
**West Van Buren (WVB) Water Quality Assurance Revolving Fund (WQARF) Site
Community Advisory Board (CAB) Meeting**

Tuesday, November 18, 2008

Starting at 6:00 p.m.

Arizona Department of Environmental Quality, Room 145
1110 West Washington St., Phoenix, Arizona 85007

FINAL MINUTES

Ref: OU #09-081

CAB members present: Philip Lagas, Peggy Eastburn, and John Saccoman

ADEQ Staff in attendance: Jennifer Edwards Thies, Project Manager; Kevin Snyder, Project Hydrologist; Julie Riemenschneider, Remedial Projects Section Manager; and Delfina Olivarez, Community Involvement Coordinator

Members of the public present: Mary Moore, Resident; A. Gordon, Terranext; Karlene Martorana, Ryley, Carlock & Applewhite; Gail Clements, G.M. Clement & Associates, Inc.; Lisa Contreras Hendler, HydroGeoLogic, Inc.; Greg Wallace, Maryvale Village Planning Committee; Donn Stoltzfus, City of Phoenix; David L. Kirchner, Basin & Range Hydrogeologists, Inc.; Craig Milum, Milum Textiles; Bonnie Whitsontr; and Denny Hipsler, Certified Environmental Managers

The following matters were discussed, considered, and decided upon at the meeting:

1. Call to Order/Introductions

Ms. Olivarez thanked everyone for attending, conducted introductions and then turned the meeting over to the Co-Chair, Mr. Lagas.

2. Acceptance and/or Changes to December 13, 2007 Minutes

Mr. Lagas asked if everyone read the minutes and had any changes. Mr. Saccoman moved to accept the minutes as written. The motion was seconded by Ms. Eastburn. All agreed to accept the motion, and the minutes were approved.

**3. Discussion on WVB Remedial Investigation (RI) Report with 60-day comment period –
Kevin Snyder, Project Hydrologist**

Using a WQARF process flowchart map, Mr. Snyder showed that the WVB Site is in the RI stage. Mr. Snyder gave an update on site events since the December 2007 CAB meeting, and then went into details on the Draft RI Report.

See presentation below

Questions:

Mr. Lagas asked if there was a discussion on the groundwater modeling that ADEQ has done in the RI Report. Mr. Snyder responded that there was a section on the groundwater modeling in the report. Mr. Lagas went on to ask if ADEQ did any testing of the model to see what kind of effect that pumping would have. Mr. Snyder and Ms. Riemenschneider explained that ADEQ has completed and calibrated the model and finished the Draft RI Report. Mr. Lagas then asked if ADEQ has started the feasibility study. Mr. Snyder and Ms. Riemenschneider explained that they are waiting for all of the responses and comments on the Draft RI Report before proceeding to the Remedial Objectives Report and then the feasibility study. Mr. Lagas asked if he could get copies of the model files. Ms. Riemenschneider responded that they were available to the public.

Mr. Saccoman asked what the criteria are for ADEQ to reach completion of the remediation at the WVB Site. Mr. Snyder and Ms. Riemenschneider explained that all WQARF sites follow an established process. The Record of Decision (ROD) is the portion of the process where ADEQ explains how they intend to meet the remedial objectives established. Thus, once the remedial action plan is developed and agreed to by the public, then ADEQ will remediate and the WVB site will then move into the operation and maintenance phase.

A member of the public asked if they could get a copy of the RI Report, and Mr. Snyder responded that they could get a copy by contacting ADEQ's Records Center.

4. Distribution of 2008 WQARF Annual Registry Report – Delfina Olivarez, Community Involvement Coordinator

Ms. Olivarez explained that all the CAB members have been mailed the 2008 WQARF Annual Registry Report that ADEQ compiles yearly on each of the WQARF sites in Arizona, and that the report has history and updated information on each WQARF site.

5. *Call to the Public

No comments or questions.

7. Next meeting date and Agenda discussion

Mr. Lagas asked if the next meeting could be scheduled in February. Everyone agreed that the tentative date for the next CAB meeting is Thursday, February 19, 2008, starting at 6:00 p.m.

8. Adjournment

Peggy Eastburn motioned to adjourn, and John Saccoman seconded the motion. All agreed, and Mr. Lagas adjourned the meeting.

West Van Buren WQARF Site

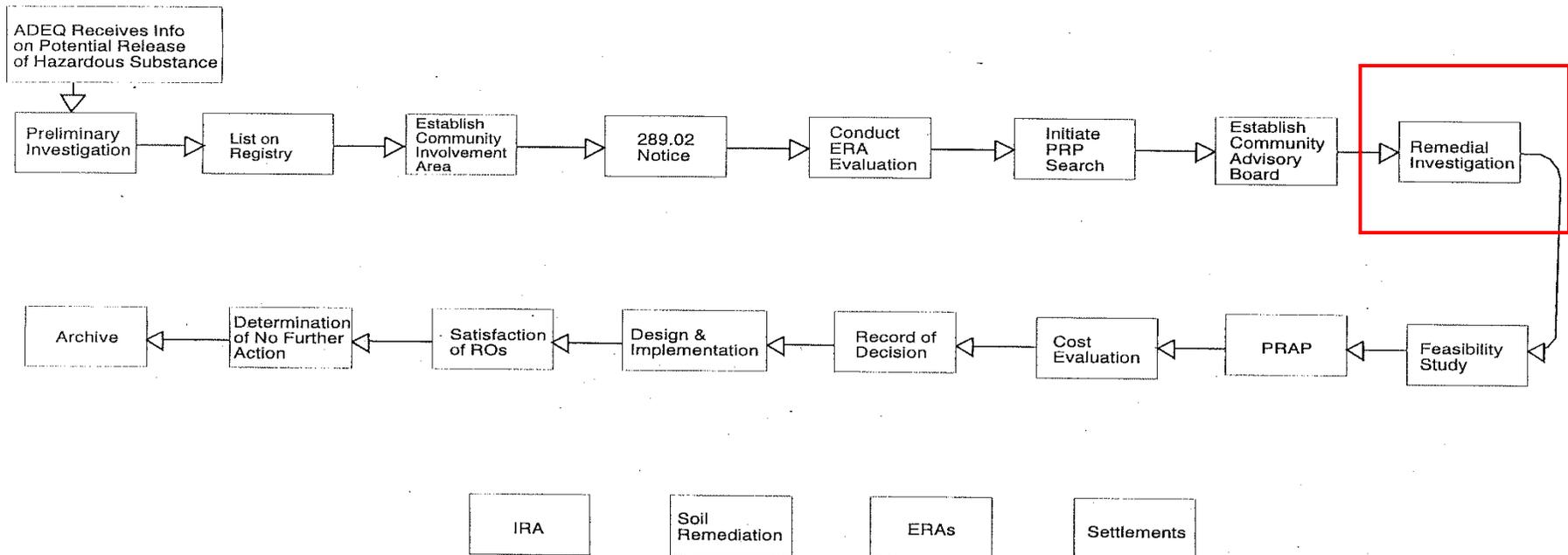
Jennifer Edwards Thies, Project Manager

Kevin Snyder, Project Hydrologist

November 18, 2008

WQARF process map

GENERAL WQARF PROCESS 03/27/02



Events since the December 2008 CAB meeting

- Completed semi-annual sampling event during first quarter 2008 and received final copy of the report for this event.
- Installed three groundwater monitor wells two in April and one in October and received final well installation report for the April well installations.
- Completed semi-annual sampling event during third quarter 2008.

Events since the December 2008 CAB meeting

- Completed draft Remedial Investigation (RI) report

2008 First Quarter Semi-Annual Groundwater Monitoring Event

(includes sampling and water level measurements)

- 113 monitoring wells sampled out of 122 total.
- 8 were dry and one well (AVB40-05) was inaccessible.
- 20 RID wells were sampled during this event.
- 57 wells sampled using Passive Diffusion Bag (PDB) Samplers. One of these wells (AVB82-01) had multiple PDBs installed to evaluate the vertical distribution of VOCs within the well.

2008 March Semi-Annual Groundwater Laboratory Results

- The Halogenated Contaminates of Concern (COCs) are PCE, TCE, 1,1-DCE, cis 1,2-DCE, 1,1-DCA and TCA. The highest concentration in micrograms/Liter ($\mu\text{g/L}$).

COC	Well	$\mu\text{g/L}$	(Sept. results)
PCE	AVB100-01	170	(AVB82-01 @ 65)
TCE	AVB120-02	160	(AVB120-02 @ 200)
1,1-DCE	AVB134-01	28	(AVB82-01 @ 23)
<i>cis</i> -1,2-DCE	AVB85-01	28	(AVB134-01 @ 33)
1,1-DCA	AVB116-02	13	(AVB116-02 @ 14)
	& PS-1		
TCA	PS-1	0.96	(Not detected)

- 12 monitoring wells exhibited total chromium concentrations at or above Aquifer Water Quality Standards (AWQS) of 0.1 mg/L. There were no dissolved chromium concentrations above the AWQS.

Upper Aquifer Unit (UAU1) Results

- PCE, TCE, 1,1-DCE exceed their AWQS at multiple locations. PCE extends from the eastern border to approximately 71st Ave. TCE extends from the eastern border to approximately 59th Ave. 1,1-DCE extends from the eastern border to approximately 35th Ave. Concentrations are similar to previous two rounds of groundwater sampling.
- Overall increase in water levels since September 2007. Water levels have increased approximately 14 feet over the last 6 months.

Upper Aquifer Unit (UAU2) Results

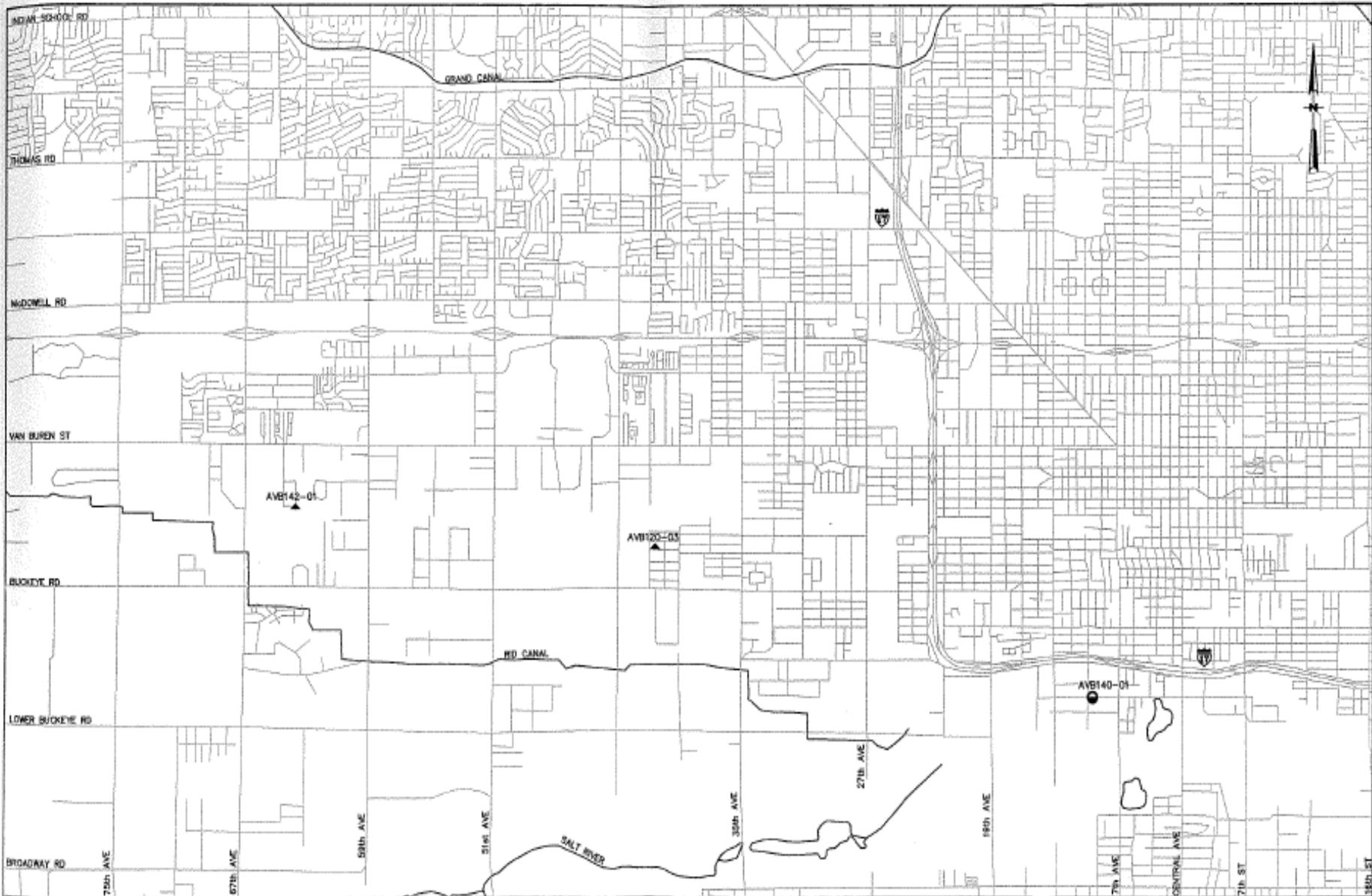
- PCE exceeds the AWQS in 3 separate areas; at 1 well in the east, at 3 wells in the center and at 2 wells in the west. TCE exceeds the AWQS from the eastern boundary to approximately 45th Ave. 1,1,-DCE exceeds the AWQS from the eastern boundary to 35th Ave. These results are generally similar to those observed during the previous two rounds of groundwater sampling.
- Water levels have increased approximately 17 feet over the last 6 months.

Middle Alluvial Unit (MAU1) Results

- PCE, TCE, 1,1-DCE exceeded their AWQS, at AVB82-01 only.
- Water levels have increased approximately 15 feet over the past six months.

Well Drilling Event For 2008

- 3 monitor wells were drilled to provide better definition of contaminant concentrations and assist in identifying the horizontal and vertical extent of groundwater contamination.
- 1 well in UAU1, 2 in the MAU.



LEGEND
 ▲ - HAU MONITORING WELL
 ● - UAU MONITORING WELL

NOTE
 SOURCE DATA FOR BAGSMAP FROM
 THE ARIZONA DEPARTMENT OF
 TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-10	DATE:	10/31/07
DRAWN BY:	DWG	SCALE:	1"=360'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		

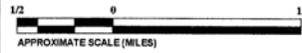
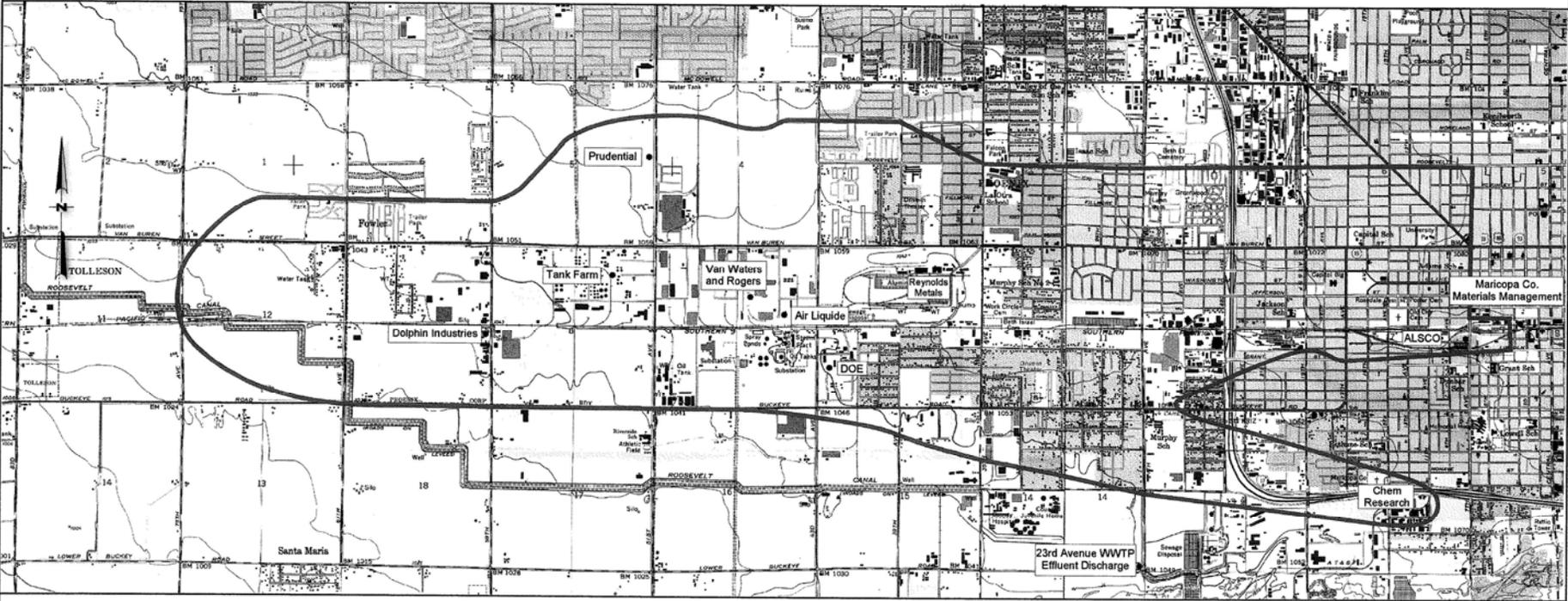


FIGURE 1
MONITOR WELL LOCATIONS
WEST VAN BUREN AREA
PHOENIX, ARIZONA

ARIZONA DEPARTMENT OF TRANSPORTATION Digital Road Map / Figure 1 Monitor Well Locations 10/31/07.dwg

Investigations Being Conducted By Air Liquide America LP & Prudential Overall Supply

- Air Liquide America LP installed 4 additional onsite groundwater monitor wells at their facility at 301 S. 45th Ave.
- Water-level measurements are collected on a monthly basis.
- Groundwater samples were collected in February, March, June and September 2008.



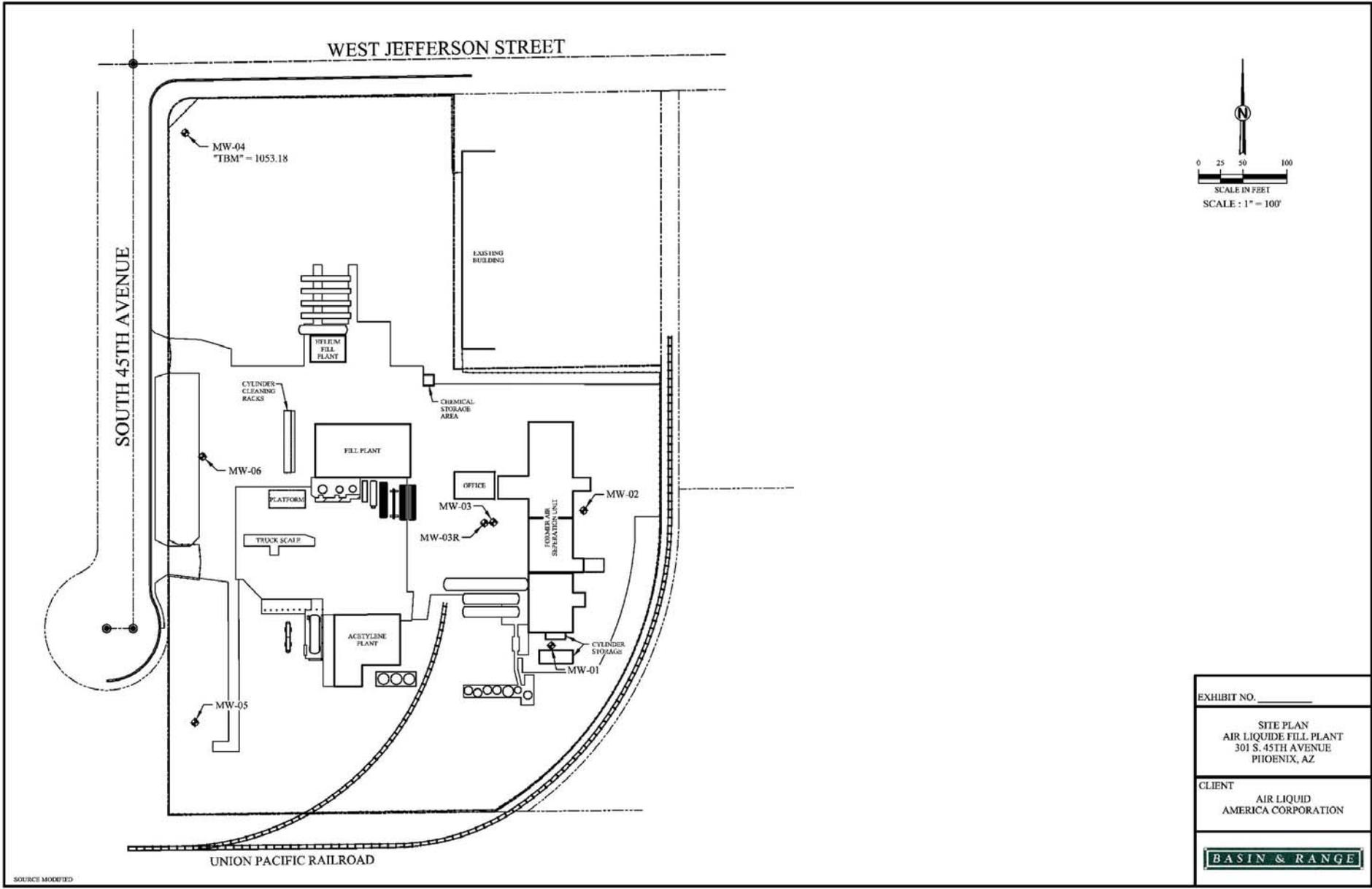
LEGEND
 ——— ESTIMATED WEST VAN BUREN BOUNDARY

NOTE
 SOURCE DATA FOR BASEMAP FROM THE USGS 7.5 SERIES TOPOGRAPHIC QUADRANGLE MAPS FOWLER AND PHOENIX.

PROJ.#: 03103154-16	DATE: 11/30/05
DRAWN BY: JTA	SCALE: AS SHOWN
DESIGNED BY: JTA	
APPROVED BY: AJG	



FIGURE 1-1
SITE BOUNDARY
WEST VAN BUREN WQARF SITE
PHOENIX, ARIZONA



Investigations Being Conducted By Air Liquide America LP & Prudential Overall Supply

- COCs detected in groundwater samples at Air Liquide include: PCE, TCE, 1,1-DCE, cis 1,2-DCE, 1,1-DCA and TCA.
- COCs exceeding the AWQS include: PCE and TCE
- Air Liquide submits monthly status reports but has not submitted any investigation reports yet.

Investigations Being Conducted By Air Liquide America LP & Prudential Overall Supply

- Prudential Overall Supply has conducted a passive soil vapor study and installed 3 groundwater monitor wells at their facility at 5102 W. Roosevelt St.
- COCs detected in the soil vapor include: PCE, TCE and 1-2 DCE.
- Groundwater samples were collected in August and September 2008.

Investigations Being Conducted By Air Liquide America LP & Prudential Overall Supply

- COCs detected in groundwater samples include: PCE, TCE and cis-1,2 DCE.
- COCs exceeding the AWQS include: PCE and TCE.
- Prudential has submitted 45-day status reports along with a monitor well installation report, a passive soil vapor survey report and an additional active soil gas sampling work plan.

Draft Remedial Investigation Report

Terranext on behalf of ADEQ issued the draft remedial investigation (RI) report for WVBA to meet the requirements established under Arizona revised Statutes (ARS) §49-287.03 and Arizona Administrative Code (AAC) R18-16-406.

 <small>A Woman Owned Business Enterprise</small>	4050 E. Cotton Center Blvd., Suite 73, Phoenix, AZ 85040
DRAFT 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	
October 2008	
Telephone: (480) 496-4100	Fax: (480) 496-4399
www.terrannext.net	

The public notice on the availability of the draft RI was issued on Friday October 31, 2008 in the Arizona Republic. The notice was also posted in La Voz on Saturday November 1, 2008.

These notices started a 60-day comment period. Comment period ends on December 30, 2008.

PUBLIC NOTICE
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
60-DAY PUBLIC COMMENT PERIOD
NOTICE OF RELEASE OF THE DRAFT REMEDIAL INVESTIGATION REPORT FOR THE WEST VAN BUREN AREA
WATER QUALITY ASSURANCE REVOLVING FUND (WQARF) SITE

Ref: OU # 09-040

PLEASE TAKE NOTICE: The Arizona Department of Environmental Quality (ADEQ), pursuant to Arizona Revised Statute (ARS) §49-287.03, has released the draft remedial investigation (RI) report for the West Van Buren Area WQARF Site in Phoenix, Arizona. An RI report is prepared to identify the nature and extent of contaminated soil and waters of the state and the sources thereof; identify current and potential impacts to public health, welfare and the environment; identify present and reasonably foreseeable future uses of the land and groundwater; and obtain and evaluate any other information necessary for identification and comparison of alternative remedial actions.

The West Van Buren Area WQARF Site boundaries are defined by the extent of the groundwater contaminant plume, which generally extends to Interstate 10 to the north, 7th Avenue to the east, 75th Avenue to the west and Buckeye Road to the south. The current contaminants of concern in the groundwater include tetrachloroethene (PCE), trichloroethene (TCE), 1, 1-dichloroethane (DCA), cis-1,2-dichloroethene (cis- 1,2-DCE), 1,1-dichloroethene (DCE) and chromium. Contaminants of concern at the site may change as new data become available.

A copy of the draft RI report will be available for review at the Harmon Branch, Phoenix Public Library at 411 West Yavapai, Phoenix, Arizona, (602) 262-4636. The report is also available at the ADEQ office in Phoenix. With 24-hour notice, an appointment to review the public file is available, Monday through Friday from 8:30 a.m. until 4:30 p.m., at the ADEQ Records Management Center, 1110 W. Washington Street in Phoenix, Arizona. Please call (602) 771-4380 or (800) 234-5677 to schedule an appointment to review this and other documents. A public meeting of the Community Advisory Board (CAB) is scheduled for Tuesday, November 18, 2008 at 6:00 p.m. at the Arizona Department of Environmental Quality Building, located at 1110 W. Washington Street Room 145, Phoenix, AZ. 85007. At this time ADEQ will solicit public comments on the draft RI report.

PARTIES WISHING TO MAKE COMMENTS regarding the draft RI report for the West Van Buren Area WQARF Site may make such comments in writing to ADEQ, Attention: Jennifer Edwards Thies, Waste Program Division, 1110 W. Washington Street, MC4415B-1, Phoenix, Arizona, 85007 and by referencing this listing. All comments received will be compiled in a responsiveness summary to be included in the final RI report.

Comments must be postmarked to ADEQ by Tuesday, December 30, 2008.

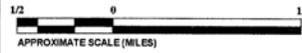
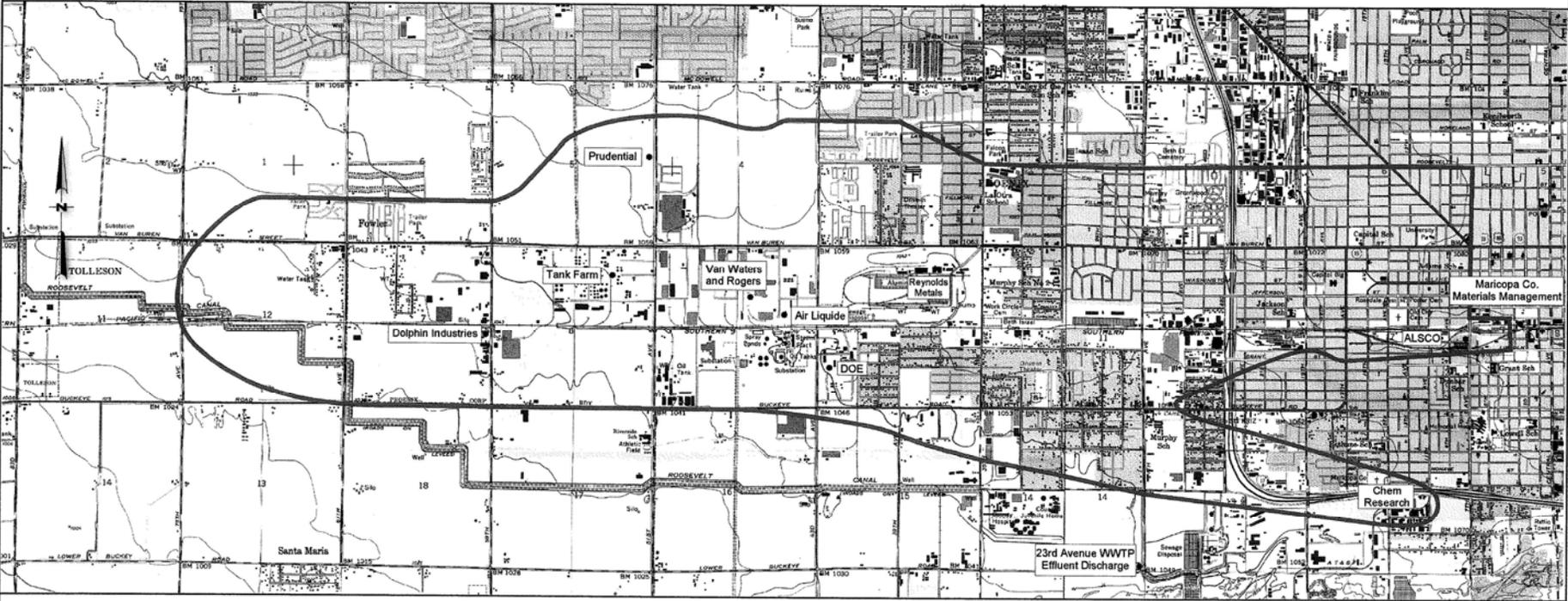
Dated this 31st day of October, 2008

Jennifer Edwards Thies, Project Manager, Remedial Projects Unit
Arizona Department of Environmental Quality

*ESTE REPORTE NO ESTÁ DISPONIBLE EN ESPAÑOL – Para información en español sobre este reporte, favor de ponerse en contacto con Delfina Olivarez de ADEQ al (602) 771-4710.

Background

- The report summarizes activities and findings of 20+ years of soil and groundwater investigations and remedial activities.
- WVBA extends from approximately 7th Ave. to 75th Ave. and from Buckeye Rd. to Interstate 10.
- These dimensions are approximately 8 miles in length and 1.5 miles in width or approximately 12 square miles.
- A finger shaped plume is present between 7th Ave. and 27th Ave. between Lower Buckeye Rd. and Buckeye Rd.



LEGEND
 ————— ESTIMATED WEST VAN BUREN BOUNDARY

NOTE
 SOURCE DATA FOR BASEMAP FROM THE USGS 7.5 SERIES TOPOGRAPHIC QUADRANGLE MAPS FOWLER AND PHOENIX.

PROJ.#: 03103154-16	DATE: 11/30/05
DRAWN BY: JTA	SCALE: AS SHOWN
DESIGNED BY: JTA	
APPROVED BY: AJG	



FIGURE 1-1
SITE BOUNDARY
WEST VAN BUREN WQARF SITE
PHOENIX, ARIZONA

Background (cont.)

- The site was placed on the WQARF priority list in November 1987.
- The site was placed on the WQARF registry in April 1998.
- Investigations began in the WVBA WQARF site in 1986 by ADWR and ADHS.
- Investigations have continued to present by ADEQ and several facilities located within the WVBA.
- In general, activities included soil and soil-gas sampling, monitor well installations, groundwater monitoring and sampling and an ongoing potential responsible party (PRP) search.

RI Results

- Based on initial site investigations by ADEQ, numerous facilities conducted investigations and several have also conducted remedial activities. The following facilities conducted soil and groundwater investigations and conducted remediation at their facilities:
- Reynolds Metals Company operated a soil vapor extraction (SVE) system and excavated soil.
- Van Waters & Rogers Inc. which currently operates under the name Univar operated a SVE system.

RI Results (cont.)

- Maricopa County Materials Management operated a SVE system.
- Dolphin, Inc. operated 2 SVE systems and an air sparge (AS) system.
- ChemResearch Company, Inc. excavated soil.
- ADEQ conducted an Early Response Action (ERA) at American Linen Supply Company with a SVE system, AS system and a groundwater extraction system.

RI Results (cont.)

- Following the completion of investigations and remedial activities, several facilities completed settlements with ADEQ.
- Reynolds Metals Company completed a settlement agreement with ADEQ in 2002 and received a letter of satisfaction in 2006 upon completing monitoring requirements.
- VW&R received a No Further Action (NFA) letter for soils from ADEQ in 2002 and terminated their consent order.

RI Results (cont.)

- Maricopa County Materials Management and Union Pacific Railroad completed a settlement with ADEQ in 2000.
- Dolphin, Inc. completed the requirements of their RCRA Consent Order and RCRA Consent Judgment and received closure of the order and judgment in 2006.
- American Linen Supply Co. settled with ADEQ in 1997 turning over investigation and remedial activities to ADEQ. ADEQ issued an NFA letter for soil in 2008.

RI Results (cont.)

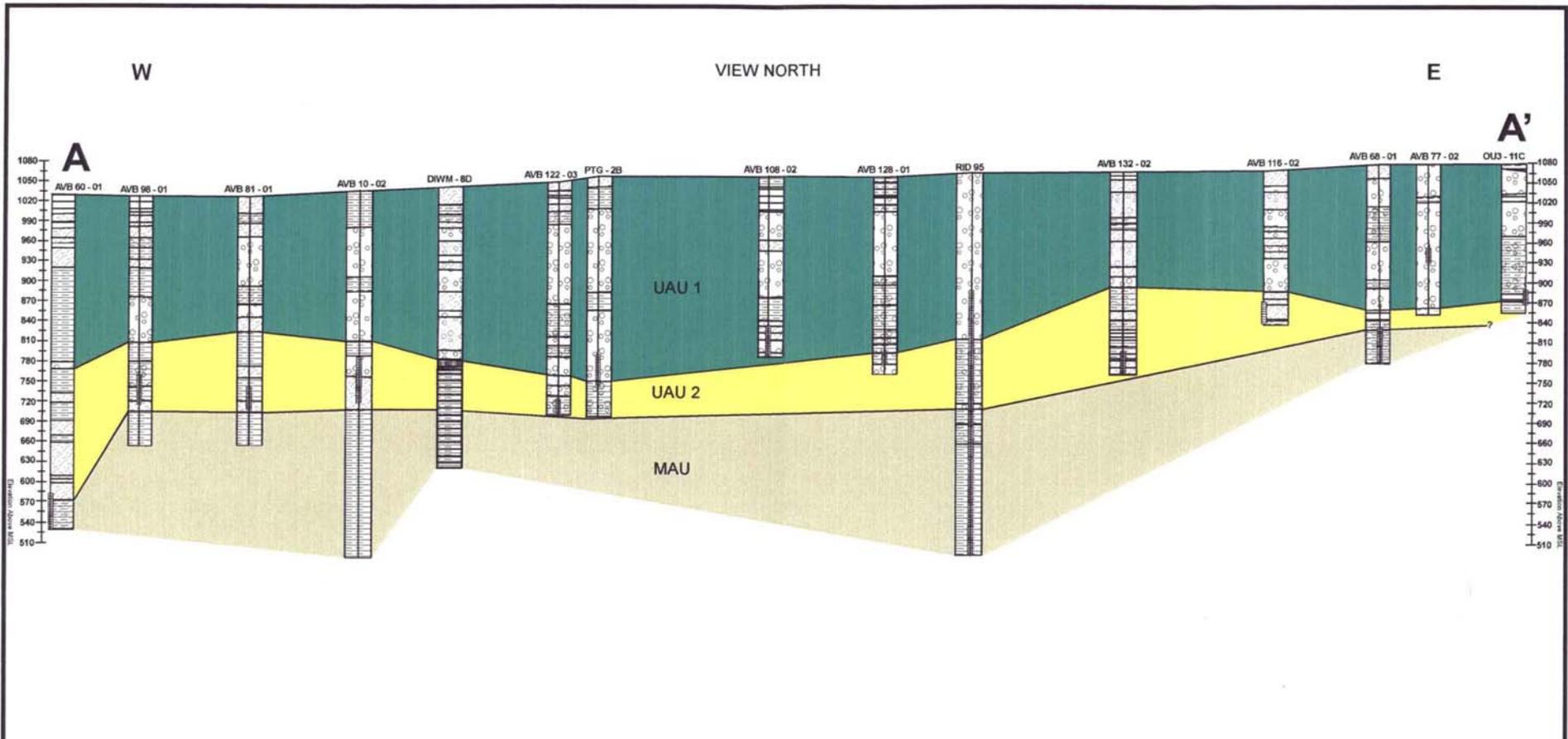
- ADEQ contracted with Roy F. Weston, Inc. to develop a groundwater flow model with the help of input from the regulated community.
- The model was designed to model aquifer conditions and groundwater movement.
- The model can be modified to develop fate and transport models for specific areas.

RI Results (cont.)

- The model was started as a three layer model to correspond with the three main aquifers underlying the site:
 - Upper Alluvial Unit (UAU)
 - Middle Alluvial Unit (MAU)
 - Lower Alluvial Unit (LAU)
- The model was modified during development to a five layer model to better match the aquifer conditions beneath the site.

RI Results (cont.)

- The aquifers were modeled as five layers by dividing the UAU and the MAU in half. This resulted in the identification of the following aquifers:
 - UAU1
 - UAU2
 - MAU1
 - MAU2
 - LAU



Horizontal Scale 1" = 2,800"
 Vertical Ex = 18x

Note: UAU 2/MAU contact in DIMW-8D based upon Geophysical Log

Legend									
Screened Interval	Gravel	Gravelly Sand Sandy Gravel	Gravelly Clay Clayey Gravel	Sand	Silty Sand Sandy Silt	Silt	Sandy Clay Clayey Sand	Clay	Silty Clay Clayey Silt

PROJECT.#: 0310-3154-13
 APPROVED BY: AJG
 DRAWN BY: DAG

DATE: 07/21/06
 SCALE: As Shown



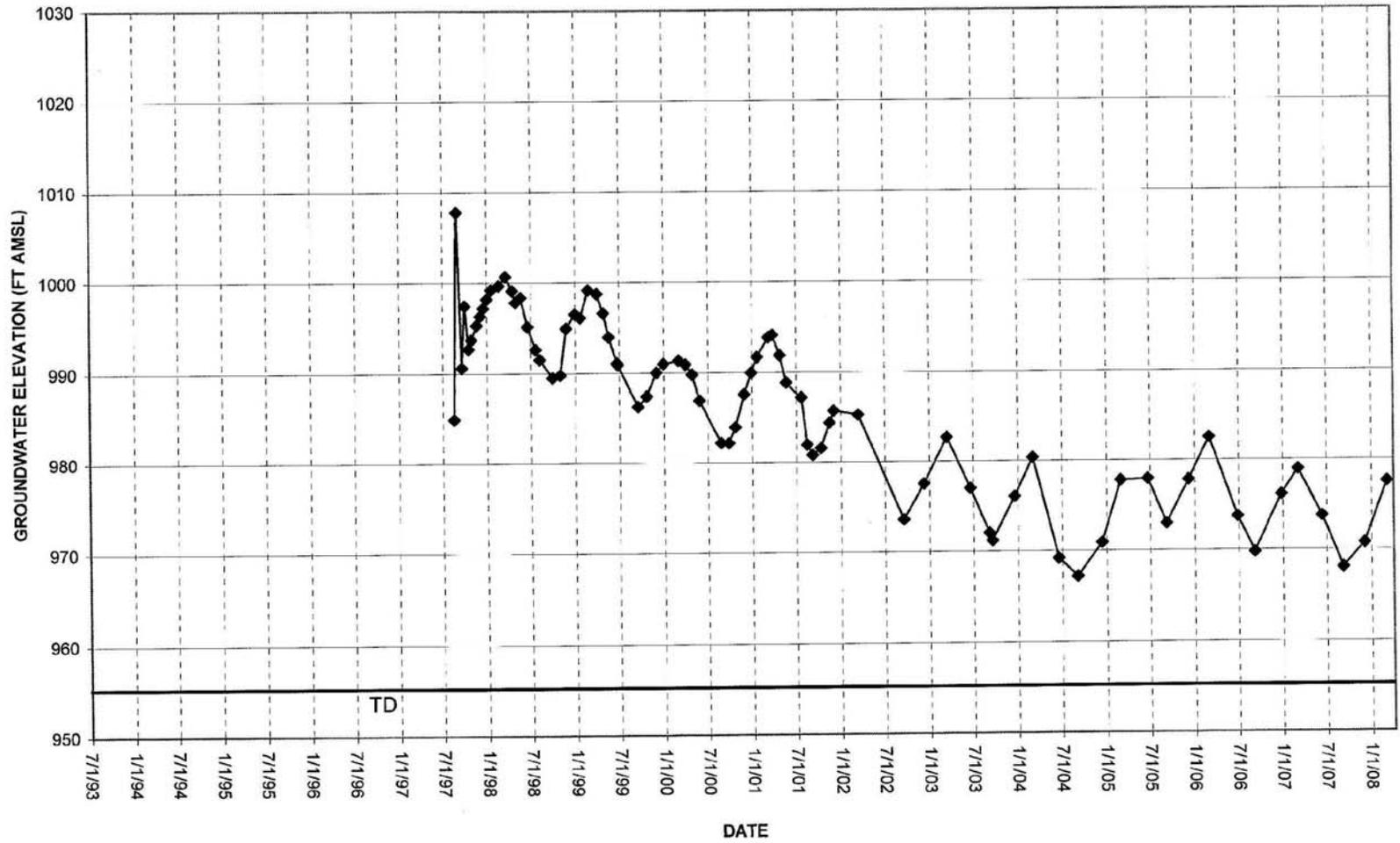
FIGURE 3-2
 CROSS - SECTION A - A'
 WEST VAN BUREN WQARF SITE
 PHOENIX, ARIZONA

RI Results (cont.)

- Groundwater flow directions within the aquifers are generally in a westerly direction, fluctuating from northwesterly to southwesterly.
- Water levels fluctuate in depth seasonally with highest levels occurring in the late winter early fall and the deepest levels occurring in the late summer.
- There has been an overall decrease in water levels during the WVBA investigation.

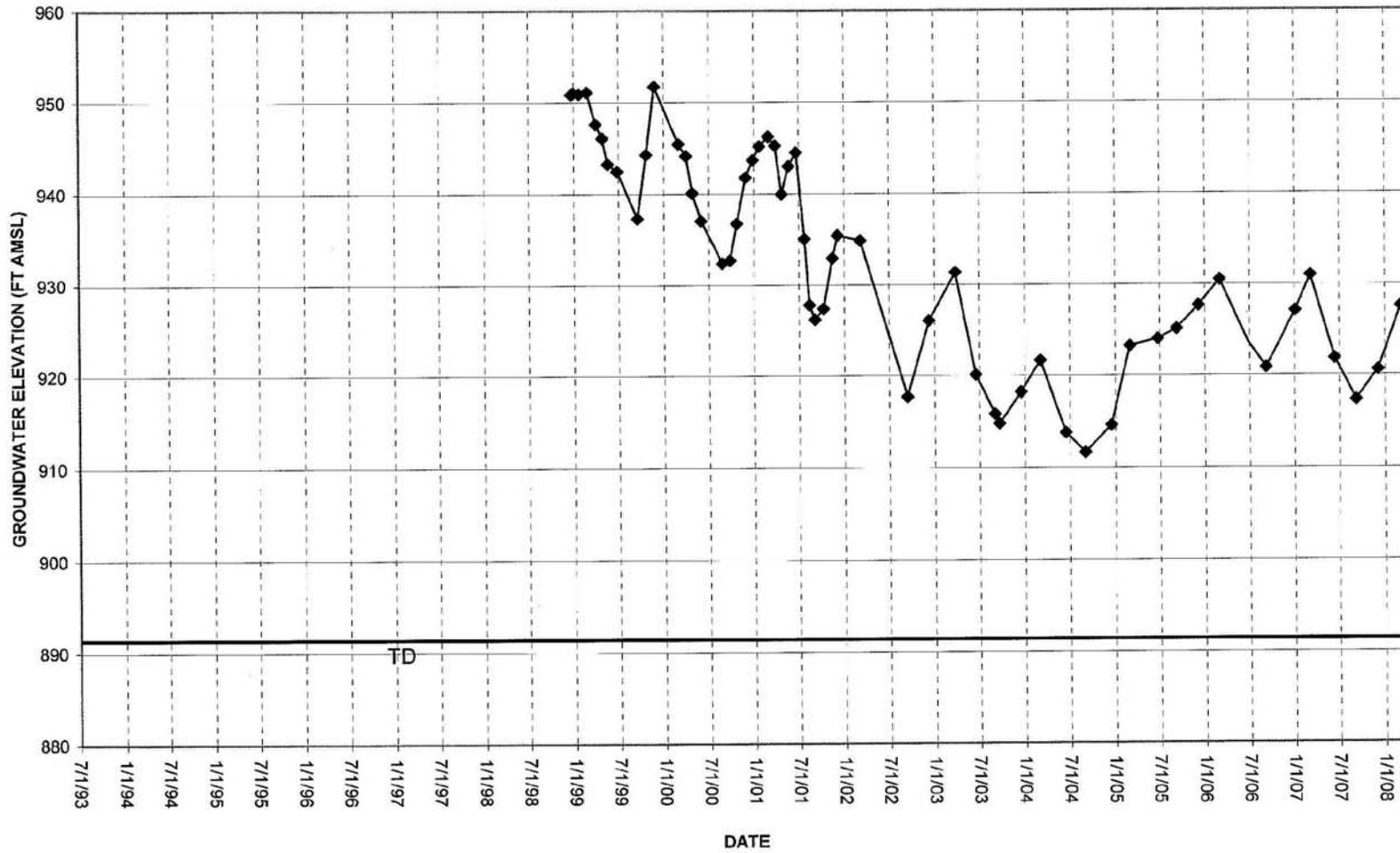
Eastern UAU I

WVBA GROUNDWATER ELEVATIONS
AVB68-02 (55-561942)



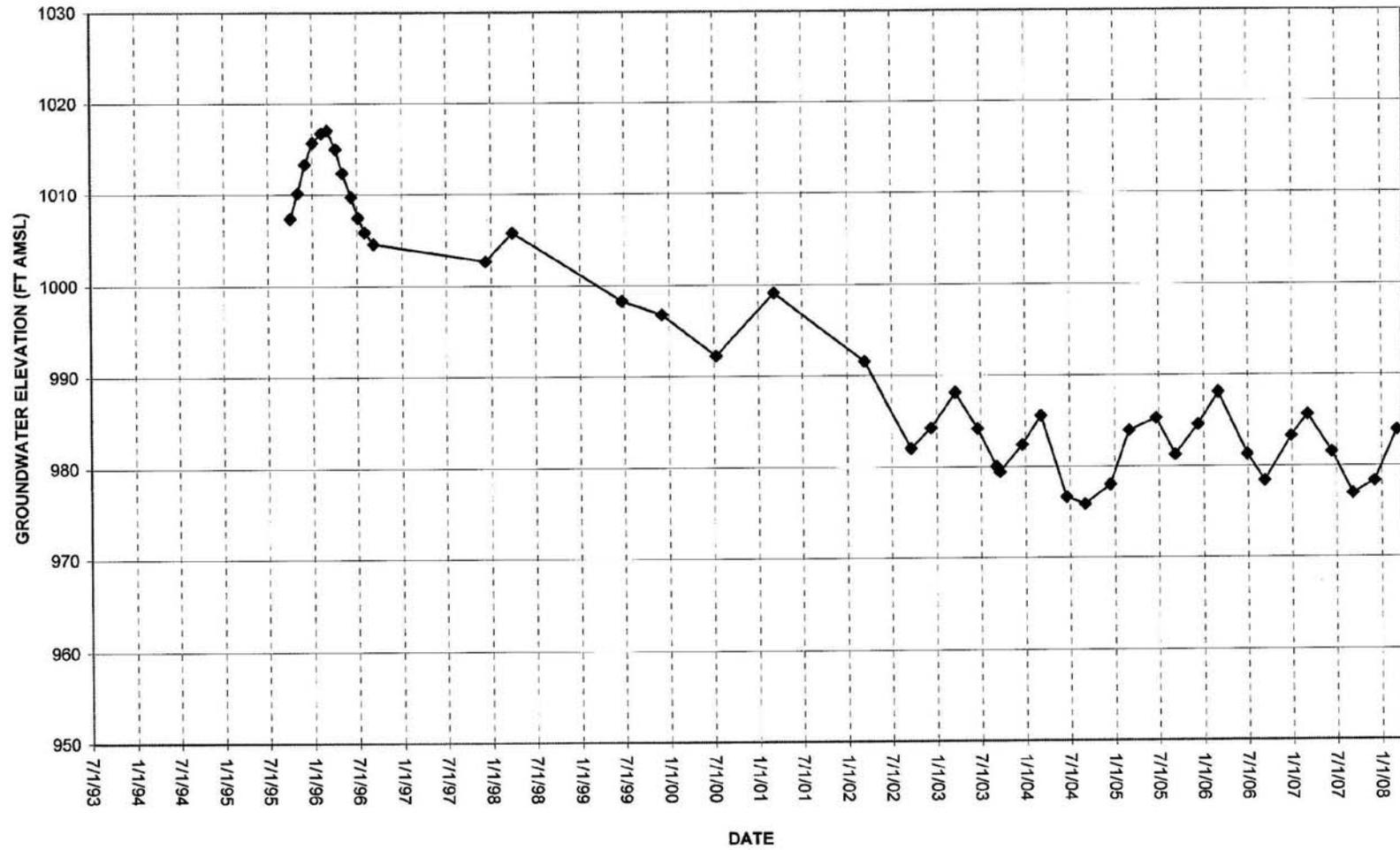
Western UAU1

WVBA GROUNDWATER ELEVATIONS
AVB75-01 (55-569881)



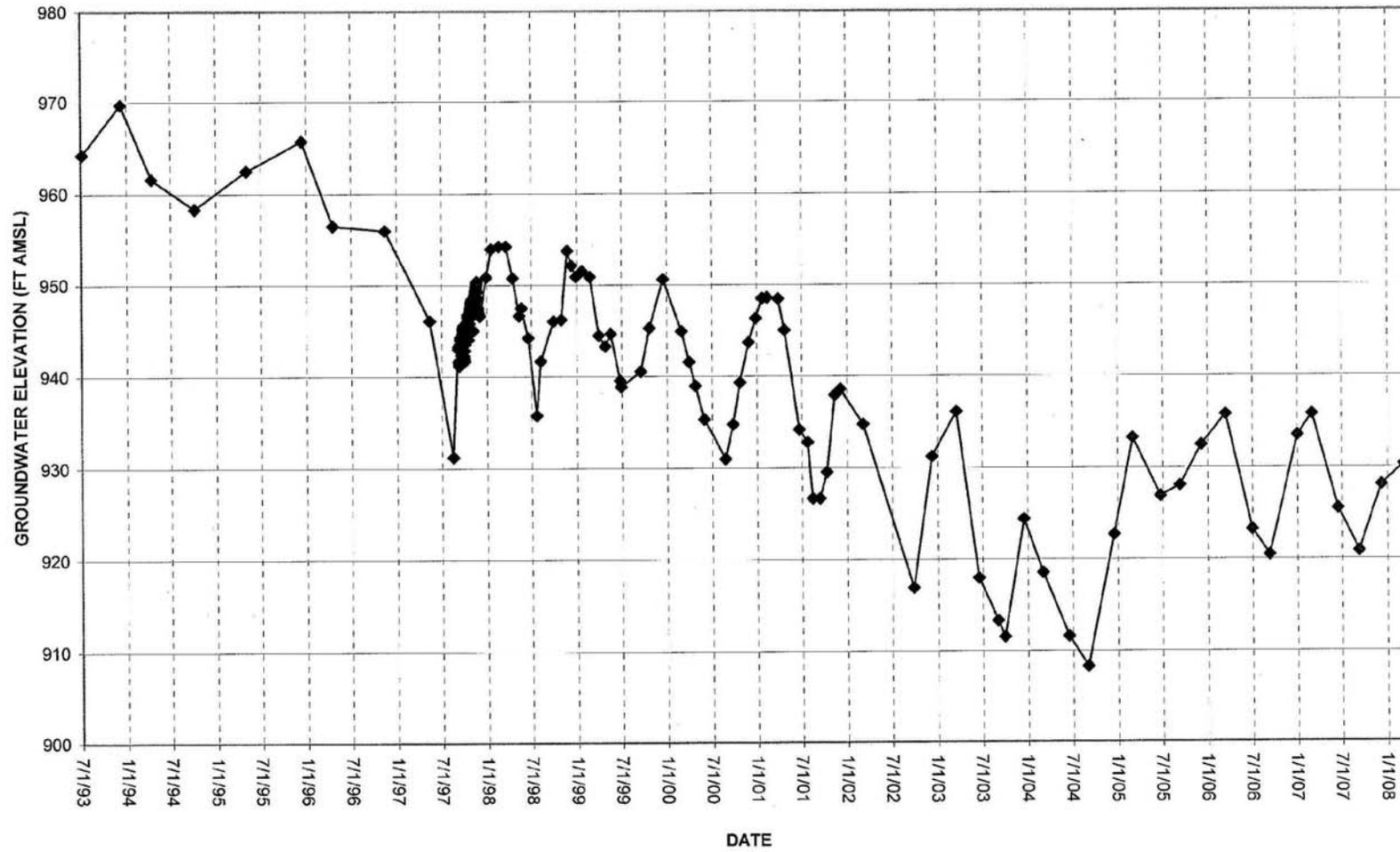
Eastern UAU2

WVBA GROUNDWATER ELEVATIONS
AVB106-03 (55-549233)



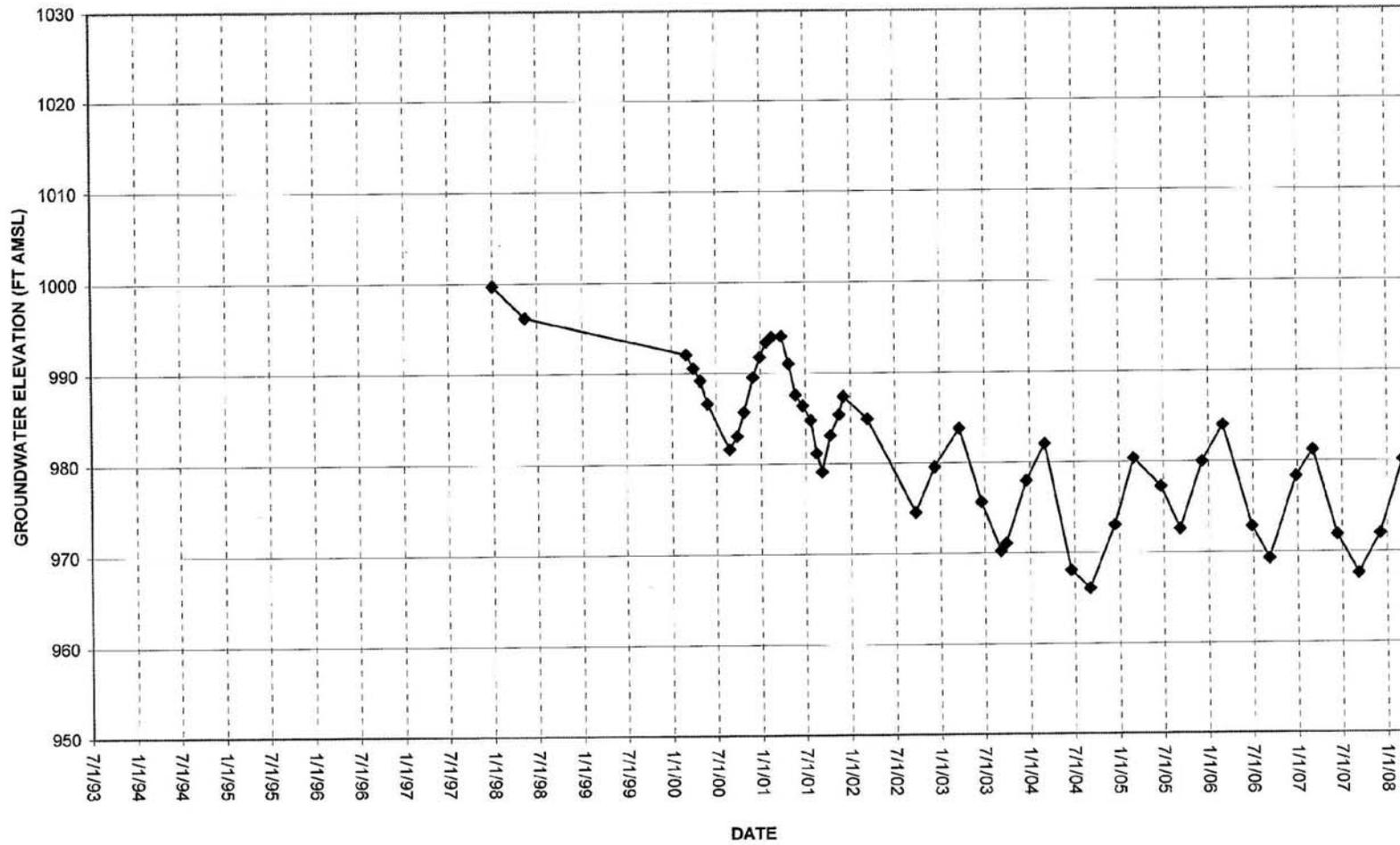
Western UAU2

WVBA GROUNDWATER ELEVATIONS
AVB10-02 (55-532042)



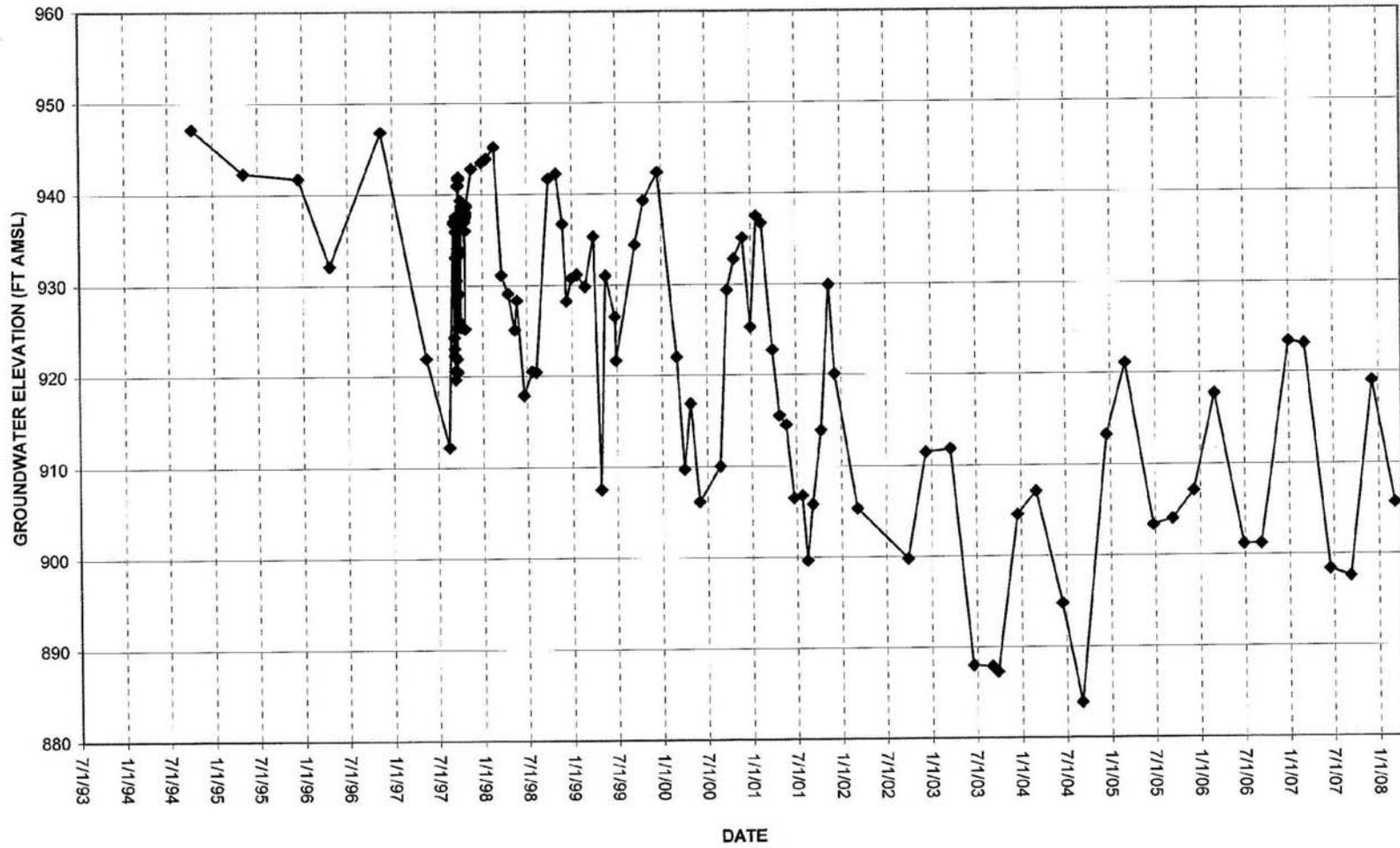
Eastern MAU1

WVBA GROUNDWATER ELEVATIONS
AVB68-04 (55-561940)



Western MAU1

WVBA GROUNDWATER ELEVATIONS
AVB60-01 (55-543717)

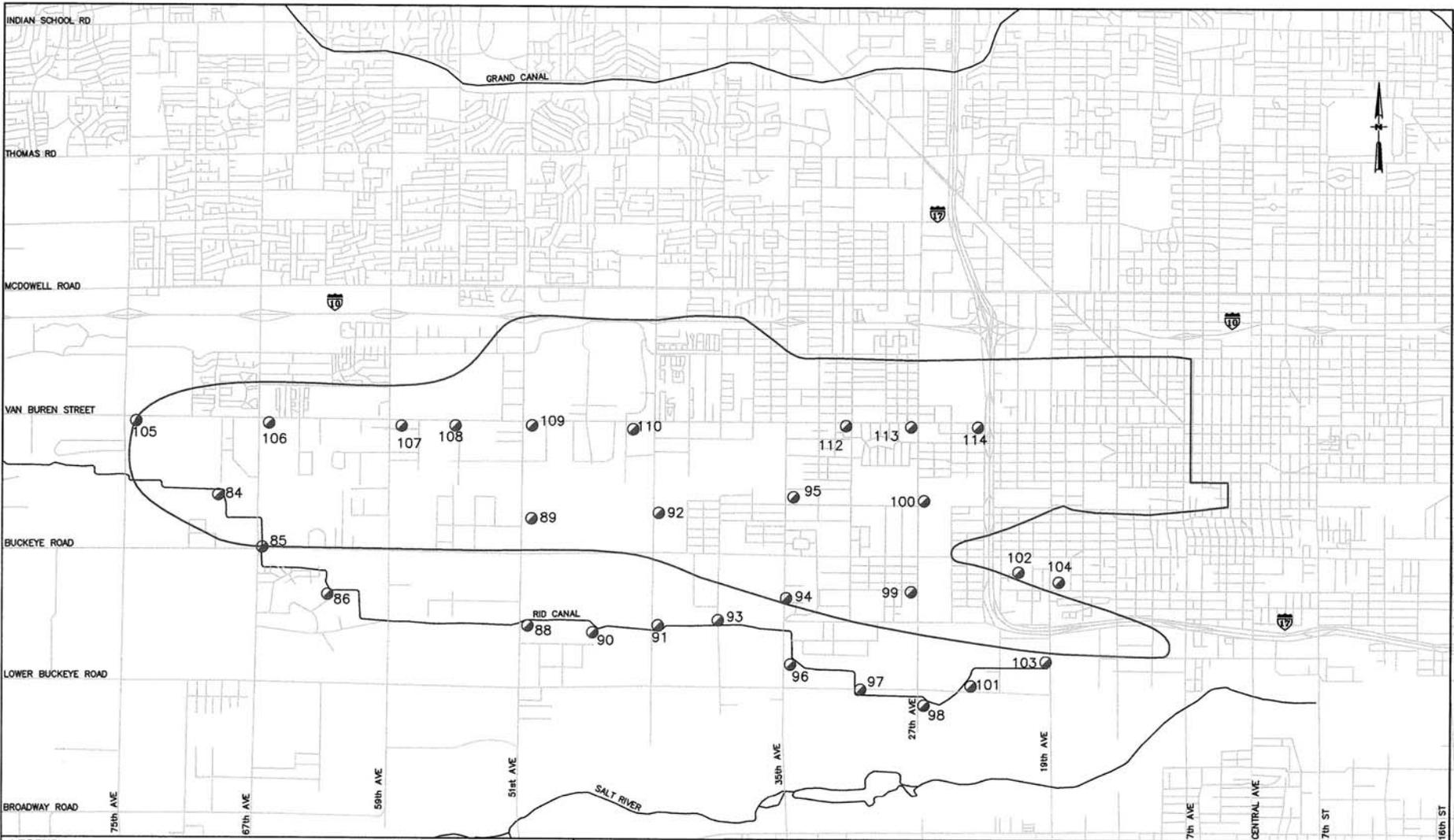


RI Results (cont.)

- Results of groundwater investigations indicate that no groundwater contamination is present in the LAU and the MAU2.
- The highest PCE concentrations have typically been detected in the UAU1. The highest TCE concentrations have typically been detected in the UAU2.
- Groundwater containing contaminants also enters the WVBA from the east and north of the central portion of the site.

RI Results (cont.)

- Initial groundwater investigations were limited in scope because of the few wells present in the WVBA.
- As the remedial investigation progressed, numerous wells were installed by ADEQ and by facilities that were conducting their own investigations.
- The Roosevelt Irrigation District (RID) has been instrumental in assisting ADEQ with collecting groundwater data by allowing access to their irrigation wells.



LEGEND

- - RID WELL LOCATION
- - ESTIMATED WEST VAN BUREN BOUNDARY

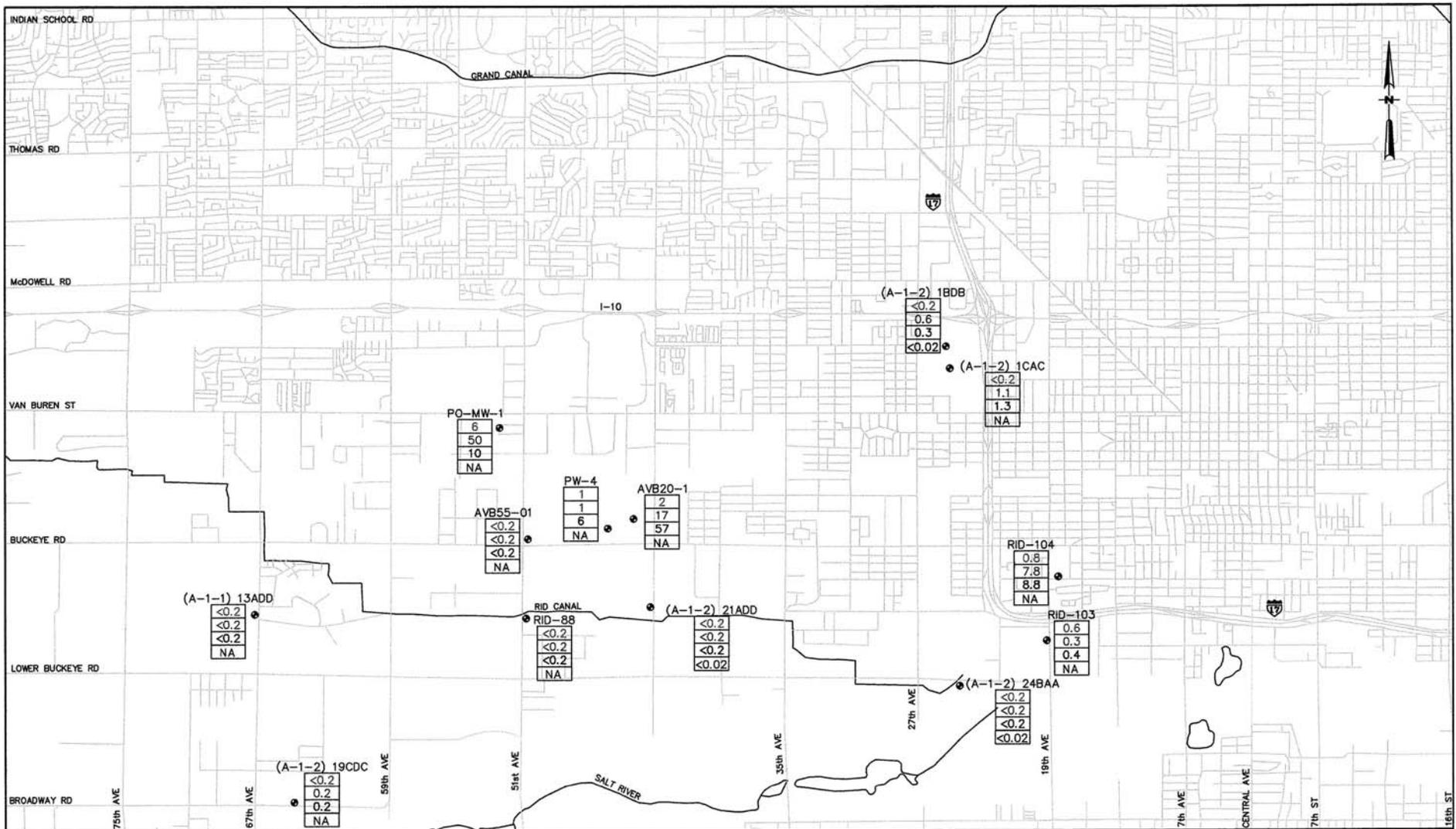
NOTE
 SOURCE DATA FOR BASEMAP FROM
 THE ARIZONA DEPARTMENT OF
 TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154	DATE:	09/22/06
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 3.9
 RID WELL LOCATIONS
 WEST VAN BUREN AREA WQARF SITE
 PHOENIX, ARIZONA

W:\FILES\PROJECTS\03103154\ Misc. Figures\RID Maps\Figure 3.9 RID Well locations and project area.dwg



LEGEND

DCE	- 1,1 - DICHLOROETHENE (ug/l)
PCE	- TETRACHLOROETHENE (ug/l)
TCE	- TRICHLOROETHENE (ug/l)
CR	- TOTAL CHROMIUM (mg/l)
NA	- NOT ANALYZED

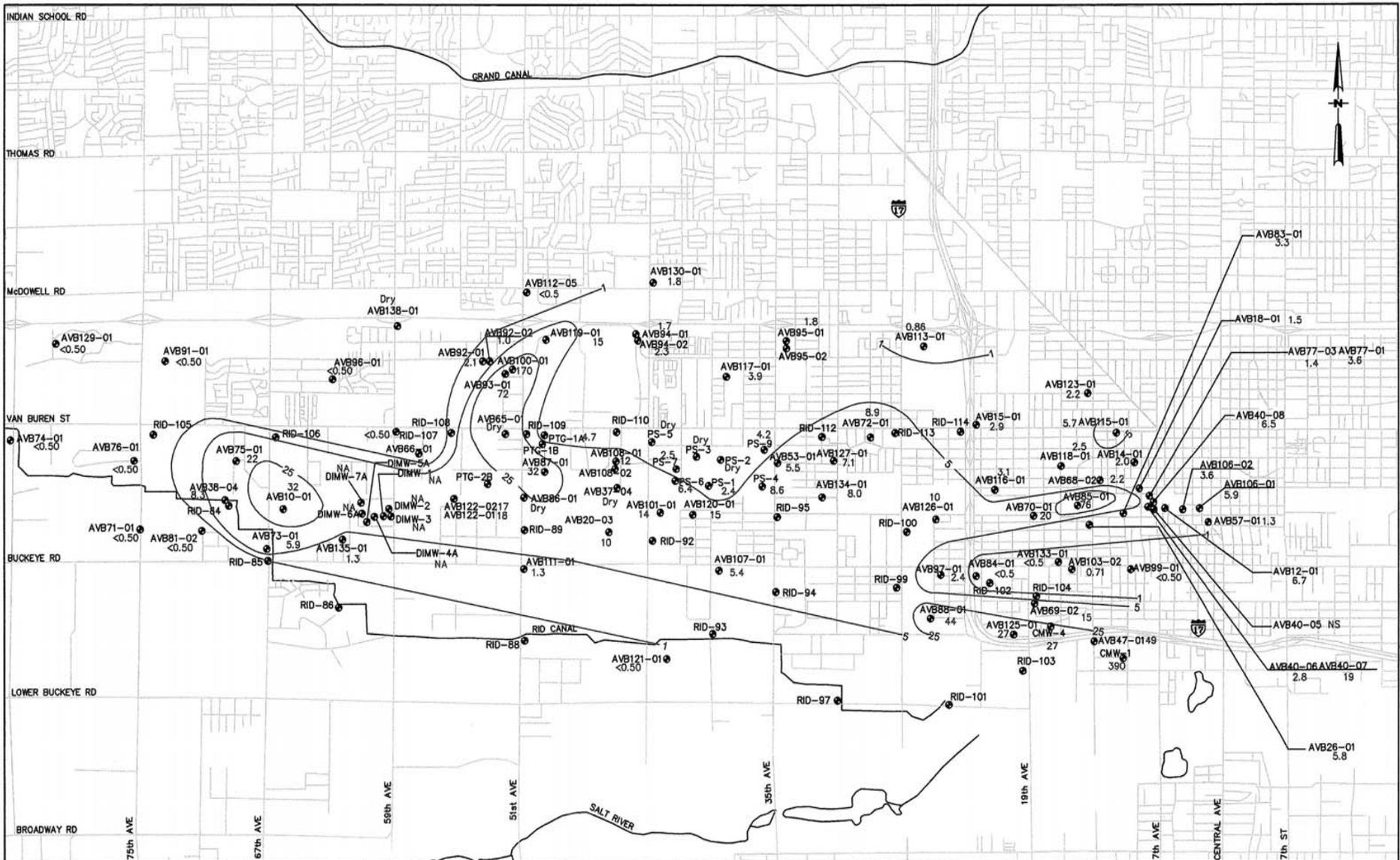
NOTE
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PROJ. #:	03103154-16	DATE:	01/26/06
DRAWN BY:	JTA	SCALE:	1"=3600'
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APPROVED BY:	NCL		



FIGURE 4-1
CONTAMINANT CONCENTRATIONS - 1988
WEST VAN BUREN WQARF SITE
PHOENIX, ARIZONA

WPPLE/ PROJ/ICTS/ 03103154/ Phase 16/ Figure 4-1.dwg



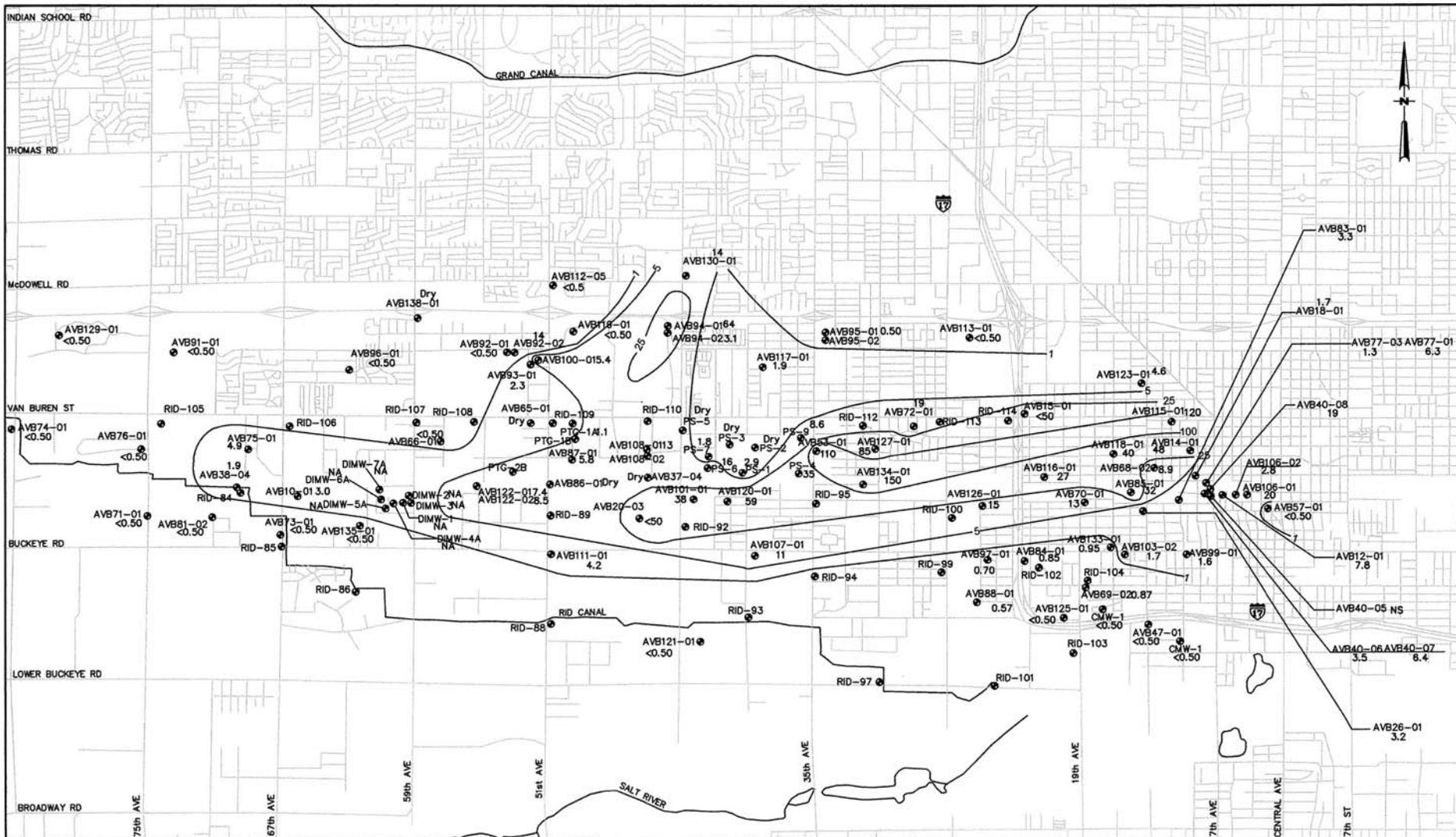
LEGEND	
AEW11-06	WELL IDENTIFICATION NUMBER
11	TETRACHLOROETHENE (ug/l)
-	PCE CONCENTRATION CONTOUR (ug/l)
NS	NOT SAMPLED
⊙	APPROXIMATE WELL LOCATION
NA	NOT AVAILABLE

NOTE: SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.	
PROJ. #:	03103154-18
DATE:	05/05/08
DRAWN BY:	DAG
DESIGNED BY:	AJG
APPROVED BY:	AJG

SCALE:	1"=3600'
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FIGURE 3.1
 UAU 1 PCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN AREA WQARF SITE
 PHOENIX, ARIZONA



LEGEND

AEW11-06	-	WELL IDENTIFICATION NUMBER
11	-	TRICHLOROETHENE (ug/l)
-	-	TCE CONCENTRATION CONTOUR (ug/l)
NS	○	NOT SAMPLED
○	○	APPROXIMATE WELL LOCATION
NA	-	NOT AVAILABLE

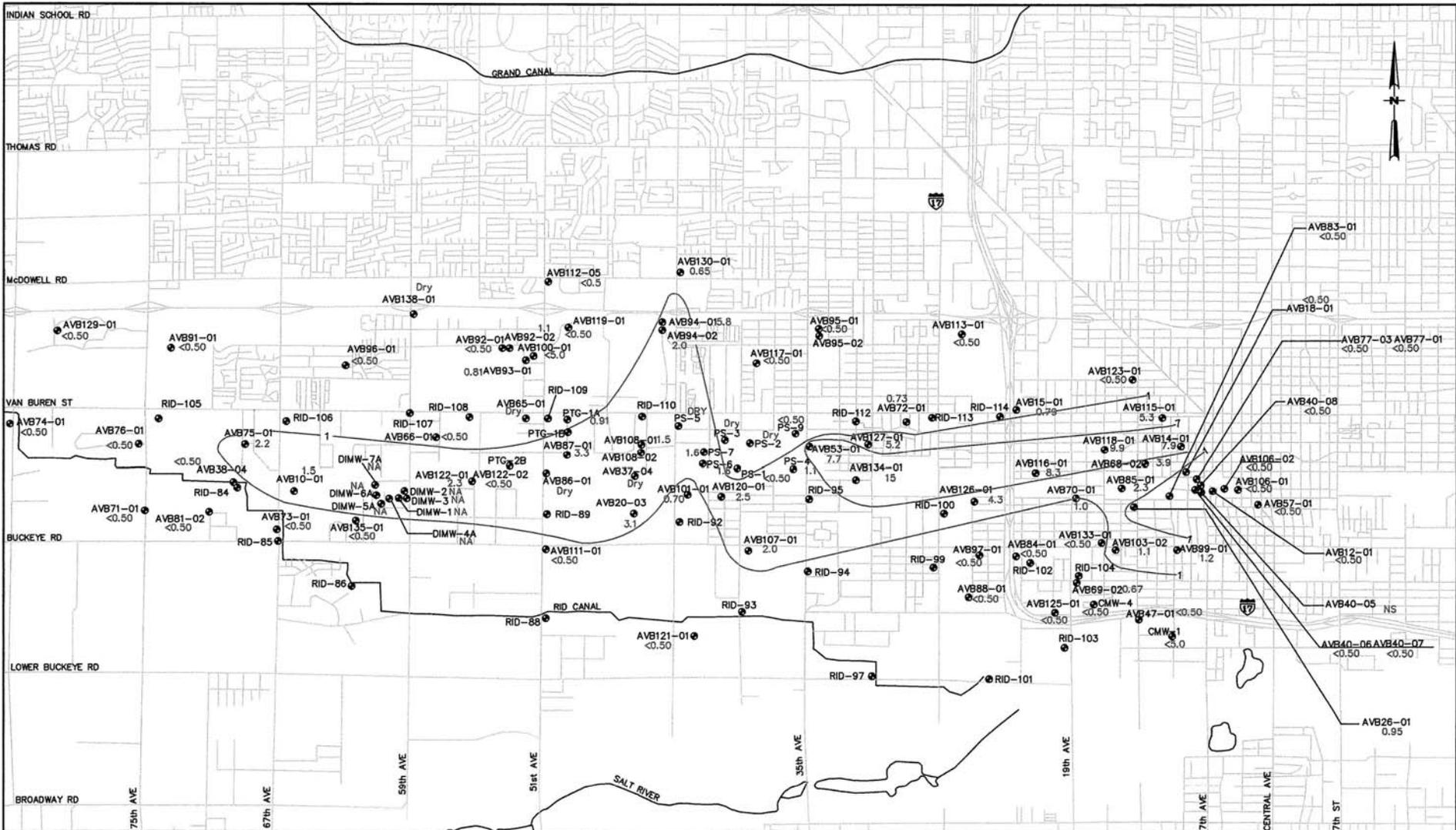
NOTE
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PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 3.2
UAU 1 TCE CONCENTRATIONS
FIRST QUARTER 2008
WEST VAN BUREN AREA WQARF SITE
PHOENIX, ARIZONA

WP18/ PROJECTS/ 03103154/ Phase 1B/ 1st str 08/ Figure 3.2 UAU1 TCE Concentrations.dwg



LEGEND

AEW1-06	WELL IDENTIFICATION NUMBER
11	1,1 - DICHLORETHENE (ug/l)
---	1,1 - DCE CONCENTRATION CONTOUR (ug/l)
NS	NOT SAMPLED
●	APPROXIMATE WELL LOCATION
NA	NOT AVAILABLE

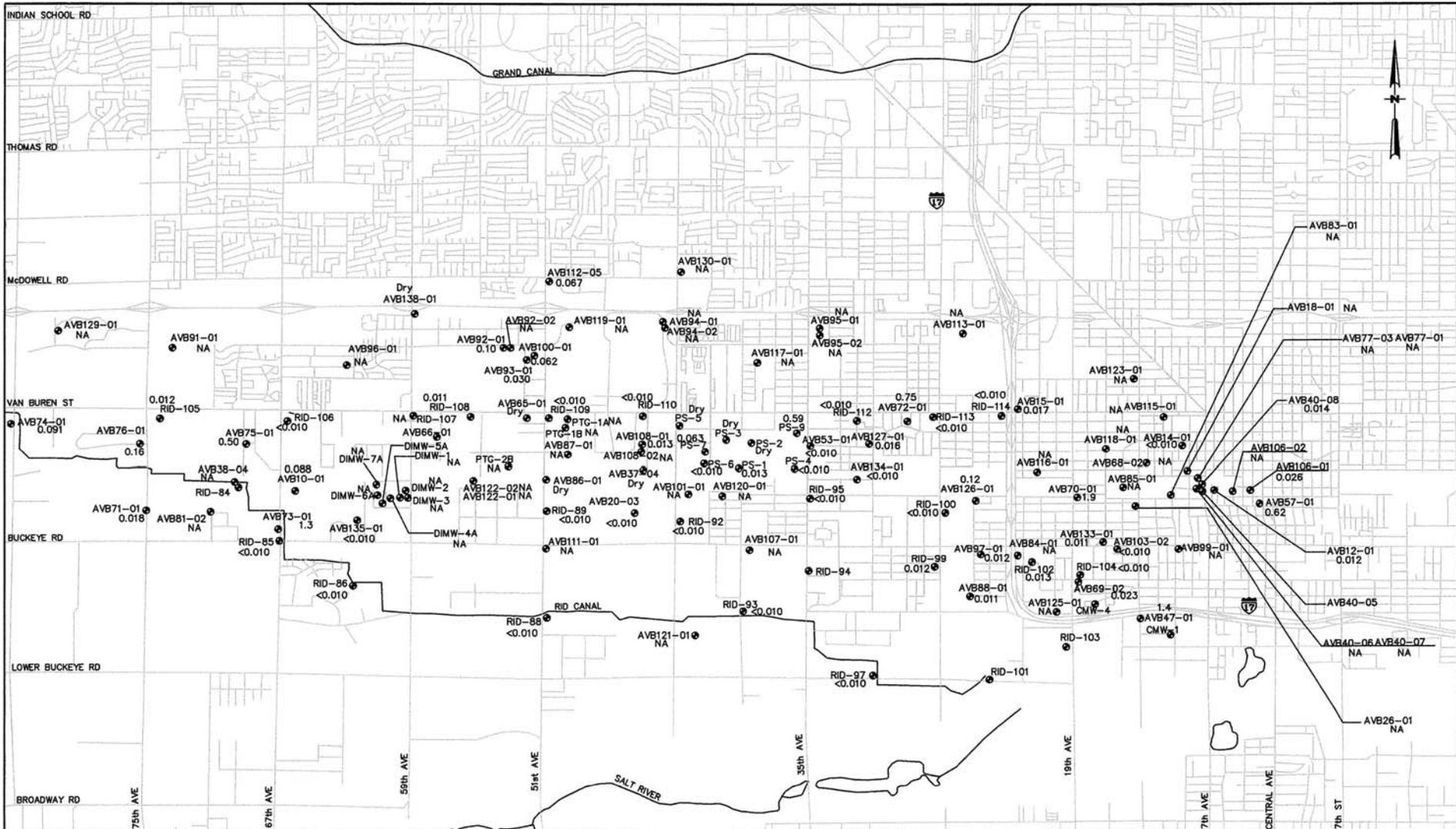
NOTE
SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 3.3
UAU1 1,1 - DCE CONCENTRATIONS
FIRST QUARTER 2008
WEST VAN BUREN AREA WQARF SITE
PHOENIX, ARIZONA

WPPLE/ PROJECTS/ 03103154/ Phase 18/1st qtr 08/UAU1.1 DCE Concentrations Figure 3.3.dwg



LEGEND
 ● - APPROXIMATE WELL LOCATION
 AVB76-01 - WELL IDENTIFICATION NUMBER
 <0.5 - TOTAL CR CONCENTRATION (mg/l)

NOTE
 SOURCE DATA FOR BASEMAP FROM
 THE ARIZONA DEPARTMENT OF
 TRANSPORTATION DIGITAL ROAD MAP.

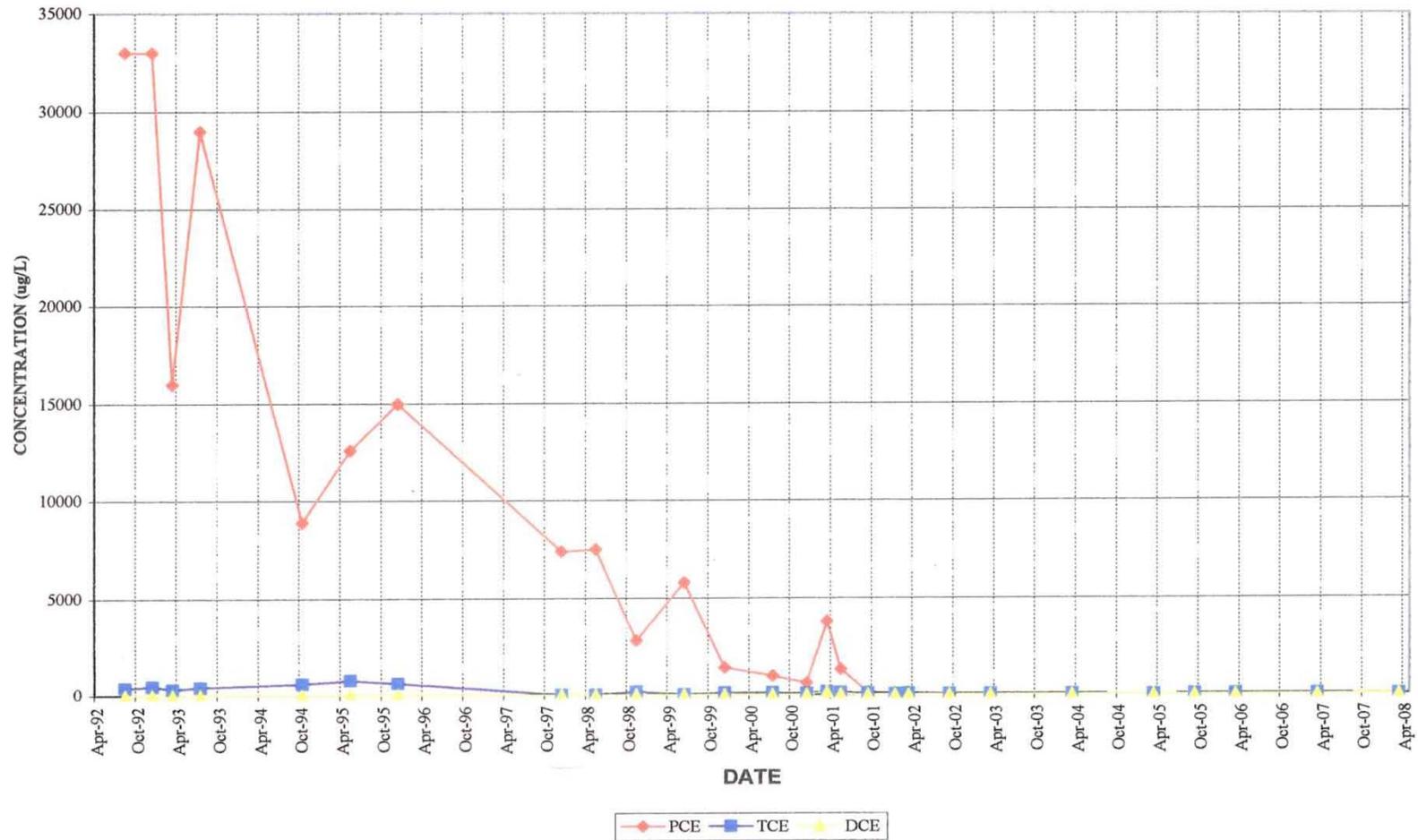
PROJ. #:	03103154-18	DATE:	08/19/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-14
 UAU 1 WELL TOTAL CR CONCENTRATIONS - 2008
 WEST VAN BUREN WQRF SITE
 PHOENIX, ARIZONA

Eastern UAU1

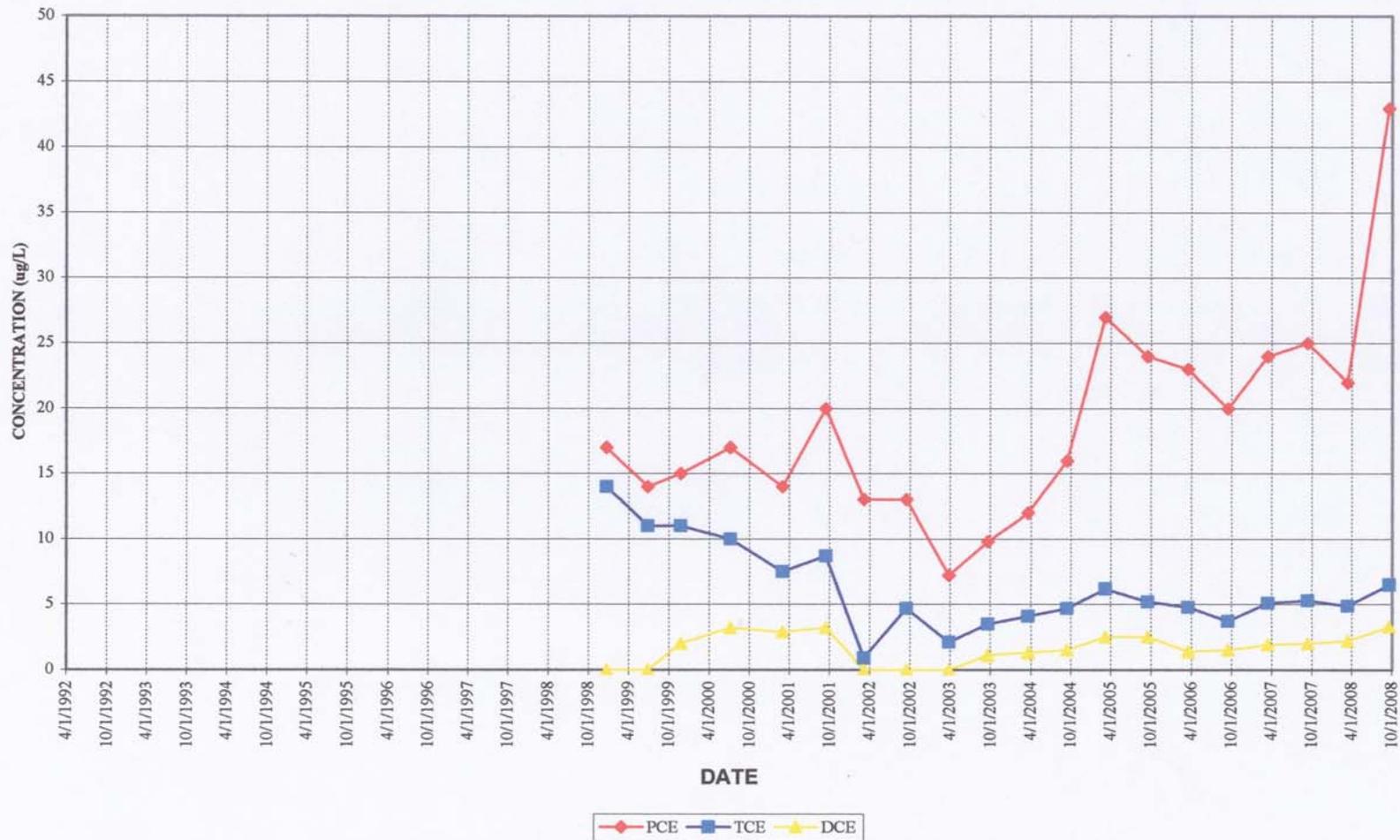
WVB VOC CONCENTRATIONS
AVB40-07 (55-536227)



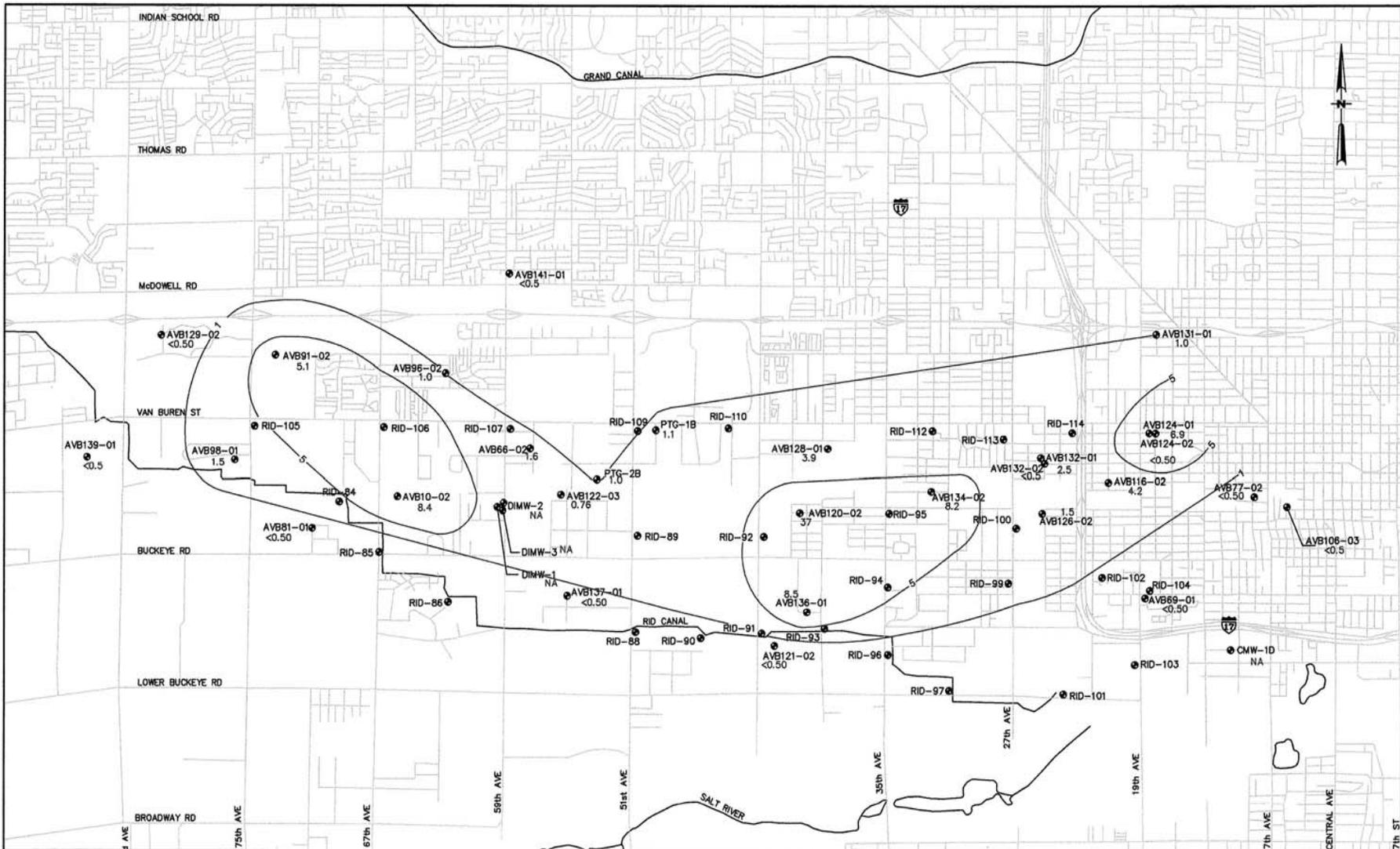
NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.

Western UAU1

WVB VOC CONCENTRATIONS
AVB75-01 (55-569881)



NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.



LEGEND
 AEW1-06 - WELL IDENTIFICATION NUMBER
 11 - TETRACHLOROETHENE (ug/l)
 --- PCE CONCENTRATION CONTOUR (ug/l)
 NA - NOT AVAILABLE
 ● - APPROXIMATE WELL LOCATION

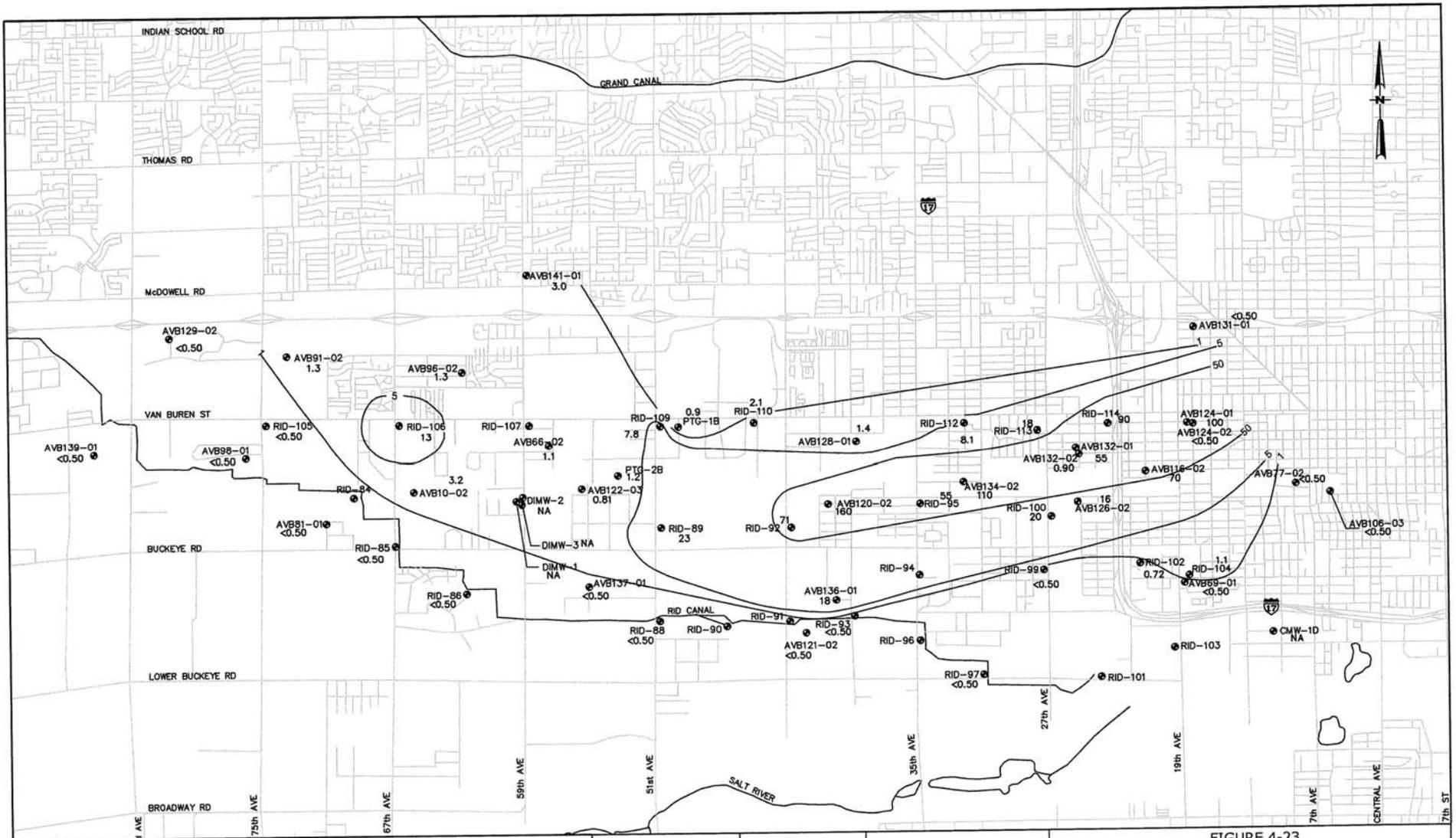
NOTE
 SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 3.4
 UAU 2 PCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN AREA WQRF SITE
 PHOENIX, ARIZONA

U:\projects\03103154\Phase 18\1st qtr 08\UAU2 PCE CONCENTRATIONS FIGURE 3.4.dwg



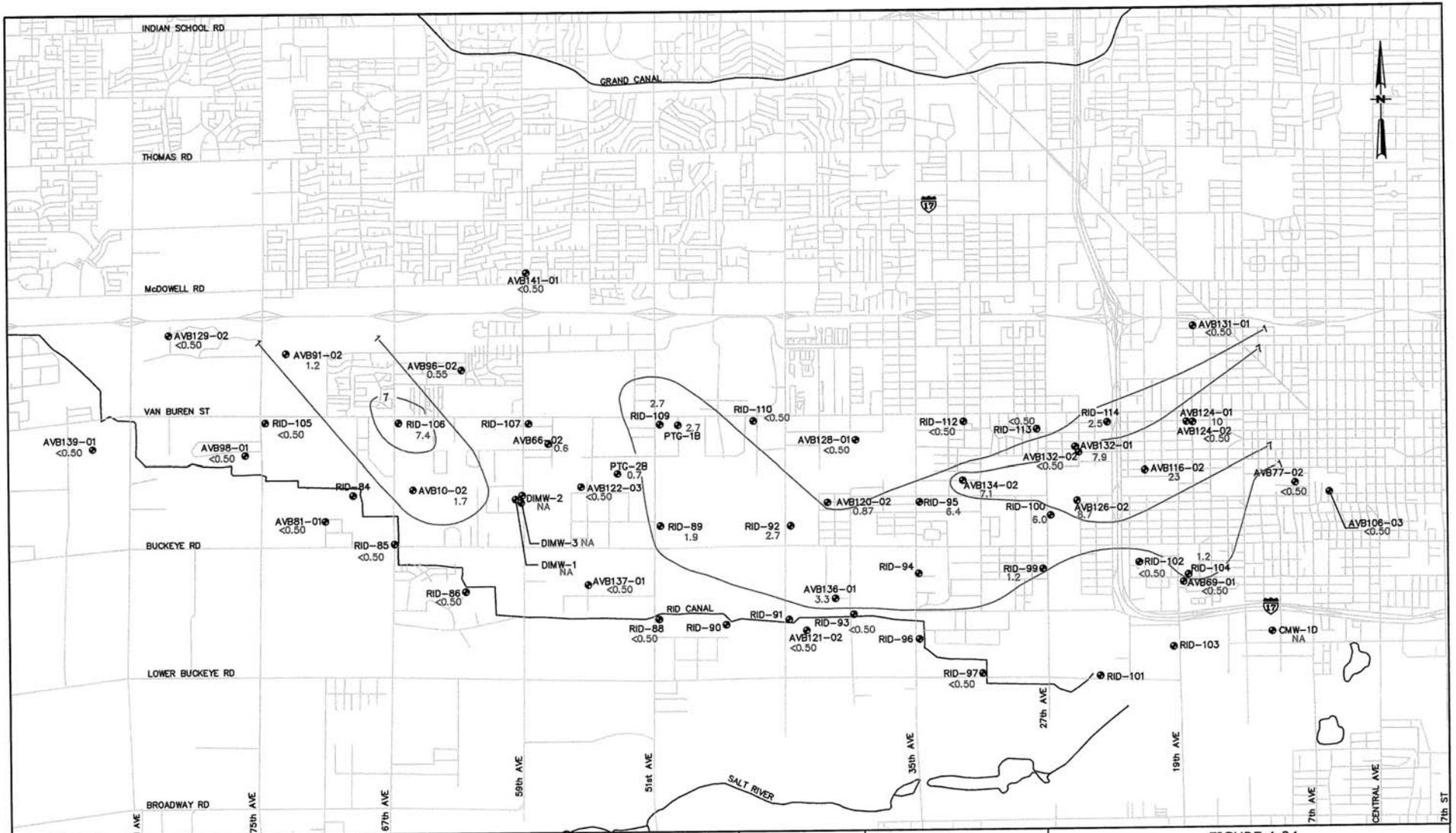
LEGEND
 AEW11-06 - WELL IDENTIFICATION NUMBER
 11 - TRICHLOROETHENE (ug/l)
 — TCE CONCENTRATION CONTOUR (ug/l)
 NA - NOT AVAILABLE
 ⊙ - APPROXIMATE WELL LOCATION

NOTE
 SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-23
 UAU 2 TCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN AREA WQARF SITE
 PHOENIX, ARIZONA



LEGEND
 AEW11-06 - WELL IDENTIFICATION NUMBER
 11 - 1,1 - DICHLOROETHENE (ug/l)
 --- 1,1 - DCE CONCENTRATION CONTOUR (ug/l)
 NA - NOT AVAILABLE
 ● - APPROXIMATE WELL LOCATION

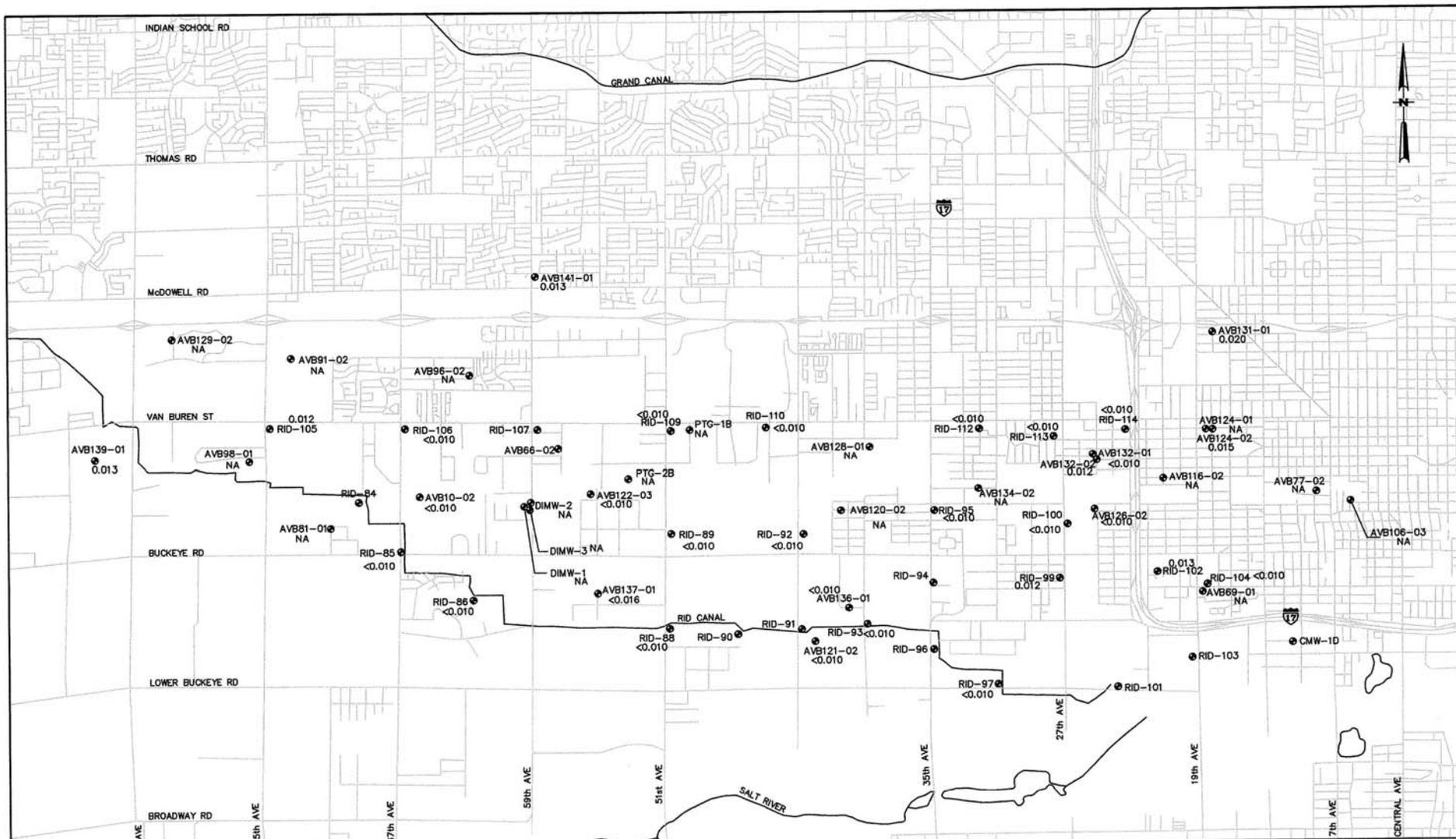
NOTE
 SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-24
 UAU 2 1,1- DCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN AREA WQARF SITE
 PHOENIX, ARIZONA

U:\projects\03103154\Phase 18\1st qtr 08\IAU2 1,1-DCE CONCENTRATIONS FIGURE 4-24.dwg



LEGEND
 ● - APPROXIMATE WELL LOCATION
 AVB78-01 - WELL IDENTIFICATION NUMBER
 <0.5 - TOTAL CR CONCENTRATION (mg/l)

NOTE
 SOURCE DATA FOR BASEMAP FROM
 THE ARIZONA DEPARTMENT OF
 TRANSPORTATION DIGITAL ROAD MAP.

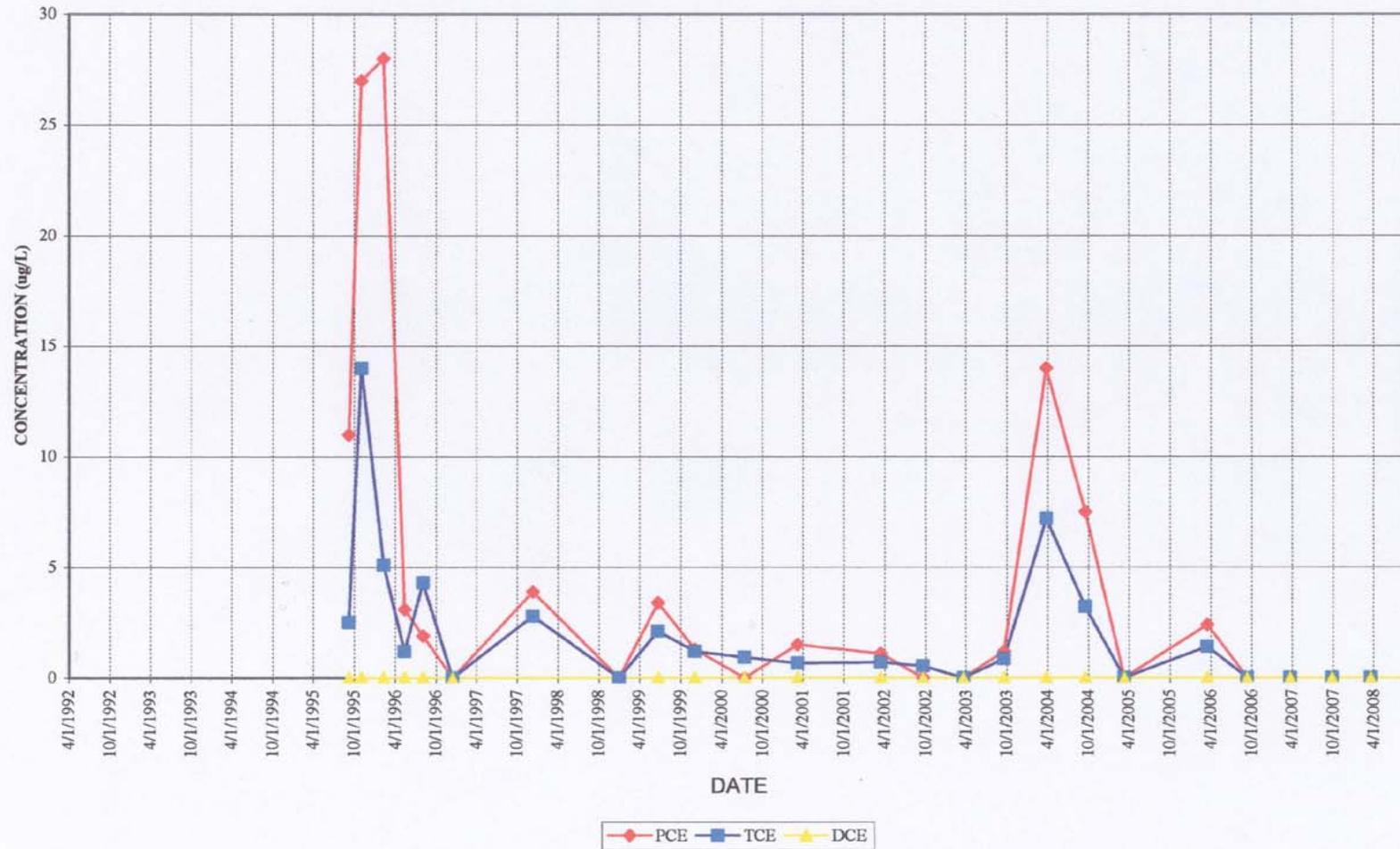
PROJ. #:	03103154-18	DATE:	08/18/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-25
 UAU 2 WELL TOTAL CR CONCENTRATIONS - 2008
 WEST VAN BUREN WQARF SITE
 PHOENIX, ARIZONA

Eastern UAU2

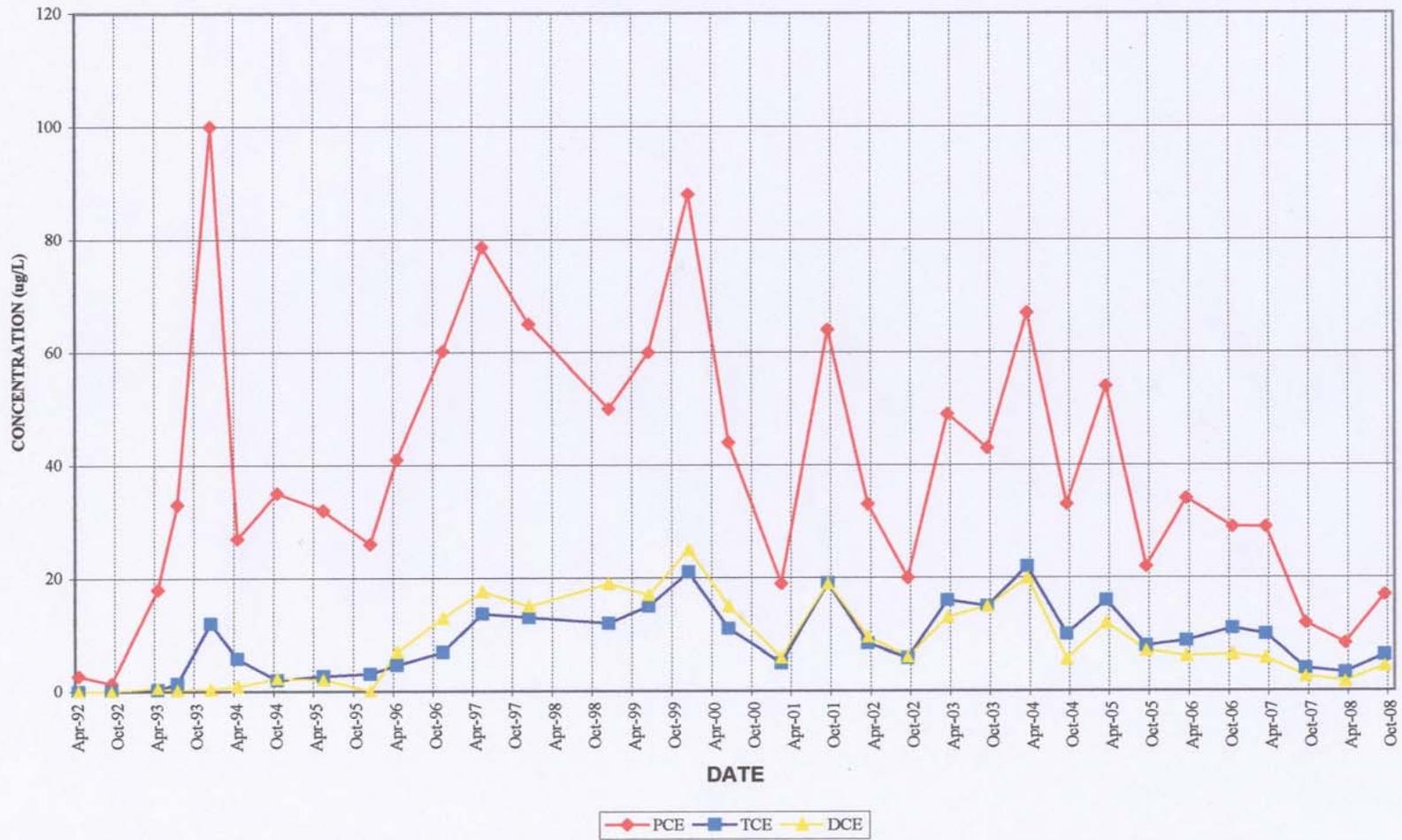
WVB VOC CONCENTRATIONS
AVB106-03 (55-549233)



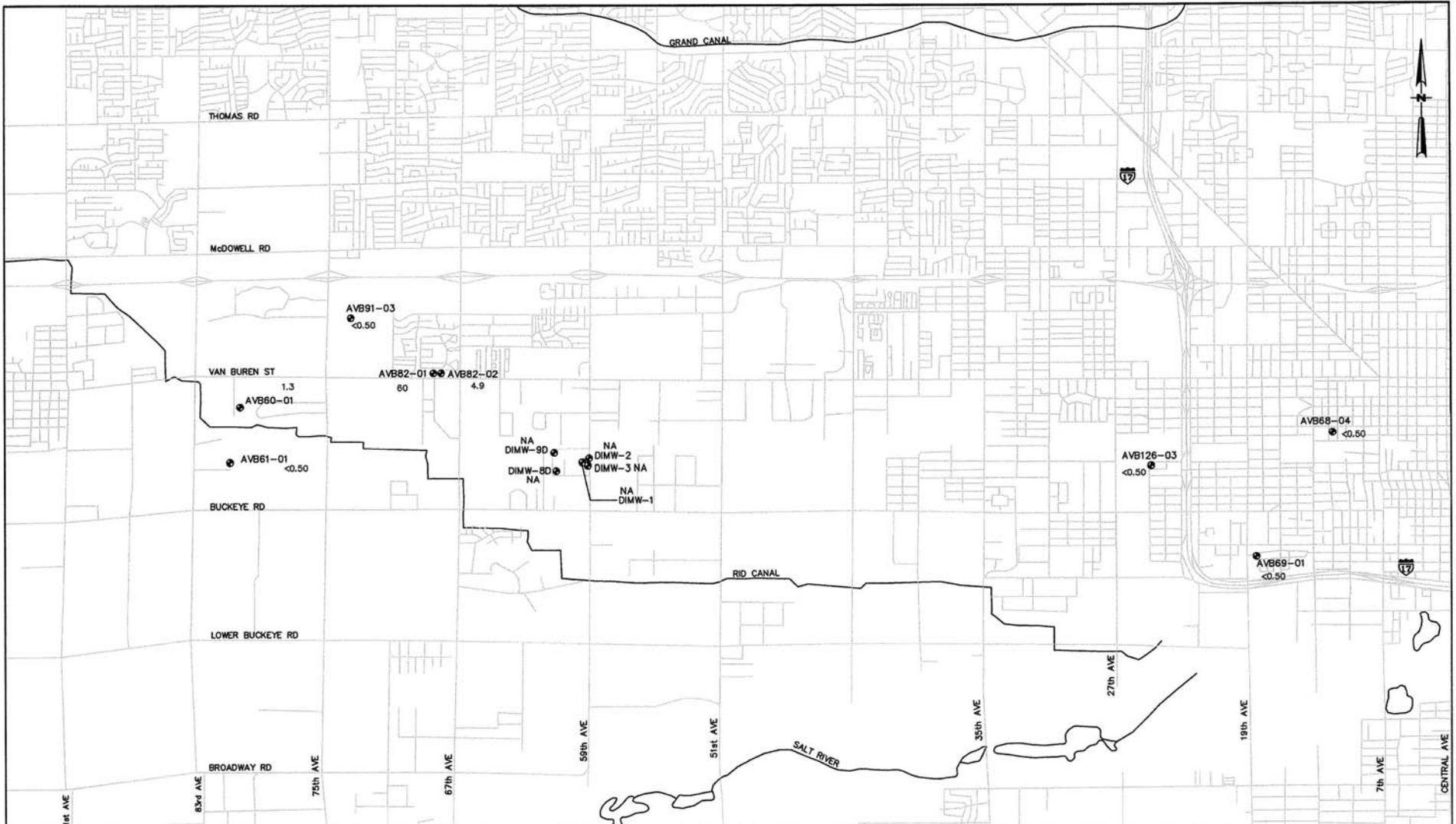
NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.

Western UAU2

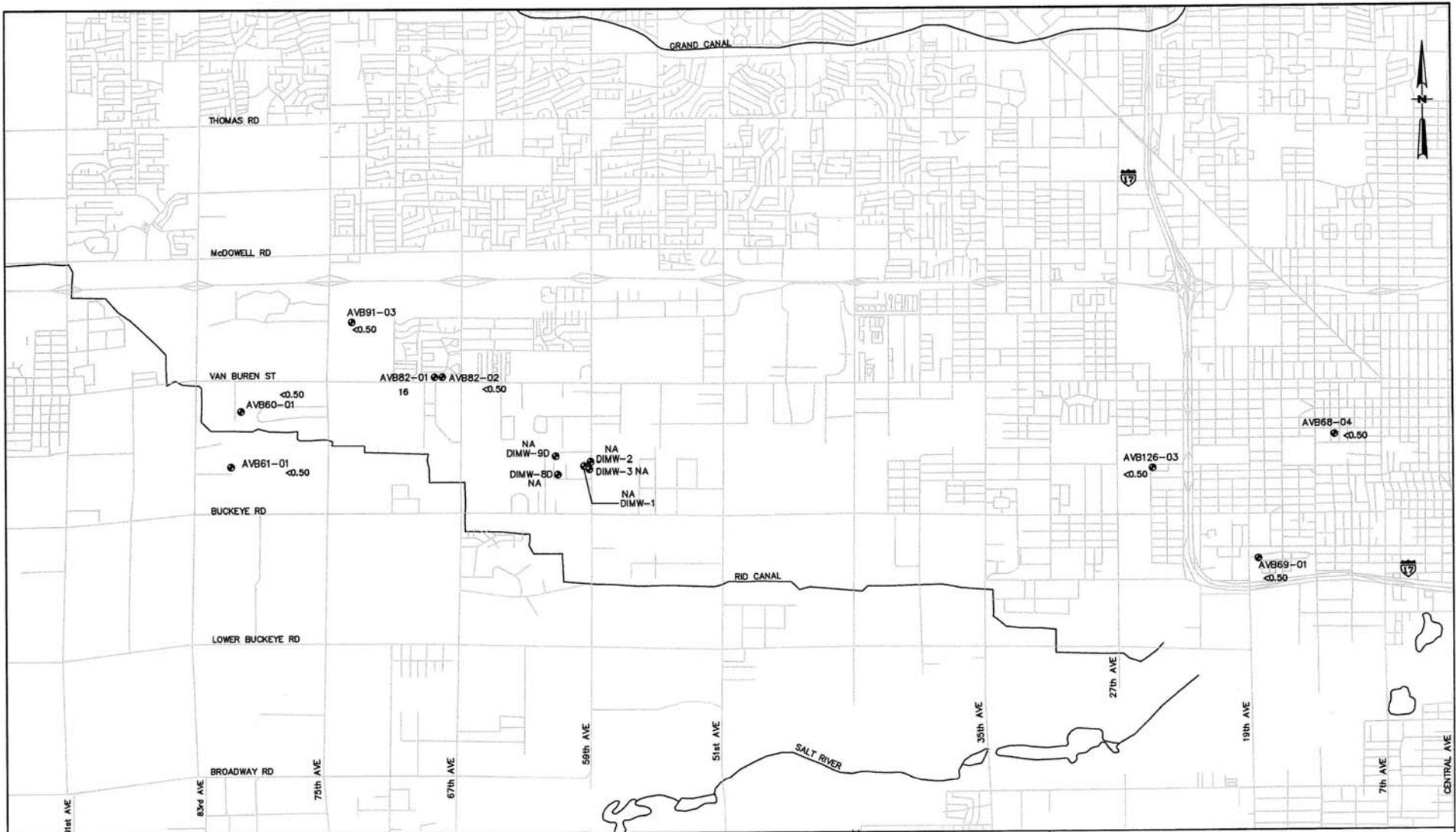
WVB VOC CONCENTRATIONS
AVB10-02 (55-532042)



NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.



LEGEND AVB60-01 - WELL IDENTIFICATION NUMBER NA - NOT AVAILABLE ● - APPROXIMATE WELL LOCATION 1.3 - PCE CONCENTRATION (ug/l)	NOTE SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.	PROJ. #: 03103154-18	DATE: 05/05/08		FIGURE 4-33 MAU WELL PCE CONCENTRATIONS FIRST QUARTER 2008 WEST VAN BUREN WQARF SITE PHOENIX, ARIZONA
		DRAWN BY: DAG	SCALE: 1"=3600'		
		DESIGNED BY: AJG			
		APPROVED BY: AJG			



LEGEND
 AVB60-01 - WELL IDENTIFICATION NUMBER
 NA - NOT AVAILABLE
 ● - APPROXIMATE WELL LOCATION
 16 - TCE CONCENTRATION (ug/l)

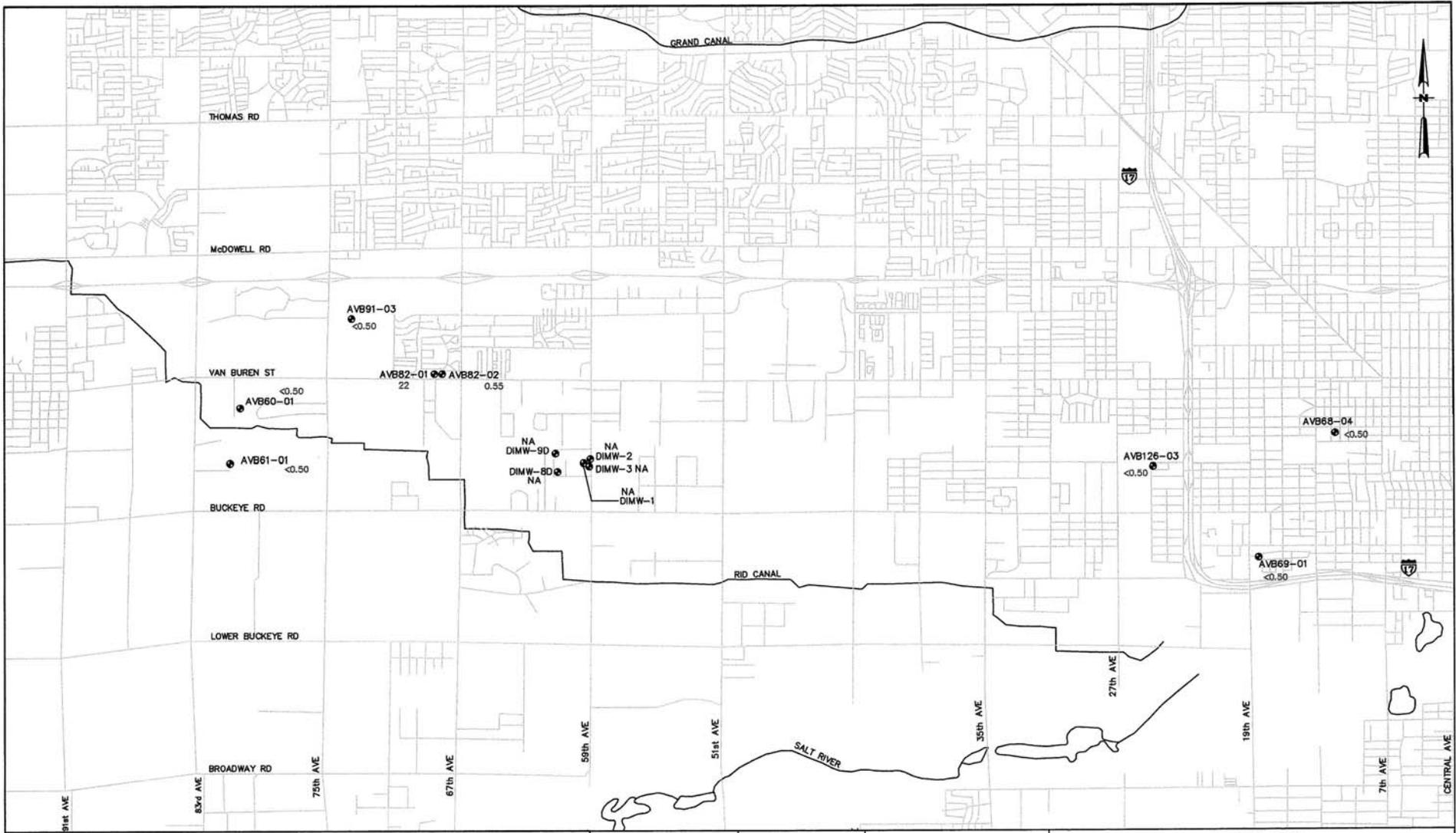
NOTE
 SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-34
 MAU WELL TCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN WQARF SITE
 PHOENIX, ARIZONA

U:\projects\03103154\phase 15\MAU Well TCE Concentrations Figure 4-34.dwg



LEGEND
 AVB60-01 - WELL IDENTIFICATION NUMBER
 NA - NOT AVAILABLE
 ● - APPROXIMATE WELL LOCATION
 16 - 1,1 - DCE CONCENTRATION (ug/l)

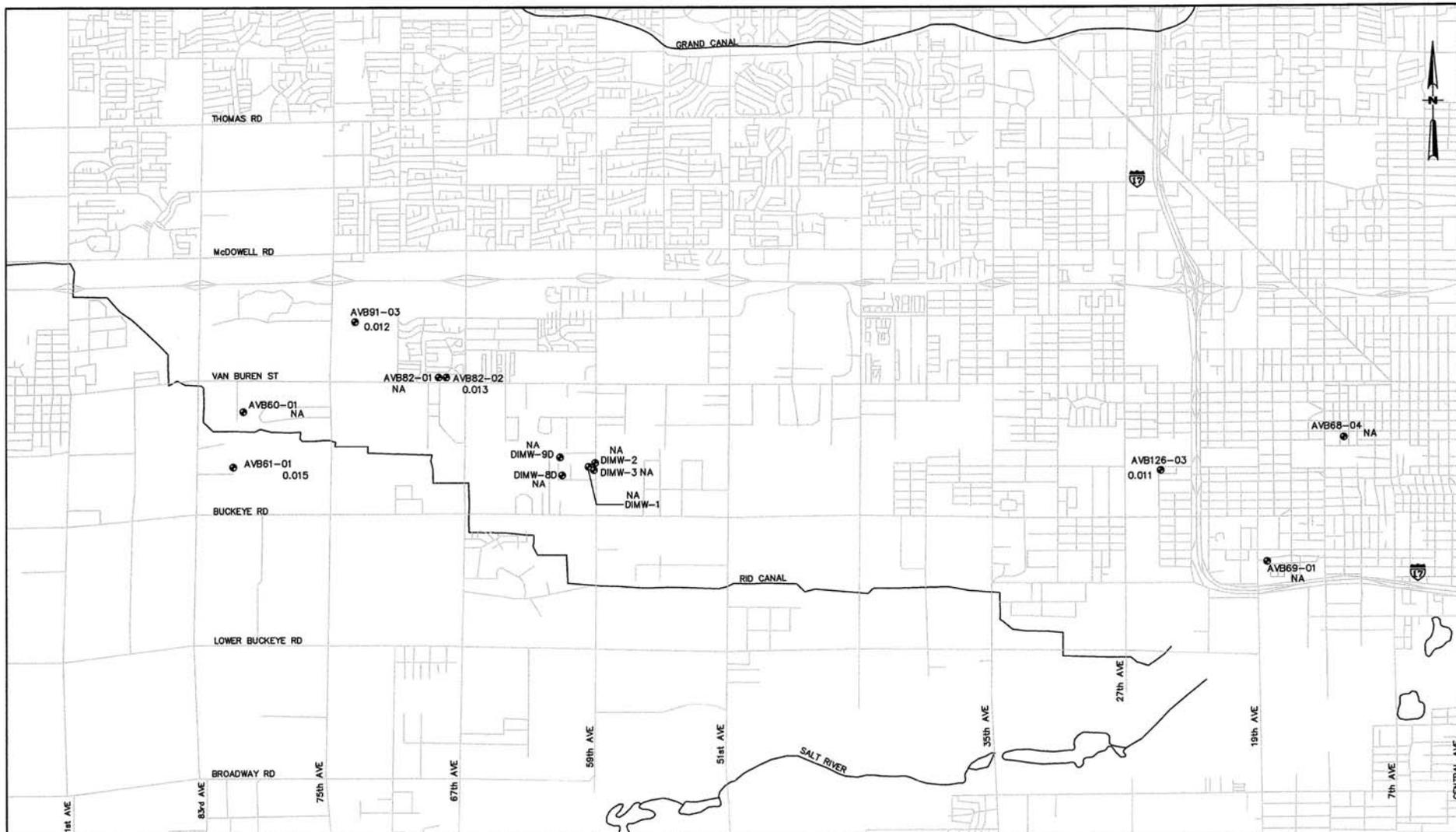
NOTE
 SOURCE DATA FOR BASEMAP FROM THE ARIZONA DEPARTMENT OF TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	05/05/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		



FIGURE 4-35
 MAU WELL 1,1-DCE CONCENTRATIONS
 FIRST QUARTER 2008
 WEST VAN BUREN WQARF SITE
 PHOENIX, ARIZONA

U:\projects\03103154\Phase 16\MAU Well DCE Concentrations Figure 4-35.dwg



LEGEND
 ● - APPROXIMATE WELL LOCATION
 AVB76-01 - WELL IDENTIFICATION NUMBER
 <0.5 - TOTAL CR CONCENTRATION (mg/l)

NOTE:
 SOURCE DATA FOR BASEMAP FROM
 THE ARIZONA DEPARTMENT OF
 TRANSPORTATION DIGITAL ROAD MAP.

PROJ. #:	03103154-18	DATE:	08/20/08
DRAWN BY:	DAG	SCALE:	1"=3600'
DESIGNED BY:	AJG		
APPROVED BY:	AJG		

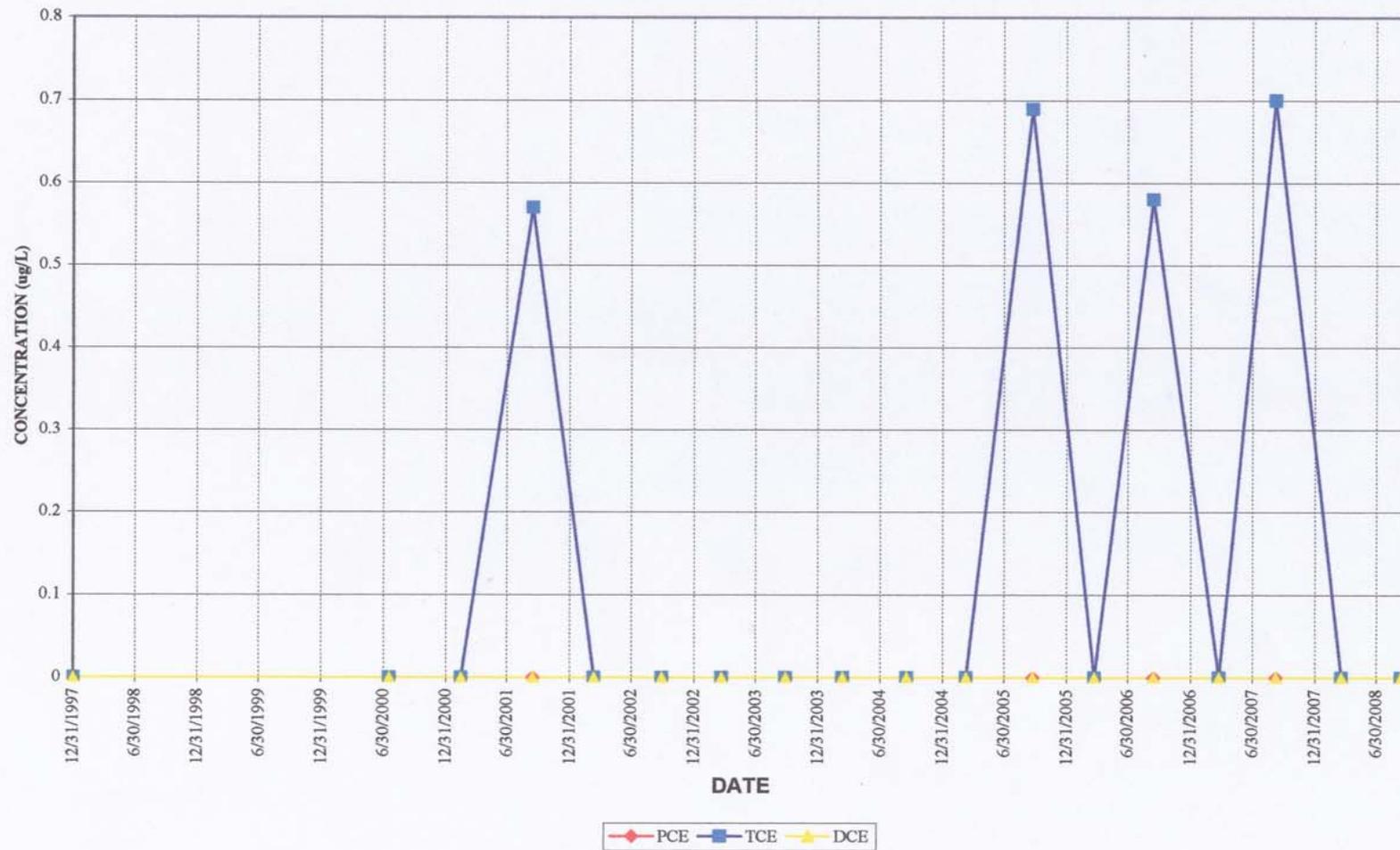


FIGURE 4-36
 MAU WELL TOTAL CR CONCENTRATIONS - 2008
 WEST VAN BUREN WQARF SITE
 PHOENIX, ARIZONA

U:\projects\03103154\Phase 18\1st QTR 2008\MAU Well Total CR Concentrations Figure 4-36.dwg

Eastern MAU

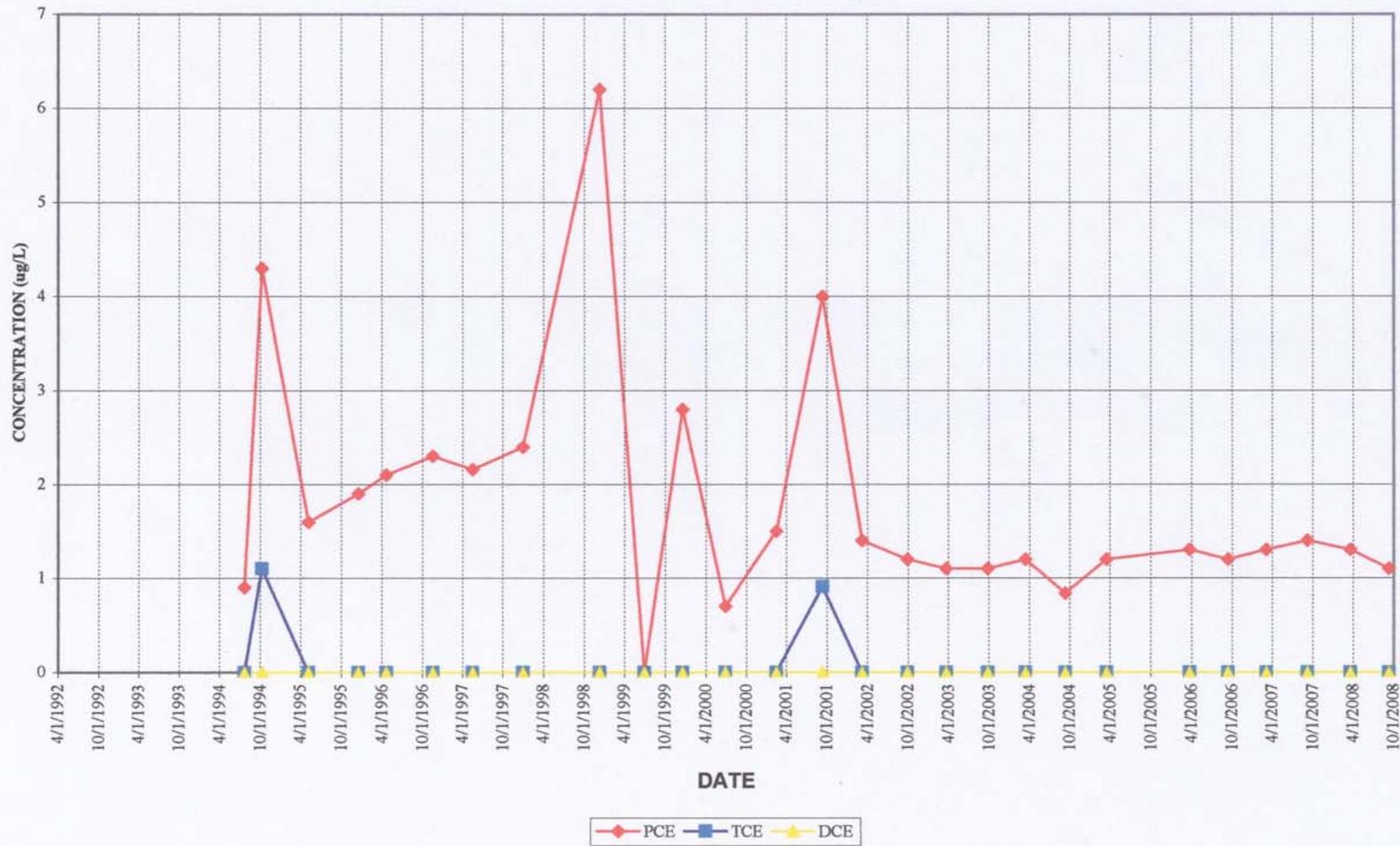
WVB VOC CONCENTRATIONS
AVB68-04 (55-561940)



NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.

Western MAU

WVB VOC CONCENTRATIONS
AVB60-01 (55-543717)



NOTES: LABORATORY RESULTS OF NON-DETECT ARE DISPLAYED AS "0" ON GRAPH.

Land and Water Use Report

- As part of the draft RI report, ADEQ has also issued the Land and Water Use Report to meet the requirements established under AAC R18-16-406(D).


A Woman Owned Business Enterprise

4050 E. Cotton Center Blvd., Suite 73, Phoenix, AZ 85040

**LAND AND WATER USE REPORT
WEST VAN BUREN AREA (WVBA)
WATER QUALITY ASSURANCE REVOLVING
FUND (WQARF) REGISTRY SITE
Phoenix, Arizona**

Terranext Project No. 03103154

Prepared For:
Arizona Department of Environmental Quality
1110 West Washington
Phoenix, Arizona 85007

December 2007

Telephone: (480) 496-4100 Fax: (480) 496-4399 www.terrannext.net

Land and Water Use Report (cont)

- 57 questionnaires were mailed to property owners, municipalities and utilities within and adjacent to the WVBA.
- 25 completed questionnaires were returned to ADEQ.
- The questionnaires requested information on:
 - Property use
 - On-Site Wells
 - Water Use
 - Waste Streams

Land and Water Use Report (cont)

- The entire WVBA is located within the City of Phoenix (COP) and abuts the eastern boundary of the City of Tolleson (Tolleson).
- The primary land use in the WVBA is agricultural/vacant followed by industrial then residential.
- The primary land use in eastern Tolleson is agricultural/vacant and industrial.

Land and Water Use Report (cont)

- The WVBA area of the COP is expected to experience significant growth in employment and residencies.
- Eastern Tolleson is expected to see growth in employment.
- Groundwater usage in the WVBA is predominantly by the RID. Groundwater is typically pumped from March to September for crop irrigation. The RID pumps approximately 135,000 acre-feet per year (AFY).

Land and Water Use Report (cont)

- The RID pumps the groundwater within the WVBA under an agreement with the Salt River Project (SRP). This agreement may be up for re-negotiation in 2019. The SRP does not have any active wells in the WVBA.
- The COP currently does not pump groundwater from the WVBA. The COP holds Special Pump Rights with the SRP which may allow the COP to obtain groundwater from SRP wells.
- Tolleson has four municipal wells adjacent to the western boundary of the WVBA but no longer uses the wells. This may change as water needs change.

Future Planned Work

- Review comments to the draft RI report and prepare responsive summary.
- Prepare ROs.
- Preparation for March 2009 sampling event.