

ROOSEVELT IRRIGATION DISTRICT

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SUPERINTENDENT
DONOVAN L. NEESE

Date: July 11, 2014

From: Donovan L. Neese

To: Ms. Ana Vargas
Manager, Remedial Project Unit
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

Attachments: Draft Feasibility Study Report - WVBA WQARF Registry Site
(2 copies)

**Re: DRAFT FEASIBILITY STUDY REPORT
WEST VAN BUREN AREA WQARF REGISTRY SITE
PHOENIX, ARIZONA**

Dear Ms. Vargas:

Roosevelt Irrigation District (RID) is submitting two copies of the attached Draft Feasibility Study (FS) Report for the Regional Groundwater Remedy Evaluation of the West Van Buren Area WQARF Registry Site (WVBA Site) in Phoenix, Arizona. RID is submitting this Draft FS Report pursuant to (1) Arizona Revised Statutes (ARS) §§ 49-282.05 and 49-287.03, which stipulate that anyone may, by written agreement with ADEQ, perform all or a portion of a FS at a WQARF registry site, provided the work will be conducted in accordance with remedial action criteria and rules adopted pursuant to ARS § 49-282.06, and (2) that certain *Agreement to Conduct Work*, dated October 8, 2009 and amended February 27, 2014, between ADEQ and RID that committed RID to submit a detailed FS Work Plan for the WVBA Site and to conduct all work under the approved FS Work Plan.

This Draft FS Report provides the results of the work that was conducted by RID to formulate and evaluate remedial alternatives and identify a proposed regional groundwater remedy for the WVBA Site. The FS process complied with Arizona Administrative Code (AAC) R18-16-407 and is being conducted in compliance with the community involvement procedures pursuant to AAC R18-16-404 and the Community Involvement Plan for the WVBA Site prepared by ADEQ.

As ADEQ is clearly aware, RID has been working diligently to address the impact of hazardous substances within the WVBA Site on RID wells and water supply and to protect against any loss or impairment of RID's current or future water uses. We offer this Draft FS Report and the proposal contained herein as a comprehensive and long term remedy to address the widespread regional groundwater contamination problem. As we have consistently stated to ADEQ, RID is the sole water provider whose existing water supply wells have been impacted by the WVBA Site groundwater contaminant plume and the adjacent commingled

contaminant plumes and is the only party capable or qualified to conduct an FS that will meet all legally applicable requirements and implement the final groundwater remedy selected by ADEQ. The proposed final groundwater remedy from the Draft FS Report not only addresses the many impacted and threatened RID wells in the WVBA Site, but also ensures that all other existing water provider wells that are impacted or threatened by the contamination are protected for their current and reasonably foreseeable water end uses as required by applicable state law requirements of the WQARF program.

RID has fast-tracked the development of this Draft FS Report to enable ADEQ to expediently move forward with remedy selection at the WVBA Site. We have demonstrated in the Draft FS Report that the proposed groundwater remedy represents a highly cost-effective response action to the largest contaminated groundwater plume in Arizona. We respectfully urge ADEQ to decisively act and select the proposed final groundwater remedy, in support of ADEQ's stated goal embraced in the ADEQ FY 2014-2018 Strategic Plan of accelerating clean-ups to reduce the cost and time it takes to restore Arizona's impaired waters so they are increasingly available to support future development.

Since this Draft FS Report is part of an ongoing effort by RID to seek approval for a remedial action to address our impacted wells and water supply, the information appended to this transmittal letter provides further information to support this submittal of the RID Draft FS Report. This additional information is provided consistent with the requirements of AAC R18-16-413.

We appreciate your prompt consideration and are available to meet and discuss the RID Draft FS Report at your convenience.

Best Regards,
Roosevelt Irrigation District



Donovan L. Neese
Superintendent

Transmittal Letter only:

cc: Henry Darwin, Arizona Department of Environmental Quality
Laura Malone, Arizona Department of Environmental Quality
Tina LePage, Arizona Department of Environmental Quality
Danielle Taber, Arizona Department of Environmental Quality
David Kimball, Gallagher & Kennedy
Tim Leo, Montgomery & Associates
Lawrence Moore, Lawrence Moore & Associates
Dennis Shirley, Synergy Environmental

**INFORMATION PROVIDED BY ROOSEVELT IRRIGATION DISTRICT FOR
APPROVAL OF A REMEDIAL ACTION UNDER AAC § R18-16-413**

1. *The name and address of the person submitting the request and the nature of the relationship of the person to the site.*

Roosevelt Irrigation District
103 West Baseline Road
Buckeye, Arizona 85326

Roosevelt Irrigation District (RID) was formed as a political subdivision of the State in 1919 to provide needed water to an approximately 38,000-acre service area in western Maricopa County. RID operates 33 water supply wells within or in close proximity to the WVBA Site. Of the 33 RID wells in this wellfield, 24 are currently contaminated by hazardous substances that are contaminants of concern (COCs) within the meaning of ARS § 49-201, and 13 wells, and the water supply from those wells, currently exceed the applicable aquifer water quality standards in ARS § 49-223.A and 49-224.B and the Arizona maximum contaminant levels for a drinking water source in AAC R18-11-406 for one or more of the COCs.

2. *The location and boundaries of the site or portion of the site addressed by the remedial action.*

The location and approximate boundaries of the WVBA Site that have been addressed in this FS are defined in Section 1.3.1 of the Terranext Remedial Investigation Report, West Van Buren Area WQARF Registry Site, Phoenix, Arizona dated August 2012 (Final RI Report).

3. *The nature, degree, and extent of hazardous substance contamination, if known.*

The nature, degree, and extent of hazardous substance contamination in the WVBA Site are defined in Section 4.0 of the Final RI Report.

4. *A description of any remedial action performed before the request is submitted.*

Previous remedial investigations and actions conducted at the WVBA Site are described in Section 2.0 of the Final RI Report. In addition, RID has initiated a voluntary, ADEQ-approved Early Response Action at the WVBA Site to mitigate the impact of hazardous substances on public health, welfare and the environment at some of the most highly contaminated RID wells and to protect against any loss or impairment of its current or future water uses.

5. *A work plan for any remedial action to be performed after the request is submitted.*

RID provided a Draft FS Work Plan for the WVBA Site for ADEQ's review and approval on February 8, 2013. After receipt of comments from ADEQ on this Draft FS Work Plan, a Final FS Work Plan was submitted to ADEQ on June 21, 2013 was approved by ADEQ on July 16, 2013. The approved Final FS Work Plan defined the work to be voluntarily conducted by RID to formulate and evaluate remedial alternatives and identify a proposed regional groundwater remedy for the WVBA Site consistent with

that certain *Agreement to Conduct Work*, dated October 8, 2009 and amended February 27, 2014, between ADEQ and RID.

The Draft FS Report, dated July 2014, submitted under this transmittal letter is the result of the FS work voluntarily conducted by RID in accordance with the approved Final FS Work Plan dated June 21, 2013.

6. *A demonstration of how the remedial action complied, or will comply, with the Article.*

The Draft FS Report describes the development of and technical approach for four (4) alternatives for consideration as the final regional groundwater remedy for the WVBA Site. The procedural steps and conduct of this work is in accordance with the Arizona Administrative Code (AAC) R-18-16-407 and R18-16-404. Consistent with the *Agreement to Conduct Work* between RID and ADEQ (dated October 8, 2009 and amended February 27, 2014), the Draft FS Report and all subsequent deliverables, plans and reports will be submitted to ADEQ for review and approval. After submittal of the Draft FS Report and all subsequent deliverables, plans and reports, RID will meet with ADEQ to discuss and agree on any modifications, if any, to ensure ADEQ's approval and that the Final FS Report is in substantial compliance with the WQARF Program statute and rules.

7. *A proposal for public notice and an opportunity for public comment on the application for approval under this Section.*

Consistent with AAC § R18-16-413 and the Community Involvement Plan for West Van Buren WQARF Site prepared by ADEQ and released in December 2011, RID will coordinate with ADEQ to ensure that a public notice is issued that provides external stakeholders with an opportunity to comment on the Draft FS Report and RID's request to implement the final groundwater remedial action selected by ADEQ during the FS process.

The public notice will be provided to the general public and interested parties, including the potentially responsible parties identified in the Final RI Report.

The proposal shall include a list of names and addresses of persons whom the applicant believes to be responsible parties under ARS § 49-283 and a summary of the basis for that belief.

RID believes the persons who are responsible parties under ARS § 49-283 are the parties identified in the Final RI Report for the WVBA Site and in EPA, ADEQ and other state public records. The basis for this belief is that these government records document releases of hazardous substances (which are the same type addressed in this Draft FS Report) detected in soils, soil gas, or groundwater at facilities owned or operated or formerly owned and operated by the identified parties or their predecessors, successors or assigns. (See Appendix A, which contains copies of relevant portions of the Final RI Report and other ADEQ public records providing the names and addresses of the persons RID believes are responsible parties under ARS § 49-283)

8. *An agreement in which the person requesting the approval agrees:*

- a. *To grant access to the Department as necessary to evaluate the request for approval.*
- b. *To reimburse the Department for the Department's costs under subsection (G).*

RID does not believe access is required by ADEQ to evaluate the Draft FS Report, but RID has entered into a working agreement with ADEQ, effective October 8, 2009, which requires that RID:

- Prepare and submit detailed work plans detailing the work to be conducted pursuant to the agreement with ADEQ;
- Conduct all work in accordance with the approved work plans;
- Conduct all work in accordance with rules adopted under ARS § 49-282.06;
- Submit all results, data, and information obtained by RID from the work undertaken pursuant to the agreement with ADEQ; and,
- Reimburse ADEQ for reasonable and necessary response costs incurred in reviewing and overseeing the work

9. *An original seal imprint and signature of a registered professional if required by the Arizona Board of Technical Registration under ARS Title 32, Chapter 1 and the rules made under this Chapter.*

On behalf of RID, registered geology and engineering professionals at Synergy Environmental have signed and sealed the Draft FS Report that accompanies this transmittal letter.

APPENDIX A

SUPPLEMENTAL INFORMATION PROVIDED BY ROOSEVELT IRRIGATION DISTRICT FOR APPROVAL OF A REMEDIAL ACTION UNDER AAC § R18-16-413

Excerpts from the *Final Remedial Investigation Report* for the
West Van Buren Area WQARF Registry Site (Terranext, 2012)
Providing the names and addresses of potentially responsible parties

**REMEDIAL INVESTIGATION REPORT
West Van Buren Area WQARF Registry Site
Phoenix, Arizona**

Volume I

Terranext Project No. 03103154

Prepared For:

**Arizona Department of Environmental Quality
1110 West Washington
Phoenix, Arizona 85007**

August 2012

**REMEDIAL INVESTIGATION REPORT
West Van Buren Area WQARF Registry Site
Phoenix, Arizona**

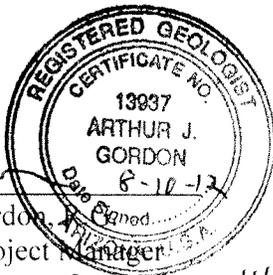
Volume I

August 2012

Prepared By:

AG/L

Arthur J. Gordon, R.G.
Terranext Project Manager



Reviewed By:

Kevin C. Snyder

Kevin C. Snyder, R.G.
Arizona Department of Environmental Quality

This well was previously sampled in October 1994 and neither VOCs nor chromium were detected at that time (West Van Buren Group, 1995).

1.3.2.3 Phoenix Terminal Group

The Phoenix Terminal is a petroleum storage and distribution facility located between 51st and 55th Avenues south of West Van Buren Street. Numerous releases of petroleum compounds have occurred from storage tanks and piping owned by various companies that have operated at the site (ENSR, 1988). Contamination from these releases has extended to groundwater. Groundwater monitor wells have been installed to evaluate the extent of contamination at the site. SVE systems have been used to remediate soil contamination, while skimmers have been installed to remove free product.

Ten companies that owned, operated, controlled, or had interests in petroleum facilities at the Phoenix Terminal formed the Phoenix Terminal Group in the early 1990s to work with ADEQ in resolving issues related to the soil and groundwater contamination. The original group consisted of Santa Fe Pacific Pipeline, Atlantic Richfield Co., Maricopa County, Chevron, Salt River Project (SRP), Texaco, Shell, Unocal, Powerine Oil Co., and Cal Jet Inc. The group name and membership has varied from year to year. An RI and FS have been completed by the Phoenix Terminal Group. ADEQ no longer provides oversight of Phoenix Terminal activities under the WQARF program.

1.3.2.4 Facility Histories

Reynolds Metals Co., a former aluminum extrusion facility, was located between 35th and 43rd Avenues, and between Van Buren and the Union Pacific Railroad tracks in Phoenix which encompasses approximately 320 acres of land (HydroGeoLogic, 2007a) (Appendix A). The facility was constructed at some time prior to 1946 under authority of the U.S. Government's Defense Plant Corporation as part of our country's war effort. Aluminum Corporation of America (ALCOA) operated the plant from the time of construction until 1946. Reynolds took over operational control in 1946 and remained in control through the 1980s. On October 21, 1983, all production was stopped.

Two different degreasing processes were used in the plant: Stoddard solvent and vapor recovery. The Stoddard solvent system operated from the construction date until the early 1970s. The Stoddard solvent consisted of 85 percent nonane and 15 percent trimethylbenzene. Still bottom sludge reportedly was sent to percolation ponds near the Salt River. New solvent was received by rail and stored in one of the two 25,000 gallon USTs near the still. The solvent recovery process used an enclosure that was partially filled with TCA. In 1979, Reynolds purchased 75,000 gallons of TCA to use in a vapor recovery degreasing unit. The vapor recovery degreasing unit was installed as a replacement unit for the Stoddard solvent degreasing unit in the early 1970s and used until closure of the plant in 1983. The difference between the volume of purchased TCA, and that shipped off site is between 62,600 and 72,300 gallons per year due to use, evaporation, spillage or leaking plumbing. Initial site investigations in 1988 identified chromium, petroleum hydrocarbons, and VOCs such as TCA, TCE, and PCE in soils

beneath Reynolds Metal Company property. Structures were removed from the site while the property was deeded to Reywest Development Company (Reywest), a subsidiary of Reynolds, to sell the property as subdivided parcels.

VW&R, now owned by Univar, is a chemical distribution facility located at 50 South 45th Avenue (HydroGeoLogic, 2007b) (Appendix B). The site was acquired in 1969 and in 1971 the office/warehouse was built. Prior to purchase by VW&R, the property was undeveloped farm land. Site activities are limited to the western half of the approximate nine acre site and include the warehousing, distributing, repackaging, and transporting of industrial chemicals. No development or activities have occurred on the eastern portion of the facility. Areas of operation include a waste water pretreatment system and sewer interceptor, bulk solvent tank farm, bulk corrosive tank farm, former Resource Conservation and Recovery Act (RCRA) interim status container storage unit, and office/warehouse building. The RCRA unit was used from 1982 through 1988, eventually receiving closure from ADEQ.

Maricopa County Materials Management is the current owner of the property located at 320 West Lincoln St (HydroGeoLogic, 2007c) (Appendix C). The property was formerly leased to Southwest Solvents and was formerly owned by Union Pacific Railroad; neither entity was part of the WVBG. The site is just over four acres and currently has two buildings, one approximately 76,000 square feet in size used as a warehouse, printing facility, and office space, and one building approximately 20,000 square feet used for storing county court records. The warehouse area of the main building is used primarily to store materials of a non-hazardous nature. The building was reportedly built in 1975.

Prior to purchase by Maricopa County, the property was divided into multiple lots. Previous occupants of the site included Southern Pacific Transportation Company (succeeded by Union Pacific Railroad Company), Linde Air Product Company, Arizona Public Service Company (APS), and Southwest Solvents, a cleaning solvent recycling company. Southwest Solvents operated in the northwest corner of the site for approximately ten years. In 1964, Southwest Solvents located its solvent reclaiming operation to the site and operated until its lease was terminated in 1974. Southwest Solvents initially purchased or was given spent solvent from local industrial facilities to be reclaimed. Upon distillation, Southwest Solvents sold the pure product. The company operated three stills on-site and disposed of its hazardous waste at disposal sites in California and Nevada. Spent solvent that Southwest Solvents primarily reclaimed on-site included PCE, TCE, TCA, and Freon. PCE came primarily from dry cleaning sludge and TCE from industrial customers who used the solvent to clean metal parts. The spent solvents were stored on-site in 55-gallon drums for short periods of time. Southwest Solvents had two 150-gallon stainless steel stills that were used to distill spent solvents at a rate of 55 gallons per hour. The company had a glass still that would separate solvents. After several hundred gallons of spent solvent were recycled, still-bottom sludge was cleaned out of the stills, placed in 55-gallon drums, solidified, and shipped out of state. Southwest Solvents used TCA in a drum washer machine. The machine cleaned the inside of reusable drums that were reconditioned for new solvents and redistilled products. In the late 1960s, Southwest Solvents began to accept acetone, methyl ethyl

ketone and isopropyl alcohol. In 1974, MCMM purchased the property and constructed a warehouse on the property, which housed a printing operation involving the use of multi-graphic blankwash cleaning solution and SafetyKleen cleaning solution, both containing PCE. The MCMM warehouse is located east of the former Southwest Solvents building.

APS, current owner of the adjacent eastern property at 501-505 S. 2nd Ave., once had a two-story building that held a Univac mainframe computer and accounting/treasury offices located on the eastern portion of the 320 W. Lincoln St. property. APS is conducting work under an agreement with EPA at their facility location at the western edge of the Operable Unit 3 (OU3) portion of the Motorola/52nd Street Federal Superfund site bordering the WVBA WQARF Registry site at the MCMM facility (AMEC Earth and Environmental, 2007).

Dolphin, Inc., located at 740 South 59th Avenue, is a precision metal casting facility which produces precision aviation components and custom golf club heads (HydroGeoLogic, 2007d) (Appendix D). Dolphin's manufacturing operations consisted of four main processes: wax pattern preparation, silica shell preparation, casting and cleaning and finishing. The property was first developed in 1968 by Rueter Inc. as an investment casting operation. Dolphin bought the property in 1972 and continued casting operations. Additional property purchases in 1984 and 1988 expanded the facility to its current size. The site contains eight buildings six of which were constructed specifically for Dolphin's operations. The facility includes approximately 13.5 acres consisting of five areas identified as Dolphin I, Dolphin III, Dolphin IV, Dolphin VI, and Dolphin VII. The building known as Dolphin IV was never used for manufacturing operations and was demolished several years ago. Dolphin I, Dolphin III, Dolphin VI, and Dolphin VII consist of manufacturing facilities, offices, warehouse, drum storage, vapor degreaser, and sewer interceptor. The vapor degreaser was a small unit inside one of the manufacturing buildings and was removed from the site in 1994 when Dolphin discontinued use of chlorinated solvents at the site. Two sewer interceptors were formerly used to remove solids from facility wastewater and were closed in the 1990's. Chromium is present in the steel used by Dolphin to manufacture its products while PCE and TCA were both used to degrease casting molds. PCE was among the chemicals used at the Dolphin site and had been used since the initial portion of the site was developed in 1968. PCE was dispensed from drums for use in vapor degreasing and other cleaning activities. Wax molds were cleaned by washing in aboveground dip tanks that contained solvent and rinse water. Equipment, work surfaces, and metal parts were cleaned by wipe cleaning and vapor degreasing. During 1990 and 1991, Dolphin instituted a source reduction of PCE and TCA cleaning operations by transitioning to citrus-based solvents. In September 1992, a release of liquid and sludge material occurred at Dolphin's production facility, known as Dolphin III. Analysis indicated that the release material contained PCE, TCE, 1,1-DCE, and total recoverable petroleum hydrocarbons (TRPH). PCE was limited to vapor degreasing and removal of seams from wax molds. PCE use was discontinued at the facility in 1994 and replaced with a terpene-based substance for degreasing operations. Cleaning solvents may have been present in wastewater discharged through Dolphin I's sanitary sewer pipes. In 1994, PCE was found downgradient and adjacent from the closed sewer interceptor. As of 1999, Dolphin had

four drywells on the property. Between 1992 and 2002, several investigations were conducted at the Dolphin facility to identify and characterize historical releases of hazardous substances. Those investigations identified 4 releases/source areas of hazardous substances - former drum storage areas at Dolphin I, former vapor degreaser at Dolphin I, former sewer interceptor at Dolphin III, and a liquid and sludge release at Dolphin III. Those investigations were conducted under the oversight of the hazardous waste unit at ADEQ.

ALSCo, located at 720 West Buchanan Street, is a commercial dry-cleaning operation (HydroGeoLogic, 2007e) (Appendix E). The facility is a dry cleaner/laundry that used PCE from 1956 to 1984. The site is approximately 1.5 acres with a 31,000 square foot laundry processing building and a paved parking lot. The site was operated as a Maroney's Cleaners & Laundry, Inc., from approximately 1969 to October 1979. No information regarding how Maroney's disposed of waste solvent, including any recycling efforts exist. ALSCo purchased the facility in 1979 and currently owns and operates the facility. ALSCo ceased dry cleaning operations at the site in 1995. ALSCo converted to a water wash system and operated the two dry cleaners occasionally until 1992. ADEQ has no information that ALSCo recycled its solvent at this time. ALSCo has been involved in several environmental sampling investigations at the facility.

ChemResearch Co., Inc. (CRC) is an electroplating, metal finishing, and metal parts plating company located at 1122 West Hilton Avenue, Phoenix (HydroGeoLogic, 2007f) (Appendix F). The site had consisted of four separate properties located at 1101, 1122, and 1130 West Hilton Avenue and 1120 West Watkins Street. The main plating activities are carried out at 1122 West Hilton Avenue. A laboratory and warehouse are also located at 1122 West Hilton Avenue. These two facilities occupy approximately 1.5 acres and were recently designated as one property by the City of Phoenix with the 1130 West Hilton Avenue address. The two facilities have had known releases. In 1989, CRC used an average of 208,000 pounds of PCE per year and about 14,000 pounds of chromic acid per year. CRC generated approximately 299,000 pounds of F006 sludge from the plating shop, and 49,500 lbs of F001 spent PCE and 4,500 lbs of D002 corrosive liquid containing 0.2 percent of chrome from the painting shop along with spent methyl ethyl ketone and waste paint. A 1988 inspection report documents numerous waste tanks ranging in size from 20 gallons to 10,000 gallons. According to a 1988 hazardous waste facility inspection report, there were no drywells, septic tanks, surface impoundments or injection wells reported at any of the four CRC facilities; however in 1995, two unregistered drywells were reported at CRC's leased facility located at 1120 West Watkins Street.

1122 West Hilton Avenue – Plating Shop

The plating site was first developed in 1953 when Francis Plating Company began hard chrome plating operations. CRC has conducted chrome plating in the building since 1959 and purchased the site in 1989. The following operations occurred at the property: PCE vapor degreasing, electroplating, anodizing, special processes, and wastewater treatment. Plating activities were moved from the east side of the building to the north

side in 1992 to conduct remedial activities in the east bay area. A variety of electroplating and anodizing processes occurred, which involved the use of several types of metals. Chrome plating is the most prevalent operation at this facility. CRC used PCE degreasers in this facility's operations to clean metal. Chromium and PCE have been released into the environment from this facility. CRC has undertaken remediation efforts to address the chromium contamination in the soil, and is investigating the extent or degree that chromium and PCE have contaminated soil and groundwater. Significant events at the 1122 West Hilton Ave facility included a release of 186 gallons of chromic acid to the City of Phoenix sanitary sewer in November 1984. In 1988, an unknown quantity of cyanide was released and reported to the ADEQ.

1120 West Watkins Street – Painting Shop

The 1120 West Watkins Street property had been operated by CRC for painting, and storage of waste and flammable liquids. The building was built in the early 1950's and was used as a distribution center for pool supplies, and more recently, as a location of various medical laboratories. CRC leased the property from 1979 through 1992. CRC used a portion of this facility to operate its painting operations. These operations involved the use of several paint booths and PCE degreasers. Hazardous materials and wastes have been stored on-site. The City of Phoenix has owned the property since 1996 when CRC ceased operations. The City of Phoenix currently uses it for storage and as an area to house homeless people. Test results indicated the presence of PCE in the soil at depths where the potential for groundwater contamination could exist. On March 21, 1996, ADEQ provided its evaluation of a Phase II environmental site assessment of the property. Based on the results of soil vapor and soil sampling, ADEQ determined that PCE had been released to soil and was present at a depth in the soil that suggested the potential for groundwater contamination. In an April 4, 1996 review of the Phase II environmental assessment, PCE appeared to have been released to soil at two locations. The first location was the former hazardous materials storage area and adjacent drum storage area, and the second was the former PCE vapor degreasing area.

1130 West Hilton Avenue

The 1130 West Hilton Avenue warehouse/laboratory building was built in 1951 by Lincoln A. and Virginia A. Pettinger. Business activities at this property have included cabinet making, wood molding, wood fabrication, warehousing of paper and a plastic products distribution center. In 1964, one company, ELKO, operated paint spray booths in the building. In 1983, Metal Surfaces Holding Company, an electroplating company, purchased the property and soon thereafter began leasing it to CRC. CRC purchased the property in 1989. It has been used for a variety of purposes, including chemical storage, maintenance, blasting of metal parts, and as a laboratory. As of 1988, the hazardous chemical storage area was equipped with secondary containment. For a period of time, waste material, such as spent PCE was transferred to this facility to await disposal by a waste hauler. In its 1991 response to an ADEQ questionnaire, CRC identified a variety of chemicals stored in the warehouse on the property. Chromic acid was the only chemical identified containing COC.

1101 West Hilton Avenue – Administration/Grinding Shop

The 1101 West Hilton Avenue site is currently used for office space, but past uses have included offices, laboratory, grinding shop, painting, and drum storage. This building was reportedly built in 1953 and originally occupied by Standard Printing Company. CRC leased the building in 1973 and bought the site in 1983. Chemical storage occurred at this location until this operation was moved to the 1122 West Hilton Avenue property. Painting operations occurred in this building as well until these operations were moved to the 1120 West Watkins Street Property in 1979. Painting operations at this building included the use of PCE, MEK, alcohol, and paint thinner. CRC moved its laboratory operations from this building to 1130 West Hilton Avenue in 1987.

Air Liquide America Specialty Gases LLC (ALASG) located at 301 South 45th Avenue, Phoenix is an international industrial group specializing in industrial and medical gases (HydroGeoLogic, 2007g) (Appendix G). The site contains three primary buildings: the fill plant, the acetylene plant and the former air separator unit (ASU). Other structures on the site include an office building, chemical storage enclosure, aboveground slurry tanks and cylinder cleaning racks. Cooling towers were formerly present south and east of the ASU. The first industrial operations at the 9.9 acre facility occurred in approximately 1963 when Dye Oxygen Company began industrial gas manufacturing. In 1973, Liquid Air Corporation purchased the stock of Dye Oxygen Company. Industrial gas manufacturing continued to operate under the name ALASG in 1994. The facility was operated as an air separation plant, producing liquid oxygen and nitrogen, from 1973 through August 1985. From 1987 to 1994, the company conducted cylinder hydrotest and internal cylinder cleaning operations. In 1987 acetylene manufacturing and gas repackaging operations began and remain active at the site. ALASG used TCA at the ASU to clean compressors, valves, and other equipment for oxygen service from 1973 to 1996. TCA solvent was also used as a degreaser for oxygen equipment during Dye Oxygen's operations. TCA and paint thinner were supplied to the site in 55-gallon drums. Spent TCA was disposed by evaporation until 1987 when ALASG began disposing as a hazardous waste. According to Liquid Air's June 1991 information request response, Freon-11 solvent was used as part of a vapor degreasing system in the early 1980s to clean equipment in oxygen service. The Freon-11 was recycled. Solvent which was not recycled was allowed to evaporate. Acetone was also used at the facility. A 1999 Basin & Range Site Investigation Work Plan indicated that acetone was used to stabilize acetylene gas in fill plant operations. Acetone was stored in a 600-gallon UST. Methylene chloride was used from 1973 to 1974 to clean compressors, valves, and other equipment for oxygen service. Synthetic lube oil was used from 1975 to 1985. According to a 1996 information request response, ALASG purchased 4,125 gallons of TCA for use in 1987 to 1996 and disposed of 2,610 lbs of waste TCA from 1987 to 1996. In 2004, ALASG excavated and removed two grease traps and the portion of the concrete trench that was present in the south room of the ASU.

Prudential Overall Supply (POS) located at 5102 West Roosevelt Street, Phoenix is an industrial laundry and dry cleaning operation (HydroGeoLogic, 2007h) (Appendix H).

POS has owned the property since December 3, 1980, and the first industrial operations at the POS facility occurred in approximately 1982 when laundry and dry cleaning operations began. The bulk of the facility's on-site operations have consisted of laundering and pressing uniforms, overalls, and shop towels from 1982 through the present. Dry cleaning operations began at the site in 1982 and were terminated in 1991. Included in the building are a supply room, boiler room, maintenance shop, and an automotive garage. An office is located on the south side of the building. The former dry cleaning room now contains detergent tanks, laundering supplies, and equipment. A canopy skirts the west and north side of the building, with a wastewater treatment area situated behind the canopy on the north side of the building. Aboveground process tanks are located in a containment area north of the building. A truck parking area, employee parking area, storm water retention basin, narrow strip of landscape, and unpaved vacant lot west of the retention basin are also situated on the property. Chemical and equipment deliveries are routed to the west and north side of the building.

Chemical storage has always been in the area north of the building or inside the building. PCE was used as the dry cleaning solvent during operations. The PCE was contained in a 750-gallon capacity internal tank housed in the dry cleaning machine. PCE was recycled in the dry cleaning machine to minimize waste PCE. The reported amount of PCE used and stored on-site varied dependant upon levels reported in industrial wastewater discharge surveys, hazardous materials permit applications and inspections, Tier Two emergency and hazardous chemical inventories, and hazardous waste shipping manifests. Approximately 4,800 gallons of PCE were used per year. Drums containing lint/PCE sludge were stored along the west wall in the dry cleaning room, north of the doorway until disposed of off-site. Additionally, "Safety-Clean", a solvent containing PCE, was used in a small parts washer located in POS's automotive garage. "Safety-Clean" was used from 1982 until 1997 when a water-based solvent was applied. POS had no record or knowledge of any liquid spills occurring in the dry cleaning room. POS estimates that any spill that did occur would have been less than three gallons and sopped up with soiled garments. POS is investigating the extent or degree that PCE has contaminated soil and groundwater. Three dry wells were located in the truck parking areas to drain storm water from the pavement. In 1995, the drywells were closed and converted to catch basins and a storm water retention basin was excavated and renovated in 1999 when a detergent spill occurred. The spill reportedly contained no solvents and was investigated through the excavation and sampling of soils. No VOCs were detected in soil samples collected from the retention basin.

U.S. Department of Energy (DOE) has property that consists of two separate parcels located at 615 South 43rd Avenue, Phoenix, Arizona 85009 (HydroGeoLogic, 2007i) (Appendix I). The parcel on the west side of 43rd Avenue is a substation that distributed electricity to south-central Arizona but currently is used to supply electricity to the DOE Western Area Power Administration (WAPA) Phoenix Area Office on the east side of 43rd Avenue. The parcel on the east side of 43rd Avenue is the WAPA operations and maintenance complex.

The substation has been operated by WAPA since it was constructed in 1941. The substation utilized a septic system which reportedly included two leach wells and two cesspools. These structures were not removed from the site when the substation buildings were demolished. Film processing chemicals were reportedly disposed to these structures. The complex on the east side of 43rd Avenue was originally constructed in 1951 by the Bureau of Reclamation. WAPA took over operation of the facility in 1980 with the Bureau of Reclamation still occupying the northwest corner of the property. The complex contains several buildings for conducting various activities including maintenance, storage, administrative duties, and a fueling system for facility vehicles. Five drywells have been abandoned at the site. Three of the drywells were reportedly part of a former maintenance building drainage and septic system. Six drywells are currently located at the facility. Various wastes and solvents have been stored and used at the facility including RCRA and Toxic Substances Control Act wastes, waste dielectric fluids containing PCBs, petroleum solvents, chlorinated solvents, pesticides, waste solvents, and fuels.

1.3.2.5 Recent Regulatory Efforts

As additional source information is gained through the remedial investigation efforts, ADEQ's WQARF program will continue to work with facilities to conduct investigation and clean-up efforts. ADEQ's WQARF program reviews work plans and has issued work orders on consent orders as necessary.

Reynolds. Reynolds received a No Further Action (NFA) letter for soils within 14 specific areas by ADEQ in 2000. Reynolds entered into a Consent Decree with the State of Arizona in September 2002. The Consent Decree resolved the alleged liability and potential liability of Reynolds by seeking recovery of costs, recovery for natural resource damages, injunctive relief, and declaratory judgment. Reynolds settled with ADEQ for \$1,956,474 on October 2, 2002. Reynolds finished conducting operations as outlined in Section VIII of the Consent Decree and on January 6, 2006, received a letter of satisfaction of monitoring requirements. ADEQ currently samples eight groundwater monitor wells located on the Reynolds property.

VW&R. At the request of ADEQ, VW&R began conducting investigations at their facility in 1989. In 1990, VW&R and ADEQ signed a Consent Order to resolve Part A Hazardous Waste Permit Application (AHWPA) operating and record keeping issues. While the AHWPA issues were resolved, VW&R continued to conduct characterization of the facility and installed and operated SVE system. In 1996, a Consent Order for additional site work was signed by VW&R and ADEQ and terminated the 1990 Consent Order. The 1996 Consent Order stipulated that VW&R close the RCRA Interim Status Storage unit; conduct an investigation in a parking lot area; investigate the unsaturated cobble unit; continue groundwater investigation activities; and continue SVE operation. SVE operation included the submittal of quarterly SVE operation reports; radius of influence testing; and reporting. Upon completion of activities required by the 1996 Consent Order, VW&R submitted a work plan for confirmation soil sampling and upon receipt of approval conducted the confirmation soil sampling. VW&R then submitted a

HGL created a Microsoft Access database that has 1,656 entries comprised of facilities and locations reviewed under HGL's three industrial surveys and RI support. These data are available in Appendix J, Tables J-1 and J-2. In addition, an assessment of relevant records was conducted and confidential facility letter reports were drafted on a facility-by-facility basis with information regarding releases of COC. The 137 facilities assessed can be found in Appendix J in Table J-3.

1.4 Site Contaminants

The primary COCs comprising the commingled WVBA plume include the following VOCs: PCE, TCE, TCA, cis 1,2-DCE, 1,1-DCA, and 1,1-DCE. To a limited extent, chromium is also considered a COC. Groundwater contamination enters the WVBA from the east from the Motorola 52nd Street Federal Superfund Site OU3 area. Notable COCs for OU3 are TCE, TCA, PCE, 1,1,2-TCA, vinyl chloride, chloroethane, 1,1-DCA, 1,1-DCE, 1,2-DCA, cis 1,2-DCE, trans 1,2-DCE and 1,4-dioxane. Contaminated groundwater also appears to enter the WVBA from the north in the central portion of the site from the West Osborn Complex (WOC) WWQARF Registry Site. The current COCs in groundwater at the WOC include TCE, 1,1-DCE, and PCE.

1.5 Contaminant Sources

Reynolds Metals Co., TCA was the primary solvent used at this facility along with Stoddard Solvent. TCA, TCE, PCE, chromium, and petroleum hydrocarbons have been detected in soils beneath this facility. Areas of investigation include: anodizing area, tanks including USTs and aboveground storage tanks (ASTs), manufacturing equipment foundations, dip tanks, and distilling areas.

Van Waters & Rogers Inc. Numerous chemicals are stored and packaged at this facility. PCE, TCE, TCA, and 1,1-DCE have been detected in the soils underlying this facility. Areas of investigation include: waste water pretreatment system and sewer interceptor, bulk solvent tank farm, bulk corrosive tank farm, drum storage areas, and former Resource Conservation and Recovery Act (RCRA) interim status container storage unit.

Maricopa County Materials Management Numerous cleaning solvents were stored and recycled at this facility while the Southwest Solvents Recycling was in operation. PCE, TCE, 1,1,1-TCA, 1,1-DCE, cis & trans-1,2-DCE, and 1,1-DCA have been detected in soils underlying this facility. Areas of investigation include: Southwest Solvent Recycling facility and the parking area.

Dolphin, Inc. Solvents were used at this facility during the casting process of metals. PCE, TCE, TCA, 1,1-DCE, and 1,1-DCA have been detected in soils beneath this facility. Area of concern include: septic system, interceptor tanks, degreasing/parts cleaning areas, acid etching building, drum storage areas, and drywell.

American Linen Supply Co. PCE was used at this facility as part of dry cleaning operations. PCE, TCE, benzene, and TCA have been detected in soils beneath this facility. Areas of investigation include: waste water disposal areas and dry cleaning machine locations.

ChemResearch Co., Inc. PCE and metals processing chemicals associated with metal plating and finishing were used at this facility. PCE, TCE, 1,1-DCE, 1,2-dichlorobenzene, cadmium, chromium, and lead have been detected in the soils underlying this facility. Areas of investigation include: plating areas, UST, and waste water treatment plant.

Air Liquide America Specialty Gases LLC Solvents used at this facility have included TCA, paint thinner, acetone, and Freon-11. PCE, TCE, TCA, and 1,1-DCE have been detected in soils beneath this facility. Area of concern includes: the grease trap and associated piping.

Prudential Overall Supply PCE was used at this facility as part of dry cleaning operations. The cleaning solvent Safety Clean was also used at this facility for maintenance purposes. PCE and TCE have been detected in soils beneath the facility. Areas of investigation include: dry cleaning area, waste water flume, and parts cleaning area.

U.S. Department of Energy Petroleum based solvents, chlorinated based solvents, and various types of wastes have been used/stored at this facility. PCE, TCE, 1,1-DCE, cis-1,2-DCE, and 1,1-DCA have been detected in soils underlying the facility. Area of concern includes the Craneway building.

1.6 Physiography

The WVBA extends from 7th Avenue to 75th Avenue and from Buckeye Road to Interstate 10. This corresponds to an area approximately eight miles in length and 1.5 miles in width (approximately 12 square miles). In addition, a finger shaped plume exists between 7th and 27th Avenues between Buckeye and Lower Buckeye Roads. The WVBA covers portions of two U.S. Geological Survey topographic quadrangles; Fowler and Phoenix, Arizona (Figure 1-1).

The highest elevation in the WVBA is 1,082 feet above mean sea level (msl) at 7th and Grand Avenues, and the lowest elevation is 1024 feet above msl at 75th Avenue and Buckeye Road. There is a gentle (10 to 15 feet per mile) southwestern topographic gradient towards the Salt River. Two east-west and one north-south trending man-made features break up the topography within the WVBA. The east-west trending features are the railroad tracks located mid-way between Van Buren Street and Buckeye Road, and the bermed RID canal which originates at 19th Avenue south of Interstate 17. The RID canal flows westward south of Buckeye Road to 67th Avenue, and then zigzags northwesterly to 75th Avenue north of the railroad tracks where it egresses from the

by ADEQ's contractor, Kleinfelder, during September 1988 (Kleinfelder, 1989). Soil sampling was conducted at 17 sites during this first phase of investigation which included areas where land use could not be confirmed, aerial photographs indicated the possible presence of stained soils at chemical storage facilities, in areas where groundwater quality data indicated contamination, and at areas inspected during field reconnaissance. TCA and/or TCE were detected at 16 of the 17 sites. These two compounds were also detected in the two background soil samples collected during this phase of investigation. The TCE concentration detected in one of the background soil samples was greater than the TCE concentrations detected at various facilities. Also, the TCA concentration detected in one of the background soil samples was greater than all but five of the soil sample TCA concentrations detected at various facilities. Xylenes were detected in soil samples collected from seven of the sites and toluene was detected in two soil samples.

Based on the results of the Phase I investigation, six facilities, were recommended for physical testing, 38 were recommended for site inspections, 99 were recommended for record searches, and 63 were recommended for additional questionnaires (Kleinfelder, 1989). As ADEQ investigated the recommended facilities, Kleinfelder, on behalf of ADEQ, conducted four rounds of groundwater sampling from November 1989 to May 1991 and installed four groundwater monitor wells as part of a Phase II investigation (Kleinfelder, 1992a). Based on data obtained during this phase of investigation, continued groundwater monitoring, characterization of the aquifer, contaminant transport modeling, and installation of additional groundwater monitor wells were recommended. These activities were undertaken by ADEQ and select facilities located within the WVBA.

As previously mentioned, based on the results of the Phase I soil sampling, six facilities were recommended for additional physical testing at their individual facilities. Five of the six facilities conducted investigations with ADEQ oversight. Of these five, three conducted soil investigations that indicated the need to also conduct groundwater investigations and two facilities did not require additional investigation.

Facilities of interest that conducted investigations within the WVBA were required to follow the remedy selection rules which outline the requirements for completing an RI. As the ADEQ led RI continues ADEQ conducts the PRP search. A PRP list will be provided once ARS 287.04 Notices are issued after the PRAP is issued for public comment. The PRP search information remains confidential until the allocation process at the site is completed.

2.1 Facilities Not Required To Investigate Groundwater

Additional facilities were investigated by ADEQ or were asked by ADEQ to conduct investigational work to evaluate whether soil contamination at their facilities exacerbated site-wide groundwater contamination. Data and reports resulting from the investigations can be found within the WVBA public file held at ADEQ. The following facilities (Figure 2-1) conducted investigational soil and/or soil gas work as requested; however, these facilities were not required to conduct further groundwater investigations or requested investigations were not completed:

1. American National Can Co., 211 N. 51st Ave. – COCs detected in soils but did not appear to reach groundwater. Aquifer Protection Permit No. P-102508

dated 10/3/94 issued a drywell clean closure for American National Can Co. UST Section issued Case Closure letter for UST release on 4/18/95. ADEQ letter to EPA dated Nov. 16, 1999 recommended no further action under CERCLA.

2. Anderson Clayton/Western Cotton Services Co., 615 S 51st Ave – TCE detected in soil sample collected during Phase I investigation but at concentration less than background sample. Onsite industrial well sample contained no COCs, however, no COCs were identified as used at facility. PASI report dated 3/21/90 indicated no need for additional investigation.
3. Arizona Parts Master, 15 N. 57th Dr. – Contamination found at the facility was from petroleum hydrocarbons. Not investigated under WQARF program.
4. Arnold Corporation, 40 S. 45th Ave – COCs detected in soils during investigations conducted at site. Risk assessment completed following ADHS comments. No closure letter issued by ADEQ. Letter from ADEQ dated October 18, 1991 stated that discharges from Arnold unlikely to have resulted in groundwater contamination.
5. AT&T, 505 N. 51st Ave – COCs detected in soils during investigations. ADEQ notified AT&T considered closed in a letter dated 6/19/1996.
6. AWECO, 3918 W. Lincoln St. – No COCs documented in release. No closure letter issued by ADEQ.
7. BC Assemblage, 333 N. Black Canyon Highway – During a preliminary site assessment, soils were sampled and analyzed for pesticides, herbicides, PCBs, and petroleum hydrocarbons; ADEQ requested copies of report. Not sampled for WVBA COCs. No letter issued.
8. Blue Circle West, 1510 W. Lincoln St. – No COCs were detected in soil sample collected during Phase I investigation.
9. Brake Supply, 420 S. 7th Ave – PCE & TCE detected in soils but preliminary site investigation report prepared by Roy F. Weston, Inc. on behalf of ADEQ dated 4/15/93 recommended that further investigation was not warranted. ADEQ Internal Memo dated 5/17/93 was in agreement.
10. Bud's Oil, 1340 W. Lincoln St – COCs detected in soil samples but limited in depth. No apparent affect on groundwater. ADEQ issued letter dated 10/12/89 stating that ADEQ does not intend to initiate further evaluations at the facility.
11. Chevron, U.S.A., Inc., 3050 S. 19th Ave. – TCA and TCE detected at concentrations slightly greater than detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
12. CoStar Corp/Data Packaging Corp, 425 S. 67th Ave – Investigated soil release at oil separator and at drywell where contaminated soil was excavated to 25 feet below ground surface (bgs). Soil remediation confirmed and groundwater monitor wells requested by ADEQ in letter dated 9/9/93 but were never completed.
13. Grow Group, Inc. 4940 W. Jefferson St. – During a preliminary site assessment, soils were sampled and analyzed for pesticides, herbicides, PCBs,

and petroleum hydrocarbons, ADEQ requested copies of report. Not sampled for WVBA COCs.

14. Hi-Tech Plating, Inc., 4313 W. Van Buren St. – PCE & TCE detected in drywell. Investigated area adjacent to and below the drywell but found no VOCs in soil or groundwater. No letter issued by ADEQ.
15. Jacquay's Equipment Co., 1219 S. 19th Ave. – Recommended for physical testing in Kleinfelder Phase I report but no record of testing in file. No letter from ADEQ.
16. Joe's Diesel Repair, 6316 W. Van Buren St. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
17. LaSalle Draperies, 710 W. Buchanan St. – PCE and TCE detected in soil gas but not soil samples. Tom Curry, former ADEQ project manager for WVBA, telephone record dated 7/30/92 indicated that additional sampling could result in issuing a no action letter.
18. Research Chemicals, 8220 W. Harrison St., Tolleson – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples. Investigated/operated under RCRA according to facility permit.
19. Owens-Corning Fiberglass Corp., 1880 W. Fillmore St. – Submitted preliminary site assessment report as part of questionnaire request response to ADEQ. ADEQ letter dated February 9, 1990 stated that the facility was not considered for further evaluations.
20. Penn Athletic, 306 S. 45th Ave – Conducted soil investigations associated with UST release which indicated that no COCs released. Preliminary assessment report by ADEQ 6/18/90 recommended no further action under CERCLA. ADEQ Voluntary Remediation Program issued a NFA letter dated 6/4/02.
21. Petco, Inc., W. Side of 67th Ave. N. of railroad – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
22. Unocal, 10 S. 51st Ave. – PCE detected in soil samples collected from property leased from Santa Fe Pacific Pipeline Partners, L.P. Soil data collected by Brown and Caldwell (1990a & b) and Levine Fricke (1994), and groundwater data collected from groundwater monitor wells upgradient and downgradient of the area indicate that COC concentrations are similar, possibly indicating that the release did not affect groundwater quality.
23. Ray & Bob's Truck Salvage, 101 S. 35th Ave. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
24. Revlon, 4301 W Buckeye Rd – Conducted soil sampling and soil remediation for releases of contaminants other than WVBA COCs. ADEQ Preliminary Assessment dated 2/28/90 recommended no further action under CERCLA.

- Following additional investigations, ADEQ issued a letter dated 2/21/01; no further testing will be required if Revlon provided a revised report addendum.
25. Roadway Express, 2021 S. 51st Ave. – TCE detected at concentration slightly greater than the detection limit in soil sample collected during Phase I investigation but less than concentration detected in background samples.
 26. Salesco Systems/Turken Industrial Properties, 5736 W. Jefferson St. – COCs detected in drywell sludge. ADEQ requested that full extent of drywell contamination be investigated in a letter dated 2/19/92 but no information in the file indicating that it was completed.
 27. Santa Fe Railroad Yard, W. of 19th Ave. between McDowell Rd. and Fillmore St. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
 28. Schuff Steel, 4420 S. 19th Ave. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
 29. Seaport Petroleum, 57 N. 57th Ave. – Contamination found at the facility was from petroleum hydrocarbons. Not under WQARF jurisdiction.
 30. Smithey Recycling Co., 3640 S. 35th Ave. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
 31. Southwest Feed & Seed, 350 S. 75th Ave. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
 32. Sta-Rite Industries, Inc., 1146 W. Hilton St. – Had a release of PCE to soil. Excavated contaminated soil. No response by ADEQ.
 33. Sun State Builders, 43rd Ave/Gibson Lane – Soil sampling did not detect COCs. ADEQ issued letter stating not considered PRP dated 6/24/88.
 34. Transco Lines, 3839 W. Buckeye Rd. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
 35. Triple E Properties, 1909 W. Fillmore St. – Investigated release of petroleum hydrocarbons from aboveground storage tank. ADEQ letter dated October 21, 1991 stated that the facility was not considered for further evaluation.
 36. Trittech Manufacturing, Inc./Tri-Star Quality Metal Finishing, Inc., 5144 W McKinley St – Sampling around drywell indicated no COCs present in subsurface. ADEQ installed well upgradient on site is higher in VOCs than downgradient wells.
 37. Western States Petroleum, Inc., 450 S. 15th Ave. – Facility submitted a workplan to do soil sampling but no sampling data are contained in file. Two USTs were removed from the facility and ADEQ issued a letter dated 12/29/93 stating that the case was closed because no release of regulated substances had occurred from the USTs.

38. Phoenix Vegetable Distribution, S. Side of Buckeye Rd. E. of 83rd Ave. – TCE detected at concentration slightly greater than the detection limit in soil sample collected during Phase I investigation but less than concentrations detected in background samples.
39. World Resources Co., 8113 W. Sherman St. – TCA and TCE detected at concentrations slightly greater than the detection limits in soil sample collected during Phase I investigation but less than concentrations detected in background samples. Investigated/operated under RCRA according to facility permit.

2.2 ADEQ Area Wide Investigations

2.2.1 Activities from 1986-1998

Initial groundwater sampling was conducted by ADWR and ADHS personnel in May 1986 (Arizona Department of Water Resources, 1987). After the creation of the WVBA WQARF site in 1987, ADEQ retained Kleinfelder as their contractor to perform site investigations. A Phase I investigation was conducted in 1988 and reported in July 1989 (Kleinfelder, 1989). The Phase I included an assessment of existing information from record reviews, questionnaires, field reconnaissance (including historical water data) and sampling. This was followed by a 1991 Phase II groundwater investigation and sampling report (Kleinfelder, 1992a).

During 1991 through 1998, ADEQ continued site characterization activities, and its contractors installed and sampled monitor wells within the WVBA. The following lists ADEQ contractor, year monitor wells were installed, and monitor well designation from 1991 - 1998:

Kleinfelder (8 wells)

- 1991: AVB10-01 through AVB10-04, AVB12-01, AVB14-01, AVB18-01, and AVB22-01

Weston (14 wells)

- 1992: AVB34-01, AVB35-01 and AVB38-01 through AVB38-04
- 1993: AVB42-01 through AVB42-03, AVB46-01, AVB47-01, and AVB57-01
- 1994: AVB60-01 and AVB61-01

Fluor Daniel GTI (6 wells)

- 1997-98: AVB69-01 and 02, and AVB77-01 through AVB77-04

GEC (7 wells)

- 1998: AVB70-01, AVB71-01, AVB72-01, AVB73-01, AVB74-01, AVB75-01 and AVB76-01

ADEQ also gained access to several current and former LUST site, private, and industrial monitor wells throughout the project timeframe. ADEQ currently utilizes the “AVB” designation followed by the facility identification number (location-specific) and site identification number (well-specific) to identify monitoring well and groundwater samples.

4.2 Source Investigations

As previously discussed, PCE is the predominant COC for the WVBA. However, in certain areas of the WVBA other COCs have been detected. The following is a discussion of COC contamination concentrations segregated into different portions of the WVBA; the “Eastern Portion” extending from 7th to 35th Avenues, “Central Portion” extending from 35th to 51st Avenues, and “Western Portion” extending from 51st to 75th Avenues. It should be noted that ADEQ is continuing to conduct a PRP search for the WVBA and may identify other contaminant sources beyond those identified below.

4.2.1 Eastern Portion of WVBA

Sixteen facilities were investigated by ADEQ or were requested by ADEQ to conduct investigations in the eastern portion of the WVBA. The eastern portion of the WVBA extends from 35th Avenue to the eastern site boundary. The following facilities conducted investigations or had investigations conducted at their facilities; facility locations are shown on Figures 1-1 and 2-1:

1. ALSCo, 720 West Buchanan St. – Investigated soil and groundwater, conducted remediation, settled with ADEQ, ADEQ completed remediation.
2. CRC, 1122 West Hilton Ave. – Investigated soil and groundwater, conducted remediation, work plan approved by ADEQ Hazardous Waste Unit to continue investigation and conduct remediation.
3. MCMM, 320 West Lincoln St – Investigated soil and groundwater, conducted remediation, settled with ADEQ.
4. BC Assembledge, 333 N. Black Canyon Highway – Petroleum hydrocarbon release.
5. Blue Circle West, 1510 W. Lincoln St. – Phase I soil sample collected but contained no detectable COC.
6. Brake Supply, 420 S. 7th Ave. – ADEQ conducted soil gas and soil sampling, recommended no further action.
7. Bud’s Oil, 1340 W. Lincoln St – Investigated soil but not groundwater.
8. Chevron, U.S.A., Inc., 3050 S. 19th Ave. – Phase I soil sample collected but not recommended for additional investigation.
9. LaSalle Draperies, 710 W. Buchanan St. – ADEQ conducted soil gas and soil sampling, recommended no further action.
10. Owens-Corning Fiberglass Corp., 1880 W. Fillmore St. – Conducted their own preliminary site assessment, not requested to conduct additional investigation.
11. Ray & Bob’s Truck Salvage, 101 S. 35th Ave. – Phase I soil sample collected but not recommended for additional investigation.
12. Santa Fe Railroad Yard, W. of 19th Ave. between McDowell Rd. and Fillmore St. – Phase I soil sample collected but not recommended for additional investigation.

13. Schuff Steel, 4420 S. 19th Ave. – Phase I soil sample collected but not recommended for additional investigation.
14. Sta-Rite Industries, Inc., 1146 W. Hilton St. – Investigated soil, remediated PCE contaminated soil by excavation, no groundwater investigation.
15. Triple E Properties, 1909 W. Fillmore St. – Investigated soil and identified to be petroleum hydrocarbon release.
16. Western States Petroleum, Inc., 450 S. 15th Ave. – Conducted UST removal investigation under ADEQ UST Section but no record of completing investigation requested under ADEQ WQARF program.

Of these, three facilities, ALSCo and MCMC in the east-central area and CRC in the southeastern area, were asked to conduct groundwater investigations because of COC detected in the vadose zone. COC detected at concentrations greater than regulatory standards in the vadose zone in the eastern portion of the WVBA have included PCE, TCE, and chromium.

4.2.1.1 ALSCo

PCE was the most prevalent COC detected in the vadose zone in both soil and soil gas samples in the eastern portion of the WVBA. The highest PCE concentrations detected in soil gas samples collected in the eastern portion of the WVBA were from the ALSCo facility. PCE was detected in soil gas and soil samples across the site with the highest concentrations in the west-central section of the ALSCo facility. Groundwater data presented on Figures 4-1, 4-2, 4-3, 4-7, and 4-11, along with data presented in Section 2.1, indicate that releases of PCE at the ALSCo facility extended vertically to groundwater. However, data indicate that PCE did not migrate vertically into UAU2 and the MAU. An ERA conducted at the ALSCo facility remediated soil to concentrations less than SRLs and minimum GPLs. The ERA also reduced PCE concentrations in groundwater beneath the facility to concentrations similar to upgradient concentrations. First Quarter 2008 PCE concentrations in groundwater beneath the ALSCo facility ranged from less than 0.50 to 19 µg/l. The detected concentrations are similar to concentrations detected in upgradient groundwater monitor wells.

TCE was detected in soil gas samples at concentrations an order of magnitude less than PCE at the ALSCo facility and was not detected in soil samples at concentrations greater than SRLs or the minimum GPL. TCE was detected in soil gas samples across the site but only detected in soil samples collected from the western section of the facility. The presence of TCE in soils beneath the ALSCo facility may be due to the degradation of PCE or the release of the contaminant. Groundwater data obtained from beneath the facility indicate that TCE present in soils beneath the ALSCo facility migrated vertically to groundwater. However, TCE did not migrate vertically into UAU2 and the MAU. First quarter 2008 TCE concentrations in groundwater beneath the ALSCo facility ranged from 1.3 to 6.4 µg/l. The detected concentrations are similar to concentrations detected in upgradient groundwater monitor wells.

4.2.1.3 CRC

PCE was detected in soil gas and soil samples collected at the CRC facility. PCE was detected in soil samples at concentrations greater than SRLs and the minimum GPL. Groundwater data presented on Figures 4-1, 4-2, 4-3, 4-7, and 4-11, along with data presented in Section 2.1, indicate that releases of PCE occurred in the east and west bays of the CRC facility and migrated vertically to UAU1. PCE releases did not affect UAU2 and the MAU. PCE was detected in groundwater samples collected during First Quarter 2008 beneath the facility at concentrations up to 390 µg/l.

TCE was detected in soil gas samples at the CRC facility but not in soil samples. Based on this and groundwater data collected from beneath the CRC facility, it does not appear that a release of TCE occurred at the CRC facility. TCE was not detected in groundwater samples collected at the CRC facility during First Quarter 2008.

1,1-DCE was the only other VOC COC that was detected in soil gas and/or soil samples at the CRC facility. These data coupled with groundwater data collected from beneath the facility indicate that 1,1-DCE and the other COCs were not released from the facility. These COCs for First Quarter 2008 were not detected beneath the CRC facility.

Chromium was only investigated in the eastern portion of the WVBA at the CRC facility. Chromium was detected at concentrations greater than regulatory standards as total chromium, but no data are available to evaluate the percentage of hexavalent chromium. Hexavalent chromium is suspected to be present in soils in this area because it is present in underlying groundwater. Limited remediation of chromium in the vadose zone at the CRC facility was conducted; logistics prevented the complete removal of the contaminant from the vadose zone. Data included in Section 2.1 and groundwater data for chromium presented on Figures 4-6 and 4-10 suggest sources of chromium at the CRC facility. Total chromium concentrations in groundwater for First Quarter 2008 beneath the CRC facility ranged up to 18 mg/l.

4.2.1.4 Operable Unit 3

Groundwater contaminated with chlorinated solvents has been identified at the Motorola 52nd Street Federal Superfund Site OU3 area directly east of the WVBA. OU3 is bordered roughly on the north by McDowell Road, on the east by 20th Street, on the south by Buckeye Road, and on the west by 7th Avenue.

EPA is the lead agency for OU3, and has directed PRPs to conduct facility specific RI/FS's. In addition, a group of OU3 PRPs has formed the OU3 working group, and will conduct an OU3 site-wide RI. The OU3 site-wide RI will take place concurrently with facility specific investigations. The scope of work and administrative order of consent between the OU3 working group and EPA is under negotiation. The site-wide RI is expected to start in early 2009. Notable COCs for OU3 are TCE, TCA, PCE, 1,1,2-TCA,

vinyl chloride, chloroethane, 1,1-DCA, 1,1-DCE, 1,2-DCA, cis 1,2-DCE, trans 1,2-DCE and 1,4-dioxane.

Federal Superfund sites are governed under CERCLA, commonly known as Superfund. EPA identifies PRPs and collects evidence of COC use by sending CERCLA Section 104(e) information request letters to identified parties, reviewing documents, conducting interviews, and performing research as a PRP search. The following parties have been identified as PRPs at OU3:

1. APS, 502 South 2nd Avenue – Investigated soil gas, soil and groundwater
2. Arvin Meritor, et. al., 500 South 15th Street – Investigated soil gas, soil and groundwater
3. Former Baker Metals Facility, 1601 East Madison Street – Investigated soil gas, soil and groundwater
4. Capitol Engineering, 724 East Southern Pacific Drive – Have not yet conducted investigations
5. McCoy's, 1624 East Washington Street – Will not be conducting any soil or groundwater sampling. Facility has settled with U.S. EPA based on ability to pay.
6. Phoenix Newspapers, Inc., 120 East Van Buren Street – Investigated soil gas, soil and groundwater
7. SRP, 1616 East Lincoln Street – Investigated soil gas, soil and groundwater
8. Walker Power/Tiernay Turbines, 1301 East Jackson Street – In process of investigating soil gas, soil and groundwater
9. Union Pacific Railroad, 1301 Harrison Street – Have not yet conducted investigations
10. Wabash/Fruehauf, 902 South 7th Street – Have not yet conducted investigations
11. Westinghouse, 1824 East Jefferson Street – Have not yet conducted investigations
12. Milum Textile Services Company, 333 North 7th Avenue – Have not yet conducted investigations

WVBA groundwater data indicate that TCE and 1,1-DCE (and to a lesser extent, PCE) groundwater contamination originates from the OU3 area east of Seventh Avenue and flows into the WVBA WQARF site from the east. First Quarter 2008 TCE concentrations in groundwater in the eastern portion of the WVBA ranged from less than 0.50 µg/l to 160 µg/l. First Quarter 2008 1,1-DCE concentrations in groundwater in the eastern portion of the WVBA ranged from less than 0.50 µg/l to 23 µg/l. First Quarter 2008 PCE concentrations in groundwater in the eastern portion of the WVBA ranged from less than 0.50 µg/l to 76 µg/l.

4.2.2 Central Portion of WVBA

Vadose zone contamination investigations have been conducted in the central portion of the WVBA at 18 facilities. The central portion of the WVBA is located between 35th and 51st Avenues. The following facilities conducted investigations or had investigations conducted at their facilities; facility locations are shown on Figures 1-1 and 2-1:

1. ALASG, 301 S. 45th Ave. – Investigated soil and currently investigating groundwater.
2. Reynolds, located between 35th and 43rd Avenues, and between Van Buren and the Union Pacific Railroad tracks – Investigated soil and groundwater, conducted remediation, settled with ADEQ.
3. U.S. DOE, 615 S. 43rd Ave. – Investigated soil and currently investigating groundwater.
4. VW&R, 50 S. 45th Ave. – Investigated soil and groundwater, conducted remediation, received NFA for soil contamination.
5. American National Can Co., 211 N. 51st Ave. – COC detected in soils but were not requested to investigate groundwater.
6. Anderson Clayton/Western Cotton Services Co., 615 S 51st Ave – ADEQ sampled soil and groundwater and did not require additional investigation.
7. Arnold Corporation, 40 S. 45th Ave – Investigated soil and conducted risk assessment.
8. AT&T, 505 N.51st Ave – Conducted soil investigation, not required to investigate groundwater.
9. AWECO, 3918 W. Lincoln St. – Conducted soil investigation, not required to investigate groundwater.
10. Grow Group, Inc. 4940 W. Jefferson St. – Conducted soil investigation, not required to investigate groundwater.
11. Hi-Tech Plating, Inc., 4313 W. Van Buren St. – Conducted soil investigation, not required to investigate groundwater.
12. Penn Athletic, 306 S. 45th Ave – Investigated soil and groundwater, closed site under ADEQ Voluntary Remediation Program (VRP).
13. Revlon, 4301 W Buckeye Rd – Conducted soil investigation and remediation but not requested to investigate groundwater.
14. Roadway Express, 2021 S. 51st Ave. – Phase I soil sample collected but not recommended for additional investigation.
15. Smithey Recycling Co., 3640 S. 35th Ave. – Phase I soil sample collected but not recommended for additional investigation.
16. Sun State Builders, 43rd Ave/Gibson Lane – Conducted soil investigation, not requested to investigate groundwater.
17. Transco Lines, 3839 W. Buckeye Rd. – Phase I soil sample collected but not recommended for additional investigation.

Of these, five facilities, Reynolds, U.S. DOE, ALASG, Penn Athletic, and VW&R were requested to conduct groundwater investigations. Because the contaminants at Penn

Athletic were not COCs for WVBA, they were not required to conduct additional investigations after groundwater monitor wells were installed and sampled. The primary COCs at the Penn Athletic facility were normal hexane and naphthenic distillates suspected to have leaked from USTs. Upon completing their investigation, Penn Athletic was issued an NFA by ADEQ's VRP. COCs detected at concentrations greater than regulatory standards in the vadose zone in the central portion of the WVBA have included TCA, PCE, TCE, 1,1-DCE, 1,2-DCA, and chromium (Table 2-5).

4.2.2.1 Reynolds

PCE was detected at low concentrations in several soil gas samples collected at the Reynolds facility. Two soil samples collected from the Trench 6 area east of the East Stoddard Solvent dip tank at the Reynolds facility exhibited PCE at concentrations greater than the minimum GPL. Soil and groundwater data collected from the Reynolds facility indicate that releases of PCE may have affected groundwater quality; however, upgradient groundwater data are similar in concentration to data collected from beneath the facility so the impact on groundwater may have been minimal when compared to upgradient facilities. First Quarter 2008 PCE concentrations in groundwater samples collected from the Reynolds facility ranged from 2.4 to 6.4 µg/l. The detected concentrations are similar to concentrations detected in upgradient groundwater monitor wells.

TCE was detected in soil gas samples collected across the Reynolds facility but at low concentrations. Several soil samples collected at the Reynolds facility exhibited TCE at concentrations greater than the minimum GPL. Most of these were collected in the vicinity of the former Stoddard Solvent dip tanks. Soil and groundwater data indicate that TCE source areas at the Reynolds facility may have also affected groundwater quality, but upgradient groundwater data are slightly greater in concentrations than the groundwater collected at the facility. First Quarter 2008 TCE concentrations in groundwater beneath the Reynolds facility ranged from 1.8 to 16 µg/l. The detected concentrations are similar to concentrations detected in upgradient groundwater monitor wells.

TCA was detected in numerous soil gas samples collected across the Reynolds facility and at the highest concentrations of any of the COC detected at the facility. Soil samples collected in the vicinity of the East Stoddard Solvent dip tank exhibited TCA at concentrations greater than the minimum GPL. Soil and groundwater data indicated that TCA releases at the Reynolds facility migrated vertically to UAU1. However, TCA does not appear to have migrated vertically to the deeper aquifers. TCA was detected in one groundwater sample collected during First Quarter 2008 at the Reynolds facility at a concentration of 0.96 µg/l. The detected concentration is similar to concentrations detected in upgradient groundwater monitor wells.

1,1-DCE was detected in one soil sample at the Reynolds facility at a concentration which exceeded the SRLs and the minimum GPL. 1,1-DCE was also detected in soil gas samples collected from the Reynolds facility. The presence of 1,1-DCE detected in the

TCE was detected in soil gas samples collected from the VW&R facility but at concentrations typically an order of magnitude less than the PCE concentrations. TCE was also detected in soil samples collected from the VW&R facility but at concentrations less than regulatory standards. The presence of TCE in the soil may be due to releases of TCE or the degradation of PCE. Based on a review of soil and groundwater data beneath the VW&R facility, it does not appear that TCE has migrated vertically to groundwater. TCE was detected at a concentration of 13 µg/l in the groundwater sample collected from beneath the VW&R facility during First Quarter 2008. The detected concentration is similar to concentrations detected in upgradient groundwater monitor wells.

1,1-DCE was detected in soil gas samples collected from the VW&R facility but at concentrations typically an order of magnitude less than the PCE concentrations. However, the 1,1-DCE concentrations were typically greater than the TCE soil gas concentrations. 1,1-DCE was also detected in soil samples collected from the VW&R facility but at concentrations less than regulatory standards. The presence of 1,1-DCE in the soil may be due to releases of 1,1-DCE or the degradation of PCE, TCE, and/or TCA. Based on a review of soil and groundwater data beneath the VW&R facility, it does not appear that 1,1-DCE has migrated vertically to groundwater. 1,1-DCE was detected at a concentration of 1.5 µg/l in the groundwater sample collected from beneath the VW&R facility during First Quarter 2008. The detected concentration is similar to concentrations detected in upgradient groundwater monitor wells.

TCA was detected in soil gas samples collected at the VW&R facility at concentrations similar to TCE concentrations. TCA was also detected in soil samples collected from the VW&R facility but not at concentrations greater than SRLs and the minimum GPL. Soil and groundwater data indicate that the TCA release at the VW&R facility may have affected groundwater quality. TCA was not detected in the groundwater sample collected from beneath the VW&R facility during First Quarter 2008.

Cis 1,2-DCE, 1,1-DCA, and 1,2-DCA were not analyzed for in soil gas samples collected at the VW&R facility. Cis 1,2-DCE was also not analyzed for in soil samples but trans 1,2-DCE was analyzed for in soil samples. These COC were detected in soil samples at low concentrations at the VW&R facility. However, none of these COC were detected at concentrations greater than SRLs or minimum GPLs. These COC are not believed to have contaminated groundwater at the VW&R facility. Cis 1,2-DCE, 1,1-DCA, and 1,2-DCA were not detected in the groundwater sample collected from beneath the VW&R facility during First Quarter 2008.

4.2.2.5 West Central Phoenix Area WQARF Site

TCE and other VOCs appear to be entering the central portion of the WVBA from the north. Investigations have been conducted within the West Central Phoenix (WCP) WQARF Registry Site, north of the central portion of the WVBA and hydraulically upgradient. In the summer of 1998, the WCP was split into five separate plumes. The West Osborn Complex (WOC) site is the southernmost of five plumes in the WCP and is closest to the WVBA. The WOC is bounded approximately by the Grand Canal to the

north, 31st Avenue to the east, McDowell Road to the south, and 55th Avenue to the west. VOC contamination in the area was first detected in groundwater in July 1982.

Three facilities have been identified as likely sources of groundwater contamination in the WOC:

1. United Industrial Corporation (UIC), Investigated soil and groundwater, conducted SVE soil remediation, entered into a consent decree, settled with ADEQ, preparing two FS's, groundwater investigation is ongoing.
2. Corning Inc./Components Incorporated, Investigated soil and groundwater, settled with ADEQ.
3. NUCOR Corporation, settled with ADEQ.

ADEQ, in conjunction with UIC, agreed that the deep aquifer and the shallow aquifer should be further characterized and are to be remediated separately. The current COCs in groundwater at the WOC include TCE, 1,1-DCE, and PCE. TCE presents the highest contaminant concentration in the WOC. Currently, ADEQ is evaluating the FS for the deep aquifer and is awaiting the submittal of the FS for the shallow aquifer. ADEQ issued the final remedial objectives report in May 2005.

4.2.3 Western Portion of WVBA

Vadose zone contamination investigations have been conducted in the western portion of the WVBA at 15 facilities. The western portion of the WVBA extends from 51st Avenue to the western site boundary. The following facilities conducted investigations or had investigations conducted at their facilities; facility locations are shown on Figures 1-1 and 2-1:

1. Dolphin, 740 S. 59th Ave. – Investigated soil and groundwater, conducted remediation, received RCRA closure of consent order for soils.
2. POS, 5102 W. Roosevelt St. – Currently investigating soil and groundwater.
3. CoStar Corp/Data Packaging Corp, 425 S. 67th Ave – Conducted soil investigation, requested to investigate groundwater but never completed.
4. Arizona Parts Master, 15 N. 57th Dr. – Conducted soil investigation ascertained release was limited to petroleum hydrocarbons, not investigated further under WQARF.
5. Joe's Diesel Repair, 6316 W. Van Buren St. – Phase I soil sample collected but not recommended for additional investigation.
6. Petco, Inc., W. Side of 67th Ave. N. of railroad – Phase I soil sample collected but not recommended for additional investigation.
7. Phoenix Vegetable Distribution, S. Side of Buckeye Rd. E. of 83rd Ave. – Phase I soil sample collected but not recommended for additional investigation.

8. Phoenix Tank Farm, 51st Ave/Van Buren St. – Petroleum contaminants, not a COC of WVBA.
9. Unocal, 10 S. 51st Ave. – Conducted soil investigation, not required to investigate groundwater.
10. Research Chemicals, 8220 W. Harrison St., Tolleson – Phase I soil sample collected but not recommended for additional investigation.
11. Salesco Systems/Turken Industrial Properties, 5736 W. Jefferson St. – Conducted soil investigation, requested to do additional investigation but no record of being conducted.
12. Seaport Petroleum, 57 N. 57th Ave. – Conducted soil investigation determined release was limited to petroleum hydrocarbons, not investigated further under WQARF.
13. Southwest Feed & Seed, 350 S. 75th Ave. – Phase I soil sample collected but not recommended for additional investigation.
14. Trittech Manufacturing, Inc./Tri-Star Quality Metal Finishing, Inc., 5144 W McKinley St – Conducted soil investigation, not requested to investigate groundwater.
15. World Resources Co., 8113 W. Sherman St. – Phase I soil sample collected but not recommended for additional investigation.

Three facilities, Dolphin, POS, and CoStar Corp/Data Packaging Corp were requested to conduct groundwater investigations. CoStar Corp/Data Packaging Corp went bankrupt before any wells were installed at this facility. Groundwater data collected from surrounding groundwater monitor wells indicate that COC concentrations are higher in monitor wells upgradient of CoStar Corp/Data Packaging Corp than in monitor wells downgradient of the facility. COC detected at concentrations greater than regulatory standards in the vadose zone in the western portion of the WVBA have included PCE, TCE, 1,2-DCE, and chromium.

4.2.3.1 Dolphin

PCE was detected in the vadose zone in both soil and soil gas samples collected at the Dolphin facility. The highest soil gas concentrations were detected in the vicinity of drum storage, PCE degreaser, drain pipes and a leach field. Several soil samples collected from the Dolphin facility exhibited PCE at concentrations greater than the residential SRL and the minimum GPL. Groundwater data shown on Figures 4-3, 4-7, and 4-11 along with data presented in Section 2.1 indicate that the release of PCE occurring at the Dolphin facility contaminated groundwater beneath the facility and migrated downgradient of the facility. In First Quarter 2008, PCE concentrations in groundwater samples collected from Dolphin wells ranged from less than 0.50 to 51 µg/l.

TCE was only detected in soil gas samples collected from the Dolphin facility in the areas of the drum storage, PCE degreaser, and the southwest building but at concentrations of up to three orders of magnitude less than PCE soil gas concentrations. TCE was only detected in one soil sample, collected from soil

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
27th Avenue Swap Meet Property	310 and 320 S. 27 th Avenue ¹	The facility stored brake fluid, paints, solvents, and pesticides. ² Soil samples were not analyzed for contaminants of concern (COCs).
3010 West Lincoln Venture	3010 West Lincoln Street	
3 D One LLC/Gas Warz 305 Facility	3445 W. Van Buren Street	An underground storage tank (UST) at the facility contained 550 gallons of used motor oil. A small hole was observed in the used oil UST when it was removed; however, there were no signs of hydrocarbon constituents in the soils surrounding the tank and no other structural failures were observed. Two soil samples were taken from an area adjacent to the waste oil tank and analyzed for total petroleum hydrocarbons (TPHs) and purgeable halocarbons. These borings did not detect hydrocarbon constituents in either the native soils adjacent to or beneath the tanks or in the backfill material. Soil samples were not analyzed for COCs.
ADHS State Laboratory	1520 W. Adams Street	The facility generated less than 1,000 kilograms of 1,1,1-trichloroethane (TCA) and trichloroethene (TCE) per month.
ADOA Fleet Management Motorpool	1522 W. Jackson Street	Two soil samples were taken below a 550-gallon waste oil UST that had two “small” holes on top and had the appearance of being overfilled. Sampling results were not provided; however, according to the City of Phoenix Fire Department report, the soil smelled like solvents and petroleum. There also was a confirmed release of waste oil and “parts cleaning solvent” from the 550-gallon UST. The volume of the release was unknown.
ADOT Materials Testing Lab	1745 W. Madison Street	TCE was used at the facility.
ADOT Engineering Building	205 S. 17 th Avenue	Chromium was detected in drywell sediment samples at concentrations lower than the residential soil remediation level.
ADOT Facilities Warehouse/General Operations Building	1651 and 1655 W. Jackson Street	Chromium was detected in a drywell sediment sample at a concentration lower than the residential soil remediation level.
ADOT Sign Factory	2104 S. 22 nd Avenue	Chromium was detected in a drywell sediment sample at a concentration lower than the residential soil remediation level.
ADT Security	114 N. 9 th Avenue	A UST at the facility contained 550 gallons of waste oil. Based on a visual indication of soil staining, a facility site assessment surmised that a release of waste oil was the result of spillage from disposal of the waste oil through the fill pipe of the waste oil UST. However, during defueling of all USTs at the facility, it was determined that the tanks only contained fuel. Two samples were taken based on visual soil staining, but accompanying documentation did not indicate sample types or the type of chemical analysis performed. There was no mention of volatile organic compounds (VOCs) made in any documentation on file.

¹ Anderson Clayton Co. also operated at 320 S. 27th Avenue.

² Brake cleaners may contain PCE and TCE.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Air Liquide America LP	301 S. 45 th Avenue	Site investigations identified chromium, petroleum hydrocarbons, and chlorinated hydrocarbons such as TCA, TCE and PCE in soils. PCE, TCE, and TCA detected in groundwater samples collected at the facility.
Air Tuf Products, Inc.	101 N. 45 th Avenue	TCE, TCA, and waste oil were used at the facility. TCE, TCA, and 1,1-dichloroethene (1,1-DCE) were detected in groundwater and TCE and TCA were detected in air at the facility. Soil stains were visible from the drum storage area to the drywell located in the west parking lot at the facility. There was no evidence of soil or soil gas sampling at the facility.
Aloha Cleaners	1825 W. Buckeye Road	Spillage was present in the vicinity of the dry cleaning machines and behind the facility; however, the facility used 140 Solvent and claimed that it never used PCE. The facility is located outside the plume boundary.
American Daylight Co. Inc. (Arizona Daylight Co., Clearview Corporation, Finishline Industries, Interstate Wrecking, Manumann Lift Trucks, Phoenix Metallics, Southwest Center Upholstery, Trans Sierra Rentals, Viking Supply Corporation, and Viking Supply Corporation Plumbing also operated at this address)	2308 S. 11 th Avenue	No information regarding COC use or testing found for this address.
American Garage Door (CC-Pak Plastics and Steel Specialists also operated at this address)	3103 W. Lincoln Street	Chromium was detected in soil at the facility.
American Linen Supply Company	720 W. Buchanan Street	Site investigations identified petroleum hydrocarbons, and chlorinated hydrocarbons such as 1,1,1TCA, TCE and PCE in soils. PCE, TCE, and TCA benzene and methyl chloride were detected in groundwater samples collected at the facility.
American National Can	211 N. 51 st Avenue	Chromium was detected in an on-site drywell below Arizona Health-Based Guidance Levels. TCA, TCE, perchloroethene (PCE), and 1,1-DCE were detected in soil gas at the facility. PCE, 1,1-DCE, TCA, and TCE were detected in soil at the facility above laboratory detection limits.
Anderson Clayton/Western Cotton	615 S. 51 st Avenue	PCE, TCA, and TCE were detected in an on-site industrial well; however, the facility claimed that it did not use any of the contaminants found in groundwater on-site. TCE also was detected in soil at the facility.
Anocad Plating Company	2540 W. Cypress Street (Painting Shop)	Unknown chemicals spilled at the facility, which is located outside of the plume boundary. TCE, TCA, and chromium were used at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
	2617 W. Cypress Street (Plating Shop)	The facility received numerous violations for failure to store waste in drums that were in good condition and did not leak. The drum storage area was covered to a “large percentage with spilled/leaked material.” Sampling was conducted at the facility, but solvents historically used at the facility were not detected in samples. The facility is located outside the plume boundary.
	6033 W. Sherman Street	PCE, TCA, and chromium were used at the facility. PCE and TCA were detected in wastewater and PCE was detected in air at the facility. Chromium was detected in a downgradient well. PCE and TCA were released to an unauthorized landfill under the Resource Conservation and Recovery Act. The location of the landfill is unknown.
Ari-Tex Tires	1701-1707 S. 22 nd Avenue	Chromium was detected in soil at the facility. Used oil was disposed on-site.
Arizona Bus Lines	814 W. Jefferson Street	About 100 to 1,000 kilograms of PCE and TCE were used at the facility per month. A UST at the facility stored 500 gallons of used oil. No analyses for COCs were conducted on the used oil leaking underground storage tank (LUST).
Arizona Carburetor Manufacturing	2046 W. Buckeye Road	About 100 to 1,000 kilograms of PCE and TCE were used per month at the facility.
Arizona Industries for the Blind	3013 W. Lincoln Street	The facility generated less than 1,000 kilograms of F002, F003, and F005 waste, which according to the Code of Federal Regulations, may contain a percentage of PCE, TCE, and TCA, among other chemicals.
Arizona Lift Trucks	317 S. 9 th Avenue	Stained soil and evidence of spills and/or overfills were associated with a 250-gallon waste oil UST. In addition, pin-sized holes were found in the UST. A soil sample taken under the waste oil UST was analyzed for petroleum hydrocarbons and chlorinated solvents. No chlorinated solvents were identified in the soils beneath the waste oil UST.
Arizona MPP and Pioneer Metal Finishing	230 S. 49 th Avenue	Chromium was detected in soil and drywell sediment samples below residential soil remediation levels.
Arizona Public Service	408 S. 43 rd Avenue	About 30 gallons of solvent were released onto a concrete floor. PCE, 1,1-DCE, cis-1,2-DCE, and TCE were detected in groundwater at the facility. Chromium was detected in soil obtained from an on-site spray pond.
Arizona Public Service	505 S. 2 nd Avenue	PCE, TCE, and TCA were detected in soil borings at the facility. Unnamed VOCs were detected in soil vapor samples. PCE, TCE, and 1,1-DCE were detected in two upgradient and two downgradient wells below Arizona Aquifer Water Quality Standards.
Arizona Transmission Service	402 N. 35 th Avenue	The facility used transmission fluid and motor oil.
Arizona Transport Refrigeration, Inc.	830 S. 23 rd Avenue	A UST at the facility contained 500 gallons of waste oil. A release from the waste oil UST was discovered upon removal of the tank; however, no holes were noted in the UST at the time it was removed. Two soil samples were taken from the UST excavation and were analyzed for TPHs and halogenated and aromatic

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
		VOCs. No detectable concentrations of TPHs and halogenated and aromatic VOCs were found above method detection limits.
Arizona Trucking and Storage Services	2310 and 2320 W. Sherman Street	TCA was used at the facility. Corroded drums were found at the facility, but no sampling was conducted. An anonymous complainant reported that when the facility had a leaky container, it would empty the container into a large hole in the back lot of its site. However, during a hazardous waste inspection there was no evidence of disturbed soil or any disposal hole in the back lot of the facility.
Arizona Woodcraft	2200 W. Fillmore Street	
Arnold Corporation	40 S. 45 th Avenue	PCE, 1,1-DCE, and TCE were detected in soil samples obtained from an on-site drywell. PCE, TCA, TCE, and 1,1-DCE were detected in soil gas samples at the facility.
AT&T	505 N. 51 st Avenue	TCA was used at the facility. TCA, TCE, PCE, 1,1-DCE, and 1,1-dichloroethane (1,1-DCA) were detected in soil gas at the facility. TCE, PCE, 1,1-DCA, and chromium were detected in soil at the facility. TCA was detected in the air at the facility.
Auto Safety House	2630 W. Buckeye Road	A confirmed release of waste oil from a UST contaminated about three yards of soil at the facility. PCE and TCA were detected in soil obtained near the waste oil UST.
Best Dry Cleaners	1515 N. 7 th Avenue	A solvent UST existed at the facility, but the owner claimed to only use mineral spirits. The facility is located outside the plume boundary.
Bill's Cylinder Head Shop	1620 S. 27 th Avenue	A "substantial" amount of oil was discharged to the soil in the dirt yard area west of the service building at the facility. Chromium was detected in samples obtained from a dark, oily residue located in the dirt yard.
Brake Supply Company	420 S. 7 th Avenue	PCE and TCE were detected in soil and soil gas at the facility.
Bud's Oil	1340 W. Lincoln Street	TCA was used at the facility. Chromium, PCE, TCA, and TCE were detected in soil and TCE, PCE, and 1,1-DCE were detected in groundwater at the facility.
Maaco/ Burmeno Enterprises doing business as Maaco (Complete Paint and Body also operated at this address)	2323 W. Van Buren Street	Chromium was detected in "soil/sludge" and "dry filter material, dust" samples at the facility. There were reports of paint waste and solvent disposal in the back of the facility.
CAD Enterprises Incorporated	302 N. 52 nd Avenue	TCE, TCA, and Lube Rite Solvent were used at the facility. Chromium was detected in soil obtained from an on-site drywell at concentrations below the soil remediation level, but above the minimum groundwater protection level.
Capitol Collision Repair	902 S. 19 th Avenue	The facility used less than 1,000 kilograms of F005 waste per month, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Charles W. Carter Company, Inc.	1717 W. Roosevelt Street	The facility used an unknown quantity of F002 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
Checker Auto Parts Store No. 1160	3409 W. Van Buren Street	Soil staining was found near the facility. There was no evidence of soil or soil gas sampling at the facility.
Chemical Waste Management	2301 W. Broadway Road	TCA and chromium were used at the facility, which is located outside of the plume boundary. About 92 pounds of chlorinated solvents containing TCA and methylene chloride were spilled at the facility. In addition, there was a spill of five pounds of chromium hydroxide at the facility.
ChemResearch Company	1101, 1122, and 1130 W. Hilton Avenue 1120 W. Watkins Street	Facility has had known releases of COCs. Site investigations identified PCE and Chromium in soils. Chromium and PCE were detected in groundwater samples collected.
Christy Signs	1524, 1825, 1892 S. Black Canyon Highway	Barrels of paint and paint-related waste were leaking onto soil at the 1524 S. Black Canyon Highway facility in an area rented by Eller Outdoor from Christy Signs. Stained soil was observed around the drums. Chromium was not detected in used paint filters at the facility. PCE was detected in groundwater at the facility.
Chromalloy Arizona	5161 W. Polk Street	PCE, TCE, and chromium were used at the facility. Chromium was detected in soil, drywell, wastewater, air, clarifier sludge, "bulk" floor sweep, arc spray filter, and "wet clay" samples at the facility.
Cobb International, Inc.	300 S. 25 th Avenue	About 100 to 1,000 kilograms of PCE waste was generated at the facility per month.
Consolidated Freightways	830 S. 25 th Avenue	Documented releases of hydrogen chloride and "trifluoroacetic acid" exist for the facility.
Consolidated Rebar, Inc. (Olson Erectors, Inc. doing business as Viking Steel	321 S. 27 th Avenue	The facility used "Miscellaneous Metals, Possible Solvents."
Continental Equipment	2910 W. Durango Street	A "small amount of staining" was found at the facility. The facility, which is located outside the plume boundary, used 55 gallons of solvents per year.
Cool Air (Buckeye Road Cleaners also operated at this address)	2901 W. Buckeye Road	TCE, TCA, and carburetor cleaner, which may contain PCE and TCE, were used at the facility. A six-inch conduit to the septic tank was readily available for dumping of waste and that area was messy and had oily floors.
Dolphin, Inc	740 S. 59 th Avenue	Site investigations identified chlorinated hydrocarbons such as 1,1,1-TCA, 1,1-DCA cis-1,2-DCE, 1,1-DCE, TCE and PCE in soils. 1,1,1-TCA, 1,1-DCA cis-1,2-DCE, 1,1-DCE PCE and TCE were detected in groundwater samples collected at the facility.
Felton King Company	611 S. 15 th Avenue	No relevant information was found for this facility.
Fleet Painting and Body Shop, Inc.	3432 W. Sherman Street	The facility generated F001, F003, and F005 waste, which according to the Code

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
		of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals. An inspection was performed at the facility in response to a complaint that the body shop was dumping chemicals on the ground around the shop and burying material on-site.
Fleming Foods (Associated Grocer's also operated at this address)	624 S. 25 th Avenue	PCE, 1,1-DCA, 1,1-DCE, TCA, TCE, and cis-1,2-DCE were detected in groundwater at the facility. Safety Kleen parts cleaning solvent was used at the facility.
Fortune Plastics, Inc.	3401 W. Buckeye Road	PCE and TCA were used and released into the air at the facility.
Grand Avenue Garage	1015 Grand Avenue	The facility used Pioneer 360 solvent and carburetor cleaner, which may contain PCE and TCE. The facility also disposed of waste oil and solvents on-site.
Grille Corporation (Cypress Environmental, Inc. also operated at this address)	2452 W. Sherman Street	TCA was used at the facility.
Hi-Tech Plating & Shielding, Inc.	4313 W. Van Buren Street	PCE, TCE, and chromium were use at the facility. PCE and TCE were detected in an on-site drywell and chromium was detected in wastewater at the facility.
Holiday Cleaners	2909 W. Van Buren Street	Facility generated F002 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
Holsum Bakery	408 S. 23 rd Avenue	PCE, TCE, TCA, 1,1-DCE, cis-1,2-DCE, and 1,1-DCA were detected in groundwater and PCE was detected in soil at the facility.
Ingersoll Rand Building	820 N. 17 th Avenue	PCE was used at the facility. Chromium was detected in sludge generated at the facility.
International Window	2121 S. 15 th Avenue	Chromium, 1,1-DCA, PCE, and TCE were detected in groundwater and PCE was detected in soil at the facility.
Interstate Wreck Rebuilder, Inc.	3215 W. Lincoln Street	The facility generated an unknown quantity of F003 and F005, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
Jaquay's Equipment Company	1219 S. 19 th Avenue	Empty drums of PCE were found at the facility, but the facility owner indicated that PCE was not used at the facility. PCE and TCE were detected in groundwater at the facility. Staining was observed at the facility, but no soil sampling information was located.
Joe's Diesel Repair	6316 W. Van Buren Street	TCA and TCE were detected in soil at the facility.
Joplin RV Sales, Inc.	2301 W. Buckeye Road	Chromium was detected in soil at the facility.
JT's Diesel Repair	717 N. 21 st Avenue	PCE and TCE were detected in groundwater and PCE was detected in a soil boring in the vicinity of a diesel UST at the facility.
K & L Quartztek	20 S. 48 th Avenue	PCE, TCA and chromium were used at the facility. No staining was found at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
La Duc's Auto Supply	3045 W. Buckeye Road	Chromium was detected in the liquid waste stream generated from a hot caustic dip tank at the facility. Analysis of a stained soil area at the facility indicated that the facility's hazardous waste management practices resulted in a release of hazardous waste to the environment. No information was found regarding what substances were found in soil at the facility.
La Patisserie Bakery	1317 W. McKinley Street	Chromium was detected in soil at the facility.
LaSalle Draperies	710 W. Buchanan Street	PCE and TCE were detected in soil gas and groundwater at the facility.
M & D Electrical Parts Remanufacturing, Inc.	2821 W. Van Buren Street	Chromium was detected in soil obtained from an on-site drywell.
Manco Incorporated	1738 W. Lincoln Street	About five to ten gallons of machine oils and cleaning solvent may have been disposed of in the dirt parking lot behind the facility when the UST was full. Several spill areas were identified during the inspection including the following: ground in the east yard; oil/solvent-soaked ground in the east yard; oil/solvent-soaked ground about 10 feet south of the southeast corner of a metal shed in the east yard; and oil/solvent-soaked ground about 10 feet south of a telephone pole located on the north end of the east yard. Chromium was not detected in soil samples collected from the east yard and the samples were not analyzed for VOCs. ADEQ inspectors observed a release of used oil to the environment in the northeast area of the property. Chromium was detected in an oil sample.
Maricopa County Materials Management	320 W. Lincoln Street	Site investigations identified TCE and PCE in soils. PCE and TCE were detected in groundwater samples collected at the facility.
Maricopa Tractor Trailer	331 N. 7 th Avenue	PCE, TCA, TCE, and cis-1,2-DCE were detected in soil gas at the facility.
Martin Van Buren Commerce Park – Phase I	301, 401, 402 N. 37 th Drive and 3740 W. Van Buren Street	Chromium was detected in sediment samples obtained from an on-site drywell.
Maximet Corporation	5925 W. Monroe Street	TCA was used and released into the air at the facility. Chromium was detected in an on-site drywell. TCE and TCA were detected in soil at the facility. Plating area tables and the floor beneath showed evidence of chrome solution contamination.
Milum Textile Service	333 N. 7 th Avenue	PCE was used at the facility. PCE, TCA, and TCE were detected in soil gas and PCE, TCE, and 1,1-DCE were detected in groundwater downgradient of the facility.
National Metals Co.	301 S. 19 th Avenue	Chromium was detected in soil sludge at the facility.
	320 S. 19 th Avenue	TCA was used at the facility. Chromium was detected in soil gas at the facility.
	443 E. Buckeye Road	The facility is located about 2,000 feet upgradient from a well that contained TCE and is located outside the plume boundary.
Optifab, Inc.	1550 and 1554 W. Van Buren Street	TCA was used and detected in groundwater at the facility. No VOCs were detected in soil samples at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Orbit Cleaners	1002 N. 35 th Avenue	Minor staining was found behind the facility. The property owner indicated that the facility used petroleum naphtha and had never used PCE. The facility is located outside the 2004 plume boundary, but was located within the 2003 plume boundary.
Petco	304 S. 67 th Avenue	TCA and TCE were detected in soil at the facility. PCE was detected at low concentrations in sludge generated at the facility.
Philip Services Corp./Philips Transportation and Remediation	1801 W. Watkins Street	A complaint was recorded regarding leaking drums without labels at the facility. Soil staining was suspected to be copper sulfate spillage. Spills from two waste streams, including one that contained chromium, were observed at the facility. However, soil samples obtained from the spill area did not contain metals.
Phoenix Heat Treating, Inc.	2405 W. Mohave Street	TCA was used and released to the air at the facility. Conflicting information exists regarding whether the facility used TCE. TCA was detected in soil and TCA, TCE, and 1,1-DCE were detected in soil gas at the facility. Chromium was detected at non-hazardous levels in a 400-gallon sludge spill at the facility.
Phoenix Metal Trading, Inc.	610 S. 19 th Avenue	The facility generated greater than 1,000 kilograms of F002 waste per month, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
Phoenix Police Building Parking Lot	706 W. Washington Street	Chromium was detected in soil and soil vapor at the facility.
Precision Industrial Painting	1139 W. Hilton Avenue	TCA was used at the facility. Paint waste may have been disposed of on-site. Spills of a crystallized form of “cake” were found around the water treatment area. A concrete pad had a brown-powdered material, yellow paint particles, and stagnate water. Chromium was detected in the wastewater system.
ProClean Incorporated	4315 W. Van Buren Street	The facility “used or stored” industrial detergents and cleaning compounds for food service facilities. It is unknown if the substances listed contained the COCs. The City of Phoenix observed “unknown hazardous/corrosive materials” leaking from the rear loading dock and contaminating an on-site drywell.
Proctor and Gamble	2050 S. 35 th Avenue	A small spill of 1-1-DCE and carbon tetrachloride occurred at the facility.
Prudential Overall Supply	5102 W. Roosevelt Street	Site investigations identified PCE in soils.
Ray & Bob’s Truck Salvage	101 S. 35 th Avenue	TCA and TCE were detected in soil at the facility.
RB Machine Co., Inc.	3729 W. Buchanan Street	Chromium was used and detected in soil at the facility.
Research Chemicals	8220 W. Harrison Street	PCE, TCA, TCE, and 1,1-DCE were detected in soil and groundwater at the facility.
Reynolds Metals Company	35 th to 43 rd Ave and W. Van Buren Street and Union Pacific Railroad	Site investigations identified chromium, petroleum hydrocarbons, and chlorinated hydrocarbons such as TCA, TCE, 1,1-DCE and PCE in soils. TCA and 1,1-DCE were detected in groundwater samples collected at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Rio Salado Community College (Childress Buick also operated at this address)	621 N. 7 th Avenue	The facility had a 300-gallon waste oil LUST. Photoionization (PID) detector results indicated that low to below detection limit concentrations of VOCs were present at the site; however, PID measurements taken during the removal of the tank indicated significant levels of VOCs. The types of VOCs detected at significant levels are unknown.
Rinchem Company	1550 W. Lower Buckeye Road	PCE, TCE, and TCA were used at the facility, which is located outside the plume boundary. PCE, TCA, and TCE were detected in soil at the facility.
	2115 S. 15 th Avenue	PCE, TCE, 1,1-DCE, and 1,1-DCA were detected in groundwater at the facility.
	4115 W. Turney Avenue	PCE, TCE, and TCA were sold in bulk by the facility. PCE and TCE were detected in soil gas and TCA, 1,1-DCE, and 1,1-DCA were detected in soil at the facility, which is located outside the plume boundary.
Roadway Express	2021 S. 51 st Avenue	TCE was detected in soil at the facility.
Russell Family Trust	250 N. 7 th Avenue	Chromium was detected in soil at the facility.
Ryder Facility LC-1637	5502 W. Latham Avenue	Chromium was detected in soil at the facility.
Sahuaro (Saguaro) Petroleum & Asphalt	731 N. 19 th Avenue	The facility used hydrochloric acid in the processing of asphalt emulsion and sale of medium cure asphalt. In addition, 2,000 cubic yards of diesel-contaminated soil was excavated and mixed with asphaltic material for use on roadways at the facility. Kleinfelder, Inc. did not sample the property for the Phase I Report for the West Van Buren Area because the company was “defunct” and Kleinfelder, Inc. was unable to gain access to the property.
	1935 W. McDowell Road	PCE was detected in groundwater at the facility, which is located outside the plume boundary. Kleinfelder, Inc. did not sample the property for the Phase I Report for the West Van Buren Area because the property was “asphalt covered.”
Salesco Systems USA (Onyx Environmental Services, LLC and Superior Special Services also operated at this address)	5736 and 5752 W. Jefferson Street	PCE, TCE and chromium were used at the facility. PCE, 1,1-DCE, 1,1- DCA, and chromium were detected in an on-site drywell. Chromium was detected in wastewater at the facility.
Salt River Project 55 th Avenue Fuel Storage Facility	100 and 120 S. 55 th Avenue	PCE, TCE, TCA, 1,1-DCA, and 1,1-DCE were detected in groundwater at the facility.
	1616 E. Lincoln Street	PCE, TCE, and TCA were used at the facility, which is located outside the plume boundary.
San Joaquin Refining Co.	131 S. 57 th Avenue	TCE was used and detected in groundwater at the facility.
Santa Fe Railroad	707 N. 20 th Avenue	TCE and TCA were detected in soil and TCE, PCE, and cis-1,2-DCE were detected in groundwater at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Sav-Trac of Arizona, Inc. (Durango Industrial, Inc. also operated at this address)	2602 W. Durango Street	About 300 gallons of Rinsolve 140 cleaning solvent were used at the facility per year. Rinsolve 140 cleaning solvent generated F003 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals. The facility also used Independent Oil Co. solvent, Zep 940E, and Zep "Steam and Clean." During an inspection, spent-solvent waste from the steam-cleaning operations was observed flowing into an on-site ditch, which drained into an on-site drywell that had a dark, oily residue. Drywell fluid and sediment was tested and showed metals and VOCs below the state-established recommended contaminant levels.
Schuff Steel	420 S. 19 th Avenue	PCE, TCE and chromium were detected in sludge, and chromium was detected in liquid at the facility. Stained earth was observed at the facility as well as oil, baghouse dust, and paint spills.
Seaport Refinery (also known as Seaport Petroleum Caljet)	25 N. 57 th Avenue	The facility reported that it did not use solvents and that any soil staining was the product of leaking oil and petroleum. COCs were not tested for on-site.
SmithKline Beechman Co. (formerly Beckman Instruments, Inc.)	5340 W. Buckeye Road	No relevant information was found for this facility.
Soberg Industries	1119 W. Hilton Avenue	PCE, 1,1-DCE, and TCA were detected in soil gas at the facility.
Southwest Gas (Markhon Industries also operated at this address)	9 S. 43 rd Avenue	The facility was one of 16 facilities that were suspected of contributing to groundwater contamination in Maryvale; however, the facility claimed it did not use TCE or TCA. No sampling information was found for the facility.
Stanco Petroleum Equipment, Inc.	4625 W. Van Buren Street	Chromium was detected in soil at the facility. The facility used a solvent, but the chemical composition is unknown.
Sta-Rite Industries, Inc.	1146 W. Hilton Avenue	Oil-stained soil was observed in a vacant lot west of the facility. PCE was detected in soil at the facility.
SubZero Freezer Co.	3865 W. Van Buren Street	PCE, TCA, and chromium were used at the facility. Chromium and TCA were detected in the air at the facility.
Texaco Service Station No. 3	3438 W. Buckeye Road	A UST at the facility contained 550 gallons of used motor oil. Soil samples were taken from UST excavation pits and were tested for TPH and BTEX only. Samples were not analyzed for COCs.
The Washhouse LRS (Westside Laundromat also operated at this address)	3114 W. Van Buren Street	PCE was used at the facility. There was a spill of 10 gallons of PCE inside a building at the facility.
Thermo Fluids, Inc.	4301 W. Jefferson Street	The facility generated unknown quantities of F003 and F005 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals. The facility also accepted used oil with TCE from Honeywell. Chromium, TCE, 1,1-DCE, PCE, and TCA were detected in filter residuals and PCE was detected in baker tanks at the facility.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Thunder Trading	711 N. 17 th Avenue	The facility generated an unknown quantity of PCE waste. The LUST did not contain information about COCs.
Times Fiber Communications	2920 E. Elwood Street	No relevant information was found for this facility, which is located outside the plume boundary.
	4648 W. Van Buren Street	TCA was used and detected in groundwater at the facility.
Transcon Lines	3839 W. Buckeye Road	PCE and TCE were detected in soil at the facility. PCE, TCE, 1,1-DCA, and 1,1-DCE were detected in groundwater at the facility.
Treffers Precision	1021 N. 22 nd Avenue	PCE, TCA, and chromium were used at the facility. Chromium and PCE were detected in shallow soil samples and PCE was detected in air at the facility.
Tritech Manufacturing (Tri-Star Quality Metal Finishing, and Sav-On Plating, Inc. of Arizona also operated at this address)	5144 W. McKinley Street	TCE, TCA, and chromium were used at the facility. PCE was detected in soil obtained from an unknown location at the facility. Chromium was detected in soil obtained from an on-site drywell. PCE and TCE were detected in groundwater obtained from a soil boring near an on-site drywell. Wastewater from electroplating operations flowed into an on-site drywell. Wastewater containing chromium leaked into an asphalt pavement. In addition, 140 gallons of chromic acid and cyanide solution as well as 500 to 900 gallons of acid with dissolved metals were released at the facility.
Truck Salvage Company	1409 and 1433 S. 19 th Avenue	PCE and TCE were detected in monitoring wells south of the facility, which is located outside of the plume boundary. The facility may have septic tank contamination, but no additional information was found regarding the possible contamination. The facility possibly used HVOC-based solvent in the past.
Truck Works, Inc.	3216 W. Sherman Street	The facility generated 100 to 1,000 kilograms per month of PCE, TCE, and F003 and F005 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
Tune-up Masters	1501 W. Van Buren Street	The facility generated an unknown quantity of F002, F004, and F005 waste, which according to the Code of Federal Regulations, may contain PCE, TCE, and TCA, among other chemicals.
U.S. Department of Energy – Western Area Power Administration	615 S. 43 rd Avenue	Site investigations identified TCA and PCE in soils. 1,1-DCE PCE and TCE were detected in groundwater samples collected at the facility.
V.A.W. of America	249 S. 51 st Avenue	Chromium was detected in wastewater and two dross piles at the facility.
Valdez Transfer	421 S. 33 rd Avenue	The facility generated less than 100 kilograms per month of PCE waste.
Valley American Corporation (Valley Agro-Chem and Valley Feed and Seed also operated at this address)	1918 W. Van Buren Street	Pesticides spills were reported at the facility. Pesticide containers found on-site appeared to be old, unmarked, and may have contained PCE and TCE, but soil samples were not analyzed for COCs.
Van Buren Industrial Properties	34-74 N. 45 th Avenue	Chromium was detected in an on-site drywell.

Table J-3 – West Van Buren WQARF Site Facilities Assessed

Facility Name	Facility Address	Summary
Van Buren Tank Farm (VBTF)	Southwest corner of 51 st Avenue and Van Buren Street	PCE, TCE, TCA, 1,1-DCE, 1,1-DCA, and cis-1,2-DCE were detected in groundwater at the VBTF. The following information pertains to facilities located within the VBTF: ARCO generated chromium waste; BP West Coast Products, LLC generated TCE and chromium waste; Caljet generated F003 and F005 waste, which according to the Code of Federal Regulations may contain PCE, TCE, and TCA, among other chemicals; Chevron used an automotive parts cleaning solvent, but the constituents of the solvent are unknown; chromium was detected in fuel filters generated by Chevron; Chevron also generated F003 and F005 waste, which according to the Code of Federal Regulations may contain PCE, TCE, and TCA, among other chemicals, and no COCs were detected in soil samples obtained from the Chevron facility; TCE was detected in soil at the Southern Pacific Pipelines facility; TCE, PCE, and TCA were detected in soil at the UNOCAL facility; and PCE, TCE, TCA, 1,1-DCE, 1,1-DCA, and cis-1,2-DCE were detected in the evaporation pond and process water at the UNOCAL facility.
Van Waters and Rogers Inc.	50 S. 45 th Avenue	Site investigations identified chlorinated hydrocarbons such as TCA, 1,1-DCA, 1,2-DCA, 1,1-DCE, TCE and PCE in soils. TCA, 1,1-DCA, 1,2-DCA, 1,1-DCE, TCE and PCE were detected in groundwater samples collected at the facility.
VEM	715 N Black Canyon Highway	
World Resources	8113 W. Sherman Street	PCE and chromium were used at the facility. Chromium was detected in air, TCE, TCA, and chromium were detected in soil, and TCA and chromium were detected in groundwater at the facility.
Yellow Freight Systems	3425 S. 43 rd Avenue	The facility had a release of an unknown substance. Substances stored on-site included 160,000 gallons of diesel fuel in a UST, 10,000 gallons of motor oil in a UST, 6,000 gallons of waste oil in a UST, and 30 gallons of petroleum naphtha solvent. The facility is located outside the plume boundary.

APPENDIX B

**LIST OF FACILITIES TO BE EVALUATED IN THE
EAST WASHINGTON STUDY AREA**

Inter-Office Memorandum
Arizona Department of Environmental Quality
(December 28, 1989)

5160 - 2.12.3

Inter-Office Memorandum

DATE: December 28, 1989

TO: Lowell Carty
Project Manager, East Washington Study Area

FROM: David Hawkins
WQARF Intern

RE: LIST OF FACILITIES TO BE EVALUATED IN THE EAST
WASHINGTON STUDY AREA

A new round of questionnaires have been sent out to 330 different facilities in the East Washington Area during the month of December. However, questionnaires have not been sent to approximately 60 other facilities in the study area for one reason or another. Here is a list of facilities that were not sent a questionnaire and the reasons why:

1) A questionnaire was received from the facility in 1988 or 1989:

- | | |
|---------------------------|---------------------------|
| Airnetics Engineering | 4130 E. Madison |
| Aviall | 215 S. 28th St. |
| Banker Insulation | 201 S. 42nd Pl. |
| Drum Printing/Mailing | 1618 E. McDowell Rd. |
| Galaxy Explorers | 4302 E. Madison |
| Henes Stamping Co. | 4225 E. Madison |
| Jackson Custom Cabinets | 4232 E. Madison |
| Calmat Co. of Arizona | 1801 E. University |
| FMC--Phoenix Plant | 1450 E. Buckeye Rd. |
| Hertz Corp. | 1215 S. 27th St. |
| Mission Uniform Service | 621 S. 1st Ave. |
| | 1606 S. 1st Ave. |
| Reliance Steel & Aluminum | 1109 E. Jackson |
| Stewart Concrete Pipe | 4230 E. Madison |
| Tanner Company Yard | 20th St. & Mohave |
| Essex Garage | 2002 E. Van Buren |
| Laundry Bag | 2610 E. McDowell Rd. |
| Maydwell & Hartzell | 120 S. 29th St. |
| Southern Pacific Railway | 13th St. & Harrison (WVB) |
| D'Velco Manufacturing | 401 S. 36th St. |
| ?? Arizona Propeller Shop | 3340 E. Washington |
| ?? Automatic Transmission | 2000 E. Van Buren |
| Ruan | 4150 E. Magnolia |
| Smith Pipe & Steel | 405 S. 7th St. |
| SRP | 1616 E. Lincoln |
| Sun Motor Exchange | 2214 E. Washington |
| Sun Valley Newspapers | 909 E. Madison |

2) These facilities are within the scope of the investigation being conducted by the City of Phoenix:

Arizona Wholesale Supply	2020 E. University
Continental Airlines	3400 E. Sky Harbor
DynAir Tech.	3737 E. Bonanza
El Sol News	1422 E. Apache
Lockheed Air Terminal	4200 E. Airplane
Arizona Tool Products	4102 E. Airplane
C.S. & W. Contractors	3845 E. University
Frontier Airlines	3200 E. Sky Harbor
General Machine Works	1813 E. Buckeye
7th St. Landfill	7th St. & Lower Buckeye
11th St. Landfill	11th St. & Gibson Ln.
14th St. Landfill	14th St. & Magnolia
Estes Landfill	40th St. & Riverbottom
Garbage Service Co. Landfill	40th St. & Riverbottom
Pacific Southwest Airlines	3200 E. Sky Harbor
Pride Expeditors	3919 E. Airplane
PSA/US Air	Sky Harbor
Sky Harbor Airport Airline Maint.	
Sylva Machinery Co.	3928 E. Airplane
Trans World Airlines	1357 S. 27th St.
	3200 E. Sky Harbor
Transco	3910 E. Airplane
United Airlines	3200 E. Sky Harbor
Wien Air Alaska	3400 E. Sky Harbor

3) The site is being investigated under RCRA:

B.S. & W. Energy Corp.	725 S. 12th Pl.
Western Automatic Machine Co.	1601 E. Madison
Richem - 15th Ave.	2402 S. 15th Ave.

4) Miscellaneous

AA National Metals (Grant St.) need address
Bagdad Plastics need address
Belfiore & Associates 2214 N. Central (within study area?)
D.Q. Furniture 1500 S. 7th St. (site inspection needed?)
New Times 111 W. Monroe and 1201 E. Jefferson