



**FINAL
INDUSTRIAL SURVEY NO. 1**

**FOR THE
WEST VAN BUREN
WQARF REGISTRY SITE**

Prepared for

**Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012**

**ADEQ Contract No. 01-0069
ADEQ Task Assignment No. 01-0069-260000-00**

June 13, 2002

**HydroGeoLogic, Inc.
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WVHGLC000255

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The findings, opinions, and conclusions contained in this report are solely those of HydroGeoLogic, Inc. These findings, opinions, and conclusions do not necessarily reflect the position of the state of Arizona, or any of its departments or agencies.

WVHGLC000256

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FINAL INDUSTRIAL SURVEY NO. 1 FOR THE WEST VAN BUREN WQARF REGISTRY SITE

1.0 INTRODUCTION

On June 7, 2001, HydroGeoLogic, Inc. (HydroGeoLogic) received Task Assignment 01-0069-260000-00 under Contract No. 01-0069 from the Arizona Department of Environmental Quality (ADEQ) to conduct a Best Effort Potentially Responsible Party (PRP) Search for the West Van Buren Water Quality Assurance Revolving Fund (WQARF) registry site. Under this task assignment, HydroGeoLogic has been requested to perform an industrial survey of an area within the WQARF site boundary. The ADEQ requested that HydroGeoLogic review city directories and ADEQ files in order to identify significant users of the contaminants of concern (COCs) who may have contributed to the contamination at the West Van Buren WQARF site. The COCs at this site include: tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), 1,2-dichloroethene (DCE), 1,1-dichloroethane (DCA), and chromium; however, chromium was not one of the COCs under investigation for this industrial survey.

Boundaries for the industrial survey are: Township 1 North, Range 3 East, Section 6, Quarter C (Southwest); and Township 1 North, Range 3 East, Section 7, Quarter B (Northwest). Figure 1.1 depicts the industrial survey location within the City of Phoenix and within the WQARF Registry site boundary.





The remainder of this report contains the following sections: Section 2.0 represents the methodology and results of HydroGeoLogic's city directory review. Section 3.0 contains the methodology and results of the ADEQ file review divided by file category. Section 4.0 discusses data gaps encountered during data collection. Appendices A through C contain tables listing possible contaminants identified within the defined industrial survey boundary sorted by street address, business type, and COC.

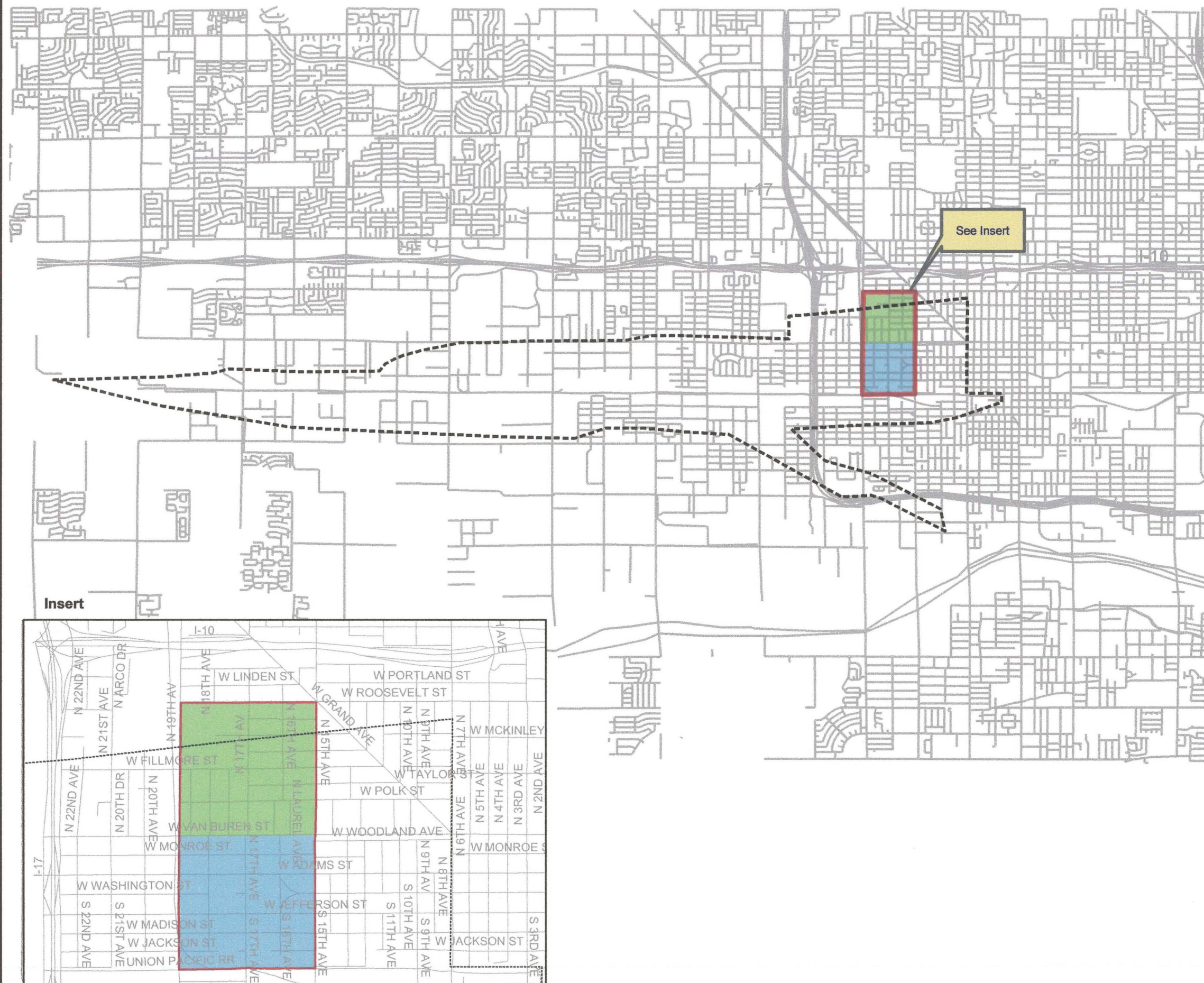
Figure 1.1
Industrial Survey No. 1 Location Map
West Van Buren WQARF Registry Site

**Arizona Department of
Environmental Quality**



Legend

-  Township 1N/Range 3E/Section 6/Quarter C
 Township 1N/Range 3E/Section 7/Quarter B
 Industrial Survey Boundary
 WQARF Site Boundary



Filename: x:phoenix/graphics/WCB_TA10/
ISILocation.mxd
Project: ARI002-010-02-02
Created: 2/19/02 RPetrillo
Revised: 6/12/02 RP
Source: City of Phoenix GIS (Basemap 02/01)
ADEQ WQARF Registry Web Site (01/02)



2.0 CITY DIRECTORY REVIEW

2.1 CITY DIRECTORY REVIEW METHODOLOGY

To conduct the industrial survey, HydroGeoLogic reviewed Phoenix city directories at Arizona State University's Hayden Library and the City of Phoenix Public Library from 1935 to 2000. For every directory reviewed, copies were made of the address ranges listed in Table 2.1 below:

Table 2.1
Industrial Survey No. 1 Address Ranges

Street Number Range	Street Name	Street Number Range	Street Name
1500-1899	W Adams St	1-399	S 17 th Ave
1500-1899	W Fillmore St	300-599	N 17 th Dr
1500-1699	W Garfield St	1-599	N 18 th Ave
1500-1599	W Harrison St	1-299	S 18 th Ave
1500-1899	W Jackson St	300-499	N 18 th Dr
1500-1899	W Jefferson St	1-999	N 19 th Ave
300-399	N Laurel Ave	1-399	S 19 th Ave
1500-1899	W Madison St		
1500-1799	W McKinley St		
1500-1899	W Monroe St		
1500-1699	W Pierce St		
1500-1899	W Polk St		
1500-1899	W Roosevelt St		
1500-1699	W Taylor St		
1500-1899	W Van Buren St		
1500-1899	W Washington St		
1-999	N 15 th Ave		
1-399	S 15 th Ave		
1-999	N 16 th Ave		
1-399	S 16 th Ave		
1-999	N 17 th Ave		

For the September 19, 2001 industrial survey, HydroGeoLogic created a spreadsheet by year and address of companies most likely to have used or generated PCE, TCE, (TCA), DCE, DCA, and chromium in their operations. In this revised survey, HydroGeoLogic removed companies that were included based on use of chromium because the chromium contamination at the site does not extend to within the industrial survey boundaries. As directed by the ADEQ, HydroGeoLogic also removed all service stations from this revised industrial survey. To determine what companies to include in the September 19, 2001 industrial survey, HydroGeoLogic researched the potential uses of the COCs using both Internet resources and references available at Arizona State University's Noble Science Library.

The research determined the following uses for the contaminants of concern:

PCE

Oil/fat extraction
Coal separation/desulfurizing
Anthelmintic drug manufacturing
Dry Cleaning
Vapor Degreasing
Metal Cleaning
Textile finishing
Integrated Circuit Manufacturing
Chlorofluorocarbon and hydrofluorocarbon production
Transformer insulating fluid (substitute for PCB)
Chemical maskant formulations
Automotive aerosol manufacturing (brake cleaner)
Chemical intermediary
Rubber coating manufacturing

Uses for TCE that vary from those of PCE:

Refrigerant and heat exchange liquid
Fumigant
Diluent in paints and adhesives
Aerospace operations (flushing liquid oxygen)

TCA

Cleaning precision instruments
Metal degreasing
Pesticide
Textile processing

DCE is used as a general solvent for:

Organic materials
Dye extraction
Perfumes
Lacquers
Thermoplastics
Organic synthesis

DCA

Extraction solvent
Fumigant

If a company's name indicated that the above processes were part of its operations, it was included in the Excel spreadsheet submitted as part of the September 19, 2001 industrial survey. For this revised survey, HydroGeoLogic implemented a new survey methodology used to refine the list of possible contaminant users. In order to do this, HydroGeoLogic reviewed a listing of all of the classified business-directory categories accumulated from multiple years of business directories to correlate businesses with their likelihood of significant usage of the COCs.

HydroGeoLogic reviewed all the possible business-directory categories and assigned them numbers Y1-Y3, depending on known COC usage (Y3 = most significant / Y1 = the least). If a business category included a range of numbers (Y1 through Y3), it was placed at the highest range (Y3). As directed by the ADEQ, directory categories with most significant usage (a rating of Y3) are the only business categories included in this survey. Business directory categories that could be grouped together, based on like-industries and identical COC usage were further combined into a Business Type. Table 2.2 below identifies the business types and their associated city directory categories that were evaluated for this industrial survey.

Table 2.2
Industrial Survey No. 1 Business Categories

Business Type	City Directory Categories
Air Conditioning Manufacturing	Air Conditioning Manufacturers
Aircraft Repair	Air Transportation Aircraft Repair Aircraft Servicing & Maintenance Airplane Repairing Crop Dusting
Auto Body Repair (all vehicles)	Automobile Body & Fender Work Automobile Body Repairing
Auto Painting Operations (all vehicles)	Automobile Painting
Auto Repair (all vehicles)	Automobile Bumpers Automobile Engine Rebuilding Engines – Diesel Sales & Service (service only) Engines – Gasoline Sales & Service (service only) Motor Rebuilding Transmission Service (includes Hydra-Matic)
Chemical Manufacturing and Distribution	Chemical Manufacturers Chemicals
Cotton Production	Cotton Processors
Cotton Seed Oil Manufacturing Operations	Cotton Seed Oil Manufacturing
Dry Cleaning Operations	Cleaners & Dyers Dry Cleaners Dry Goods Home Linen Service Linen Supply Rug Cleaning & Repairing (if done at company)
Foundry Operations	Foundries (Iron & Steel) Iron & Steel Works Iron Casting Treaters Typefounders

Table 2.2 (continued)
Industrial Survey No. 1 Business Categories

Business Type	City Directory Categories
Fumigant Production and Formulation	Citrus Groves/Lands Crop Dusting Exterminators Flour Dealers & Mills Fumigation Material Grain Dealers Pest Control
Insecticide Production and Formulation	Crop Dusting Exterminators Grain Insecticides Insecticides Pest Control
Manufacturing Operations	Airplane Parts Manufacturers Automatic Washers Automobile Accessories & Parts Manufacturer Boiler Manufacturers Cotton Gin Machine Manufacturing Electrical & Electronic Equipment Manufacturer Lubricant Manufacturers Machine Part Manufacturers Machine Tool Manufacturers Machinery Manufacturers Precision Parts Manufacturers Tool & Dye Manufacturers Tool Manufacturers Trailer Manufacturers Truck Body Manufacturing
Metal Fabrication & Plating - Aluminum	Aluminum Fabricators Aluminum Finishing Aluminum Plating Aluminum Products Manufacturers
Metal Fabrication & Plating – Non-Aluminum	Machine Works Metal Fabricators Metal Finishing Metal Plating Metal Products Metal Trim Metal Works Sheet Metal Works Steel Fabricators Steel Manufacturers
Miscellaneous Degreasing Operations	Railroads
Paint Manufacturing	Paint Manufacturers
Plastic Manufacturing	Plastic Manufacturers
Potential Fleet Maintenance	Fleet Maintenance (must say this or something similar)

Table 2.2 (continued)
Industrial Survey No. 1 Business Categories

Business Type	City Directory Categories
Printing Operations	Directory Publishers Map Publishers Newspapers & Publications Printers Printers Ink Manufacturers Printing Supplies & Equipment Manufacturers Publishers
Textile Processing & Manufacturing	Textile Dyeing (raw) Textile Manufacturers Textile Processing
Transformers	Electrical & Electronic Equipment Manufacturer Motors & Transformers Power Companies Telephone & Telegraph Companies
Varnish Productions	Varnishes (manufacturers)
Vulcanizing Operations	Rubber Companies (not tires) Tire Manufacturers Vulcanizers

To implement the new survey methodology, HydroGeoLogic reviewed the September 19, 2001 survey Excel spreadsheet and selected those parties that fell within the address ranges and the above listed categories. These parties were then entered into the Industrial Survey Microsoft Access Database. Those companies that were previously listed in the September 19, 2001 Excel spreadsheet that did not fit into the above listed categories were removed from this revised industrial survey listing.

2.2 CITY DIRECTORY REVIEW RESULTS

This revised industrial survey presents the city directory findings in Appendix A, City Directory Review Results by Address; Appendix B, City Directory Review Results by Business; and Appendix C, City Directory Review Results by Contaminants of Concern. Figure 2.1, Industrial Survey No.1, Facility Locations provides the location of all businesses identified in this revised industrial survey. Please note that W Washington Street no longer exists for the 1500 to 1899 address range. In Figure 2.1, HydroGeoLogic estimated the locations of three historical facilities on W Washington Street.

Please note that if there were minor variations in a company's name (e.g., Biltmore Cleaners Co. in 1935 vs. Biltmore Cleaners Co. Inc. in 1936), the more descriptive name was applied to all years the business was in operation. In these cases, HydroGeoLogic assumed that the same business operated at that address in spite of name variations. If a company engaged in two or more operations (e.g., XY Body & Painting shop) it was entered under two different business categories (e.g., Auto Body Repair and Auto Painting Operations).

HydroGeoLogic located parties within the survey boundaries that fall into 11 business type categories and include the following:

- Aircraft repair
- Auto painting operations
- Auto body repair
- Auto repair
- Chemical manufacturing and distribution
- Dry cleaning operations
- Manufacturing operations
- Metal fabrication and plating-aluminum
- Metal fabrication and plating-non-aluminum
- Potential fleet maintenance
- Printing operations.

The three business types with the greatest number of businesses in the survey boundaries are dry cleaning operations, metal fabrication and plating-non-aluminum, and auto body repair. HydroGeoLogic located approximately 24 dry cleaning businesses within the survey boundaries. Dry cleaning operations are linked to PCE usage. Approximately seventeen metal fabrication and plating-non-aluminum businesses were located within the survey boundaries. These operations are linked to DCA, TCA, TCE, and DCE usage. The third largest category, auto body repair includes seven businesses. Auto body repair operations consist of DCA, TCA, TCE, and DCE usage. Facilities listed by COC are located in Appendix C.

The greatest concentration of dry cleaners is on West Van Buren Street. The dry cleaners are located at the following street addresses: 1521, 1528, 1530, 1645, 1649, 1655, 1714, and 1742. The longest operating dry cleaner on this street is Capitol Cleaners and Tailors, which operated for approximately thirty-six years, from 1947 to 1983.

Facility Name	Address ID*	Address	PA/SI	UST/LUST Facility ID	UST/LUST Leak ID	No. of Tanks	UST/LUST Chemical	RCRA Notification	RCRA Status	RCRA Open	RCRA Closed
ADHS State Laboratory	N/A	1520 W Adams St	N/A	N/A	N/A	N/A	N/A	Facility ID: AZD982010951	Unavailable	N/A	N/A
ADOA Fleet Management (State Motor Pool)	21	1522 W Jackson St	N/A	Facility ID: 0-000185	Leak ID: 259201	2	Used Oil	N/A	N/A	N/A	N/A
ADOT	N/A	1745 W Madison St	N/A	N/A	N/A	N/A	N/A	Facility ID: AZD980814354	Unavailable	N/A	Y
Charles W. Carter Co. Inc.	N/A	1717 W Roosevelt St	N/A	N/A	N/A	N/A	N/A	Facility ID: 000009074744 Handler ID: AZD982514671	Unavailable	N/A	N/A
Designer Wood Products	N/A	1710 W Fillmore St	N/A	N/A	N/A	N/A	N/A	Facility ID: AZD982482309	Unavailable	N/A	N/A
Econo Lube & Tune	N/A	202 N 19th Ave	N/A	N/A	N/A	N/A	N/A	Facility ID: 000009003532 Handler ID: AZR000002097	Unavailable	N/A	N/A
Ingersoll-Rand Equipment Corp.	N/A	820 N 17th Ave	N/A	N/A	N/A	N/A	N/A	Facility ID: 000009005278 Handler ID: AZD983478652	Unavailable	N/A	N/A
National Metals Co.	18	320 S 19th Ave	Y	N/A	N/A	N/A	N/A	Facility ID: AZD007961741	Transporter	N/A	Y
Optifab Printed Circuits Inc.	N/A	1554 W Van Buren St	Y	N/A	N/A	N/A	N/A	Facility ID: AZ0002091783 Handler ID: AZD980886188	Unavailable	N/A	Y
Sahuaro Petroleum Products & Asphalt Co.	N/A	731 N 19th Ave**	N/A	N/A	N/A	N/A	N/A	Facility ID: AZD981431356	Small Quantity	N/A	Y
Thunder Trading	8	711 N 17th Ave	N/A	Facility ID: 0-004512	Leak ID: 38001	1	Unknown	Facility ID: AZD982322620	Unavailable	N/A	N/A
Tune-up Masters	N/A	1501 W Van Buren St	N/A	N/A	N/A	N/A	N/A	Facility ID: AZD982524407	Unavailable	N/A	N/A

* To be used in conjunction with Figure 2.1 - Facility Locations or Appendix A - City Directory Review Results by Address
** 701 per Street Address Directory but plotted as 731 N 19th Avenue (addressing information conflicts in various databases)

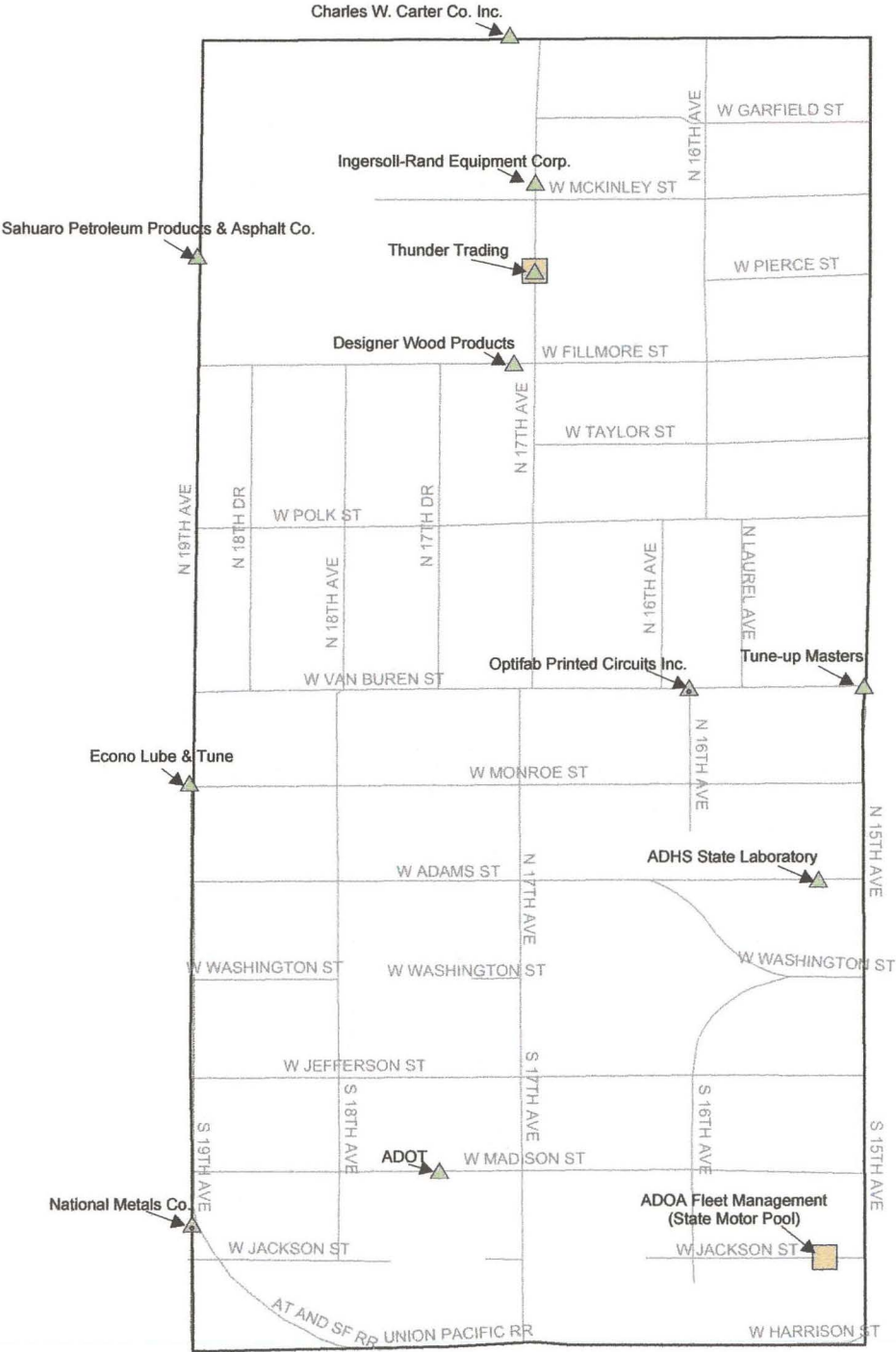


Figure 3.1
File Review Facility Locations

West Van Buren WQARF Registry Site
Industrial Survey No. 1

Arizona Department of
Environmental Quality



Legend

- PA/SI Facility
- UST/LUST Facility
- RCRA Facility
- Industrial Survey No. 1 Boundary



Filename: x:\phoenix\graphics\WVB_TA10\IS1FileReviewPts.mxd
Project: AR1002-010-02-02
Created: 2/19/02 RPetrillo
Revised: 6/12/02
Source: City of Phoenix (Basemap 02/01)
HydroGeoLogic, Inc. Industrial Survey No. 1 (2/02)



3.0 ADEQ FILE REVIEW

3.1 ADEQ FILE REVIEW METHODOLOGY

HydroGeoLogic reviewed ADEQ finding aids to locate the following types of files on companies that are located within the industrial survey boundaries: preliminary assessment/site investigation (PA/SI) files, Resource Conservation and Recovery Act (RCRA) notification files, RCRA case files (open and closed), and underground storage tank (UST) and leaking underground storage tank (LUST) files. UST and LUST files were only reviewed for those companies that were identified as having a tank containing waste oil, solvents, and/or unknown chemicals. Files were reviewed to identify those facilities using COCs identified at the site. This section presents the ADEQ file review findings per file type. Figure 3.1 depicts facility locations of the files reviewed and includes a column identifying the Address ID assigned to facilities that were identified through city directory review. The Address ID correlates to facilities identified in Figure 2.1 – Facility Locations and in the table located in Appendix A – City Directory Review Results by Address. The Address ID is an address identifier and does not necessarily relate to the name of the facility identified through the file review effort. Not all facilities identified through the file review had a corresponding Address ID since the selection criteria for each review differs.

3.2 ADEQ FILE REVIEW RESULTS

3.2.1 PA/SI Files

3.2.1.1 National Metals Company, 320 S 19th Ave, Phoenix, Arizona

A Preliminary Assessment (PA) was conducted on March 12, 1990 for the National Metals Company site property. National Metals Company is a metal recycler that has been in operation since 1938. Materials are mechanically shredded and processed for sale. No chemicals are used in the recycling process. In addition to the metal recycling process, there is an aluminum remelt furnace and a maintenance shop onsite.

Chemicals used onsite are associated with the maintenance shop and include a volume of approximately 150 gallons per year of Crater 2x and Crater 5x. The MSDS sheets for these chemicals list TCA as the second ingredient at 20% to 34.99%. Two Urethane Seal Coats are used, and the MSDS sheets indicate that TCA is an ingredient at 8.5% to 17%. Brakleen (Aerosol 5089) is used, and the MSDS sheet lists TCA as the first ingredient at 89%.

The PA states that the three USTs located onsite, two fuel tanks and one waste oil tank, were removed on January 30, 1989. HydroGeoLogic did not locate a UST file for National Metals Company. A 1989 Hazardous Materials Questionnaire indicates that a waste parts cleaning solvent was put into the waste oil tank.

The PA for National Metals Company states that there have been no documented releases onsite and the preliminary scoring indicates that no further action should be taken under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

3.2.1.2 Optifab Printed Circuits, Inc., 1554 W Van Buren St, Phoenix, Arizona

The PA report for Optifab Printed Circuits, Inc. (Optifab) is dated August 7, 1992. This investigation was conducted because a July 1989 Klienfelder report listed Optifab as a facility for further investigation and thus, the facility was added to the CERCLIS listing. Optifab operated from 1976 to 1987 and manufactured multi-layer printed circuit boards. Operations were located at both 1550 and 1554 West Van Buren Street. In 1987, the company filed for bankruptcy.

Optifab utilized TCA in a vapor degreaser to degrease parts before assembly. A chemical list states that five gallons of TCA are in use at any time and that approximately 110 gallons of TCA are in storage. The PA indicated that no TCA was disposed of because 100% evaporation. The 1986 Hazardous Waste Inspection Report indicates that the degreaser, which used TCA, was located in the chemical milling shop. Two hundred gallons of solvent were purchased per year. The degreaser was only cleaned every six years and only produced approximately 1 pint of oily sludge. The sludge was suspended in water and dumped into the sump leading to the pretreatment unit.

The PA stated that limited soil sampling indicates that no release of volatile organic compounds (VOCs) has occurred at the site.

3.2.2 UST/LUST FILES

3.2.2.1 Arizona Department of Administration Fleet Management, 1522 W Jackson, Phoenix, Arizona

The Arizona Department of Administration (ADOA) Fleet Management is a vehicle maintenance facility equipped with an auto repair center, fueling area, and parking area. One 550-gallon waste oil tank was installed around 1978 and removed in 1992. An incident report dated December 10, 1992, states that the material involved in the leak was waste oil/part cleaning solvent. The UST Closure Report dated January 27, 1993 indicates that two holes existed on the top of the tank and that the soil had an odor of solvents. Soil samples were taken from beneath the tank system and were field screened for VOCs and analyzed in the laboratory for total petroleum hydrocarbons (TPHs) and halogenated volatile organic compounds (HVOCs). The closure report indicates that no reportable concentrations of TPH or HVOC constituents were present in the soil samples.

Specific tank information includes the following:

<u>Facility ID</u>	<u>Leak ID</u>	<u>No. of Tanks</u>	<u>Chemical</u>	<u>Tested for VOCs</u>	<u>Positive for VOCs</u>
0-000185	259201	1	Waste Oil	Y	N

3.2.2.2 Thunder Trading, 711 N 17th Ave, Phoenix, Arizona

Thunder Trading is a warehouse and truck loading facility. A 1988 notification of USTs indicates that three tanks, a 7,500-gallon tank containing gasoline, a 7,500-gallon tank containing diesel, and a 200-gallon tank containing drain oil, existed on the site property but had been removed. The LUST incident regarded a diesel leak. There is no indication in the UST/LUST files regarding contaminants of concern identified at the site.

Specific information regarding the tank that contained drain oil includes the following:

<u>Facility ID</u>	<u>Leak ID</u>	<u>No. of Tanks</u>	<u>Chemical</u>	<u>Tested for VOCs</u>	<u>Positive for VOCs</u>
0-004512	380.001	1	Drain Oil	N	N/A

3.2.3 RCRA Case Files

3.2.3.1 Optifab Printed Circuits, Inc., 1554 W Van Buren St, Phoenix, Arizona

The ADEQ has a closed RCRA case file for Optifab. This RCRA investigation was opened in response to a complaint from a former employee who stated that he was instructed to discharge untreated wastewater to the sewer. A March 28, 1989 Hazardous Waste Inspection Report in the RCRA file stated that according to the head mechanic at the maintenance shop, Optifab used a parts cleaning solvent. He stated that waste from the maintenance shop goes to the ground after which absorbent is applied and disposed of to the dumpster. According to this employee, no waste determination had been carried out on the cleaning solvent. MSDS sheets in the file indicate that Mineral Spirits and petroleum distillates were used onsite. There is no evidence of COC usage in the RCRA case file.

3.2.3.2 Sahuaro Petroleum Products & Asphalt Company, 731 N 19th Ave, Phoenix, Arizona

A closed RCRA case file for Sahuaro Petroleum Products & Asphalt Company was obtained. Included in the file is an Environmental Assessment conducted at the request of a prospective purchaser and is dated April 13, 1987. A solvent screen was conducted on a few boring samples near a drum storage area at a depth of three feet and revealed no solvent contamination. A drum of TCA was found during the field survey and borings were located near these storage areas, solvents were not detected.

3.2.4 RCRA Notification Files

Table 3.1 presents the results from the RCRA Notification File Review. Eleven facilities within the industrial survey boundary had RCRA Notification Files.

Table 3.1
Permitted RCRA Facilities

Name	Address	Id #	Date Issued	Date Deactivated	Activity Type	Quantity	Waste Codes
ADHS State Laboratory	1520 W Adams St	AZD982010951	7/6/87	N/A	Generator	Less than 1,000 kg/mo	U226 ¹ ; U228 ²
Arizona Department of Transportation	1745 W Madison St	AZD980814354	3/25/83	Requested 4/20/93	Generator	N/A	
Charles W. Carter Company, Inc.	1717 W Roosevelt St	AZD982514671	12/23/88	N/A	Generator	N/A	F002 ³
Designer Wood Products	1710 W Fillmore St	AZD982482309	9/16/88	N/A	Generator	N/A	
Econo Lube & Tune	202 N 19 th Ave	AZR000002097	12/5/95	Requested 3/2/00	Generator	Less than 100 kg/mo	
Ingersoll-Rand Equipment Corp.	820 N 17 th Ave	AZD983478652	7/14/92	Requested 5/2/01	Generator	Less than 100 kg/mo	D039 ⁴
National Metals Company	320 S 19 th Ave	AZD007961741	10/27/80	N/A	Transporter	N/A	

¹ U226 – 1,1,1-Trichloroethane² U228 – Trichloroethylene³ F002 – The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.⁴ D039 – Tetrachloroethylene

Table 3.1 (continued)
Permitted RCRA Facilities

Name	Address	Id #	Date Issued	Date Deactivated	Activity Type	Quantity	Waste Codes
Optifab Printed Circuits, Inc.	1554 W Van Buren St	AZD980886188	8/6/85	N/A	Generator Treat/Store/Dispose	N/A	F001 ⁵ ; F003 ⁶
Sahauro Petroleum Products & Asphalt Co.	731 N 19 th Ave	AZD981431356	8/19/86	Deactivated on 7/31/01	Generator	Less than 1,000 kg/mo	F003; F005 ⁷
Thunder Trading	711 N 17 th Ave	AZD982322620	3/8/88	N/A	Generator	N/A	U210 ⁸
Tune-up Masters	1501 W Van Buren St	AZD982524407	3/2/89	N/A	Generator	N/A	F002; F004 ⁹ ; F005

⁵ F001 – The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

⁶ F003 – The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

⁷ F005 – The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

⁸ U210 – Perchloroethylene

⁹ F004 – The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

4.0 DATA GAPS

HydroGeoLogic conducted research at Arizona State University's Hayden Library and the City of Phoenix Public Library to review and obtain copies of city directories. In addition, HydroGeoLogic conducted file reviews at the Arizona Department of Environmental Quality. Based on this research, HydroGeoLogic compiled detailed information regarding facilities located within the industrial survey boundaries. However, various data gaps have been discovered during the course of the project and are presented below.

- HydroGeoLogic was not able to locate city directories for 1943, 1944, or 1954.
- As presented in Section 2, Methodology, HydroGeoLogic used a methodology based on research findings from the Internet and Arizona State University's Noble Science Library to determine what companies to include in the industrial survey spreadsheet presented to the ADEQ on September 19, 2001. For this revised survey, HydroGeoLogic implemented a newly created industrial survey methodology by narrowing down the September 19, 2001 listing of companies. Since the original data set (the hardcopies of the actual city directories) were not reviewed again after implementing the new methodology, some significant-user companies may have been left out of this revised industrial survey. Business types listed in the new methodology that were not listed in the methodology used for the September 19, 2001 survey have not been included in this report. This decision was supported by the ADEQ as it was not cost effective to go back to the original data set.

**APPENDIX A
CITY DIRECTORY REVIEW RESULTS
BY ADDRESS**

**INDUSTRIAL SURVEY NO. 1
WEST VAN BUREN WQARF REGISTRY SITE**

Appendix A Industrial Survey Results by Address

Address ID	Street Name	Street Number	Business Name	Business Type	Years of Operation
N 15th Ave					
1		335	Millers OK Sheet Metal Works	Metal Fabrication and Plating - Non-Aluminum	1935 - 1948
2		337	Acme Cleaners and Laundry	Dry Cleaning Operations	1955 - 1958
3		337a	Acme Cleaners and Laundry	Dry Cleaning Operations	1959 - 1961
4		415	Acme Cleaners and Laundry	Dry Cleaning Operations	1963 - 1965
5		906	Red Star Printing	Printing Operations	1982
			Taurus Paint and Body	Auto Body Repair	1994 - 2000
			Taurus Paint and Body	Auto Painting Operations	1994 - 2000
S 15th Ave					
6		222	S W Scott	Metal Fabrication and Plating - Non-Aluminum	1951 - 1955
N 17th Ave					
7		5	Sunshine Cleaners	Dry Cleaning Operations	1951
8		711	Pacific Coast Chemical	Chemical Manufacturing and Distribution	1996 - 1998
9		901	Peerless Tool and Die	Manufacturing Operations	1989 - 1997
S 17th Ave					
10		9a	One Hour Cleaning and Dry	Dry Cleaning Operations	1962
11		13	Biltmore Cleaners	Dry Cleaning Operations	1942
12		114	Steffens Cleaners	Dry Cleaning Operations	1946 - 1947

Appendix A (continued)
Industrial Survey Results by Address

Address ID	Street Name	Street Number	Business Name	Business Type	Years of Operation
N 19th Ave					
13		409	Sock-O Metal Fabrication	Metal Fabrication and Plating - Non-Aluminum	1975 - 1978
14		733	Arizona Cast Iron Pipe and Fitting Co	Metal Fabrication and Plating - Non-Aluminum	1942
			Quality Casting Co	Metal Fabrication and Plating - Non-Aluminum	1966
15		735	Smith Iron and Metal Works	Metal Fabrication and Plating - Non-Aluminum	1946 - 1948
			Smith Pipe and Steel Co	Metal Fabrication and Plating - Non-Aluminum	1948 - 2000
16		912	Phoenix Chemical Co	Chemical Manufacturing and Distribution	1947 - 1951
			Smith Pipe and Steel Co	Metal Fabrication and Plating - Non-Aluminum	1955 - 1958
S 19th Ave					
17		301	Arizona Iron Works	Metal Fabrication and Plating - Non-Aluminum	1935 - 1953
			Coates Steel Co	Metal Fabrication and Plating - Non-Aluminum	1950 - 1951
			Reynolds Metals Co	Metal Fabrication and Plating - Aluminum	1964 - 1977
18		320	National Iron and Metal Co	Metal Fabrication and Plating - Non-Aluminum	1941 - 1942
			National Iron and Metal Co	Metal Fabrication and Plating - Non-Aluminum	1946 - 1973
			National Steel and Construction Co	Metal Fabrication and Plating - Non-Aluminum	1953 - 1974
			National Aircraft Division	Aircraft Repair	1974
			National Metals Co	Metal Fabrication and Plating - Non-Aluminum	1975 - 2000

Appendix A (continued)
Industrial Survey Results by Address

Address ID	Street Name	Street Number	Business Name	Business Type	Years of Operation
W Fillmore St					
19		1708	AJ Freeman	Metal Fabrication and Plating - Non-Aluminum	1955 - 1956
20		1816	Copelands Sheet Metal	Metal Fabrication and Plating - Non-Aluminum	1957 - 1978
			CCC Motor Repair Shop	Auto Repair	1939 - 1942
W Jackson St					
21		1522	State Motor Pool	Potential Fleet Maintenance	1979
			State Motor Pool	Potential Fleet Maintenance	1981 - 1982
			State Motor Pool	Potential Fleet Maintenance	1984 - 1995
22		1801	M and M Body Shop	Auto Body Repair	1956 - 1957
23		1850	Hills Bros Chemical Co	Chemical Manufacturing and Distribution	1955 - 1959
W Jefferson St					
24		1635a	American Cleaners	Dry Cleaning Operations	1948 - 1955
25		1635	American Cleaners No 7	Dry Cleaning Operations	1945 - 1947
26		1635a	Arizona Cleaning Works	Dry Cleaning Operations	1935 - 1940
			Cash and Take Cleaners	Dry Cleaning Operations	1941 - 1942
			Cash and Take Cleaners	Dry Cleaning Operations	1947 - 1948
27		1830	Art Press Printers	Printing Operations	1974 - 1975
28		1837	Transmatic Auto Repair	Auto Repair	1963
W Madison St					
29		1847	Arizona Sheet Metal Works	Metal Fabrication and Plating - Non-Aluminum	1938 - 1942

Appendix A (continued)
Industrial Survey Results by Address

Address ID	Street Name	Street Number	Business Name	Business Type	Years of Operation
W McKinley St					
30		1716	Metal Works	Metal Fabrication and Plating - Non-Aluminum	1946
31		1722	Metal Works	Foundry Operations	1999 - 2000
			K J Cooling and Heating Sheet Metal	Metal Fabrication and Plating - Non-Aluminum	1983
W Monroe St					
32		1838	D R Burton	Auto Repair	1951
W Pierce St					
33		1530	Gold Star Printing	Printing Operations	1984 - 1985
W Van Buren St					
34		1521	Harrys Economy Cleaners	Dry Cleaning Operations	1947 - 1948
35		1528	Montys Dry Cleaners	Dry Cleaning Operations	1947 - 1951
			Ailenes Dry Cleaners	Dry Cleaning Operations	1952 - 1953
			Acme Cleaners and Laundry	Dry Cleaning Operations	1955 - 1958
36		1530	Sav-N-Takit Quality Dry Cleaning	Dry Cleaning Operations	1959 - 1965
			Sav-Mor Dry Cleaners	Dry Cleaning Operations	1966 - 1972
37		1645	Tip Top Dry Cleaners	Dry Cleaning Operations	1947 - 1958
38		1649	Lopez Upholstery and Body Work	Auto Body Repair	1984 - 1985
39		1655	Wash and Clean World	Dry Cleaning Operations	1971
40		1714	Capital Cleaners and Tailors	Dry Cleaning Operations	1947 - 1983
41		1742 1/2	B and G Auto Parts and Engine Rebuilders	Auto Repair	1953 - 1955
			B and G Auto Parts and Engine Rebuilders	Auto Repair	1958

Appendix A (concluded)
Industrial Survey Results by Address

Address ID	Street Name	Street Number	Business Name	Business Type	Years of Operation
W Van Buren St (concluded)					
42		1742	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1980 - 1981
			West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1983
43		1746	H L Eudy	Metal Fabrication and Plating - Non-Aluminum	1948 - 1950
			West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1974 - 1978
			West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1981 - 1982
			West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1984 - 1987
44		1821	Lynn Body and Fender Shop	Auto Body Repair	1946 - 1947
			W Van Buren Paint and Body Shop	Auto Body Repair	1947 - 1948
			W Van Buren Paint and Body Shop	Auto Painting Operations	1947 - 1948
			Rex Scott	Auto Body Repair	1948 - 1950
			Rex Scott	Auto Painting Operations	1948 - 1950
45		1840	Georges Body and Fender Repair	Auto Body Repair	1953 - 1965
W Washington St					
46		1601	State Cleaners	Dry Cleaning Operations	1952 - 1956
47		1652	Cash and Take Cleaners	Dry Cleaning Operations	1935 - 1937
48		1658	Cash and Take Cleaners	Dry Cleaning Operations	1938 - 1942
			American Cleaners	Dry Cleaning Operations	1945 - 1953
			Payless Cleaners	Dry Cleaning Operations	1955 - 1957

**APPENDIX B
CITY DIRECTORY REVIEW RESULTS
BY BUSINESS TYPE**

**INDUSTRIAL SURVEY NO. 1
WEST VAN BUREN WQARF REGISTRY SITE**

Appendix B

City Directory Review Results by Business Type

Business Type	Business Name	Business Type	Address	Years of Operation
Aircraft Repair				
	National Aircraft Division	Aircraft Repair	320 S 19th Ave	1974
Auto Body Repair				
	Georges Body and Fender Repair	Auto Body Repair	1840 W Van Buren St	1953 - 1965
	Lopez Upholstery and Body Work	Auto Body Repair	1649 W Van Buren St	1984 - 1985
	Lynn Body and Fender Shop	Auto Body Repair	1821 W Van Buren St	1946 - 1947
	M and M Body Shop	Auto Body Repair	1801 W Jackson St	1956 - 1957
	Rex Scott	Auto Body Repair	1821 W Van Buren St	1948 - 1950
	Taurus Paint and Body	Auto Body Repair	906 N 15th Ave	1994 - 2000
	W Van Buren Paint and Body Shop	Auto Body Repair	1821 W Van Buren St	1947 - 1948
Auto Painting Operations				
	Rex Scott	Auto Painting Operations	1821 W Van Buren St	1948 - 1950
	Taurus Paint and Body	Auto Painting Operations	906 N 15th Ave	1994 - 2000
	W Van Buren Paint and Body Shop	Auto Painting Operations	1821 W Van Buren St	1947 - 1948
Auto Repair				
	B and G Auto Parts and Engine Rebuilders	Auto Repair	1742 1/2 W Van Buren St	1953 - 1955
	B and G Auto Parts and Engine Rebuilders	Auto Repair	1742 1/2 W Van Buren St	1958
	CCC Motor Repair Shop	Auto Repair	1816 W Fillmore St	1939 - 1942
	D R Burton	Auto Repair	1838 W Monroe St	1951
	Transmatic Auto Repair	Auto Repair	1837 W Jefferson St	1963
Chemical Manufacturing and Distribution				
	Hills Bros Chemical Co	Chemical Manufacturing and Distribution	1850 W Jackson St	1955 - 1959
	Pacific Coast Chemical	Chemical Manufacturing and Distribution	711 N 17th Ave	1996 - 1998
	Phoenix Chemical Co	Chemical Manufacturing and Distribution	912 N 19th Ave	1947 - 1951
Dry Cleaning Operations				
	Acme Cleaners and Laundry	Dry Cleaning Operations	337 N 15th Ave	1955 - 1958
	Acme Cleaners and Laundry	Dry Cleaning Operations	337a N 15th Ave	1959 - 1961
	Acme Cleaners and Laundry	Dry Cleaning Operations	337a N 15th Ave	1963 - 1965
	Acme Cleaners and Laundry	Dry Cleaning Operations	1528 W Van Buren St	1955 - 1958
	Ailenes Dry Cleaners	Dry Cleaning Operations	1528 W Van Buren St	1952 - 1953
	American Cleaners	Dry Cleaning Operations	1635a W Jefferson St	1948 - 1955
	American Cleaners	Dry Cleaning Operations	1658 W Washington St	1945 - 1953
	American Cleaners No 7	Dry Cleaning Operations	1635 W Jefferson St	1945 - 1947
	Arizona Cleaning Works	Dry Cleaning Operations	1635a W Jefferson St	1935 - 1940
	Biltmore Cleaners	Dry Cleaning Operations	13 S 17th Ave	1942

Appendix B (continued)
City Directory Review Results by Business Type

Business Type	Business Name	Business Type	Address	Years of Operation
Dry Cleaning Operations (concluded)				
	Capital Cleaners and Tailors	Dry Cleaning Operations	1714 W Van Buren St	1947 - 1983
	Cash and Take Cleaners	Dry Cleaning Operations	1635a W Jefferson St	1941 - 1942
	Cash and Take Cleaners	Dry Cleaning Operations	1635a W Jefferson St	1947 - 1948
	Cash and Take Cleaners	Dry Cleaning Operations	1652 W Washington St	1935 - 1937
	Cash and Take Cleaners	Dry Cleaning Operations	1658 W Washington St	1938 - 1942
	Harrys Economy Cleaners	Dry Cleaning Operations	1521 W Van Buren St	1947 - 1948
	Montys Dry Cleaners	Dry Cleaning Operations	1528 W Van Buren St	1947 - 1951
	One Hour Cleaning and Dry	Dry Cleaning Operations	9a S 17th Ave	1962
	Payless Cleaners	Dry Cleaning Operations	1658 W Washington St	1955 - 1957
	Sav-Mor Dry Cleaners	Dry Cleaning Operations	1530 W Van Buren St	1966 - 1972
	Sav-N-Takit Quality Dry Cleaning	Dry Cleaning Operations	1530 W Van Buren St	1959 - 1965
	State Cleaners	Dry Cleaning Operations	1601 W Washington St	1952 - 1956
	Steffens Cleaners	Dry Cleaning Operations	114 S 17th Ave	1946 - 1947
	Sunshine Cleaners	Dry Cleaning Operations	5 N 17th Ave	1951
	Tip Top Dry Cleaners	Dry Cleaning Operations	1645 W Van Buren St	1947 - 1958
	Wash and Clean World	Dry Cleaning Operations	1655 W Van Buren St	1971
	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1742 W Van Buren St	1980 - 1981
	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1742 W Van Buren St	1983
	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1746 W Van Buren St	1974 - 1978
	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1746 W Van Buren St	1981 - 1982
	West Van Buren Laundry and Cleaners	Dry Cleaning Operations	1746 W Van Buren St	1984 - 1987
Foundry Operations				
	Metal Works	Foundry Operations	1716 W McKinley St	1999 - 2000
Manufacturing Operations				
	Peerless Tool and Die	Manufacturing Operations	901 N 17th Ave	1989 - 1997
Metal Fabrication and Plating - Aluminum				
	Reynolds Metals Co	Metal Fabrication and Plating - Aluminum	301 S 19th Ave	1964 - 1977
Metal Fabrication and Plating - Non-Aluminum				
	AJ Freeman	Metal Fabrication and Plating - Non-Aluminum	1708 W Fillmore St	1955 - 1956
	Arizona Cast Iron Pipe and Fitting Co	Metal Fabrication and Plating - Non-Aluminum	733 N 19th Ave	1942
	Arizona Iron Works	Metal Fabrication and Plating - Non-Aluminum	301 S 19th Ave	1935 - 1953
	Arizona Sheet Metal Works	Metal Fabrication and Plating - Non-Aluminum	1847 W Madison St	1938 - 1942

Appendix B (concluded)
City Directory Review Results by Business Type

Business Type	Business Name	Business Type	Address	Years of Operation
Metal Fabrication and Plating - Non-Aluminum (concluded)				
	Coates Steel Co	Metal Fabrication and Plating - Non-Aluminum	301 S 19th Ave	1950 - 1951
	Copelands Sheet Metal	Metal Fabrication and Plating - Non-Aluminum	1708 W Fillmore St	1957 - 1978
	H L Eudy	Metal Fabrication and Plating - Non-Aluminum	1746 W Van Buren St	1948 - 1950
	K J Cooling and Heating Sheet Metal	Metal Fabrication and Plating - Non-Aluminum	1722 W McKinley St	1983
	Millers OK Sheet Metal Works	Metal Fabrication and Plating - Non-Aluminum	335 N 15th Ave	1935 - 1948
	National Iron and Metal Co	Metal Fabrication and Plating - Non-Aluminum	320 S 19th Ave	1941 - 1942
	National Iron and Metal Co	Metal Fabrication and Plating - Non-Aluminum	320 S 19th Ave	1946 - 1973
	National Metals Co	Metal Fabrication and Plating - Non-Aluminum	320 S 19th Ave	1975 - 2000
	National Steel and Construction Co	Metal Fabrication and Plating - Non-Aluminum	320 S 19th Ave	1953 - 1974
	Quality Casting Co	Metal Fabrication and Plating - Non-Aluminum	733 N 19th Ave	1966
	S W Scott	Metal Fabrication and Plating - Non-Aluminum	222 S 15th Ave	1951 - 1955
	Smith Iron and Metal Works	Metal Fabrication and Plating - Non-Aluminum	735 N 19th Ave	1946 - 1948
	Smith Pipe and Steel Co	Metal Fabrication and Plating - Non-Aluminum	735 N 19th Ave	1948 - 2000
	Smith Pipe and Steel Co	Metal Fabrication and Plating - Non-Aluminum	912 N 19th Ave	1955 - 1958
	Sock-O Metal Fabrication	Metal Fabrication and Plating - Non-Aluminum	409 N 19th Ave	1975 - 1978
Potential Fleet Maintenance				
	State Motor Pool	Potential Fleet Maintenance	1522 W Jackson St	1979
	State Motor Pool	Potential Fleet Maintenance	1522 W Jackson St	1981 - 1982
	State Motor Pool	Potential Fleet Maintenance	1522 W Jackson St	1984 - 1995
Printing Operations				
	Art Press Printers	Printing Operations	1830 W Jefferson St	1974 - 1975
	Gold Star Printing	Printing Operations	1530 W Pierce St	1984 - 1985
	Red Star Printing	Printing Operations	415 N 15th Ave	1982

APPENDIX C
CITY DIRECTORY REVIEW RESULTS
BY CONTAMINANTS OF CONCERN

INDUSTRIAL SURVEY NO. 1
WEST VAN BUREN WQARF REGISTRY SITE

Appendix C

City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
DCA				
	Aircraft Repair			
		National Aircraft Division	320 S 19th Ave	1974
	Auto Body Repair			
		Georges Body and Fender Repair	1840 W Van Buren St	1953 - 1965
		Lopez Upholstery and Body Work	1649 W Van Buren St	1984 - 1985
		Lynn Body and Fender Shop	1821 W Van Buren St	1946 - 1947
		M and M Body Shop	1801 W Jackson St	1956 - 1957
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
	Auto Painting Operations			
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
	Auto Repair			
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1953 - 1955
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1958
		CCC Motor Repair Shop	1816 W Fillmore St	1939 - 1942
		D R Burton	1838 W Monroe St	1951
		Transmatic Auto Repair	1837 W Jefferson St	1963
	Chemical Manufacturing and Distribution			
		Hills Bros Chemical Co	1850 W Jackson St	1955 - 1959
		Pacific Coast Chemical	711 N 17th Ave	1996 - 1998
		Phoenix Chemical Co	912 N 19th Ave	1947 - 1951
	Foundry Operations			
		Metal Works	1716 W McKinley St	1999 - 2000
	Manufacturing Operations			
		Peerless Tool and Die	901 N 17th Ave	1989 - 1997
	Metal Fabrication and Plating - Aluminum			
		Reynolds Metals Co	301 S 19th Ave	1964 - 1977
	Metal Fabrication and Plating - Non-Aluminum			
		AJ Freeman	1708 W Fillmore St	1955 - 1956
		Arizona Cast Iron Pipe and Fitting Co	733 N 19th Ave	1942
		Arizona Iron Works	301 S 19th Ave	1935 - 1953
		Arizona Sheet Metal Works	1847 W Madison St	1938 - 1942
		Coates Steel Co	301 S 19th Ave	1950 - 1951
		Copelands Sheet Metal	1708 W Fillmore St	1957 - 1978

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
DCA (concluded)				
	Metal Fabrication and Plating - Non-Aluminum (concluded)			
		H L Eudy	1746 W Van Buren St	1948 - 1950
		K J Cooling and Heating Sheet Metal	1722 W McKinley St	1983
		Millers OK Sheet Metal Works	335 N 15th Ave	1935 - 1948
		National Iron and Metal Co	320 S 19th Ave	1941 - 1942
		National Iron and Metal Co	320 S 19th Ave	1946 - 1973
		National Metals Co	320 S 19th Ave	1975 - 2000
		National Steel and Construction Co	320 S 19th Ave	1953 - 1974
		Quality Casting Co	733 N 19th Ave	1966
		S W Scott	222 S 15th Ave	1951 - 1955
		Smith Iron and Metal Works	735 N 19th Ave	1946 - 1948
		Smith Pipe and Steel Co	735 N 19th Ave	1948 - 2000
		Smith Pipe and Steel Co	912 N 19th Ave	1955 - 1958
		Sock-O Metal Fabrication	409 N 19th Ave	1975 - 1978
	Potential Fleet Maintenance			
		State Motor Pool	1522 W Jackson St	1979
		State Motor Pool	1522 W Jackson St	1981 - 1982
		State Motor Pool	1522 W Jackson St	1984 - 1995
	Printing Operations			
		Art Press Printers	1830 W Jefferson St	1974 - 1975
		Gold Star Printing	1530 W Pierce St	1984 - 1985
		Red Star Printing	415 N 15th Ave	1982
DCE				
	Aircraft Repair			
		National Aircraft Division	320 S 19th Ave	1974
	Auto Body Repair			
		Georges Body and Fender Repair	1840 W Van Buren St	1953 - 1965
		Lopez Upholstery and Body Work	1649 W Van Buren St	1984 - 1985
		Lynn Body and Fender Shop	1821 W Van Buren St	1946 - 1947
		M and M Body Shop	1801 W Jackson St	1956 - 1957
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
	Auto Painting Operations			
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
DCE (continued)				
	Auto Repair			
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1953 - 1955
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1958
		CCC Motor Repair Shop	1816 W Fillmore St	1939 - 1942
		D R Burton	1838 W Monroe St	1951
		Transmatic Auto Repair	1837 W Jefferson St	1963
	Chemical Manufacturing and Distribution			
		Hills Bros Chemical Co	1850 W Jackson St	1955 - 1959
		Pacific Coast Chemical	711 N 17th Ave	1996 - 1998
		Phoenix Chemical Co	912 N 19th Ave	1947 - 1951
	Foundry Operations			
		Metal Works	1716 W McKinley St	1999 - 2000
	Manufacturing Operations			
		Peerless Tool and Die	901 N 17th Ave	1989 - 1997
	Metal Fabrication and Plating - Aluminum			
		Reynolds Metals Co	301 S 19th Ave	1964 - 1977
	Metal Fabrication and Plating - Non-Aluminum			
		AJ Freeman	1708 W Fillmore St	1955 - 1956
		Arizona Cast Iron Pipe and Fitting Co	733 N 19th Ave	1942
		Arizona Iron Works	301 S 19th Ave	1935 - 1953
		Arizona Sheet Metal Works	1847 W Madison St	1938 - 1942
		Coates Steel Co	301 S 19th Ave	1950 - 1951
		Copelands Sheet Metal	1708 W Fillmore St	1957 - 1978
		H L Eudy	1746 W Van Buren St	1948 - 1950
		K J Cooling and Heating Sheet Metal	1722 W McKinley St	1983
		Millers OK Sheet Metal Works	335 N 15th Ave	1935 - 1948
		National Iron and Metal Co	320 S 19th Ave	1941 - 1942
		National Iron and Metal Co	320 S 19th Ave	1946 - 1973
		National Metals Co	320 S 19th Ave	1975 - 2000
		National Steel and Construction Co	320 S 19th Ave	1953 - 1974
		Quality Casting Co	733 N 19th Ave	1966
		S W Scott	222 S 15th Ave	1951 - 1955
		Smith Iron and Metal Works	735 N 19th Ave	1946 - 1948
		Smith Pipe and Steel Co	735 N 19th Ave	1948 - 2000
		Smith Pipe and Steel Co	912 N 19th Ave	1955 - 1958
		Sock-O Metal Fabrication	409 N 19th Ave	1975 - 1978

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
DCE (concluded)				
	Potential Fleet Maintenance			
		State Motor Pool	1522 W Jackson St	1979
		State Motor Pool	1522 W Jackson St	1981 - 1982
		State Motor Pool	1522 W Jackson St	1984 - 1995
	Printing Operations			
		Art Press Printers	1830 W Jefferson St	1974 - 1975
		Gold Star Printing	1530 W Pierce St	1984 - 1985
		Red Star Printing	415 N 15th Ave	1982
PCE				
	Chemical Manufacturing and Distribution			
		Hills Bros Chemical Co	1850 W Jackson St	1955 - 1959
		Pacific Coast Chemical	711 N 17th Ave	1996 - 1998
		Phoenix Chemical Co	912 N 19th Ave	1947 - 1951
	Dry Cleaning Operations			
		Acme Cleaners and Laundry	337 N 15th Ave	1955 - 1958
		Acme Cleaners and Laundry	337a N 15th Ave	1959 - 1961
		Acme Cleaners and Laundry	337a N 15th Ave	1963 - 1965
		Acme Cleaners and Laundry	1528 W Van Buren St	1955 - 1958
		Ailenes Dry Cleaners	1528 W Van Buren St	1952 - 1953
		American Cleaners	1635a W Jefferson St	1948 - 1955
		American Cleaners	1658 W Washington St	1945 - 1953
		American Cleaners No 7	1635 W Jefferson St	1945 - 1947
		Arizona Cleaning Works	1635a W Jefferson St	1935 - 1940
		Biltmore Cleaners	13 S 17th Ave	1942
		Capital Cleaners and Tailors	1714 W Van Buren St	1947 - 1983
		Cash and Take Cleaners	1635a W Jefferson St	1941 - 1942
		Cash and Take Cleaners	1635a W Jefferson St	1947 - 1948
		Cash and Take Cleaners	1652 W Washington St	1935 - 1937
		Cash and Take Cleaners	1658 W Washington St	1938 - 1942
		Harrys Economy Cleaners	1521 W Van Buren St	1947 - 1948
		Montys Dry Cleaners	1528 W Van Buren St	1947 - 1951
		One Hour Cleaning and Dry	9a S 17th Ave	1962
		Payless Cleaners	1658 W Washington St	1955 - 1957
		Sav-Mor Dry Cleaners	1530 W Van Buren St	1966 - 1972
		Sav-N-Takit Quality Dry Cleaning	1530 W Van Buren St	1959 - 1965
		State Cleaners	1601 W Washington St	1952 - 1956
		Steffens Cleaners	114 S 17th Ave	1946 - 1947
		Sunshine Cleaners	5 N 17th Ave	1951
		Tip Top Dry Cleaners	1645 W Van Buren St	1947 - 1958

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
PCE (concluded)				
		Wash and Clean World	1655 W Van Buren St	1971
		West Van Buren Laundry and Cleaners	1742 W Van Buren St	1980 - 1981
		West Van Buren Laundry and Cleaners	1742 W Van Buren St	1983
		West Van Buren Laundry and Cleaners	1746 W Van Buren St	1974 - 1978
		West Van Buren Laundry and Cleaners	1746 W Van Buren St	1981 - 1982
		West Van Buren Laundry and Cleaners	1746 W Van Buren St	1984 - 1987
Metal Fabrication and Plating - Aluminum				
		Reynolds Metals Co	301 S 19th Ave	1964 - 1977
Metal Fabrication and Plating - Non-Aluminum				
		AJ Freeman	1708 W Fillmore St	1955 - 1956
		Arizona Cast Iron Pipe and Fitting Co	733 N 19th Ave	1942
		Arizona Iron Works	301 S 19th Ave	1935 - 1953
		Arizona Sheet Metal Works	1847 W Madison St	1938 - 1942
		Coates Steel Co	301 S 19th Ave	1950 - 1951
		Copelands Sheet Metal	1708 W Fillmore St	1957 - 1978
		H L Eudy	1746 W Van Buren St	1948 - 1950
		K J Cooling and Heating Sheet Metal	1722 W McKinley St	1983
		Millers OK Sheet Metal Works	335 N 15th Ave	1935 - 1948
		National Iron and Metal Co	320 S 19th Ave	1941 - 1942
		National Iron and Metal Co	320 S 19th Ave	1946 - 1973
		National Metals Co	320 S 19th Ave	1975 - 2000
		National Steel and Construction Co	320 S 19th Ave	1953 - 1974
		Quality Casting Co	733 N 19th Ave	1966
		S W Scott	222 S 15th Ave	1951 - 1955
		Smith Iron and Metal Works	735 N 19th Ave	1946 - 1948
		Smith Pipe and Steel Co	735 N 19th Ave	1948 - 2000
		Smith Pipe and Steel Co	912 N 19th Ave	1955 - 1958
		Sock-O Metal Fabrication	409 N 19th Ave	1975 - 1978
Printing Operations				
		Art Press Printers	1830 W Jefferson St	1974 - 1975
		Gold Star Printing	1530 W Pierce St	1984 - 1985
		Red Star Printing	415 N 15th Ave	1982
TCA				
Aircraft Repair				
		National Aircraft Division	320 S 19th Ave	1974
Auto Body Repair				
		Georges Body and Fender Repair	1840 W Van Buren St	1953 - 1965
		Lopez Upholstery and Body Work	1649 W Van Buren St	1984 - 1985
		Lynn Body and Fender Shop	1821 W Van Buren St	1946 - 1947
		M and M Body Shop	1801 W Jackson St	1956 - 1957

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
TCA (continued)				
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
Auto Painting Operations				
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
Auto Repair				
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1953 - 1955
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1958
		CCC Motor Repair Shop	1816 W Fillmore St	1939 - 1942
		D R Burton	1838 W Monroe St	1951
		Transmatic Auto Repair	1837 W Jefferson St	1963
Chemical Manufacturing and Distribution				
		Hills Bros Chemical Co	1850 W Jackson St	1955 - 1959
		Pacific Coast Chemical	711 N 17th Ave	1996 - 1998
		Phoenix Chemical Co	912 N 19th Ave	1947 - 1951
Foundry Operations				
		Metal Works	1716 W McKinley St	1999 - 2000
Manufacturing Operations				
		Peerless Tool and Die	901 N 17th Ave	1989 - 1997
Metal Fabrication and Plating - Aluminum				
		Reynolds Metals Co	301 S 19th Ave	1964 - 1977
Metal Fabrication and Plating - Non-Aluminum				
		AJ Freeman	1708 W Fillmore St	1955 - 1956
		Arizona Cast Iron Pipe and Fitting Co	733 N 19th Ave	1942
		Arizona Iron Works	301 S 19th Ave	1935 - 1953
		Arizona Sheet Metal Works	1847 W Madison St	1938 - 1942
		Coates Steel Co	301 S 19th Ave	1950 - 1951
		Copelands Sheet Metal	1708 W Fillmore St	1957 - 1978
		H L Eudy	1746 W Van Buren St	1948 - 1950
		K J Cooling and Heating Sheet Metal	1722 W McKinley St	1983
		Millers OK Sheet Metal Works	335 N 15th Ave	1935 - 1948
		National Iron and Metal Co	320 S 19th Ave	1941 - 1942
		National Iron and Metal Co	320 S 19th Ave	1946 - 1973
		National Metals Co	320 S 19th Ave	1975 - 2000
		National Steel and Construction Co	320 S 19th Ave	1953 - 1974
		Quality Casting Co	733 N 19th Ave	1966

Appendix C (continued)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
TCA (concluded)				
		S W Scott	222 S 15th Ave	1951 - 1955
		Smith Iron and Metal Works	735 N 19th Ave	1946 - 1948
		Smith Pipe and Steel Co	735 N 19th Ave	1948 - 2000
		Smith Pipe and Steel Co	912 N 19th Ave	1955 - 1958
		Sock-O Metal Fabrication	409 N 19th Ave	1975 - 1978
Potential Fleet Maintenance				
		State Motor Pool	1522 W Jackson St	1979
		State Motor Pool	1522 W Jackson St	1981 - 1982
		State Motor Pool	1522 W Jackson St	1984 - 1995
Printing Operations				
		Art Press Printers	1830 W Jefferson St	1974 - 1975
		Gold Star Printing	1530 W Pierce St	1984 - 1985
		Red Star Printing	415 N 15th Ave	1982
TCE				
Aircraft Repair				
		National Aircraft Division	320 S 19th Ave	1974
Auto Body Repair				
		Georges Body and Fender Repair	1840 W Van Buren St	1953 - 1965
		Lopez Upholstery and Body Work	1649 W Van Buren St	1984 - 1985
		Lynn Body and Fender Shop	1821 W Van Buren St	1946 - 1947
		M and M Body Shop	1801 W Jackson St	1956 - 1957
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
Auto Painting Operations				
		Rex Scott	1821 W Van Buren St	1948 - 1950
		Taurus Paint and Body	906 N 15th Ave	1994 - 2000
		W Van Buren Paint and Body Shop	1821 W Van Buren St	1947 - 1948
Auto Repair				
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1953 - 1955
		B and G Auto Parts and Engine Rebuilders	1742 1/2 W Van Buren St	1958
		CCC Motor Repair Shop	1816 W Fillmore St	1939 - 1942
		D R Burton	1838 W Monroe St	1951
		Transmatic Auto Repair	1837 W Jefferson St	1963
Chemical Manufacturing and Distribution				
		Hills Bros Chemical Co	1850 W Jackson St	1955 - 1959
		Pacific Coast Chemical	711 N 17th Ave	1996 - 1998
		Phoenix Chemical Co	912 N 19th Ave	1947 - 1951

Appendix C (concluded)
City Directory Review Results by Contaminants of Concern

Chemical	Business Type	Business Name	Address	Years of Operation
TCE (concluded)				
	Foundry Operations			
		Metal Works	1716 W McKinley St	1999 - 2000
	Manufacturing Operations			
		Peerless Tool and Die	901 N 17th Ave	1989 - 1997
	Metal Fabrication and Plating - Aluminum			
		Reynolds Metals Co	301 S 19th Ave	1964 - 1977
	Metal Fabrication and Plating - Non-Aluminum			
		AJ Freeman	1708 W Fillmore St	1955 - 1956
		Arizona Cast Iron Pipe and Fitting Co	733 N 19th Ave	1942
		Arizona Iron Works	301 S 19th Ave	1935 - 1953
		Arizona Sheet Metal Works	1847 W Madison St	1938 - 1942
		Coates Steel Co	301 S 19th Ave	1950 - 1951
		Copelands Sheet Metal	1708 W Fillmore St	1957 - 1978
		H L Eudy	1746 W Van Buren St	1948 - 1950
		K J Cooling and Heating Sheet Metal	1722 W McKinley St	1983
		Millers OK Sheet Metal Works	335 N 15th Ave	1935 - 1948
		National Iron and Metal Co	320 S 19th Ave	1941 - 1942
		National Iron and Metal Co	320 S 19th Ave	1946 - 1973
		National Metals Co	320 S 19th Ave	1975 - 2000
		National Steel and Construction Co	320 S 19th Ave	1953 - 1974
		Quality Casting Co	733 N 19th Ave	1966
		S W Scott	222 S 15th Ave	1951 - 1955
		Smith Iron and Metal Works	735 N 19th Ave	1946 - 1948
		Smith Pipe and Steel Co	735 N 19th Ave	1948 - 2000
		Smith Pipe and Steel Co	912 N 19th Ave	1955 - 1958
		Sock-O Metal Fabrication	409 N 19th Ave	1975 - 1978
	Potential Fleet Maintenance			
		State Motor Pool	1522 W Jackson St	1979
		State Motor Pool	1522 W Jackson St	1981 - 1982
		State Motor Pool	1522 W Jackson St	1984 - 1995
	Printing Operations			
		Art Press Printers	1830 W Jefferson St	1974 - 1975
		Gold Star Printing	1530 W Pierce St	1984 - 1985
		Red Star Printing	415 N 15th Ave	1982