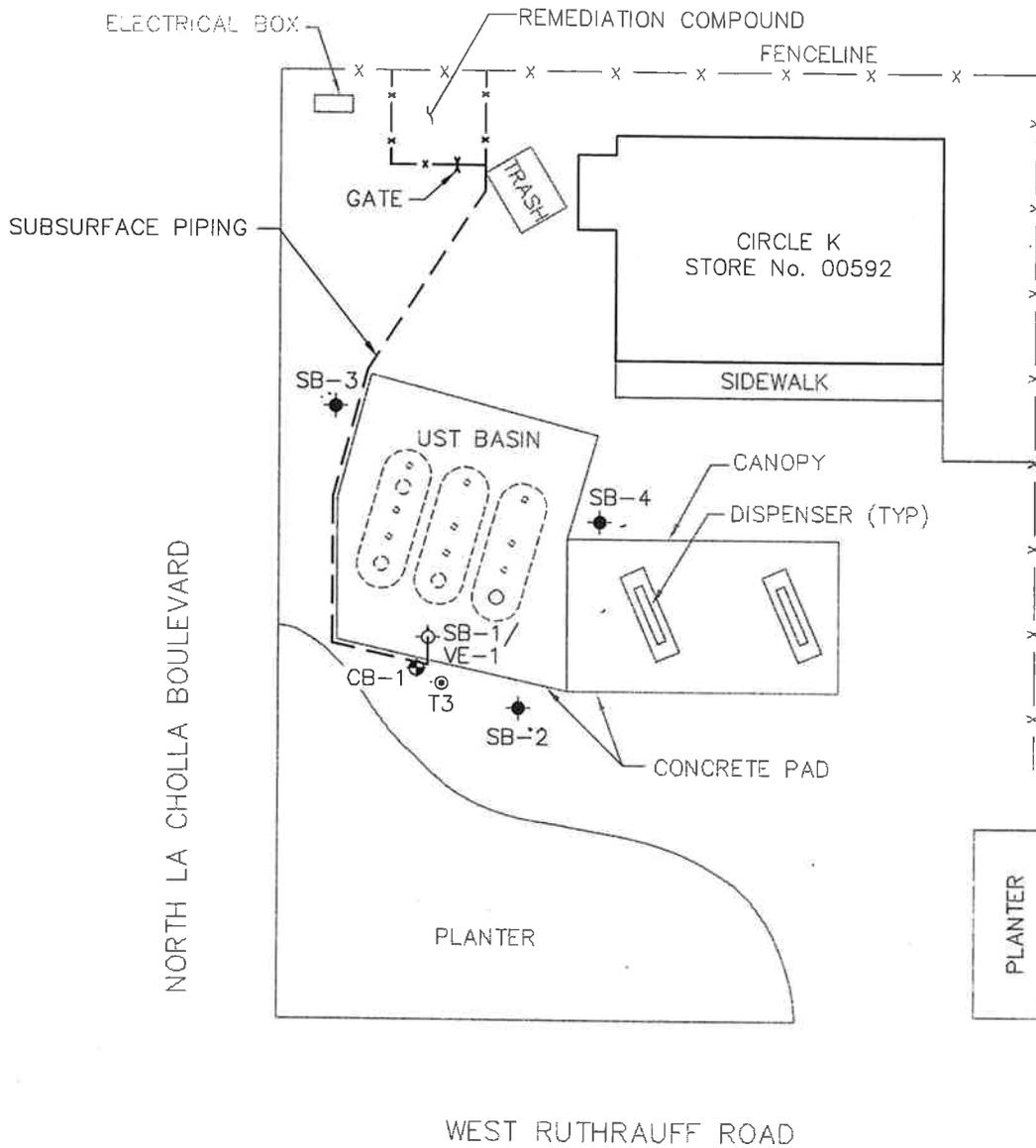
- SB-1 ◆ APPROXIMATE SOIL BORING LOCATION WITH IDENTIFICATION (ATC, MAY 2004)
- T3 ⊙ APPROXIMATE SOIL BORING LOCATION WITH IDENTIFICATION (BLAES, FEBRUARY 2004)

SITE MAP

CIRCLE K STORE No. 00592
2080 WEST RUTHRAUFF ROAD
TUCSON, ARIZONA 85705

PROJECT NUMBER: 34.75000.0210	DATE: 06/20/05	FIGURE
APPROVED BY: RT	DRAWN BY: JLL	2

VATC ASSOCIATED INC. 1625 West University Drive, Suite 122
Tempe, Arizona 85281



LEGEND

- CB-1 CONFIRMATION BORING
- SB-1 APPROXIMATE SOIL BORING LOCATION WITH IDENTIFICATION (ATC, MAY 2004)
- T3 APPROXIMATE SOIL BORING LOCATION WITH IDENTIFICATION (BLAES, FEBRUARY 2004)
- VE-1 VAPOR EXTRACTION WELL

SITE MAP

CIRCLE K STORE No. 00592
 2080 WEST RUTHRAUFF ROAD
 TUCSON, ARIZONA 85705

PROJECT NUMBER: 34.75000.9210	DATE: 10/19/06	FIGURE
APPROVED BY: RT	DRAWN BY: JL/BK	2

VATC 9185 South Farmer Avenue, Suite 105
 ASSOCIATES INC. Tempe, Arizona 85284

Appendix E

Resumes of HDR Personnel

Joel P. Hennings

Hazardous Materials Planner

Education

Bachelor of Science, Biology, University
of Nebraska Lincoln, 2000

Mr. Hennings has over seven years of experience in the evaluation and management of hazardous materials. This experience includes oversight of hazardous waste removal and management, well installations, Brownfield redevelopment, preparing Phase I/II Assessments, research and technical writing for U.S. Department of Energy's Environmental Restoration Program, geophysical surveys, monitoring potable water line disinfections and discharges, applying Green Zia methodology to a Pollution Prevention and Environmental Management System program, toxicity sampling and coliform analysis of drinking water, and sampling and analysis of biological treatment at a wastewater facility. His experience also includes and performance of Extraction and Wet chemistry for an environmental analytical analysis laboratory. The following projects represent Mr. Hennings' experience:

Arizona Department of Transportation, ADOT Environmental On-Call 06-03. Hazardous materials support for a variety of environmental investigations for highway construction and maintenance projects statewide on an on-call basis.

Arizona Department of Transportation, I-10 (Papago) Median Widening DCR/CE (ADOT MC). Hazardous materials support for project providing engineering and environmental design services for three segments along ADOT's RTP Freeway Program.

Arizona Department of Transportation, South Mountain Corridor Environmental Impact Statement and Location/Design Concept Report, Phoenix, Arizona. Technical author for geotechnical mitigation measures portion of project that included a Location/Design Concept Report, Environmental Impact Statement, and Geographic Information Systems. The project is a 27-mile corridor transportation improvement.

Arizona Department of Transportation, SR 801, SR 303L to SR 202L - LDCR/EA. Hazardous materials support for preliminary environmental, engineering and related studies for the proposed SR 801 from SR 85 to SR 303L and SR 303 to SR 202L.

Arizona Department of Transportation, Statewide Environmental On-Call #02-104. Environmental planner for statewide environmental On-Call services including archaeological studies and surveying, site assessments, bridge widening, cultural resource studies, surveying, environmental clearance and documentation, and noise studies for various roadways throughout the state of Arizona.

Wilson & Co. Engineers & Architects, U.S. 64, Farmington to Bloomfield, ISA/PSI 2003-2006. Field supervision during drilling activities, review of analytical data, QA report writing, and coordination of subconsultants and vendors for PSI on 10-mile section of US 64 in an area with a high concentration of oilfield support yards, service stations, and a known Superfund site. Hazardous materials analysis was identified by NMDOT as a critical pathway issue.

Kelly W. Kading, CPG, CHMM

NEPA Project Manager

Education

Bachelor of Science, Geological & Related Sciences (Geology), Colorado State University, 1983

Professional Registrations

Certified Hazardous Materials Manager, No. 01995

Certified Professional Geologist, No. 9173

Professional Affiliations

Academy of Certified Hazardous Material Managers, National Board of Directors

American Institute of Professional Geologists, Member

Mr. Kading has 24 years of experience in hazardous materials assessment and remediation, transportation corridor assessment, NEPA coordination, and project and program management. He performs hazardous materials assessments of transportation corridor projects as well as Phase I and Phase II Assessments, up to and including recommendations for mitigation or remediation measures. Mr. Kading is also well versed in the preparation of NEPA documentation on sensitive transportation projects. He is familiar with federal and state regulatory requirements, and has worked on projects located in 32 states. The following projects represent Mr. Kading's recent project experience:

Arizona Department of Transportation, ADOT Environmental On-Call 06-03. Hazardous materials assessment for a variety of environmental investigations for highway construction and maintenance projects statewide on an on-call basis.

Arizona Department of Transportation, South Mountain Corridor Environmental Impact Statement and Location/Design Concept Report, Phoenix, Arizona. Hazardous materials assessment a Location/Design Concept Report, Environmental Impact Statement, and Geographic Information Systems for this 27-mile corridor transportation improvement.

Arizona Department of Transportation, SR 801, SR 303L to SR 202L - LDCR/EA. Hazardous materials assessment for environmental, engineering and related studies for the proposed SR 801 from SR 85 to SR 303L and SR 303 to SR 202L.

Arizona Department of Transportation, Statewide Environmental On-Call #02-104. Hazardous materials assessment for statewide environmental On-Call services including a wide variety of technical studies in support of NEPA documentation. Mr. Kading manages the hazardous materials analysis task for all task orders under ADOT Statewide Environmental On-call contracts.

Arizona Department of Transportation, Statewide Transportation Enhancement On-Call, Arizona. Hazardous materials assessment for the On-call contract for the Arizona Department of Transportation throughout the state. This project includes pedestrian improvements, scenic byway visual assessments, bike lane design, bridge fencing improvements, and constructability reviews.

Statewide Hazardous Materials Investigation Contracts, New Mexico Department of Transportation, New Mexico. Managed more than 170 hazardous materials investigations for the New Mexico Department of Transportation (NMDOT) since 1993, including Initial Site Assessments (ISA), Preliminary Site Investigations (PSI), and Detailed Site Investigations (DSI). Mr. Kading has also assisted in drafting the NMDOT's protocols for performance of ISA, PSI, and DSI projects. Other work included NEPA documentation, specifically the initial corridor analysis for the I-25 to NM47 connection (Valencia County) and the Environmental Assessment for NM44 (US 550) Bernalillo to San Ysidro.

**PRELIMINARY SITE INVESTIGATION
NORTH LA CHOLLA BOULEVARD
WEST RUTHRAUFF ROAD TO WEST RIVER ROAD
PIMA COUNTY, ARIZONA
PROJECT NO. 4LCITR**

PREPARED FOR:

**Pima County Department of Transportation
Environmental Compliance Division
201 North Stone Avenue, 3rd Floor
Tucson, Arizona 85701**

PREPARED BY:

**HDR Engineering, Inc.
5210 East Williams Circle, Suite 530
Tucson, Arizona 85711
HDR project number 047-059914**

November 5, 2008

November 5, 2008

Ms. Gloria Browne
Pima County Department of Transportation
Environmental Compliance Division
201 North Stone Avenue, 3rd Floor
Tucson, Arizona 85701

Re: Preliminary Site Investigation (PSI) Report Submittal
North La Cholla Boulevard
West Ruthrauff Road to West River Road
Pima County, Arizona
Project No. 4LCITR

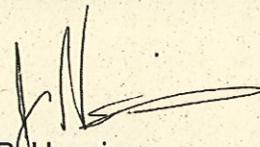
Dear Ms. Browne:

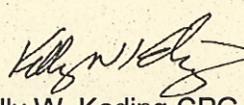
HDR Engineering, Inc. (HDR), is pleased to provide the Pima County Department of Transportation (PCDOT) with the above-referenced PSI Report. This project has been performed under the Contract # 16-04-H-139619-0607. Five copies of the PSI Report have been submitted for your use, along with an electronic file (PDF format) of the full report.

HDR appreciates the opportunity to serve PCDOT on this important project. If you have any questions or comments, please feel free to contact us at (602) 522-7700.

Sincerely,

HDR ENGINEERING, INC.


Joel P. Hennings
Hazardous Materials Specialist


Kelly W. Kading CPG CHMM
Environmental Project Manager
Senior Professional Associate

JH/KWK/

Distribution: 5 Originals – Addressee
1 copy - Christine Jacobs-Donoghue, HDR Tucson
1 copy - Ted Buell, HDR Tucson
1 copy - File

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EXECUTIVE SUMMARY

HDR Engineering, Inc. (HDR), was contracted by the Pima County Department of Transportation (PCDOT) to perform a Preliminary Site Investigation (PSI) of a proposed roadway widening project. The project area includes approximately 1 mile of North La Cholla Boulevard between West Ruthrauff Road and West River Road, in unincorporated Pima County, Arizona. The purpose of the PSI is to investigate potential subsurface conditions related to potential and known releases from three sites: the current Chevron Food Market (Site A) service station; the current Circle K (Site B) service station; and the Family Food Store (Site C, a former Mustang / Whiting service station). The sites are located near the intersection of West Ruthrauff Road and North La Cholla Boulevard (located within the right-of-way). A secondary purpose of the PSI is to assess the right-of-way for the presence of landfill materials from a series of historical landfills located adjacent to the corridor, south of West Curtis Road. The PSI was performed in order to provide PCDOT with information regarding the current extent and concentration of contaminants in shallow soils (if present), at depths most likely to be disturbed by roadway improvement activities.

The PSI field effort (drilling and sampling) was performed on April 24, 2008. The PSI scope included the advancement of seven soil borings, at depths of 20 feet below ground surface (bgs) in the right-of-way. The borings were advanced using a hollow-stem auger drill rig operated by a subcontracted drilling firm (Yellow Jacket Drilling). Soil samples were collected at 5-foot intervals, with samples collected by driven, decontaminated stainless steel split spoon samplers. Soil samples were collected to assess the geological conditions and to evaluate the vertical distribution of contaminants, using field instrumentation verified by a laboratory analytical program.

To achieve the secondary objective of the PSI (location of potential landfill materials within the right-of-way), test pits were excavated on April 24, 2008. HDR excavated four shallow test pits on PCDOT right-of-way on the east and west sides of La Cholla Boulevard, south of West Curtis Road. The test pits were excavated to an approximate depth of 4 feet below grade, with a decreasing opening from approximately 6 feet at the top to about 4 feet at the bottom of each pit. Waste percentages were estimated using a series of predetermined waste type categories. Excavation was accomplished by advancing test pits using a backhoe with a 0.5-cubic yard bucket. Excavations were advanced in lifts of approximately 1 foot at a time, and the waste was characterized at each 1-foot horizon using a 3-foot by 3-foot wooden "windowframe" to assist with assignment of percentages. After each lift was excavated, the windowframe was lowered by rope into the pit and two HDR geoscientists estimated percentages of the observed wastes types in the frame. By using two assessors, a means of cross-referencing estimated percentages was maintained throughout the process. Following completion of the test pit excavations, the pits were backfilled with the excavated material. The excavator backfilled the test pits in the order that each lift was removed, and compacted the fill with the excavator bucket. An HDR field technician performed density tests at every 1-foot lift to verify adequate compaction. No waste was removed from the site as part of this investigation.

A third aspect of the investigation was to assess asbestos in concrete features along the project area, and lead in paint on the Rillito Bridge and railings. Results and methodology are included in Appendix F.

FINDINGS AND OBSERVATIONS

The corridor is located in the Tucson Basin. The Tucson Basin is an extensive basin containing alluvium varying up to approximately 12,000 feet in thickness. The alluvium is highly variable and ranges from dense sand, gravel, and cobble deposits to silts, clays, and heavily cemented sandy clay. The project area is bound to the north-northeast by the Santa Catalina Mountains, to the east by the Rincon Mountains, and to the west by the Tucson Mountains.

Soils encountered generally included reddish brown, fine-to medium-grained sand with minor gravel and cobble constituents.

Soil sampling results found no actionable concentrations (as defined by Arizona Department of Environmental Quality's Residential soil Screening Levels) of petroleum constituents and no soil vapor impacts near the identified sites of concern.

The test pit contents consisted of sandy soil with gravel and rocks in small percentages. Minor debris was noted in test pit 4-E at a depth of approximately 1.5 feet. Native soil, displaying sedimentary features that indicate that it had not been disturbed either in a landfill or as part of a road-building process, was encountered at approximately 2 to 4 feet at the base of each pit. The interval from 0 to 2 feet appeared to be compacted fill, likely from the construction of the roadway.

As indicated by the report included as Appendix F, no asbestos was detected in any of the samples collected. The paint results indicated that the gray and brown paint is lead containing. The levels measured in the gray and brown paint are below the HUD action level for lead in paint.

CONCLUSIONS

HDR has completed the scope of work described in Section 1.1 and has developed the following conclusions regarding the presence of residual impacts at the project site. The summary of findings presented in this section is a synopsis, and the reader should not infer that the information presented is complete or as detailed as provided in other sections.

Within the scope of this PSI, soil sampling results found no actionable (above regulatory action levels) concentrations of petroleum constituents and no soil vapor impacts near the identified sites of concern (former and active gas stations). No petroleum or soil vapor impacts were identified in the right-of-way near the gas stations. The test pits indicated that no landfill debris was present within the North La Cholla Boulevard right-of-way. The minor debris noted in test pit 4-E appeared to have been deposited during roadway construction, and was not part of a larger debris array (indicating landfill operations).

None of the concrete materials sampled contains asbestos. Paint from the bridge and walkway railing is lead containing and will require disposal in accordance with hazardous waste regulations.

1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of the Preliminary Site Investigation (PSI) is to investigate potential subsurface conditions related to gasoline releases from three sites: the current Chevron Food Market (Site A) service station, Circle K (Site B) service station, and the Family Food Store (Site C, a former Mustang/Whiting service station). The sites are located near the intersection of West Ruthrauff Road and North La Cholla Boulevard. A secondary objective of the PSI was to determine the location and extent of debris from reported historical landfills located adjacent to the North La Cholla Boulevard right-of-way in the central portion of the project area (south of West Curtis Road). A third objective was to sample concrete from the bridge to assess the presence or absence of asbestos, and to sample paint from the bridge and railings to assess if the paint is lead containing. The PSI was performed in order to provide the Pima County Department of Transportation (PCDOT) with information regarding the current extent and concentration of contaminants in shallow soils at depths most likely to be disturbed by roadway improvement activities.

The scope of this PSI included the advancement of seven borings within the current right-of-way (R/W), to depths of 20 feet below ground surface (bgs). Soil samples were collected at 5-foot intervals to assess vertical distribution of contamination, using field instrumentation and confirmatory analysis by an analytical laboratory. To achieve the secondary objective, four shallow test pits were excavated on the east and west sides of North La Cholla Boulevard, south of West Curtis Road. Pits were excavated to an approximate depth of 4 feet below grade, with a decreasing opening from approximately 6 feet at the top to about 4 feet at the bottom of each pit. The test pits were evaluated by HDR geoscientists to determine whether landfill materials were present.

1.2 Limitations

This report has been prepared by HDR Engineering, Inc. (HDR), for use by PCDOT. The information presented in this report includes analysis of geologic conditions through data collection, review of published information, direct observation of geologic features in the project area, advancement of soil borings, excavation, and collection of soil samples for field and laboratory evaluation of the presence of gasoline constituents and landfill debris. As well as the presence or absence of asbestos in concrete, and lead containing paint associated with the bridge. HDR makes no warranties or guarantees regarding the accuracy or completeness of the information provided or compiled by others.

As with any investigation that uses sampling points to characterize an impacted area, it is possible that the sampling locations did not intersect all potentially impacted areas. HDR determined that the selected sampling locations would be sufficient to characterize the distribution of impacts if present near the proposed roadway improvement activities.

In addition, some substances may be present at the site or in the vicinity in quantities below those categorized as actionable by current environmental regulations. HDR cannot be held responsible if regulatory standards are changed in the future to a regulatory level that renders the current site conditions actionable.

2.0 PROJECT DESCRIPTION

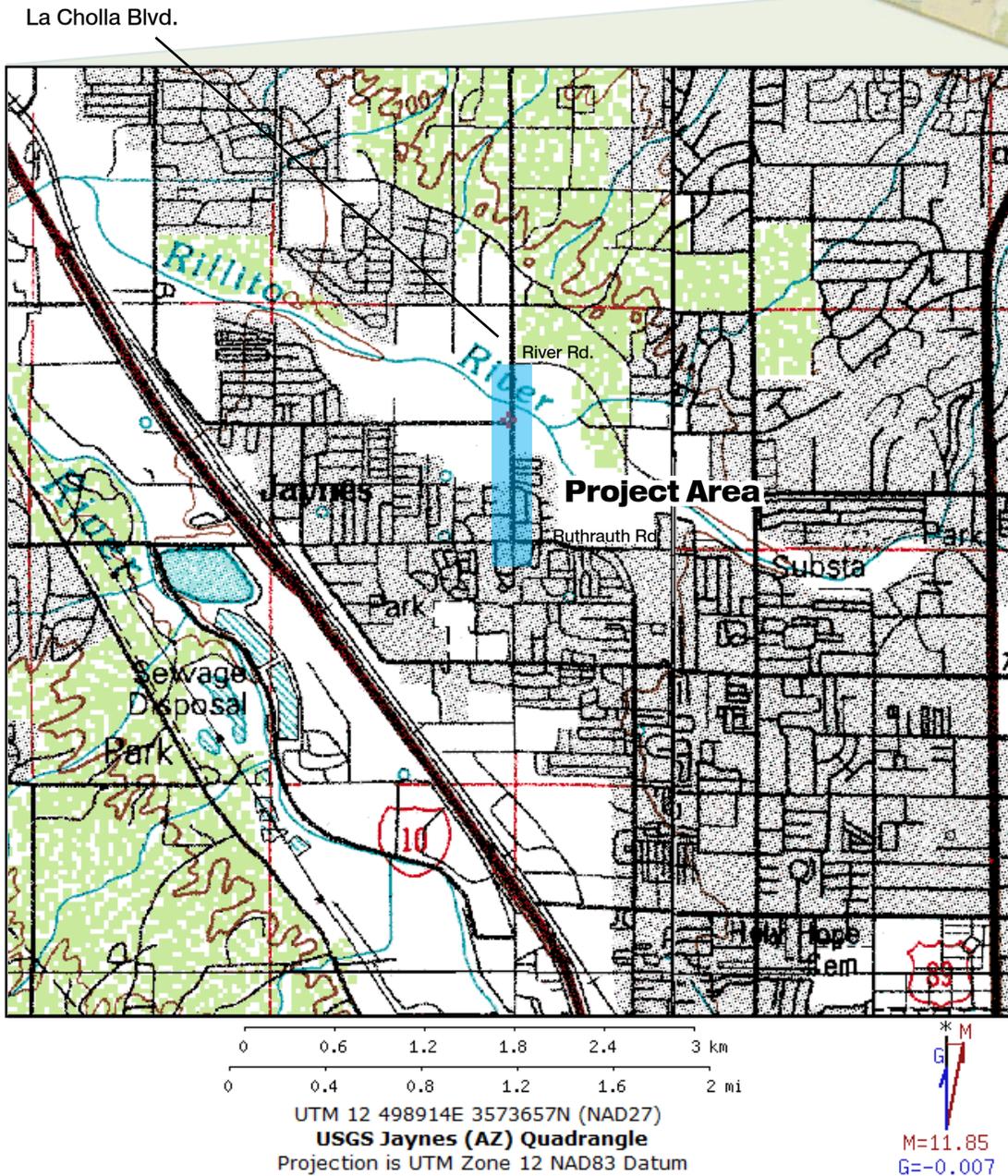
2.1 Description of Study Area

The project area consists of North La Cholla Boulevard and its associated R/W from West Ruthrauff Road to West River Road in unincorporated Pima County, Arizona. The project is approximately 1 mile in length. A project location map is included as Figure 1 and a map of soil boring and test pit locations is included as Figure 2. Photographic documentation is provided in Appendix A.

2.2 Geology

The site is located within the Basin and Range Lowland Physiographic Province, which includes an area extending from the northwest corner of the state, southeasterly across the southern half of the state. Landforms present within the Basin and Range Province consist of predominantly northwest-southwest trending, block-faulted mountain ranges, separated by broad, gently sloping alluvial basins. The mountains in this province consist of tilted blocks of Precambrian, Paleozoic, Mesozoic, and Cenozoic rocks.

The Santa Cruz River is the principal drainage feature through the Tucson Basin. The Santa Cruz River is located approximately 1.5 miles west of the project area. The Rillito River is the principal drainage feature within the project area. The Rillito River ultimately drains into the Santa Cruz River.



Project Name

Figure Name



Preliminary Site Investigation
 North La Cholla Blvd.
 West Ruthrauff Road to West River Road
 Pima County, Arizona

Project Location

Figure 1

2.3 Investigation Methodology

An Initial Site Assessment (ISA) prepared by HDR in 2008 determined that several potential risk sites exist along the project corridor. Based upon the results of the ISA, HDR developed the following investigation methodology for the PSI that was subsequently approved by PCDOT. The PSI scope of work included the advancement of seven soil borings, excavation of four shallow test pits, interpretation of geologic and field instrument data, collection of soil samples for laboratory analysis, interpretation of results, and preparation of a final report.

Drilling and Sampling Near Current or Former Gas Station Sites

Seven soil borings were completed at the locations identified on Figure 2. Soil boring locations were selected in an attempt to delineate the extent of potential impacts from the identified sites of concern near the planned roadway improvements, within the right-of-way. Constraints to the placement of the soil borings included physical barriers to rig location, such as overhead power lines.

Drilling was performed by Yellow Jacket Drilling Company (at the direction of HDR) using a Boart Longyear BK-66 Hollow Stem Auger drill rig. The borings were advanced using an 8 and 3/8-inch outside diameter hollow stem auger. Borings were sampled at selected depth intervals using a decontaminated split-spoon sampler. All borings were advanced to a depth of 20-foot bgs. Downhole drilling and sampling tools were decontaminated prior to use with a non-phosphate detergent wash and deionized water rinse by onsite HDR field personnel.

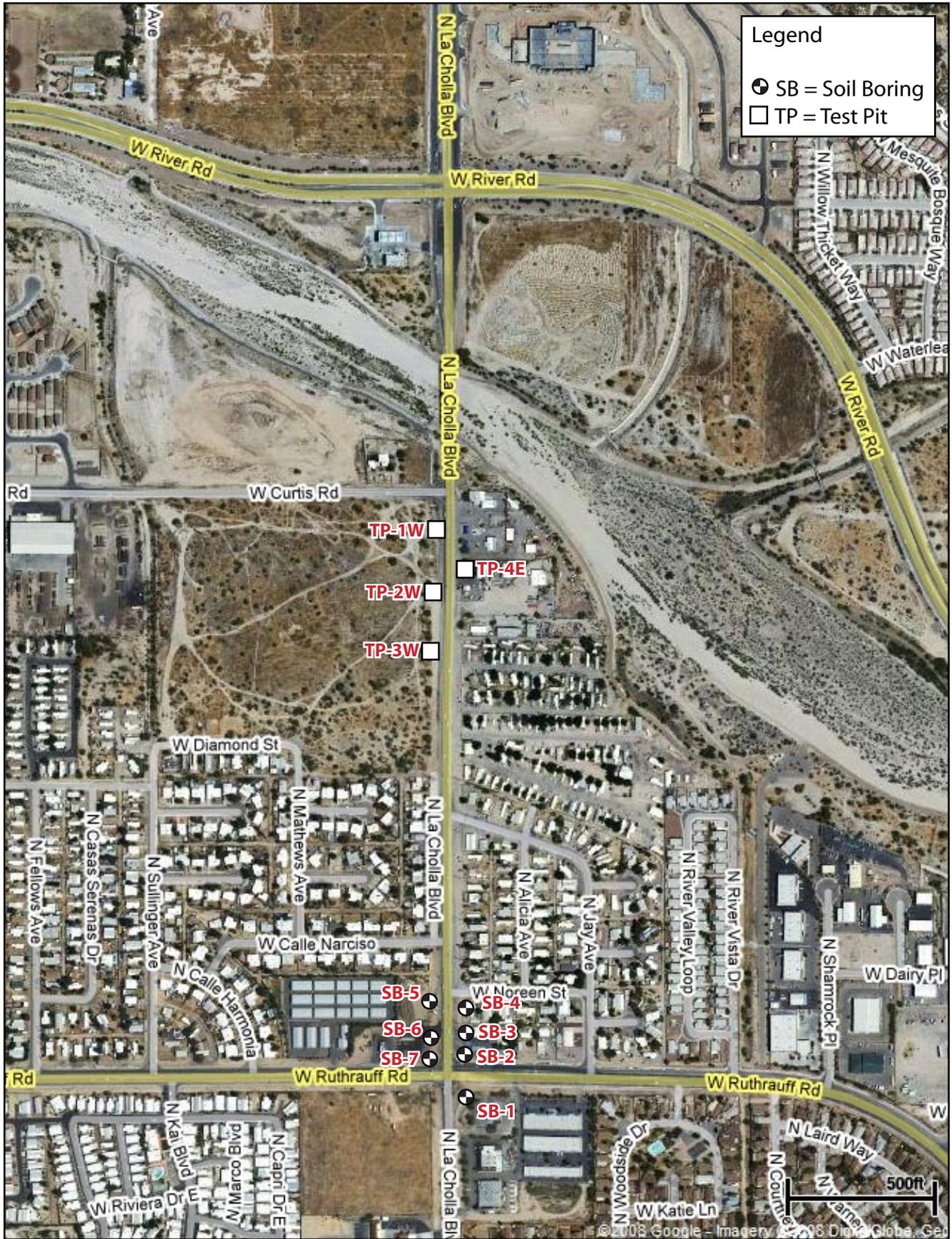
Soil samples were collected from undisturbed soils by advancing a decontaminated stainless steel split-spoon type sampler ahead of the lowest point of the auger at the selected sampling interval. Samples were selected for laboratory analysis based on the highest photoionization detector (PID) reading. If no elevated PID readings in a boring were detected, the 5-foot sample from a boring was submitted. The specific laboratory sample collection procedure included collection of soil from the lowest section of the brass sleeve in the sampler, capping the ends of the sleeve with Teflon and plastic caps, labeling the sample, and immediately placing it on ice for transport. Samples were collected, preserved, and transported to the laboratory under chain-of-custody protocols and within quality control (QC) standards established by HDR in compliance with Arizona Department of Environmental Quality (ADEQ) data quality objectives.

Each sample interval was field screened using a soil sample from the middle section of the sampler (directly above the laboratory-submitted sample) for field headspace analysis using a Perkin-Elmer Photovac 20/20 PID. The PID was calibrated with 100 parts per million (ppm) isobutylene reference gas at the beginning of each field day. Records of PID calibrations were recorded in the site field book. The field headspace analysis was performed by placing a sample of the soil from the split-spoon sampler immediately into 1-pint dedicated zipper-seal plastic bags and allowing volatile organic vapors to equilibrate for several minutes and stabilize near 70 degrees Fahrenheit. The bags were agitated for up to 1 minute to facilitate liberation of soil vapor into the bag headspace. The inlet probe of the PID was then placed through the bag's zipper seal, the highest vapor concentration reading was recorded as the PID reading for that sample, and the result was recorded on the soil boring log. The action level for petroleum constituents using this method is 100 ppm, as specified by ADEQ's Tank Programs Division. The remaining soil from each sampling interval was used for geologic analysis of the depth interval. Soil boring logs were completed for each boring, and are included in Appendix B. All borings were backfilled with clean cuttings.

Test Pits Near Historic Landfill Locations

Test pits were excavated on April 24, 2008, according to the approved scope of work. Test pit locations were based upon a review of historic aerial photographs and information provided by Pima County. HDR excavated four shallow test pits on PCDOT right-of-way on the east and west sides of La Cholla Boulevard. Three test pits were located on the west side of La Cholla Boulevard and 1 test pit on the east side. The test pits were excavated to an approximate depth of 4 feet below grade, with a decreasing opening from approximately 6 feet at the top to about 4 feet at the bottom of each pit. Waste percentages were estimated using a series of predetermined waste type categories. Excavation was accomplished by advancing test pits using a backhoe with a 0.5-cubic yard bucket. Excavations were advanced in lifts of approximately 1-foot at a time, and the waste was characterized at each 1-foot horizon using a 3-foot by 3-foot wooden "windowframe" to assist with assignment of percentages. After each lift was excavated, the windowframe was lowered by rope into the pit and two HDR geoscientists estimated percentages of the observed wastes types in the frame. By using two assessors, a means of cross-referencing estimated percentages was maintained throughout the process. Following completion of the test pit excavations, the pits were backfilled with the excavated material. The excavator backfilled the test pits in the order that each lift was removed, and compacted the fill with the excavator bucket. An HDR field technician performed density tests at every 1-foot lift to verify adequate compaction. No waste was removed from the site as part of this investigation.

Asbestos and Lead sampling methodology is discussed in Appendix F.



Project Name

Figure Name

Preliminary Site Investigation
 North La Cholla Blvd.
 West Ruthrauff Road to West River Road
 Pima County, Arizona

Soil Boring and
 Test Pit Locations

Figure 2



2.4 Soil Analytical Program

One soil sample from each boring was selected for laboratory analysis for volatile organic compounds by United States Environmental Protection Agency (USEPA) test method 8260B and for semi-volatiles by USEPA test method 8270C. Orange Coast Analytical, Inc. (OCA), of Tustin, California, was the ADEQ-approved analytical laboratory for this project. The soil sample exhibiting the highest PID reading was submitted to the laboratory. If no vapors were detected in any of the samples, then the sample located at the 5-foot sample collection depth was selected for submittal.

3.0 INVESTIGATION RESULTS

3.1 Analytical Results

HDR received the soil analytical results from OCA on April 30, 2008. The results are presented in the summary tables, along with the ADEQ Residential Soil Remediation Levels (ADEQ's most restrictive levels). The summary tables are included as Appendix D. The full report from the analytical laboratory is included as Appendix E.

As indicated by the report included as Appendix F, no asbestos was detected in any of the samples collected. The paint results indicated that the gray and brown paint is lead containing. The lead levels measured in the gray and brown paint are below the HUD action level for lead in paint.

3.2 Geologic Analysis Results

The following geologic findings are noted:

The corridor is located in the Tucson Basin. The Tucson Basin is an extensive basin containing alluvium varying up to approximately 12,000 feet in thickness. The alluvium is highly variable and ranges from dense sand, gravel, and cobble deposits to silts, clays, and heavily cemented sandy clay. The project area is bound to the north-northeast by the Santa Catalina Mountains, to the east by the Rincon Mountains, and to the west by the Tucson Mountains.

Soils encountered generally included reddish brown, fine-to medium-grained sand. Soil boring logs are included as Appendix B.

4.0 FINDINGS AND CONCLUSIONS

4.1 Findings

The site investigation resulted in the following findings:

The corridor is located in the Tucson Basin. The Tucson Basin is an extensive basin containing alluvium varying up to approximately 12,000 feet in thickness. The alluvium is highly variable and ranges from dense sand, gravel, and cobble deposits to silts, clays, and heavily cemented sandy clay. The project area is bound to the north-northeast by the Santa Catalina Mountains, to the east by the Rincon Mountains, and to the west by the Tucson Mountains.

Soils generally encountered included reddish brown, fine-to medium-grained sand with minor gravel and cobble constituents.

Soil sampling results found no actionable concentrations of petroleum constituents and no soil vapor impacts near the identified sites of concern.

The test pit contents consisted of sandy soil with gravel and rocks in small percentages. Minor debris was noted in test pit 4-E at a depth of approximately 1.5 feet. Native soil, displaying sedimentary features that indicate that it had not been disturbed either in a landfill or as part of a road-building process, was encountered at approximately 2 to 4 feet at the base of each pit. The interval from 0 to 2 feet appeared to be compacted fill, likely from the construction of the roadway.

4.2 Conclusions

HDR has completed the scope of work described in Section 1.1 and has developed the following conclusions regarding the presence of residual impacts at the project site. The summary of findings presented in this section is a synopsis, and the reader should not infer that the information presented is complete or as detailed as provided in other sections.

Gas Station Sites

Within the limits of this PSI, laboratory results indicated no actionable concentrations of petroleum constituents and no soil vapor impacts near the identified sites of concern within PCDOT R/W.

Former Landfill Sites

None of the four test pits indicated the presence of landfill debris or ground disturbance indicative of landfill-type deposition of waste. One pit (4E) contained a minor amount of trash, but the location, distribution, and type of debris indicated that it was probably deposited at the time of roadway construction. HDR concludes that no landfill debris was present on PCDOT R/W, within the limitations of this PSI.

Asbestos and Lead Paint

No asbestos was detected in any of the concrete samples collected from the bridge, as indicated by the report included as Appendix F. The paint samples collected from the bridge and railings indicated that the gray and brown paint is lead containing. The lead levels measured in the gray and brown paint are below the HUD action level for lead in paint, with respect to paint in place concentrations¹. However, aggregated disposal concentrations may be higher, and therefore, disposal of lead containing paint will require compliance with hazardous waste regulations.

¹ While not strictly applicable for a roadway project, HUD levels are referenced because they are available regulatory references that apply to screening level paint concentrations.

5.0 SIGNATURES AND QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

The preceding report has been prepared in general conformance with standard industry practice for performance of environmental investigations. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated herein and in PCDOT guidance.



Joel P. Hennings
Hazardous Materials Specialist



Kelly W. Kading CPG CHMM
Quality Assurance
Senior Professional Associate

Qualifications

Mr. Kelly W. Kading, CPG CHMM, HDR's Environmental Professional as defined by Arizona Department of Transportation (ADOT), has more than 20 years of experience in assessment and remediation of impacted properties and compliance with environmental regulations. He has a BS in Geology from Colorado State University and is a Certified Professional Geologist (#9173) and a Certified Hazardous Materials Manager (#1995). He is also a Senior Professional Associate as defined by HDR's rigorous qualifications process for senior technical practitioners. He specializes in forensic investigation of hazardous materials-impacted properties for municipal and state agencies, as well as commercial clients. His experience covers assessment of more than 1,000 properties ranging from agricultural land to multigenerational industrial properties in 32 states and 2 foreign countries. He is highly knowledgeable of federal, state, and local environmental regulations and standards and has served on the National Board of Directors of the Academy of Certified Hazardous Materials Managers.

Qualifications

Mr. Joel P. Hennings, HDR's Environmental Professional as defined by ADOT, has more than 8 years of experience in assessment and remediation of impacted properties and compliance with environmental regulations. He has a BS in Environmental Sciences from the University of Nebraska. He specializes in forensic investigation of hazardous materials-impacted properties for federal, state, and municipal agencies, as well as commercial clients. His experience covers assessment of more than 150 properties ranging from agricultural land to federal nuclear testing sites. He is knowledgeable of federal, state, and local environmental regulations and standards.

APPENDIX A

Photographic Documentation



Photo 1 – Location of SB-1, view to the north.



Photo 2 – Overview of traffic control at SB-2 and SB-3, view to the southeast.



Photo 3 – Location of SB-5, view to the south.



Photo 4 – Location of SB-7, view to the south.



Photo 5 – Location of Test pit #4E, view to the southwest.



Photo 6 – Location of Test pit #3, view to the south.

APPENDIX B

Soil Boring Logs

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-1

Project No:
047-59914-007

Page: 1 of 1

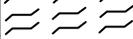
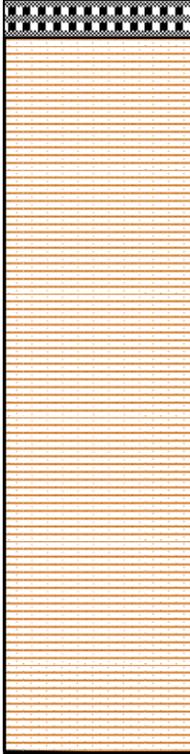
DIAMETER: 8.38 inches Hollow Stem Auger
LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
DRILLING DATE: 04-24-2008
DRILLER: Sean Gonzalez
DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
Asphalt				Asphalt				
Fill				Fill				
5	100	*	5 30 32	SAND, clay, coarse grained, reddish brown, dry	SC			
10	100		10 18 13	SAND, clay, some gravel, coarse grained, reddish brown, dry,	SC			
15	100		32 50 6"	SAND, clay, fine grained, reddish brown, dry	SC			
20	25		50 6"	SAND, clay, fine grained, reddish brown, dry	SC			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
Split Spoon Sample – Driven
Hand Auger

NOTES: Total Depth 20 ft.
Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-2 Project No: 047-59914-007

Page: 1 of 1

DIAMETER: 8.38 inches Hollow Stem Auger
 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona
 DRILL RIG TYPE: Boart Longyear BK-66

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
0				Gravel, Fill				
5	100	*	3 5 6	SAND, clay, fine to medium coarse grained, brown to reddish brown, dry	SC			
10	100		5 7 6	SAND, clay, medium to coarse grained, brown to reddish brown, dry, some gravel	SC			
15	100		11 11 12	SAND, clay, medium to coarse grained, brown to reddish brown, damp	SC			
20	25		50 6"	SAND, clay, fine grained, reddish brown, very dense, moist	SC			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

NOTES:
 Total Depth 20 ft.
 Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-3

Project No:
047-59914-007

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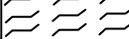
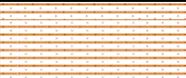
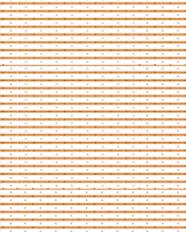
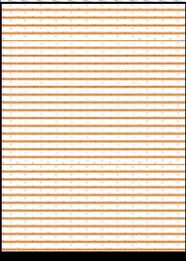
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 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
				Asphalt				
				Fill				
5	100	*	12 15 17	SAND, clay, medium to coarse grained, reddish brown, dry	SC			
10	100		15 22 20	Gravel	GP			
15	100		10 11 11	CLAY, sand, fine to medium coarse grained, brown, moist	CL			
20	100		15 15 15	CLAY, sand, fine to medium coarse grained, brown, moist	CL			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH HOUR RATE

None

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

NOTES:

Total Depth 20 ft.
 Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-4

Project No:
047-59914-007

Page: 1 of 1

DIAMETER: 8.38 inches Hollow Stem Auger
 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
				Gravel		///		
				Fill				
5	100	*	3 4 4	SAND, clay, fine to medium coarse grained, brown, moist	SC			
10	100		14 8 8	SAND, clay, fine to medium coarse grained, reddish brown, moist	SC			
15	100		12 16 20	SAND, clay, fine to medium coarse grained, reddish brown, moist	SC			
20	25		50 5"	SAND, clay, fine to medium coarse grained, reddish brown, moist	SC			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

NOTES:

Total Depth 20 ft.
 Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-5

Project No:
047-59914-007

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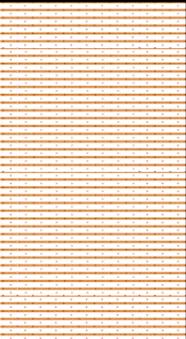
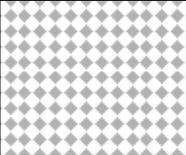
DIAMETER: 8.38 inches Hollow Stem Auger
 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
				Gravel		/// // //		
				Fill				
5	100	*	5 16 18	0.0	SAND, clay, fine to coarse grained, brown, dry	SC		
10	0		NA	0.0	Cobbles	GP		
15	100		28 32 32	0.0	CLAY, sand, fine to medium coarse grained, light brown, dry	CL		
20			15 15 15	0.0	CLAY, sand, fine to medium coarse grained, light brown, dry	CL		

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

NOTES:
 Total Depth 20 ft.
 Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-6

Project No:
047-59914-007

Page: 1 of 1

DIAMETER: 8.38 inches Hollow Stem Auger
 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
				Gravel		///		
				Fill				
5	100	*	5 5	SAND, clay, fine grained, light brown, moist	SC			
			0.0					
10	100		20 20 20	SAND, clay, fine grained, reddish brown, moist	SC			
15	100		15 37 30	Cobbles	GP			
20			30 30 28	Cobbles	GP			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

NOTES:
 Total Depth 20 ft.
 Backfilled on 04-24-2008

Project Name: North La Cholla Blvd.

SOIL BORING LOG

HDR

ONE COMPANY | Many Solutions

Boring No. SB-7

Project No:
047-59914-007

Page: 1 of 1

DIAMETER: 8.38 inches Hollow Stem Auger
 LOCATION: La Cholla Blvd.- Ruthrauff Road
to River Road, Tucson, Arizona

LOGGED BY: J. Hennings
 DRILLING DATE: 04-24-2008
 DRILLER: Sean Gonzalez
 DRILL COMPANY: Yellow Jacket

DRILL RIG TYPE: Boart Longyear BK-66

DEPTH TO WATER: No Groundwater Encountered

TOP OF CASING ELEVATION: N/A

Depth (Ft.)	Recovery (%)			Visual Classification	USCS	Remarks	STRATUM	Boring Detail
	Sample Submitted to Lab	Blow Counts						
		140#/30'	PID					
				Gravel		///		
				Fill				
5	100	*	4 4 4	SAND, clay, fine to medium coarse grained, reddish brown, dry	SC			
10	100		9 11 8	SAND, clay, fine to medium coarse grained, reddish brown, dry	SC			
15	100		15 22 27	SAND, clay, fine to medium coarse grained, reddish brown, dry	SC			
20			25 30 33	SAND, clay, fine to medium coarse grained, reddish brown, dry	SC			

Soil Boring Location Map

GROUNDWATER

SAMPLE TYPE



DEPTH	HOUR	RATE
None		

Drill cuttings
 Split Spoon Sample – Driven
 Hand Auger

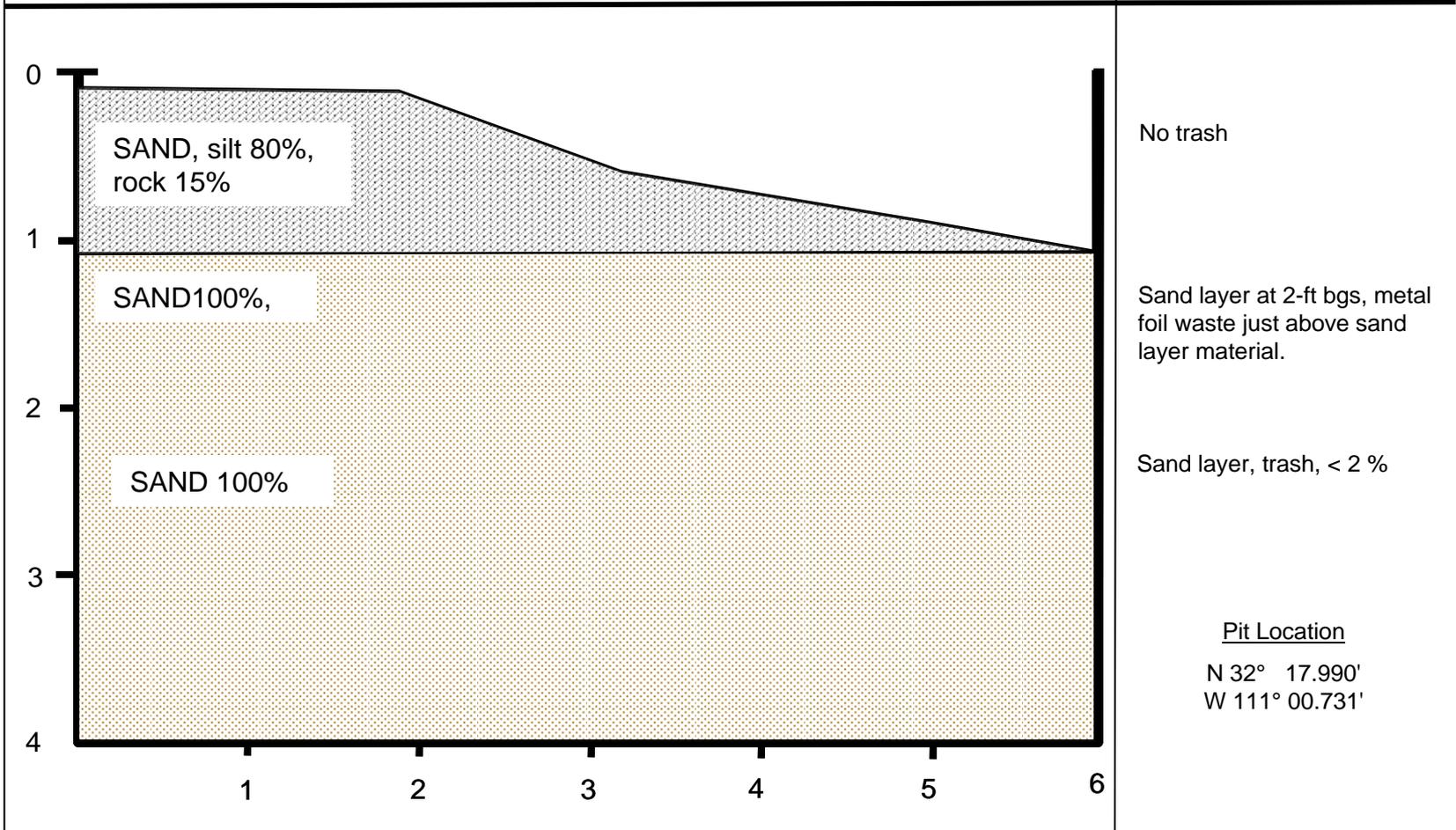
NOTES:
 Total Depth 20 ft.
 Backfilled on 04-24-2008

APPENDIX C

Test Pit Logs

Project Name: North La Cholla Blvd.		<h1>SOIL PIT LOG</h1>	HDR ONE COMPANY <i>Many Solutions</i>
Soil Pit No. 1-W	Project No: 047-59914-007		
Page: 1 of 1			

<u>LOCATION: La Cholla Blvd.- Ruthrauff Road to River Road, Tucson, Arizona</u>	LOGGED BY: <u>B. Kesner</u>	<h2>Remarks</h2>
	SURVEY DATE: <u>04-24-2008</u>	
	EXCAVATOR : <u>Belfor Environmental</u>	



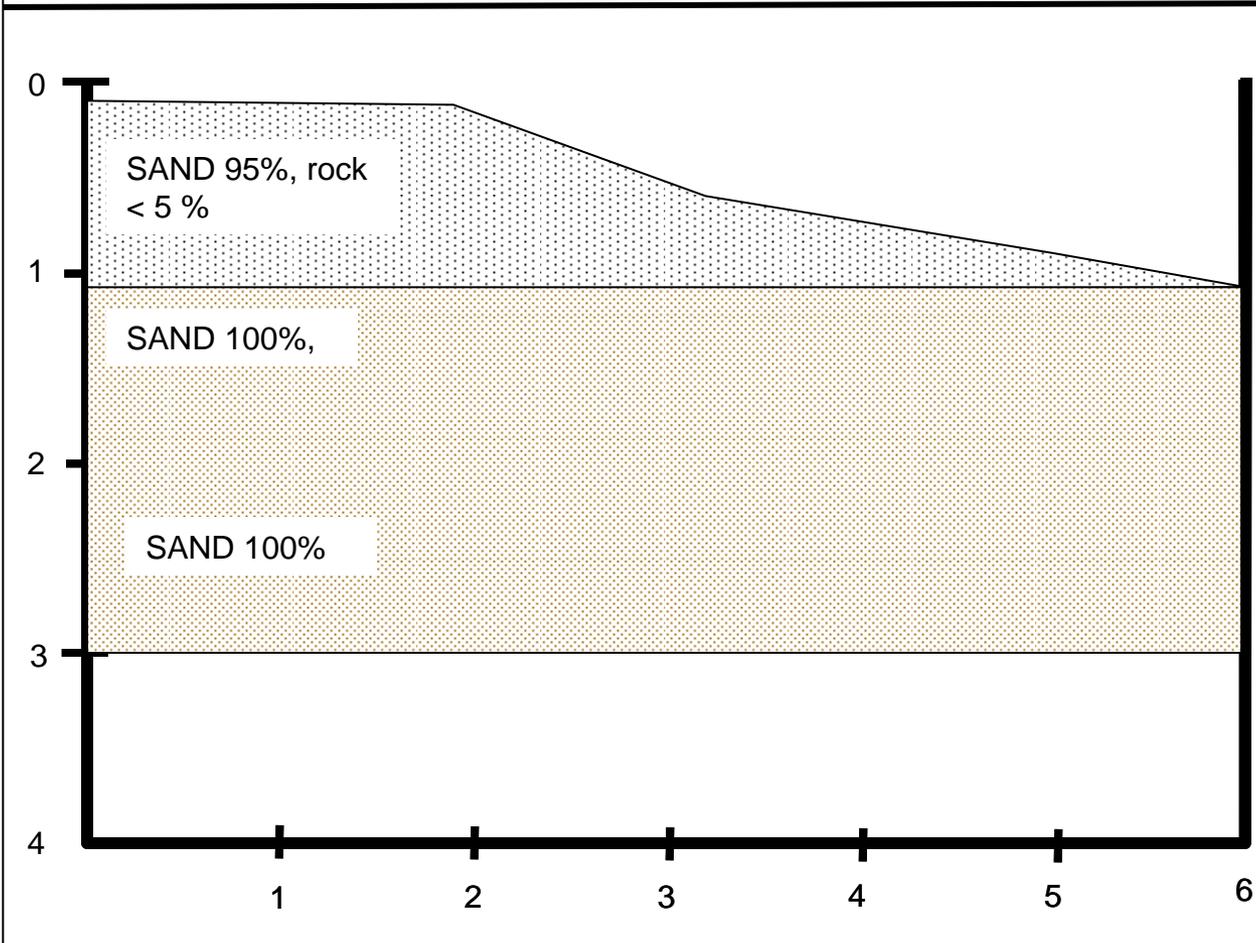
Project Name: North La Cholla Blvd.
 Soil Pit No. 2-W Project No: 047-59914-007
 Page: 1 of 1

SOIL PIT LOG



LOCATION: La Cholla Blvd. - Ruthrauff Road
to River Road, Tucson, Arizona
 LOGGED BY: B. Kesner
 SURVEY DATE: 04-24-2008
 EXCAVATOR: Belfor Environmental

Remarks



Sand layer at 2-ft bgs, no trash

Slightly moist, no trash

Pit Location
 N 32° 18.010'
 W 111° 00.733'

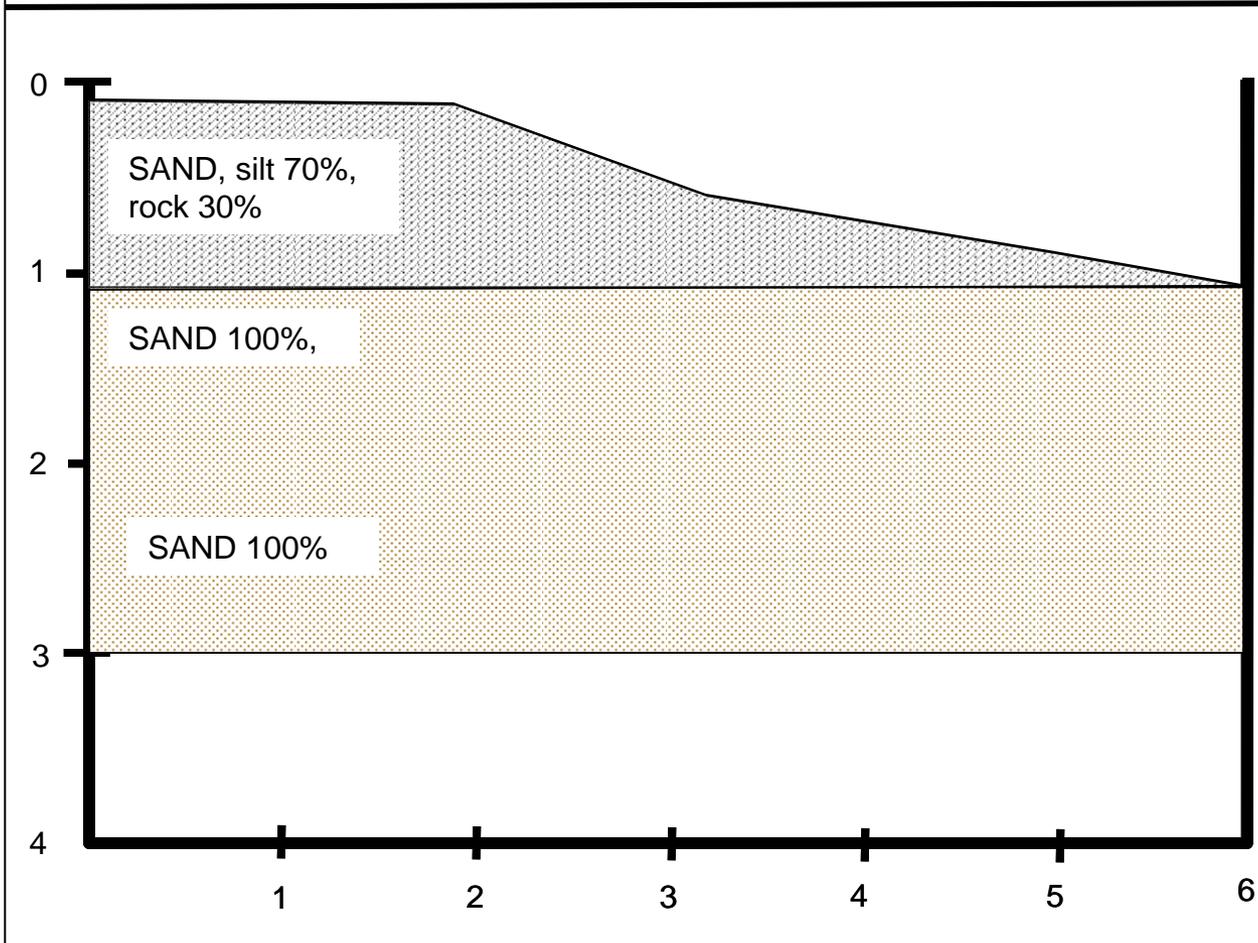
Project Name: North La Cholla Blvd.
Soil Pit No. 3-W **Project No:** 047-59914-007
Page: 1 of 1

SOIL PIT LOG



LOCATION: La Cholla Blvd. - Ruthrauff Road to River Road, Tucson, Arizona
LOGGED BY: B. Kesner
SURVEY DATE: 04-24-2008
EXCAVATOR: Belfor Environmental

Remarks



No trash

Sand layer at 2-ft bgs, no trash

No trash

Pit Location
 N 32° 18.0033'
 W 111° 00.734'

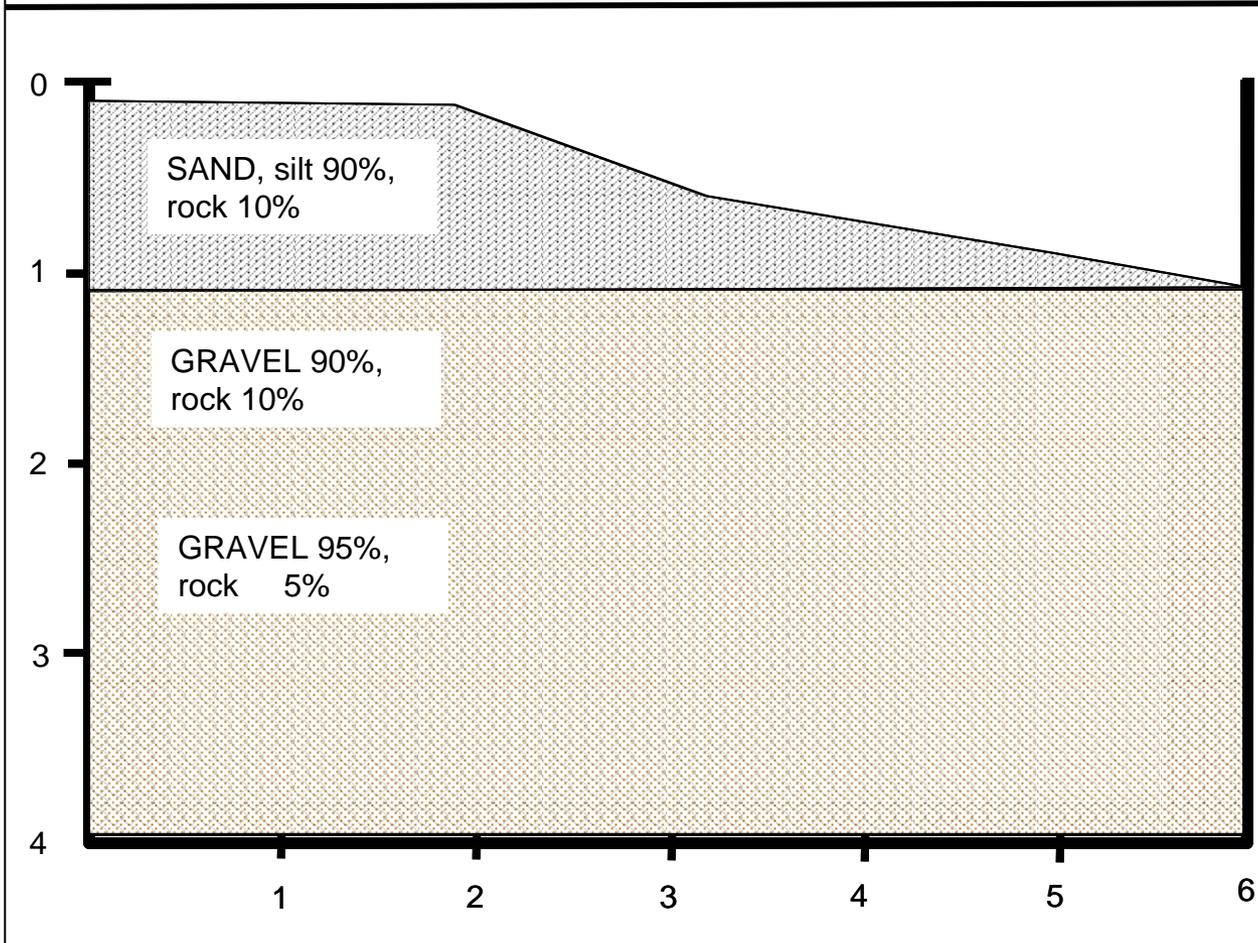
Project Name: North La Cholla Blvd.
Soil Pit No. 4-E **Project No:** 047-59914-007
Page: 1 of 1

SOIL PIT LOG



LOCATION: La Cholla Blvd. - Ruthrauff Road to River Road, Tucson, Arizona
LOGGED BY: B. Kesner
SURVEY DATE: 04-24-2008
EXCAVATOR: Belfor Environmental

Remarks



< 1 % PVC plastic fragment, concrete ~ 6-ft bgs, no trash

1 intact 10 oz green bottle, no other trash

Old cable line and old capacitor (approximately 3.5-in length), 1 large rock, 2-ft oblong

Pit Location
 N 32° 18.031'
 W 111° 00.712'

APPENDIX D

Summary Tables

Table 1

North La Cholla Boulevard Soil Sample

Analytical Results Analyzed By EPA Method 8260B Volatiles:

Units in mg/kg (ppm)

Sample ID	Benzene	Toluene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	2-Butanone	Cis-1,2 DCE	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride	Total Xylenes
Residential	0.65	650	400	32	56	NE	43	0.51	3.0	0.085	270
Non Residential	1.4	650	400	710	190	NE	150	13	65	0.75	420
SB-1-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-2-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-3-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-4-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-5-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-6-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-7-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

ADEQ Title 18 Preliminary Remediation Goals Residential Soil 2007

ADEQ Title 18 Preliminary Remediation Goals Non Residential Soil 2007

NE – No standard established

<PQL – Analyte below the analytical method's Practical Quantitation Limit (minimum detection limit)

SB- Soil Boring

Table 2

North La Cholla Boulevard Soil Sample Analytical Results

Analyzed By EPA Method 8270C Semi Volatiles:

Units in mg/kg (ppm)

Sample ID	Aniline	Benzoic Acid	Carbazole	Dibenzofuran	Hexachlorobenzene	Hexachloroethane	Di-n-butyl phthalate	Phenol	Naphthalene	Flourene
Residential	96	240,000	27	1,200	0.34	39	6,100	18,000	56	2,700
Non Residential	3,000	1,000,000	860	12,000	11	620	62,000	180,000	190	26,000
SB-1-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-2-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-3-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-4-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-5-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-6-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
SB-7-5'	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

ADEQ Title 18 Preliminary Remediation Goals Residential Soil 2007

ADEQ Title 18 Preliminary Remediation Goals Non Residential Soil 2007

NE – No standard established

<PQL – Analyte below the analytical method's Practical Quantitation Limit (minimum detection limit)

SB- Soil Boring

APPENDIX E

Laboratory Report



ORANGE COAST ANALYTICAL, INC.

3002 Dow Ave., Suite 532, Tustin CA 92780 (714) 832-0064 Fax (714) 832-0067
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (480) 736-0960 Fax (480) 736-0970

LABORATORY REPORT FORM

ORANGE COAST ANALYTICAL, INC.

4620 East Elwood Street, Suite 4 Phoenix, AZ 85040

(480) 736-0960

Laboratory Certification (ADHS) No.: AZ0558, AZ0646, AZM499
Expiration Date: 2008

Laboratory Director's Name:

Mark Noorani

Client: HDR Engineering, Inc.

Laboratory Reference: HDR AZ5144

Project Name: La Cholla Blvd

Project Number.: 047-059914-07

Sample Matrix: Soil

Date Sampled: 04/24/08

Date Received: 04/25/08

Date Reported: 05/06/08

Chain of Custody Received: Yes

Analytical Method: 8270C, 8260B


Mark Noorani, Laboratory Director

HDR Engineering, Inc.
 ATTN: Mr. Joel P. Hennings
 3200 E. Camelback Rd., Suite 350
 Phoenix, AZ 85018

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

VOLATILE ORGANICS BY GC/MS (EPA 8260B)

Sample Description: Soil

Sampled:	--	04/24/08	04/24/08	04/24/08	04/24/08	04/24/08
Received:	--	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Extracted:	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Analyzed:	05/02/08	05/02/08	05/02/08	05/02/08	05/02/08	05/02/08
Reported:	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08

Lab Sample #:	MBRP0425081	AZ5144-001	AZ5144-002	AZ5144-003	AZ5144-004	AZ5144-005
Client Sample #:	--	SB-1-5'	SB-2-5'	SB-3-5'	SB-4-5'	SB-5-5'

Dilution Factor:	1	1	1	1	1	1
Data Qualifier:						

ANALYTE	CAS #	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Acetone	67-64-1	<250	<250	<250	<250	<250	<250
Benzene	71-43-2	<50	<50	<50	<50	<50	<50
Bromobenzene	108-86-1	<50	<50	<50	<50	<50	<50
Bromochloromethane	74-97-5	<50	<50	<50	<50	<50	<50
Bromodichloromethane	75-27-4	<50	<50	<50	<50	<50	<50
Bromoform	75-25-2	<50	<50	<50	<50	<50	<50
Bromomethane	74-83-9	<250	<250	<250	<250	<250	<250
n-Butylbenzene	104-51-8	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	135-98-8	<50	<50	<50	<50	<50	<50
tert-Butylbenzene	98-06-6	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	56-23-5	<50	<50	<50	<50	<50	<50
Chlorobenzene	108-90-7	<50	<50	<50	<50	<50	<50
Chlorodibromomethane	124-48-1	<50	<50	<50	<50	<50	<50
Chloroethane	75-00-3	<250	<250	<250	<250	<250	<250
Chloroform	67-66-3	<50	<50	<50	<50	<50	<50
Chloromethane	74-87-3	<250	<250	<250	<250	<250	<250
2-Chlorotoluene	95-49-8	<50	<50	<50	<50	<50	<50
4-Chlorotoluene	106-43-4	<50	<50	<50	<50	<50	<50
1,2-Dibromoethane	106-93-4	<50	<50	<50	<50	<50	<50
1,2-Dichlorobenzene	95-50-1	<50	<50	<50	<50	<50	<50
1,3-Dichlorobenzene	541-73-1	<50	<50	<50	<50	<50	<50
1,4-Dichlorobenzene	106-46-7	<50	<50	<50	<50	<50	<50
1,1-Dichloroethane	75-34-3	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane	107-06-2	<50	<50	<50	<50	<50	<50
1,1-Dichloroethene	75-35-4	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	156-59-2	<50	<50	<50	<50	<50	<50
trans-1,2-Dichloroethene	156-60-5	<50	<50	<50	<50	<50	<50
cis-1,3-Dichloropropene	10061-01-5	<50	<50	<50	<50	<50	<50
trans-1,3-Dichloropropene	10061-02-6	<50	<50	<50	<50	<50	<50
Dichlorodifluoromethane	75-71-8	<250	<250	<250	<250	<250	<250
1,2-Dichloropropane	78-87-5	<50	<50	<50	<50	<50	<50

VOLATILE ORGANICS BY GC/MS (EPA 8260B) (continued)

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

Sampled:	---	04/24/08	04/24/08	04/24/08	04/24/08	04/24/08
Received:	---	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Extracted:	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Analyzed:	05/02/08	05/02/08	05/02/08	05/02/08	05/02/08	05/02/08
Reported:	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08

Lab Sample #:	MBRP0425081	AZ5144-001	AZ5144-002	AZ5144-003	AZ5144-004	AZ5144-005
Client Sample #:	---	SB-1-5'	SB-2-5'	SB-3-5'	SB-4-5'	SB-5-5'
Dilution Factor:	1	1	1	1	1	1

ANALYTE (con't)	CAS #	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,3-Dichloropropane	142-28-9	<50	<50	<50	<50	<50	<50
2,2-Dichloropropane	594-20-7	<50	<50	<50	<50	<50	<50
1,1-Dichloropropene	563-58-6	<50	<50	<50	<50	<50	<50
Ethylbenzene	100-41-4	<50	<50	<50	<50	<50	<50
Isopropylbenzene	98-82-8	<50	<50	<50	<50	<50	<50
4-Isopropyltoluene	99-87-6	<50	<50	<50	<50	<50	<50
Methyl t-butyl ether (MTBE)	1634-04-4	<50	<50	<50	<50	<50	<50
Methylene chloride	75-09-2	<250	<250	<250	<250	<250	<250
Naphthalene	91-20-3	<150	<150	<150	<150	<150	<150
n-Propylbenzene	103-65-1	<50	<50	<50	<50	<50	<50
Styrene	100-42-5	<50	<50	<50	<50	<50	<50
1,1,2,2-Tetrachloroethane	79-34-5	<50	<50	<50	<50	<50	<50
Tetrachloroethene	127-18-4	<50	<50	<50	<50	<50	<50
Toluene	108-88-3	<50	<50	<50	<50	<50	<50
1,2,3-Trichlorobenzene	87-61-6	<50	<50	<50	<50	<50	<50
1,1,1-Trichloroethane	71-55-6	<50	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	79-00-5	<50	<50	<50	<50	<50	<50
Trichloroethene	79-01-6	<50	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	<250	<250	<250	<250	<250	<250
1,2,3-Trichloropropane	96-18-4	<50	<50	<50	<50	<50	<50
1,2,4-Trimethylbenzene	95-63-6	<50	<50	<50	<50	<50	<50
1,3,5-Trimethylbenzene	108-67-8	<50	<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	<250	<250	<250	<250	<250	<250
Total Xylenes	1330-20-7	<150	<150	<150	<150	<150	<150
Acceptable Surrogate %RC		%RC	%RC	%RC	%RC	%RC	%RC
Dibromofluoromethane	38-205%	92	92	90	88	90	90
Toluene-d8	67-128%	91	91	92	91	92	91
4-Bromofluorobenzene	40-132%	85	86	85	85	86	86

HDR Engineering, Inc.
 ATTN: Mr. Joel P. Hennings
 3200 E. Camelback Rd., Suite 350
 Phoenix, AZ 85018

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

VOLATILE ORGANICS BY GC/MS (EPA 8260B)

Sample Description: Soil

Sampled:	04/24/08	04/24/08
Received:	04/25/08	04/25/08
Extracted:	04/25/08	04/25/08
Analyzed:	05/02/08	05/02/08
Reported:	05/06/08	05/06/08

Lab Sample #:	AZ5144-006	AZ5144-007
Client Sample #:	SB-6-5'	SB-7-5'

Dilution Factor:	1	1
Data Qualifier:		

ANALYTE	CAS #	µg/kg	µg/kg
Acetone	67-64-1	<250	<250
Benzene	71-43-2	<50	<50
Bromobenzene	108-86-1	<50	<50
Bromochloromethane	74-97-5	<50	<50
Bromodichloromethane	75-27-4	<50	<50
Bromoform	75-25-2	<50	<50
Bromomethane	74-83-9	<250	<250
n-Butylbenzene	104-51-8	<50	<50
sec-Butylbenzene	135-98-8	<50	<50
tert-Butylbenzene	98-06-6	<50	<50
Carbon tetrachloride	56-23-5	<50	<50
Chlorobenzene	108-90-7	<50	<50
Chlorodibromomethane	124-48-1	<50	<50
Chloroethane	75-00-3	<250	<250
Chloroform	67-66-3	<50	<50
Chloromethane	74-87-3	<250	<250
2-Chlorotoluene	95-49-8	<50	<50
4-Chlorotoluene	106-43-4	<50	<50
1,2-Dibromoethane	106-93-4	<50	<50
1,2-Dichlorobenzene	95-50-1	<50	<50
1,3-Dichlorobenzene	541-73-1	<50	<50
1,4-Dichlorobenzene	106-46-7	<50	<50
1,1-Dichloroethane	75-34-3	<50	<50
1,2-Dichloroethane	107-06-2	<50	<50
1,1-Dichloroethene	75-35-4	<50	<50
cis-1,2-Dichloroethene	156-59-2	<50	<50
trans-1,2-Dichloroethene	156-60-5	<50	<50
cis-1,3-Dichloropropene	10061-01-5	<50	<50
trans-1,3-Dichloropropene	10061-02-6	<50	<50
Dichlorodifluoromethane	75-71-8	<250	<250
1,2-Dichloropropane	78-87-5	<50	<50

VOLATILE ORGANICS BY GC/MS (EPA 8260B) (continued)

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

Sampled: 04/24/08 04/24/08
 Received: 04/25/08 04/25/08
 Extracted: 04/25/08 04/25/08
 Analyzed: 05/02/08 05/02/08
 Reported: 05/06/08 05/06/08

Lab Sample #: AZ5144-006 AZ5144-007
 Client Sample #: SB-6-5' SB-7-5'
 Dilution Factor: 1 1

ANALYTE (con't)	CAS #	µg/kg	µg/kg
1,3-Dichloropropane	142-28-9	<50	<50
2,2-Dichloropropane	594-20-7	<50	<50
1,1-Dichloropropene	563-58-6	<50	<50
Ethylbenzene	100-41-4	<50	<50
Isopropylbenzene	98-82-8	<50	<50
4-Isopropyltoluene	99-87-6	<50	<50
Methyl t-butyl ether (MTBE)	1634-04-4	<50	<50
Methylene chloride	75-09-2	<250	<250
Naphthalene	91-20-3	<150	<150
n-Propylbenzene	103-65-1	<50	<50
Styrene	100-42-5	<50	<50
1,1,2,2-Tetrachloroethane	79-34-5	<50	<50
Tetrachloroethene	127-18-4	<50	<50
Toluene	108-88-3	<50	<50
1,2,3-Trichlorobenzene	87-61-6	<50	<50
1,1,1-Trichloroethane	71-55-6	<50	<50
1,1,2-Trichloroethane	79-00-5	<50	<50
Trichloroethene	79-01-6	<50	<50
Trichlorofluoromethane	75-69-4	<250	<250
1,2,3-Trichloropropane	96-18-4	<50	<50
1,2,4-Trimethylbenzene	95-63-6	<50	<50
1,3,5-Trimethylbenzene	108-67-8	<50	<50
Vinyl chloride	75-01-4	<250	<250
Total Xylenes	1330-20-7	<150	<150
Acceptable Surrogate %RC		%RC	%RC
Dibromofluoromethane	38-205%	90	90
Toluene-d8	67-128%	92	92
4-Bromofluorobenzene	40-132%	86	86

HDR Engineering, Inc.
 ATTN: Mr. Joel P. Hennings
 3200 E. Camelback Rd., Suite 350
 Phoenix, AZ 85018

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

SEMI VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Sample Description: Soil

Sampled:	---	04/24/08	04/24/08	04/24/08	04/24/08	04/24/08
Received:	---	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Extracted:	04/28/08	04/28/08	04/28/08	04/28/08	04/28/08	04/28/08
Analyzed:	04/30/08	04/30/08	04/30/08	04/30/08	04/30/08	04/30/08
Reported:	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08

Lab Sample #:	MBIN0428081	AZ5144-001	AZ5144-002	AZ5144-003	AZ5144-004	AZ5144-005
Client Sample #:	---	SB-1-5'	SB-2-5'	SB-3-5'	SB-4-5'	SB-5-5'

Dilution Factor:	1	1	1	1	1	1
Data Qualifier:	S5	S5	S5	S5	S5	

ANALYTE	CAS #	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Acenaphthene	83-32-9	<100	<100	<100	<100	<100	<100
Acenaphthylene	208-96-8	<100	<100	<100	<100	<100	<100
Aniline	62-53-3	<100	<100	<100	<100	<100	<100
Anthracene	120-12-7	<100	<100	<100	<100	<100	<100
Benzoic acid	65-85-0	<1000	<1000	<1000	<1000	<1000	<1000
Benz(a)anthracene	56-55-3	<100	<100	<100	<100	<100	<100
Benzo(b)fluoranthene	205-99-2	<250	<250	<250	<250	<250	<250
Benzo(k)fluoranthene	207-08-9	<250	<250	<250	<250	<250	<250
Benzo(g,h,i)perylene	191-24-2	<250	<250	<250	<250	<250	<250
Benzo(a)pyrene	50-32-8	<250	<250	<250	<250	<250	<250
Benzyl alcohol	100-51-6	<100	<100	<100	<100	<100	<100
bis-(2-chloroethoxy) methane	111-91-1	<100	<100	<100	<100	<100	<100
bis-(2-chloroethyl) ether	111-44-4	<100	<100	<100	<100	<100	<100
bis-(2-chloroisopropyl) ether	39638-32-9	<100	<100	<100	<100	<100	<100
bis-(2-ethylhexyl) phthalate	117-81-7	<100	<100	<100	<100	<100	<100
4-Bromophenyl phenyl ether	101-55-3	<100	<100	<100	<100	<100	<100
Butyl benzyl phthalate	85-68-7	<100	<100	<100	<100	<100	<100
4-Chloroaniline	106-47-8	<100	<100	<100	<100	<100	<100
2-Chloronaphthalene	91-58-7	<100	<100	<100	<100	<100	<100
4-Chloro-3-methylphenol	59-50-7	<100	<100	<100	<100	<100	<100
2-Chlorophenol	95-57-8	<100	<100	<100	<100	<100	<100
4-Chlorophenyl phenyl ether	7005-72-3	<100	<100	<100	<100	<100	<100
Chrysene	218-01-9	<100	<100	<100	<100	<100	<100
Dibenz(a,h)anthracene	53-70-3	<100	<100	<100	<100	<100	<100
Dibenzofuran	132-64-9	<100	<100	<100	<100	<100	<100
Di-n-butyl phthalate	84-74-2	<250	<250	<250	<250	<250	<250
2,4-Dichlorophenol	120-83-2	<100	<100	<100	<100	<100	<100
Diethyl phthalate	84-66-2	<100	<100	<100	<100	<100	<100
2,4-Dimethylphenol	105-67-9	<100	<100	<100	<100	<100	<100
Dimethyl phthalate	131-11-3	<100	<100	<100	<100	<100	<100
4,6-Dinitro-2-methylphenol	534-52-1	<1000	<1000	<1000	<1000	<1000	<1000

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C) (continued)

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

Sampled:	---	04/24/08	04/24/08	04/24/08	04/24/08	04/24/08
Received:	---	04/25/08	04/25/08	04/25/08	04/25/08	04/25/08
Extracted:	04/28/08	04/28/08	04/28/08	04/28/08	04/28/08	04/28/08
Analyzed:	04/30/08	04/30/08	04/30/08	04/30/08	04/30/08	04/30/08
Reported:	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08	05/06/08

Lab Sample #:	MBIN0428081	AZ5144-001	AZ5144-002	AZ5144-003	AZ5144-004	AZ5144-005
Client Sample #:	---	SB-1-5'	SB-2-5'	SB-3-5'	SB-4-5'	SB-5-5'
Dilution Factor:	1	1	1	1	1	1

ANALYTE (con't)	CAS #	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dinitrophenol	51-28-5	<1000	<1000	<1000	<1000	<1000	<1000
2,4-Dinitrotoluene	121-14-2	<250	<250	<250	<250	<250	<250
2,6-Dinitrotoluene	606-20-2	<250	<250	<250	<250	<250	<250
Di-n-octyl phthalate	117-84-0	<250	<250	<250	<250	<250	<250
Fluoranthene	206-44-0	<100	<100	<100	<100	<100	<100
Fluorene	86-73-7	<100	<100	<100	<100	<100	<100
Hexachlorobenzene	118-74-1	<100	<100	<100	<100	<100	<100
Hexachlorobutadiene	87-68-3	<100	<100	<100	<100	<100	<100
Hexachlorocyclopentadiene	77-47-4	<500	<500	<500	<500	<500	<500
Hexachloroethane	67-72-1	<100	<100	<100	<100	<100	<100
Indeno(1,2,3-cd)pyrene	193-39-5	<250	<250	<250	<250	<250	<250
Isophorone	78-59-1	<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	91-57-6	<100	<100	<100	<100	<100	<100
2-Methylphenol	95-48-7	<100	<100	<100	<100	<100	<100
3 & 4-Methylphenol	108-39-4, 106-44-5	<100	<100	<100	<100	<100	<100
Naphthalene	91-20-3	<100	<100	<100	<100	<100	<100
2-Nitroaniline	88-74-4	<250	<250	<250	<250	<250	<250
3-Nitroaniline	99-09-2	<250	<250	<250	<250	<250	<250
4-Nitroaniline	100-01-6	<250	<250	<250	<250	<250	<250
Nitrobenzene	98-95-3	<100	<100	<100	<100	<100	<100
2-Nitrophenol	88-75-5	<100	<100	<100	<100	<100	<100
4-Nitrophenol	100-02-7	<1000	<1000	<1000	<1000	<1000	<1000
N-Nitrosodiphenylamine	86-30-6	<100	<100	<100	<100	<100	<100
N-Nitrosodi-n-propylamine	621-64-7	<100	<100	<100	<100	<100	<100
N-Nitrosodimethylamine	62-75-9	<100	<100	<100	<100	<100	<100
Pentachlorophenol	87-86-5	<1000	<1000	<1000	<1000	<1000	<1000
Phenanthrene	85-01-8	<100	<100	<100	<100	<100	<100
Phenol	108-95-2	<100	<100	<100	<100	<100	<100
Pyrene	129-00-0	<100	<100	<100	<100	<100	<100
1,2,4-Trichlorobenzene	120-82-1	<100	<100	<100	<100	<100	<100
2,4,5-Trichlorophenol	95-95-4	<100	<100	<100	<100	<100	<100
2,4,6-Trichlorophenol	88-06-2	<100	<100	<100	<100	<100	<100
Acceptable Surrogate %RC		%RC	%RC	%RC	%RC	%RC	%RC
2-Fluorophenol	50-159%	71	70	77	76	71	74
Phenol-d6	39-173%	72	70	77	77	72	75
Nitrobenzene-d5	46-195%	76	76	79	78	75	80
2-Fluorobiphenyl	85-165%	83	84	84	83	81	86
2,4,6-Tribromophenol	30-160%	75	75	86	88	83	83
Terphenyl-d14	66-173%	78	76	75	70	74	72

S5= Surrogate recovery was below laboratory acceptance limits.

HDR Engineering, Inc.
 ATTN: Mr. Joel P. Hennings
 3200 E. Camelback Rd., Suite 350
 Phoenix, AZ 85018

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

SEMI VOLATILE ORGANICS BY GC/MS (EPA 8270C)

Sample Description: Soil

Sampled:	04/24/08	04/24/08
Received:	04/25/08	04/25/08
Extracted:	04/28/08	04/28/08
Analyzed:	04/30/08	04/30/08
Reported:	05/06/08	05/06/08

Lab Sample #:	AZ5144-006	AZ5144-007
Client Sample #:	SB-6-5'	SB-7-5'

Dilution Factor:	1	1
Data Qualifier:	S5	S5

ANALYTE	CAS #	µg/kg	µg/kg
Acenaphthene	83-32-9	<100	<100
Acenaphthylene	208-96-8	<100	<100
Aniline	62-53-3	<100	<100
Anthracene	120-12-7	<100	<100
Benzoic acid	65-85-0	<1000	<1000
Benz(a)anthracene	56-55-3	<100	<100
Benzo(b)fluoranthene	205-99-2	<250	<250
Benzo(k)fluoranthene	207-08-9	<250	<250
Benzo(g,h,i)perylene	191-24-2	<250	<250
Benzo(a)pyrene	50-32-8	<250	<250
Benzyl alcohol	100-51-6	<100	<100
bis-(2-chloroethoxy) methane	111-91-1	<100	<100
bis-(2-chloroethyl) ether	111-44-4	<100	<100
bis-(2-chloroisopropyl) ether	39638-32-9	<100	<100
bis-(2-ethylhexyl) phthalate	117-81-7	<100	<100
4-Bromophenyl phenyl ether	101-55-3	<100	<100
Butyl benzyl phthalate	85-68-7	<100	<100
4-Chloroaniline	106-47-8	<100	<100
2-Chloronaphthalene	91-58-7	<100	<100
4-Chloro-3-methylphenol	59-50-7	<100	<100
2-Chlorophenol	95-57-8	<100	<100
4-Chlorophenyl phenyl ether	7005-72-3	<100	<100
Chrysene	218-01-9	<100	<100
Dibenz(a,h)anthracene	53-70-3	<100	<100
Dibenzofuran	132-64-9	<100	<100
Di-n-butyl phthalate	84-74-2	<250	<250
2,4-Dichlorophenol	120-83-2	<100	<100
Diethyl phthalate	84-66-2	<100	<100
2,4-Dimethylphenol	105-67-9	<100	<100
Dimethyl phthalate	131-11-3	<100	<100
4,6-Dinitro-2-methylphenol	534-52-1	<1000	<1000

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 8270C) (continued)

Laboratory Reference #: HDR AZ5144
 Client Project ID: La Cholla Blvd
 Client Project #: 047-059914-07

Sampled: 04/24/08 04/24/08
 Received: 04/25/08 04/25/08
 Extracted: 04/28/08 04/28/08
 Analyzed: 04/30/08 04/30/08
 Reported: 05/06/08 05/06/08

Lab Sample #: AZ5144-006 AZ5144-007
 Client Sample #: SB-6-5' SB-7-5'
 Dilution Factor: 1 1

ANALYTE (con't)	CAS #	µg/kg	µg/kg
2,4-Dinitrophenol	51-28-5	<1000	<1000
2,4-Dinitrotoluene	121-14-2	<250	<250
2,6-Dinitrotoluene	606-20-2	<250	<250
Di-n-octyl phthalate	117-84-0	<250	<250
Fluoranthene	206-44-0	<100	<100
Fluorene	86-73-7	<100	<100
Hexachlorobenzene	118-74-1	<100	<100
Hexachlorobutadiene	87-68-3	<100	<100
Hexachlorocyclopentadiene	77-47-4	<500	<500
Hexachloroethane	67-72-1	<100	<100
Indeno(1,2,3-cd)pyrene	193-39-5	<250	<250
Isophorone	78-59-1	<100	<100
2-Methylnaphthalene	91-57-6	<100	<100
2-Methylphenol	95-48-7	<100	<100
3 & 4-Methylphenol	108-39-4,106-44-5	<100	<100
Naphthalene	91-20-3	<100	<100
2-Nitroaniline	88-74-4	<250	<250
3-Nitroaniline	99-09-2	<250	<250
4-Nitroaniline	100-01-6	<250	<250
Nitrobenzene	98-95-3	<100	<100
2-Nitrophenol	88-75-5	<100	<100
4-Nitrophenol	100-02-7	<1000	<1000
N-Nitrosodiphenylamine	86-30-6	<100	<100
N-Nitrosodi-n-propylamine	621-64-7	<100	<100
N-Nitrosodimethylamine	62-75-9	<100	<100
Pentachlorophenol	87-86-5	<1000	<1000
Phenanthrene	85-01-8	<100	<100
Phenol	108-95-2	<100	<100
Pyrene	129-00-0	<100	<100
1,2,4-Trichlorobenzene	120-82-1	<100	<100
2,4,5-Trichlorophenol	95-95-4	<100	<100
2,4,6-Trichlorophenol	88-06-2	<100	<100
Acceptable Surrogate %RC		%RC	%RC
2-Fluorophenol	50-159%	67	72
Phenol-d6	39-173%	66	73
Nitrobenzene-d5	46-195%	74	76
2-Fluorobiphenyl	85-165%	78	83
2,4,6-Tribromophenol	30-160%	75	79
Terphenyl-d14	66-173%	69	73

S5= Surrogate recovery was below laboratory acceptance limits.

QA/QC Report
for
Volatile Organic Compounds (EPA 8260B)
Reporting Units: ppb

1. Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Date of Analysis : 05/02/08
Laboratory Sample No : AZ5143-001
Laboratory Reference No : HDR AZ5144

ANALYTE	R1	SP CONC	MS	MSD	% MS	% MSD	RPD	ACP%	ACP RPD
1,1-Dichloroethene	0.0	50	42	41	84	82	2	65-162	22
Benzene	0.0	50	52	52	104	104	0	80-138	21
Trichloroethene	0.0	50	54	54	108	108	0	76-123	21
Toluene	0.0	50	56	56	112	112	0	77-144	19
Chlorobenzene	0.0	50	55	55	110	110	0	78-134	18

Definition of Terms :

R1 Result of Laboratory Sample Number
 SP CONC Spike Concentration Added to Sample
 MS Matrix Spike Results
 MSD Matrix Spike Duplicate Results
 % MS Percent Recovery of MS: $\{(MS-R1) / SP\} \times 100$
 % MSD Percent Recovery of MSD: $\{(MSD-R1) / SP\} \times 100$
 RPD Relative Percent Difference: $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$
 ACP% Acceptable Range of Percent for MS/MSD
 ACP RPD Acceptable Relative Percent Difference

2. Laboratory Control Sample

Date of Analysis : 05/02/08
Laboratory Sample No : BV0502081

ANALYTE	SP CONC	RESULTS	% RECOVERY	ACCEPTABLE %
1,1-Dichloroethene	50	42	84	59-163
Benzene	50	51	102	78-136
Trichloroethene	50	53	106	72-122
Toluene	50	54	108	79-138
Chlorobenzene	50	53	106	78-133

QA/QC REPORT
for
Semi-Volatile Organic Compounds (EPA 8270C)
Reporting Units: ppb

1. Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Date of Analysis : 04/30/08
Laboratory Sample No : AZ5144-003
Laboratory Reference No : HDR AZ5144

ANALYTE	R1	SP CONC	MS ^{S5}	MSD	% MS	% MSD	RPD	ACP%	ACP RPD
Phenol	0.0	5000	3700	3600	74	72	3	34-98	32
2-Chlorophenol	0.0	5000	3300	3200	66	64	3	32-94	33
N-Nitrosodi-n-propylamine	0.0	2500	1900	1900	76	76	0	9-160	31
1,2,4-Trichlorobenzene	0.0	2500	2100	2200	84	88	5	26-121	24
4-Chloro-3-methylphenol	0.0	5000	3200	3100	64	62	3	34-88	38
Acenaphthene	0.0	2500	1900	2000	76	80	5	18-138	31
4-Nitrophenol	0.0	5000	3400	3200	68	64	6	26-106	40
2,4-Dinitrotoluene	0.0	2500	2100	2100	84	84	0	13-166	34
Pentachlorophenol	0.0	5000	3400	3300	68	66	3	15-115	37
Pyrene	0.0	2500	1800	1900	72	76	5	35-109	33

Definition of Terms :

R1 Result of Laboratory Sample Number
 SP CONC Spike Concentration Added to Sample
 MS Matrix Spike Results
 MSD Matrix Spike Duplicate Results
 % MS Percent Recovery of MS: $\{(MS-R1) / SP\} \times 100$
 % MSD Percent Recovery of MSD: $\{(MSD-R1) / SP\} \times 100$
 RPD Relative Percent Difference: $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$
 ACP% Acceptable Range of Percent for MS/MSD
 ACP RPD Acceptable Relative Percent Difference
 S5 Surrogate recovery was below laboratory acceptance limits.

2. Laboratory Control Sample

Date of Analysis : 04/30/08
Laboratory Sample No : IN0428081

ANALYTE	SP CONC	RESULTS	% RECOVERY	ACCEPTABLE %
Phenol	5000	3700	74	33-95
2-Chlorophenol	5000	3300	66	35-86
N-Nitrosodi-n-propylamine	2500	1900	76	2-168
1,2,4-Trichlorobenzene	2500	2100	84	19-125
4-Chloro-3-methylphenol	5000	3200	64	34-83
Acenaphthene	2500	2000	80	12-139
4-Nitrophenol	5000	3300	66	33-99
2,4-Dinitrotoluene	2500	2100	84	4-172
Pentachlorophenol	5000	3300	66	20-110
Pyrene	2500	1800	72	36-103

ARIZONA DEPARTMENT OF TRANSPORTATION SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER				ORG NUMBER				MATL		TYPE			PUR-POSE	TEST LAB	SIZE	SIZE %
TEST NO.				LOT OR SUFFIX		SAMPLED BY				MO	DAY	YEAR	TIME			MILITARY TIME
SAMPLED FROM										LIFT NO.		RDWY	STATION			IF MILEPOST, INPUT DECIMAL
ORIGINAL SOURCE					PROJECT ENGINEER / SUPERVISOR					PROJECT NUMBER			TRACS NUMBER			
REMARKS																
Test pit #1																

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	6.64	LB.
B. WET WEIGHT OF MATERIAL RETAINED ON THE #4 SIEVE	1.34	LB.
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE (A-B)	5.30	LB.
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	4.8	%
E. MOIST. CORRECTED FOR MATERIAL RETAINED ON THE #4 SIEVE	4.0	%
F. WEIGHT OF SAND & APPARATUS BEFORE FILLING HOLE	14.63	LB.
G. WEIGHT OF SAND & APPARATUS AFTER FILLING HOLE	6.12	LB.
H. WEIGHT OF SAND TO FILL HOLE AND CONE (F-G)	8.51	LB.
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE	3.36	LB.
J. WEIGHT OF SAND TO FILL HOLE (H-I)	5.15	LB.
K. DENSITY OF SAND	86.4	PCF
L. VOLUME OF HOLE $(\frac{J}{K})$	0.596	CF
M. WET DENSITY = $(\frac{A}{L})$	11.14	PCF
N. DRY DENSITY = $(\frac{M}{100 + E}) \times 100$	107.1	PCF
COMPACTION = $(\frac{N}{R}) \times 100$ OR $(\frac{N}{T}) \times 100$	91.1	%
COMPACTION SPECIFICATION	90	%

PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D, OR 1)	
O. SPECIFIC GRAVITY OF RETAINED #4	
P. ABSORPTION OF RETAINED #4	
Q. OPTIMUM MOISTURE	16.9 %
R. MAXIMUM DRY DENSITY	109.6 PCF

CORRECTION FOR RETAINED #4 (METHOD A OR ONE-POINT ONLY)

S. CORRECTED OPTIMUM MOISTURE	13.5 %
T. CORRECTED MAXIMUM DRY DENSITY	117.5 PCF

a. RETAINED ON #4 = $(\frac{B}{A}) \times 100$ 20 %

IF RET. ON #4 IS MORE THAN 50% (60% IF AB), GO NO FURTHER.

FOR METHOD A OR ONE POINT ONLY

$$E = \frac{[D(100 - a)] + a}{100}$$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL	12.57	LB.
c. WEIGHT OF MOLD	8.50	LB.
d. WEIGHT OF COMPACTED SOIL (b-c)	4.07	LB.
e. VOLUME OF MOLD	0.333	CF
f. WET DENSITY (d/e)	122.1	PCF
g. MOISTURE CONTENT	12.9	%
FAMILY OF CURVES IDENTIFICATION	& N	
Q. OPTIMUM MOISTURE	16.9	%
R. MAXIMUM DRY DENSITY	106.9	PCF

[Signature] 4/04
TEST OPERATOR AND DATE

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN AND DATE

FOR METHOD A OR ONE POINT ONLY

$$S = \frac{[Q(100 - a)] + a}{100}$$

$$T = \frac{[R(100 - a)] + [(56.2)(a)(O)]}{100}$$

ARIZONA DEPARTMENT OF TRANSPORTATION SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER				ORG NUMBER			MATL		TYPE			PUR-POSE		TEST LAB		SIZE		SIZE %	
TEST NO.				LOT OR SUFFIX		SAMPLED BY				MO DAY YEAR			TIME		MILITARY TIME				
SAMPLED FROM										LIFT NO.		RDWY		STATION					
ORIGINAL SOURCE										PROJECT ENGINEER / SUPERVISOR				PROJECT NUMBER				TRACS NUMBER	
REMARKS																			
test pit # 2																			

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	7.52	LB.
B. WET WEIGHT OF MATERIAL RETAINED ON THE #4 SIEVE	1.20	LB.
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE (A-B)	6.32	LB.
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	6.4	%
E. MOIST. CORRECTED FOR MATERIAL RETAINED ON THE #4 SIEVE	5.5	%
F. WEIGHT OF SAND & APPARATUS BEFORE FILLING HOLE	14.03	LB.
G. WEIGHT OF SAND & APPARATUS AFTER FILLING HOLE	5.19	LB.
H. WEIGHT OF SAND TO FILL HOLE AND CONE (F-G)	8.84	LB.
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE	3.36	LB.
J. WEIGHT OF SAND TO FILL HOLE (H-I)	5.48	LB.
K. DENSITY OF SAND	86.4	PCF
L. VOLUME OF HOLE $(\frac{V}{K})$	0.634	CF
M. WET DENSITY = $(\frac{A}{L})$	118.6	PCF
N. DRY DENSITY = $(\frac{M}{100 + E}) \times 100$	109.0	PCF
COMPACTION = $(\frac{N}{R}) \times 100$ OR $(\frac{N}{T}) \times 100$	94.0	%
COMPACTION SPECIFICATION	90	%

PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D, OR 1)	
O. SPECIFIC GRAVITY OF RETAINED #4	
P. ABSORPTION OF RETAINED #4	
Q. OPTIMUM MOISTURE	16.9 %
R. MAXIMUM DRY DENSITY	109.6 PCF

CORRECTION FOR RETAINED #4 (METHOD A OR ONE-POINT ONLY)

S. CORRECTED OPTIMUM MOISTURE	17.4 %
T. CORRECTED MAXIMUM DRY DENSITY	115.9 PCF

$$a. \text{ RETAINED ON \#4} = \left(\frac{B}{A}\right) \times 100 = \frac{1.20}{7.52} \times 100 = 16\%$$

IF RET. ON #4 IS MORE THAN 50% (60% IF AB), GO NO FURTHER.

FOR METHOD A OR ONE POINT ONLY

$$E = \frac{[D(100 - a)] + a}{100}$$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB.
c. WEIGHT OF MOLD		LB.
d. WEIGHT OF COMPACTED SOIL (b-c)		LB.
e. VOLUME OF MOLD		CF
f. WET DENSITY (d/e)		PCF
g. MOISTURE CONTENT		%
FAMILY OF CURVES IDENTIFICATION		&
Q. OPTIMUM MOISTURE		%
R. MAXIMUM DRY DENSITY		PCF

Sgt R. [Signature] 4/24
TEST OPERATOR AND DATE

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN AND DATE

FOR METHOD A OR ONE POINT ONLY

$$S = \frac{[Q(100 - a)] + a}{100}$$

$$T = \frac{[R(100 - a)] + [(56.2)(a)(O)]}{100}$$

ARIZONA DEPARTMENT OF TRANSPORTATION SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER				ORG NUMBER				MATL		TYPE			PUR-POSE	TEST LAB	SIZE	SIZE %
TEST NO.				LOT OR SUFFIX		SAMPLED BY				MO	DAY	YEAR	TIME			MILITARY TIME
SAMPLED FROM																
ORIGINAL SOURCE				PROJECT ENGINEER / SUPERVISOR				PROJECT NUMBER				TRACS NUMBER				
REMARKS																
Test Pit # 3																

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	644	LB.
B. WET WEIGHT OF MATERIAL RETAINED ON THE #4 SIEVE	149	LB.
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE (A-B)		LB.
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	4.8	%
E. MOIST. CORRECTED FOR MATERIAL RETAINED ON THE #4 SIEVE	3.9	%
F. WEIGHT OF SAND & APPARATUS BEFORE FILLING HOLE	1411	LB.
G. WEIGHT OF SAND & APPARATUS AFTER FILLING HOLE	587	LB.
H. WEIGHT OF SAND TO FILL HOLE AND CONE (F-G)	824	LB.
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE	336	LB.
J. WEIGHT OF SAND TO FILL HOLE (H-I)	488	LB.
K. DENSITY OF SAND	86.4	PCF
L. VOLUME OF HOLE $(\frac{J}{K})$	0565	CF
M. WET DENSITY = $(\frac{A}{L})$	114.0	PCF
N. DRY DENSITY = $(\frac{M}{100 + E}) \times 100$	109.7	PCF
COMPACTION = $(\frac{N}{R}) \times 100$ OR $(\frac{N}{T}) \times 100$	92.5	%
COMPACTION SPECIFICATION	90	%

PROCTOR DENSITY

PROCTOR NUMBER	2
PROCTOR METHOD (A, C, D, OR 1)	
O. SPECIFIC GRAVITY OF RETAINED #4	
P. ABSORPTION OF RETAINED #4	
Q. OPTIMUM MOISTURE	16.9
R. MAXIMUM DRY DENSITY	109.6

CORRECTION FOR RETAINED #4 (METHOD A OR ONE-POINT ONLY)

S. CORRECTED OPTIMUM MOISTURE	13.2
T. CORRECTED MAXIMUM DRY DENSITY	118.6

a. RETAINED ON #4 = $(\frac{B}{A}) \times 100$ 23%

IF RET. ON #4 IS MORE THAN 50% (60% IF AB), GO NO FURTHER.

FOR METHOD A OR ONE POINT ONLY

$$E = \frac{[D(100 - a)] + a}{100}$$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB.
c. WEIGHT OF MOLD		LB.
d. WEIGHT OF COMPACTED SOIL (b-c)		LB.
e. VOLUME OF MOLD		CF
f. WET DENSITY (d/e)		PCF
g. MOISTURE CONTENT		%
FAMILY OF CURVES IDENTIFICATION		
Q. OPTIMUM MOISTURE		%
R. MAXIMUM DRY DENSITY		PCF

Jay R. [Signature] 4/29
TEST OPERATOR AND DATE

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN AND DATE

FOR METHOD A OR ONE POINT ONLY

$$S = \frac{[Q(100 - a)] + a}{100}$$

$$T = \frac{[R(100 - a)] + [(56.2)(a)(O)]}{100}$$

ARIZONA DEPARTMENT OF TRANSPORTATION SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER				ORG NUMBER				MATL		TYPE		PUR-POSE	TEST LAB	SIZE	SIZE %	
TEST NO.				LOT OR SUFFIX		SAMPLED BY				MO	DAY	YEAR	TIME		MILITARY TIME	
SAMPLED FROM												LIFT NO.	RDWY	STATION		
ORIGINAL SOURCE												PROJECT ENGINEER / SUPERVISOR		PROJECT NUMBER		TRACS NUMBER
REMARKS																
Test Pit # 4																

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	6.94	LB.
B. WET WEIGHT OF MATERIAL RETAINED ON THE #4 SIEVE	1.19	LB.
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE (A-B)		LB.
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	4.4	%
E. MOIST. CORRECTED FOR MATERIAL RETAINED ON THE #4 SIEVE	3.8	%
F. WEIGHT OF SAND & APPARATUS BEFORE FILLING HOLE	13.89	LB.
G. WEIGHT OF SAND & APPARATUS AFTER FILLING HOLE	5.12	LB.
H. WEIGHT OF SAND TO FILL HOLE AND CONE (F-G)	8.77	LB.
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE	3.36	LB.
J. WEIGHT OF SAND TO FILL HOLE (H-I)	5.41	LB.
K. DENSITY OF SAND	86.4	PCF
L. VOLUME OF HOLE $(\frac{J}{K})$	0.626	CF
M. WET DENSITY = $(\frac{A}{L})$	110.9	PCF
N. DRY DENSITY = $(\frac{M}{100 + E}) \times 100$	106.8	PCF
COMPACTION = $(\frac{N}{R}) \times 100$ OR $(\frac{N}{T}) \times 100$	91.8	%
COMPACTION SPECIFICATION	90	%

PROCTOR DENSITY

PROCTOR NUMBER				
PROCTOR METHOD (A, C, D, OR 1)				
O. SPECIFIC GRAVITY OF RETAINED #4				
P. ABSORPTION OF RETAINED #4				%
Q. OPTIMUM MOISTURE	16.9			%
R. MAXIMUM DRY DENSITY	109.0			PCF

CORRECTION FOR RETAINED #4 (METHOD A OR ONE-POINT ONLY)

S. CORRECTED OPTIMUM MOISTURE	14.2	%
T. CORRECTED MAXIMUM DRY DENSITY	116.3	PCF

a. RETAINED ON #4 = $(\frac{B}{A}) \times 100$ 17 %

IF RET. ON #4 IS MORE THAN 50% (60% IF AB), GO NO FURTHER.

FOR METHOD A OR ONE POINT ONLY

$$E = \frac{[D(100 - a)] + a}{100}$$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL				LB.
c. WEIGHT OF MOLD				LB.
d. WEIGHT OF COMPACTED SOIL (b-c)				LB.
e. VOLUME OF MOLD				CF
f. WET DENSITY (d/e)				PCF
g. MOISTURE CONTENT				%
FAMILY OF CURVES IDENTIFICATION				&
Q. OPTIMUM MOISTURE				%
R. MAXIMUM DRY DENSITY				PCF

John R. Sts 4/24
TEST OPERATOR AND DATE

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN AND DATE

FOR METHOD A OR ONE POINT ONLY

$$S = \frac{[Q(100 - a)] + a}{100}$$

$$T = \frac{[R(100 - a)] + [(56.2)(a)(O)]}{100}$$

APPENDIX F

Asbestos and Lead Paint Assessment Reports

November 5, 2008

Mr. Ted Buell, PE
HDR Engineering, Inc.
5210 E. Williams Circle, Suite 530
Tucson, AZ 85711

Re: Asbestos Sampling Assessment Report
North La Cholla Boulevard, Between River Road and
West Ruthrauff Road
Pima County, AZ

Dear Mr. Buell:

HDR Engineering, Inc. (HDR) is pleased to provide you with this report of findings for the asbestos sampling effort for concrete culverts, drainage and bridge along North La Cholla Boulevard located between River Road and West Ruthrauff Road, in unincorporated Pima County, Arizona. The proposed project involves roadway widening. The intent of this sampling effort was to determine whether asbestos exists in the concrete material or other construction elements. The following sections present the project background, methodology, findings, and conclusions regarding asbestos content of the subject features.

BACKGROUND INFORMATION

Asbestos is a naturally-occurring mineral that has been used in thousands of construction applications for centuries. Asbestos possesses certain physical properties that make it an advantageous construction material. These properties include resistance to heat, fire, and chemical reaction, and plaster. Although rarely used in concrete mixtures, asbestos has been used as a binder in concrete, and will become friable (potential for airborne dispersion) when the concrete is disturbed or broken. Asbestos, for all its usefulness as a construction material, is also a human carcinogen and is heavily regulated to protect human health. For this reason, the Pima County Department of Transportation (PCDOT) collects and analyzes samples of concrete that are slated for disturbance during demolition or reconstruction of roadway sections. The results of the sample analysis are used to help PCDOT make decisions about how to handle and dispose of asbestos-containing disturbed concrete materials if they contain asbestos.

METHODOLOGY

On June 23, 2008, HDR mobilized to the area, to collect samples of concrete. One sample from each of the concrete features was collected (total of 15 samples). Concrete samples were collected by striking the concrete with a pre-cleaned steel hammer and collecting at least 0.5 ounce of the concrete material into a dedicated plastic bag for submittal to the laboratory. All samples were collected in accordance with HDR's approved chain-of-custody procedures, and the procedures required by the analytical laboratory for correct collection and preservation of these types of samples.

The samples were analyzed using Polarized Light Microscopy by a qualified analyst at EMC Analytical Services (EMC) in Phoenix. Samples were analyzed by Polarized Light Microscopy. Specific procedures used for sample analysis are included with the analytical report provided by EMC. Laboratory results are included in Appendix A.

FINDINGS

As indicated by the laboratory report included as Appendix A, no asbestos was detected in any of the samples collected.

CONCLUSIONS

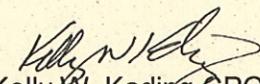
Based upon the analytical results from the collected samples, **none of the concrete materials sampled contains asbestos.**

HDR appreciates the opportunity to serve PCDOT and the design team on this important project. If you have any questions or comments, please feel free to contact us at (602) 522-7700.

Sincerely,

HDR ENGINEERING, INC.


Joel P. Hennings
Hazardous Materials Specialist


Kelly W. Kading CPG CHMM
Sr. Professional Associate,
Project Manager

JH/KWK

Appendix: (A) Analytical Report (EMC Analytical Services)
Distribution: (1) Christine Donaghue-Jacobs, Environmental Planner,
HDR Tucson
(3) Addressee

APPENDIX A
ANALYTICAL REPORTS

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0065905

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	HDR, INC.	Job# / P.O. #:	047-59914-07
Address:	3200 E. CAMELBACK RD, STE 350 PHOENIX AZ 85018	Date Received:	06/26/2008
Collected:	06/23/2008	Date Analyzed:	06/26/2008
Project Name/	LA CHOLLA BLVD	Date Reported:	06/26/2008
Address:		EPA Method:	EPA 600/M4-82-020
		Submitted By:	JOEL HENNINGS
		Collected By:	Customer

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0065905-001 LAC-1-SWC- RILLITORUR		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%
0065905-002 LAC-1-NWC- RILLITORUR		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-003 LAC-2-NWC- CURTIS		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%
0065905-004 LAC-3-SWC- CURTIS		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-005 LAC-4-GRATE- W		Concrete, Beige/ Gray/ Tan	No		Gypsum Perlite Mica Quartz Binder/Filler 100%
0065905-006 LAC-5-GRATE- E		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0065905

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	HDR, INC.	Job# / P.O. #:	047-59914-07
Address:	3200 E. CAMELBACK RD, STE 350 PHOENIX AZ 85018	Date Received:	06/26/2008
Collected:	06/23/2008	Date Analyzed:	06/26/2008
Project Name/	LA CHOLLA BLVD	Date Reported:	06/26/2008
Address:		EPA Method:	EPA 600/M4-82-020
		Submitted By:	JOEL HENNINGS
		Collected By:	Customer

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0065905-007 LAC-6-GRATE- SEC		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%
0065905-008 LAC-7-SEC- JAYAVE		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-009 LAC-8-SEC- NOREEN		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-010 LAC-9-NEC- RUTH		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-011 LAC-10-SEC- RUTH		Concrete, Beige/ Gray/ Tan	No		Gypsum Carbonates Mica Quartz Binder/Filler 100%
0065905-012 LAC-11-SEC- RUTH		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0065905

Bulk Asbestos Analysis by Polarized Light Microscopy

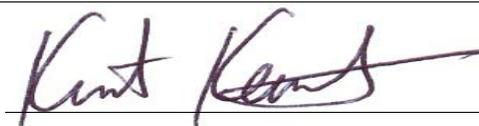
NVLAP#101926-0

Client:	HDR, INC.	Job# / P.O. #:	047-59914-07
Address:	3200 E. CAMELBACK RD, STE 350 PHOENIX AZ 85018	Date Received:	06/26/2008
Collected:	06/23/2008	Date Analyzed:	06/26/2008
Project Name/	LA CHOLLA BLVD	Date Reported:	06/26/2008
Address:		EPA Method:	EPA 600/M4-82-020
		Submitted By:	JOEL HENNINGS
		Collected By:	Customer

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0065905-013 LAC-BRIDGE- RAIL		Concrete, Beige/ Gray/ Tan	No		Gypsum Perlite Mica Quartz Binder/Filler 100%
0065905-014 LAC-BRIDGE- BEAM		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%
0065905-015 LAC-BRIDGE- SUPPORT		Concrete, Beige/ Gray/ Tan	No		Cellulose Fiber <1% Gypsum Carbonates Mica Quartz Binder/Filler 99%



Analyst - Paul Hofer



Signatory - Lab Director - Kurt Kettler

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernable layer. All analyses are derived from calibrated visual estimate and measured in weight percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately <1% by weight. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by any entity to claim product endorsement by NVLAP or any agency of the U.S. Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

November 5, 2008

Mr. Ted Buell, PE
HDR Engineering, Inc.
5210 E. Williams Circle, Suite 530
Tucson, AZ 85711

Re: Investigation Results – Rillito Bridge Paint Sampling Investigation
North La Cholla Boulevard
Unincorporated Pima County, AZ

Dear Mr. Buell:

HDR Engineering, Inc. (HDR) is pleased to present the results of this Paint Sampling Investigation (PSSI) for the above-referenced project. The project included collection of paint chip samples from undisturbed bridge paint on the beams of the Rillito river bridge (gray paint), as well as paint on walkway railings (brown paint) below the bridge. The paint chip samples were then analyzed by a fixed-base laboratory. This letter presents the results of that analysis.

BACKGROUND

HDR mobilized to the project site on June 23, 2008 to collect paint chip samples. The project includes widening of North La Cholla Boulevard between River Road and Ruthrauff Road.

SAMPLING METHODOLOGY

HDR collected paint chip samples of two types of paint. The paint types were both single layers, and included gray paint from the bridge members and brown paint from the walkway railing.

A section of paint adequate for laboratory analytical needs (minimum 2 grams) was collected, using a decontaminated steel chisel driven by a hammer. In all cases, the paint was removed in large flakes (1/4 inch to 2 inches long, of irregular shape). The paint chips were immediately placed into dedicated containers using a clean, latex-gloved hand with new gloves applied between each sampling point to avoid cross-contamination. The samples were transported under chain-of-custody procedures to a fixed-base laboratory for analysis. No holding time limitations or sample preservation protocols were required for the selected analytical method.

LABORATORY ANALYTICAL PROGRAM

HDR submitted the samples to a fixed-base laboratory (EMC Labs, Inc.) for analysis. The analytical program included analysis of samples by EPA Test Method SW-846 7420, Lead by Flame Atomic Absorption. EMC has provided HDR with a QA / QC program manual for their process, and this document is available for review at either HDR or EMC.

RESULTS

The laboratory results are reported in the following paragraphs, and are summarized in Table 1. The regulatory references cited include the following: for paint in place, United States Housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 1997*; for waste disposal of removed paint materials, *Management and Disposal of Lead-Based Paint Debris, Proposed Rule, 40 CFR Part 745 and 40 CFR Part 260*. HUD levels are applied, because they are the only regulatory references that apply to screening level paint concentrations.

Regulatory Reference	Action Level	Table 1	
Disposal	5	Analytical Results Analyzed By EPA Method 7420 Lead:	
HUD	5000	Units in mg/kg (ppm)	
Sample ID	Results	Color of Paint	Location of Sample
LAC-Bridge-E	514	Gray	East side of bridge
LAC-Bridge-W	272	Gray	West side of bridge
LAC-Rail-E	632	Brown	East rail
LAC-Rail-W	1060	Brown	West rail

RCRA Toxicity Characteristic Leachate Procedure (TCLP) Disposal Limits 40 CFR Part 745 and 40 CFR Part 260, 1999

EPA HUD Standard, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 1997*

BRL – Below Reporting Limits as defined in the laboratory report

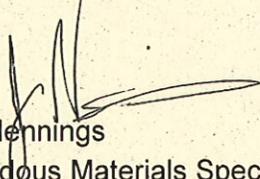
CONCLUSION

The paint chip results indicated that both the gray and brown paint is lead containing. The levels measured in the gray and brown paint are below the HUD action level for paint. However, the results of the analysis are specific to paint in place, and when aggregated for disposal, lead concentrations may be higher. In order to determine whether the paint waste stream would require special handling, the waste stream would need to be sampled following paint removal and laboratory analyzed for TCLP parameters.

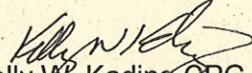
HDR appreciates the opportunity to serve PCDOT on this important project. If you have any questions regarding the content of this report, please do not hesitate to call us at HDR's Phoenix office (602-522-7700).

Cordially,

HDR ENGINEERING, INC.



Joel Hennings
Hazardous Materials Specialist



Kelly W. Kading CPG CHMM
Sr. Professional Associate,
Project Manager

Enclosures:

Appendix A – Laboratory Report

APPENDIX A
LABORATORY REPORT



9830 South 51st Street, Suite B-109 / PHOENIX, ARIZONA 85044 / 480-940-5294 or 800-362-3373 / FAX 480-893-1726
emclab@emclabs.com

LEAD (Pb) IN PAINT CHIP SAMPLES
EMC SOP METHOD #L01/1 EPA SW-846 METHOD 7420

EMC LAB #: L33983			DATE RECEIVED: 06/26/08		
CLIENT: HDR Inc.			REPORT DATE: 06/26/08		
			DATE OF ANALYSIS: 06/26/08		
CLIENT ADDRESS: 3200 E. Camelback Road Ste. 350 Phoenix, AZ 85018			P.O. NO.:		
PROJECT NAME: La Cholla Blvd.			PROJECT NO.: 047-59914-07		
EMC # L33983-	SAMPLE DATE /08	CLIENT SAMPLE #	DESCRIPTION	REPORTING LIMIT IN PPM	Pb IN PPM
1	06/23	LAC-Bridge-E	Lead Paint	100	514
2	06/23	LAC-Bridge-W	Lead Paint	100	272
3	06/23	LAC-Rail-E	Lead Paint	100	632#
4	06/23	LAC-Rail-W	Lead Paint	100	1060#

^ = Dilution Factor Changed Ins. = Insufficient Sample for Analysis * = Excessive Substrate May Bias Sample Results BRL = Below Reportable Limits
= Very Small Amount Of Sample Submitted, May Affect Result

This report applies to the standards or procedures identified and to the samples tested only. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted.

Where it is noted that a sample with excessive substrate was submitted for laboratory analysis, such analysis may be biased. The lead content of such sample may, in actuality, be greater than reported. EMC makes no warranty, express or implied, as to the accuracy of the analysis of samples noted to have been submitted with excessive substrate. Resampling is recommended in such situations to verify original laboratory results.

These reports are for the exclusive use of the addressed client and are rendered upon the condition that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. Samples not destroyed in testing are retained a maximum of sixty (60) days.

ANALYST: 
Jason Thompson

QA COORDINATOR: 
Kurt Kettler