



# MEETING MINUTES

**7<sup>th</sup> Avenue & Bethany Home Road/Central & Camelback  
Water Quality Assurance Revolving Fund (WQARF) Site  
Community Advisory Board (CAB) Meeting**

**Wednesday, July 23, 2014**

**5:30 p.m. - 7:30 p.m.**

**A.L. Moore-Grimshaw Mortuaries Bethany Chapel  
710 West Bethany Home Road, Phoenix, AZ 85013**

## MINUTES

**CAB Members Present:** Stan Watts; Chad Johnson; Paul Barquinero; Peter Zorbas; Lynn Morrow; Pam Perry

**CAB Members Absent:** Daniel Kingston

**ADEQ Staff Present:** Wendy Flood, Community Involvement Coordinator (CIC); Kevin Snyder, Project Manager; Scott Goodwin, Project Manager; Caroline Oppleman, CIC

**Members of Public Present:** Paul "Tom" Cox; Phil McNeely, City of Phoenix

### **1. Call to Order/Introductions**

Mr. Stan Watts called the meeting to order at 5:38 p.m. initiated introductions by all present.

### **2. Acceptance and/or Changes to May 28, 2014 Minutes**

Mr. Paul Barquinero moved to accept the May 28, 2014 meeting minutes with one change – he asked that the minutes be changed to reflect that Chad Johnson called the meeting to order. The motion was seconded by Mr. Watts and passed unanimously by the CAB.

### **3. 7th Avenue & Bethany Home WQARF Site – Update regarding Pilot Test (ADEQ Presentation; Discussion) – see ADEQ presentation attached**

Mr. Scott Goodwin reviewed the presentation slides and stated that the results of the pilot test demonstrate a break down of contaminants, which is the change we want to see. He said that ADEQ is trying to keep the reaction confined to the treatment zone. He stated that ADEQ is starting to see data on groundwater velocity. Mr. Goodwin estimates approximately two years to treat the 200-foot source area. Mr. Goodwin is not optimistic about full funding for the project. Mr. Watts asked when ADEQ will have a better feel regarding funding. Mr. Goodwin indicated around August 1. Mr. Goodwin stated more sampling is planned for August. Mr. Watts asked whether contaminants will continue to migrate off-site if there is no funding. Mr. Goodwin answered yes and that if ADEQ does not keep the carbon source active, we will make no further

progress on the cleanup. Mr. Johnson asked if the conditions could revert back to the way they were before the treatment and Mr. Goodwin replied no. There was further budget discussion between the CAB and ADEQ staff. Some CAB members asked if in situ is the way to go and Mr. Goodwin replied that it appears to be doing what it's supposed to do and two years is a faster cleanup than the other available options.

#### **4. Central & Camelback WQARF Site – see ADEQ presentation attached**

##### **➤ Public Comments on Draft Remedial Investigation (RI) (Discussion)**

Mr. Snyder gave a site presentation concerning the source and remediation areas and reviewed the public comment process regarding the draft RI report, which summarizes investigations conducted to date and the land and water use report. Mr. Snyder then solicited comments on the draft RI and told the CAB they could provide their comments verbally or in writing by July 28, individually or as a group.

Mr. Barquinero said that he was glad to see mention of the whole area in the draft RI report. He expressed that he is impressed with the citizenry running similar businesses [dry cleaning] today and that they are aware of good environmental practices, unlike before. Mr. Snyder added that historic environmental practices were not malicious but common for that time.

Mr. Watts asked if the RI report takes into consideration the current zoning for the site that says you can build a high rise building with deep excavation as well as possible exposure to construction workers. Mr. Snyder responded that ADEQ looks at a 15 foot depth for residential and that industrial can involve deeper; then he provided further details regarding the different exposure scenarios. Because of active remediation at the site, the levels are dropping and it is safe in consideration of both potential uses [residential and industrial]. However, concerning construction, there is the issue of depth to groundwater and there are standards to protect groundwater.

Mr. Watts asked if it is correct to say there is no exposure pathway and Mr. Snyder replied, yes. He added that excavation could create new pathway, but ADEQ is remediating and before the work is complete it will be re-tested. There currently is no risk of exposure and ADEQ is working to prevent future risk.

Ms. Perry asked if soil is excavated from the site and hauled off site if further decontamination of that soil somewhere else would be necessary. Mr. Snyder replied that it depends on the concentrations and that the soil would be sampled and tested to determine proper disposal.

Mr. Morrow shared that he has seen proposals for high-rise buildings in the area that would require substantial excavation to develop. Mr. Snyder said that ADEQ has unrestricted site access and the owners are aware of the site status. He added that the owners may not want to construct an underground garage due to the water table and the potential/likelihood of flooding. He added that the service stations have been remediated.

Ms. Oppleman then asked for formal comments on draft RI report and Ms. Flood reviewed the process.

Mr. Watts requested a response in writing regarding his question about a potential exposure pathway through soil to workman and residents. Mr. Watts' comment follows:

- Mr. Watts requested that the RI take into account the possible exposure to construction workers involved in future development projects at the site.
- Mr. Watts stated, "I am concerned that the RI does not address the soil exposure pathway for potential future workman onsite and potentially residential; it seems to discount the fact that there is a pathway but in my mind I see that there might be one and I guess I would be concerned that saying there's no pathway is too strong."

There were no other verbal comments for the record.

- **Solicitation of Remedial Objectives (ROs) (Discussion)**

Mr. Snyder explained the ROs, reviewed examples of ROs for soil and groundwater, solicited verbal and written ROs, and reviewed the WQARF process. Mr. Morrow indicated that he wanted to provide the same RO for groundwater as presented in Mr. Snyder's presentation example, which stated:

The RO for regional groundwater at the site is to protect for the use of the groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water uses. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses.

Mr. Cox asked whether there is a sunset on ROs. Mr. Snyder responded if the current use is changing, ADEQ would address it. He added that there is no sunset, the ROs are in place and the site is active until the decided standards are met and then the site can be delisted.

The CAB further discussed ROs.

A summary of the CAB draft RI comments and ROs provided to ADEQ at the meeting follows:

*Central & Camelback - Draft RI Comments*

- Mr. Stan Watts: I am concerned that the RI does not address the soil exposure pathway for potential future workman onsite or potentially residential; it seems to discount the fact that there is a pathway but in my mind I see that there might be one and I guess I would be concerned that saying there's no pathway is too strong.

*Central & Camelback ROs*

- Mr. Lynn Morrow, Ms. Pam Perry, Mr. Stan Watts, Mr. Paul Barquinero, and Mr. Chad Johnson: The remedial objective for regional groundwater at the site is to protect for the use of the groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water uses. This action will be needed for as long as the level of contamination in the

groundwater threatens the use of the regional groundwater for municipal/drinking water uses.

- Ms. Pam Perry: Soil be handled properly per future development.
- Mr. Stan Watts, Mr. Lynn Morrow and Mr. Chad Johnson: Concerned that the RI does not address the soil exposure pathway for potential future workman onsite or potentially residential; it seems to discount the fact that there is a pathway but in my mind I see that there might be one and I guess I would be concerned that saying there's no pathway is too strong.
- Mr. Peter Zorbas: Cleanup be conducted to a standard that allows for any and all possible future uses and result in water that is safe for people to drink.

## **5. 16th Street & Camelback WQARF Site (16th St.)**

- **16th St. Overview – Background/Status (ADEQ Presentation; Discussion) – see ADEQ presentation attached**

Mr. Snyder gave a presentation regarding the location, site history, contaminants of concern, environmental investigation, monitoring, site characterization, and groundwater flow direction. He said that the only current concern is the north plume and PCE (perchloroethene); the two plumes have attenuated naturally. He explained that sampling and monitoring is continuing and that the RI is being prepared. He said that when the draft RI is ready, it will go out for public comment and follow the same process as the Central & Camelback WQARF site.

Mr. Cox suggested that the applicable standard be included when presenting data for context.

Mr. Morrow commented about natural attenuation. Mr. Snyder replied that it would be determined as part of the WQARF process. Cleanup options can include active remediation, no action and monitoring for natural attenuation. Ms. Perry asked about the depth of groundwater at this site compared with the Central & Camelback site. Mr. Watts asked what does that curve [natural attenuation] look like? Mr. Snyder replied either way is possible and it will be looked at as part of FS. Mr. Snyder added that the site investigation had been on hold but that ADEQ has stepped it up and recently installed monitoring wells. Mr. Johnson requested an explanation of groundwater flow direction and Mr. Snyder explained the site hydrology.

- **CAB merger with 16th St. (Discussion; Vote)**

The CAB discussed the implications of a merger. Mr. Johnson motioned to merge the 16<sup>th</sup> St. CAB with the existing CAB and Ms. Perry seconded the motion. The CAB then voted unanimously to merge the CAB.

- **If appropriate, Review/Vote on 16 St. CAB Application(s)**

Mr. Barquinero motioned to invite/accept all 16<sup>th</sup> St. applicants as members. Mr. Morrow seconded the motion and the CAB voted unanimously in support.

## **6. Call to the public**

Mr. Cox indicated that the CAB topics remind him of when he worked in government back east.

## **7. Future Meeting/Agenda (Discussion)**

Next meeting is tentatively scheduled for October 15, 2014 at 5:30 p.m. at the A.L. Moore-Grimshaw Mortuaries Bethany Chapel. Agenda topics will include:

- 16th St. Draft RI public Comments/Solicitation of ROs
- New CAB Member Training
- CAB Charter Revision
- Sites Community Involvement Plan

The meeting adjourned at 7:29 p.m.

*This meeting was recorded on a digital device as a record of the proceedings. To listen to recording, or for additional information about the content of this meeting, contact:  
ADEQ: Caroline Oppleman at 602-771-6890.*



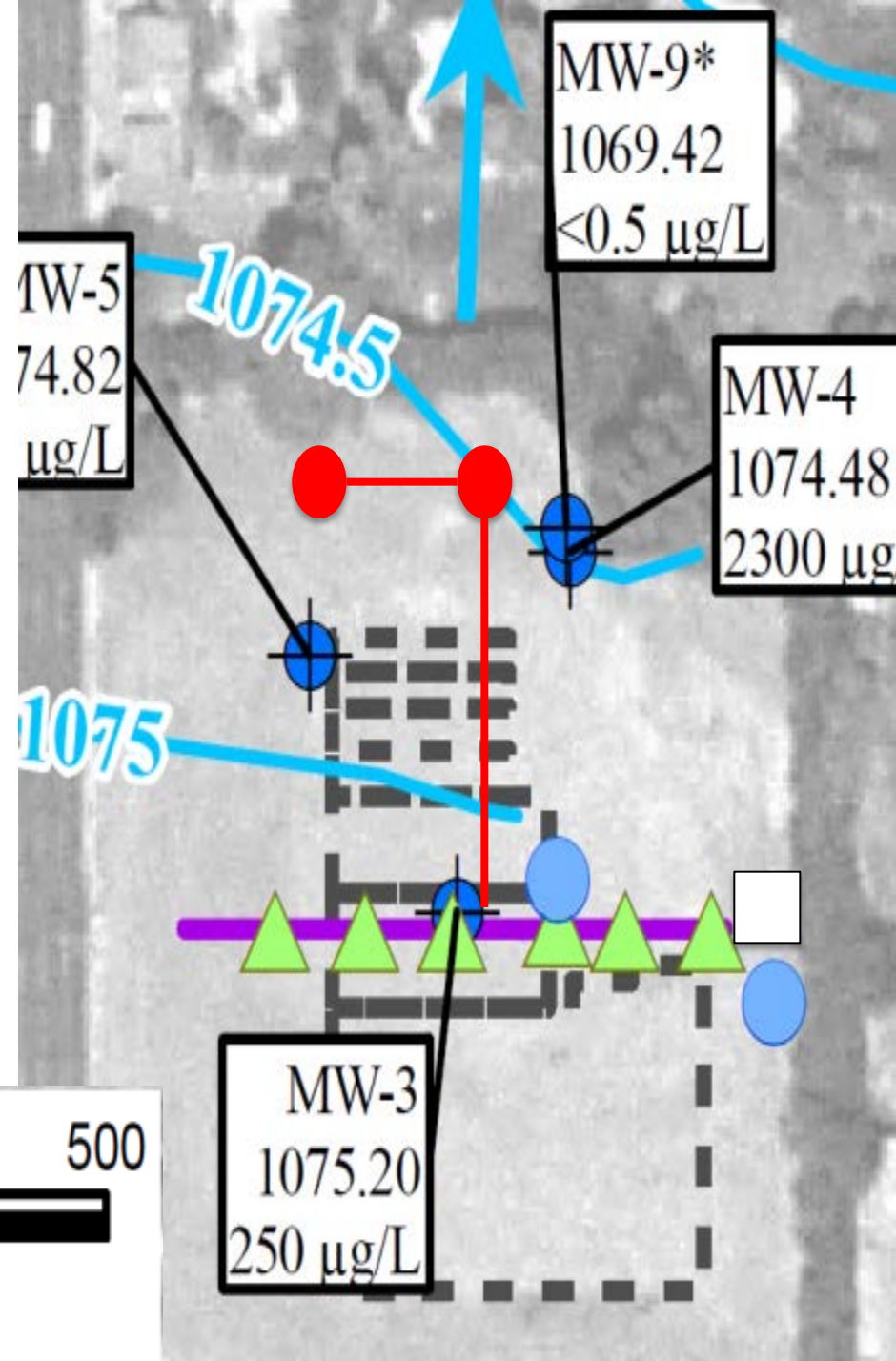
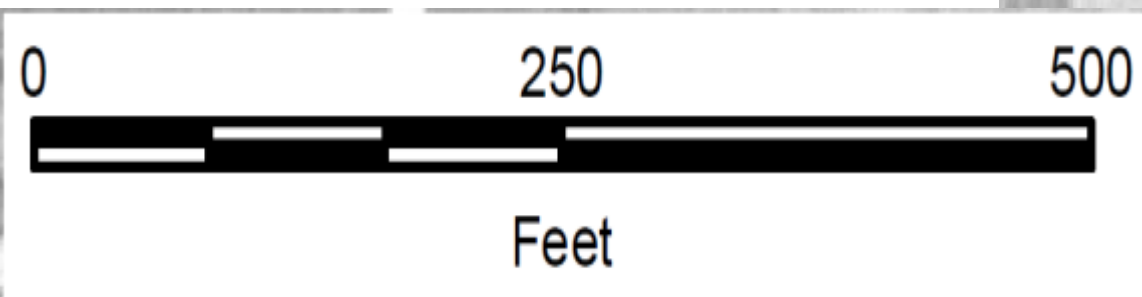
# 7th Avenue & Bethany Home Road Water Quality Assurance Revolving Fund Site

## Community Advisory Board Meeting July 23, 2014

- Arcadis has submitted the enhanced reductive dechlorination pilot test summary report and cost estimate for full scale implementation of phase 1.
  
- Phase 1 includes:
  - a transect of injection wells at the source area combined with two down gradient extraction wells; and
  - one injection well at former dry cleaner on west side of 7<sup>th</sup> Avenue.
  - Estimated costs are just over \$1M dollars.

# Alternative 1 from FFS – Phase 1

Incorporate Extraction wells  
into Alternative 1



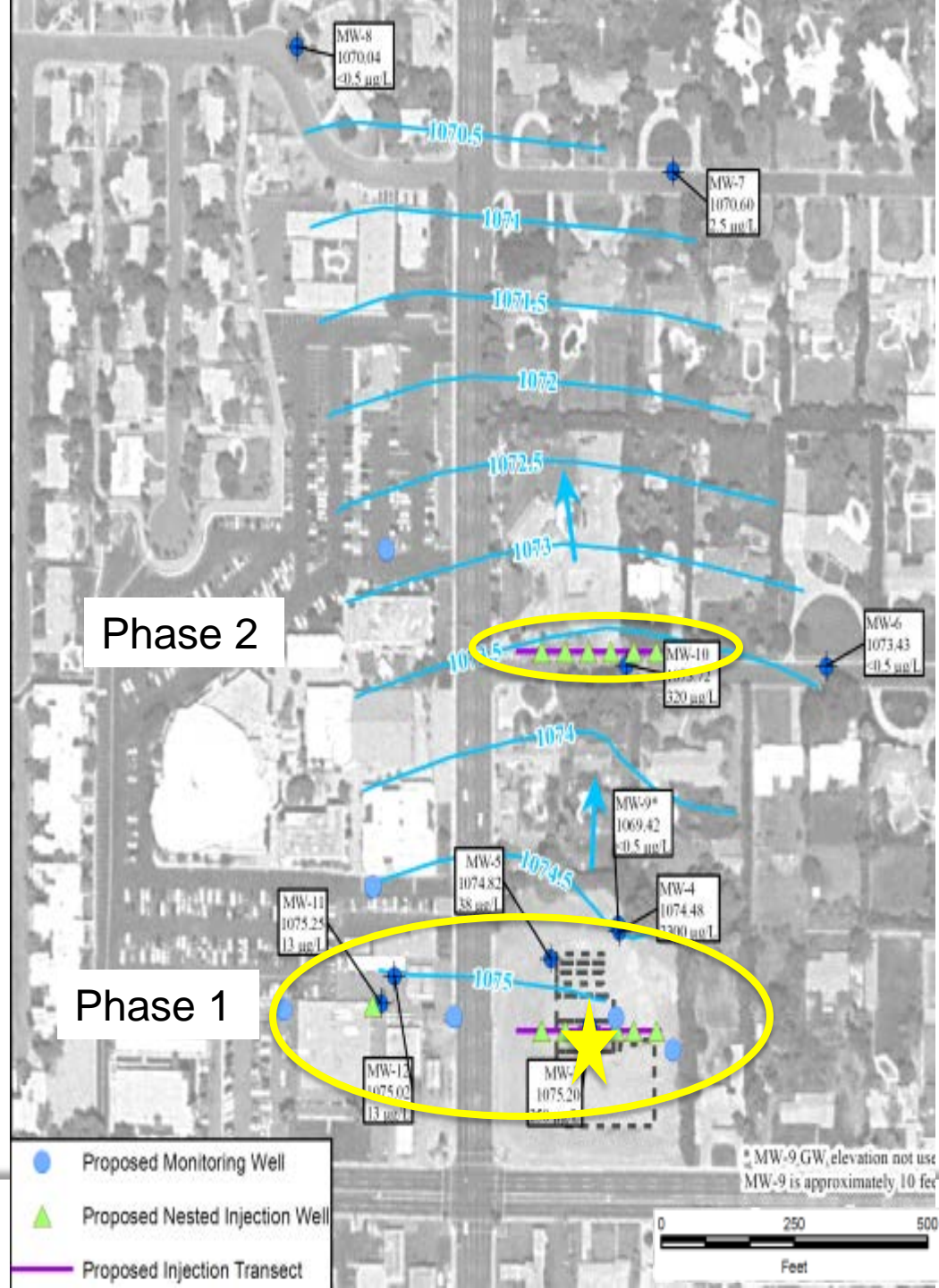


# Alternative 1 from FFS

- Implement Alternative 1 in phases
  - Phase 1, vacant lot and Former Dry Cleaner across 7<sup>th</sup> Avenue
  - Phase 2 downgradient



Location of Pilot



# Reductive dechlorination

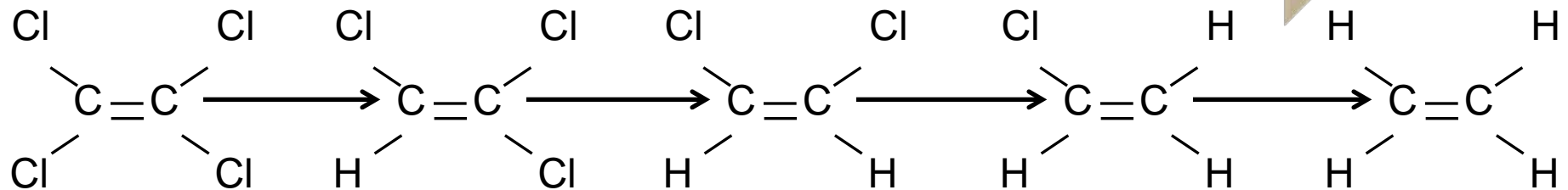
PCE  
Tetrachloroethene

TCE  
Trichloroethene

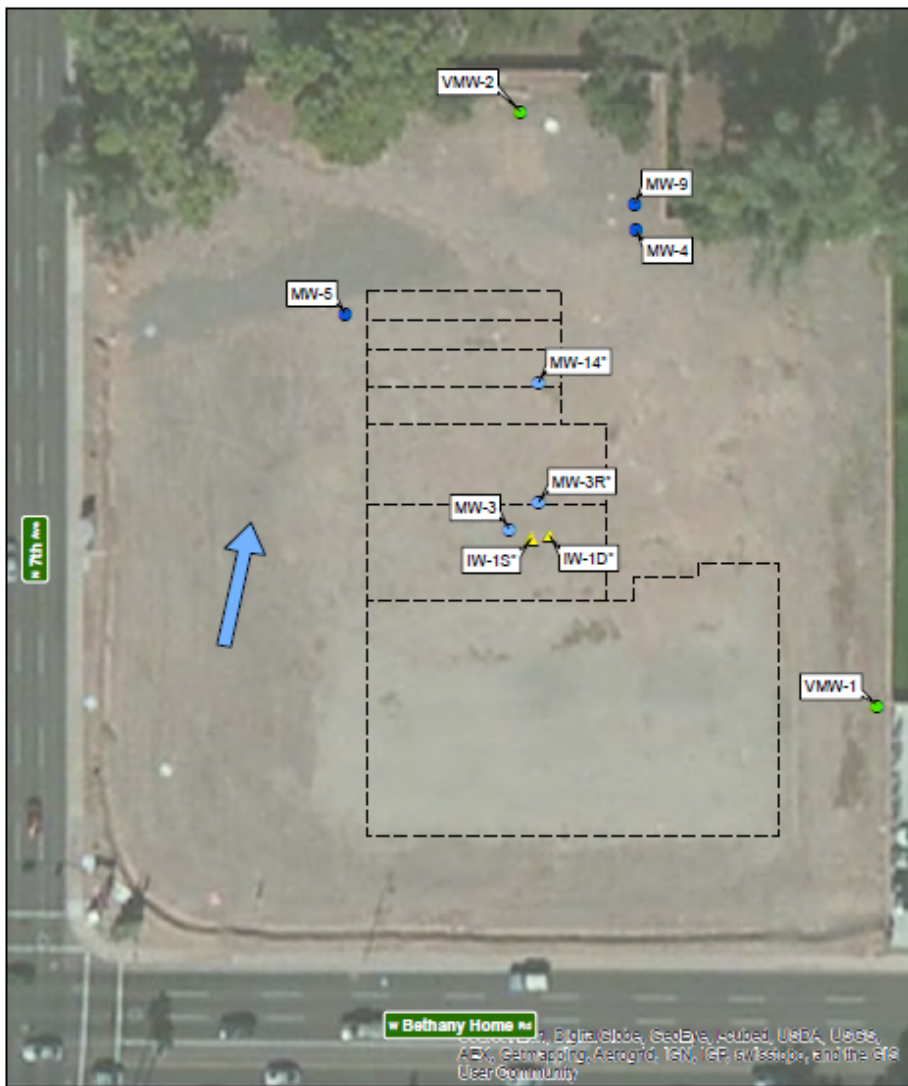
Cis-1,2-DCE  
Cis-1,2-dichloroethene

VC  
Vinyl Chloride

Ethene/Ethane



Dominant pathway for reductive dechlorination of chlorinated ethenes. Other compounds may include trans-1,2-dichloroethene or 1,1-dichloroethene

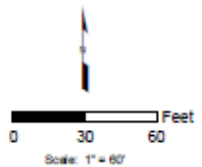


### LEGEND

- Groundwater monitor well
- Groundwater monitor well (pilot test network)
- Vapor Monitoring Well (Approximate Location)
- ▲ Groundwater injection well
- Former building
- ➔ Approximate direction of groundwater flow

### NOTES

- Aerial photo source: ESRI World Imagery.
- \* = well location is approximated based on measurements collected at the site.



7TH AVENUE & BETHANY HOME ROAD WQARF SITE  
PHOENIX, ARIZONA

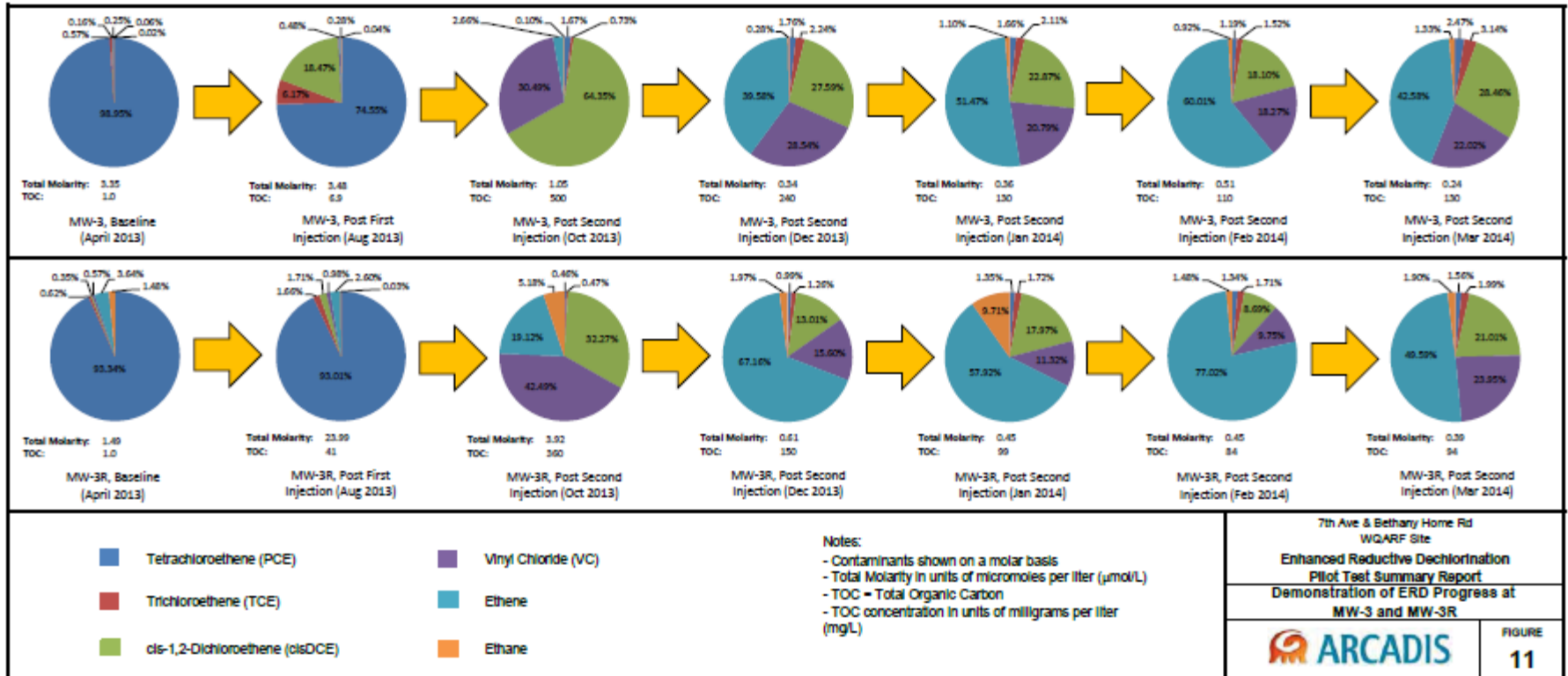
**BAYLESS PROPERTY WELL NETWORK**



FIGURE  
**3**

G:\Project\ADEQ (Arizona Department of Environmental Quality)\7th Bethany\GIS\p\ops\arc\figure 3 Bayless property well network.mxd 1/10/2014

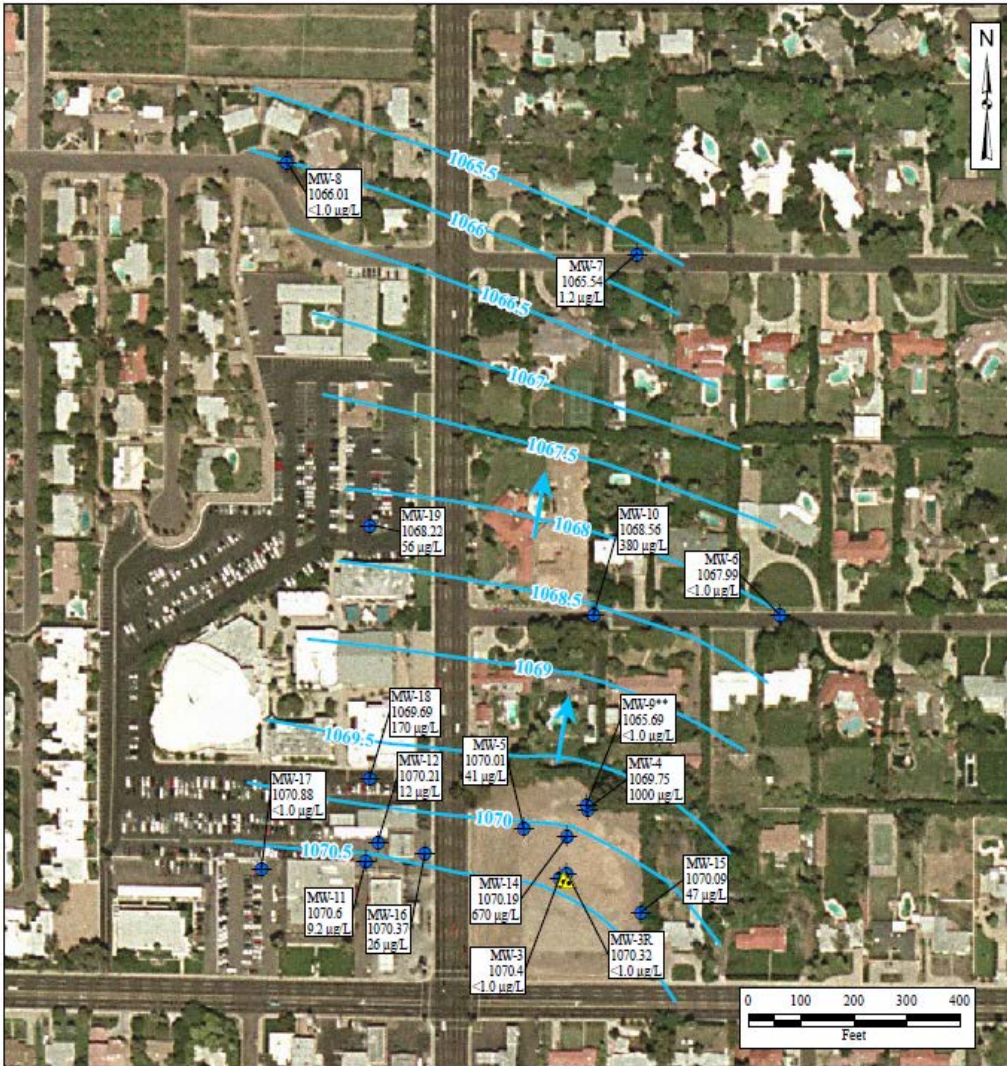
Source: ESRI, DeLorme, GeoEye, (GeoEye, IGN, USDA, USA, USGS, AeroGRID, IGN, Esri, Swisstopo), and the GIS User Community







# 2014 ground water quality and flow direction



\* MW-9 GW elevation not used for contouring. MW-9 is approximately 10 feet north of MW-4

## Legend

- Injection Well
  - Monitor Well
  - March 2014 Groundwater Elevation Contours (ft amsl)
  - General Groundwater Direction
- |           |  |
|-----------|--|
| MW-3      | Monitor Well Name                              |
| 1070.32   | March 18, 2014 Groundwater Elevation (ft amsl) |
| <1.0 µg/L | PCE Concentration (µg/L)                       |

Note: ft amsl - feet above mean sea level  
Aerial Photo Copyright of LandisCor, flown in March 2004.



Groundwater Elevations  
March 18, 2014  
7th Ave & Bethany Home Rd  
WQARF Site

April 2014

Figure 2



# Select 2014 ground water quality

Table 3  
Summary of Detected Constituents  
7th Avenue and Bethany Home Road WQARF Site

Sample ID	Date Collected	CFC-12 (µg/L)	1,2-DCA (µg/L)	MTBE (µg/L)	TCE (µg/L)	PCE (µg/L)	Chloroform (µg/L)
MW-10	5/19/2014	<0.5	<1.0	<1.0	<1.0	380	<0.5
	4/12/2013	<0.5	<0.5	0.7	1.1	410	<0.5
	1/18/2012	<0.5	<0.5	<0.5	0.53	320	<0.5
	9/30/2010	<0.5	<0.5	<0.5	<0.5	130	<0.5
	11/11/2008	<0.5	<0.5	<0.5	0.64	140	0.84
	8/28/2008	<0.5	<0.5	<0.5	0.50	170	0.76
	4/16/2008	<0.5	<0.5	<0.5	<0.5	110	0.66
	1/31/2008	<4.0	<1.0	<5.0	<1.0	130	<0.5
	11/16/2007	<5.0	<2.0	<5.0	<2.0	150	<0.5
	8/14/2007	<5.0	<2.0	<5.0	<2.0	150	<0.5
5/16/2007	<5.0	<2.0	<5.0	<2.0	94	<0.5	
MW-3R	3/20/2014	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5
	4/9/2013	1.0	<0.5	<0.5	1.2	230	<0.5
MW-14	3/20/2014	<0.5	<1.0	<1.0	2.0	670	<0.5
	4/9/2013	1.2	<0.5	<0.5	1.4	310	<0.5
MW-15	3/19/2014	<0.5	<1.0	1.5	<1.0	47	<0.5
	4/9/2013	0.8	4.3	2.6	<0.5	28	0.9
MW-19	3/18/2014	<0.5	<1.0	<1.0	<1.0	56	<0.5
	4/12/2013	<0.5	<0.5	<0.5	<0.5	28	1.4
TRIP BLANK <sup>(1)</sup>	3/20/2014	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5
TRIP BLANK <sup>(1)</sup>	5/19/2014	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5
TB01 <sup>(1)</sup>	4/10/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TB <sup>(1)</sup>	4/9/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TB <sup>(1)</sup>	4/12/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TB01 <sup>(1)</sup>	4/12/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP <sup>(2)</sup>	3/18/2014	<0.5	<1.0	<1.0	<1.0	<1.0	<0.5
DUP <sup>(3)</sup>	3/20/2014	<0.5	<1.0	3.0	2.3	930	<0.5
DUP01 <sup>(4)</sup>	4/9/2013	1.2	<0.5	<0.5	1.8	310	<0.5
	AWQS	NE	5	NE	5	5	NE

**NOTES:**

<sup>(1)</sup> Quality Assurance Sample

<sup>(2)</sup> Sample DUP is a blind duplicate sample of MW-17.

<sup>(3)</sup> Sample DUP is a blind duplicate sample of MW-4.

<sup>(4)</sup> Sample DUP01 is a blind duplicate sample of MW-14.

CFC 12 = Dichlorodifluoromethane

1,2-DCA = 1,2- Dichloroethane

NS = Not Sampled, due to pump malfunction

Laboratory analytical report includes data for injection wells IW-1D and IW-1S which are not part of this report.

MTBE = Methyl-Tert-Butyl-Ether

TCE = Trichloroethene

PCE = Tetrachloroethene

µg/L = micrograms per liter

AWQS = Aquifer Water Quality Standard

NE = Not Established

# Select 2014 ground water quality

Table 4  
Summary of Detected Constituents at SCI Arizona Funeral Services (SCI) Property  
7th Avenue and Bethany Home Road WQARF Site

Sample ID	Date Collected	CFC-12 (µg/L)	1,2-DCA (µg/L)	MTBE (µg/L)	TCE (µg/L)	PCE (µg/L)	tDCE (µg/L)	VC (µg/L)	cDCE (µg/L)	Chloroform (µg/L)
MW-11	3/19/2014	< 0.5	<1.0	<1.0	<1.0	9.2	<1.0	<1.0	<1.0	< 0.5
	4/11/2013	< 0.5	< 0.5	< 0.5	< 0.5	6.2	< 0.5	< 0.5	< 0.5	2.8
	1/17/2012	< 0.5	< 0.5	< 0.5	< 0.5	13	< 0.5	< 0.5	< 0.5	3.0
	9/29/2010	< 0.5	< 0.5	< 0.5	< 0.5	1.4	< 0.5	< 0.5	< 0.5	1.6
	11/11/2008	< 0.5	< 0.5	< 0.5	< 0.5	5.2	< 0.5	< 0.5	< 0.5	3.2
	8/28/2008	< 0.5	< 0.5	< 0.5	< 0.5	4.9	< 0.5	< 0.5	< 0.5	3.1
	4/17/2008	< 0.5	< 0.5	< 0.5	< 0.5	8.5	< 0.5	< 0.5	< 0.5	4.4
MW-12	3/19/2014	< 0.5	<1.0	<1.0	13	12	1.0	1.5	18	< 0.5
	4/11/2013	< 0.5	< 0.5	< 0.5	18	13	1.7	2.3	31	0.62
	1/17/2012	< 0.5	< 0.5	< 0.5	18	13	2.4	2.5	31	0.54
	9/29/2010	< 0.5	< 0.5	< 0.5	29	17	2.4	3.7	46	< 0.5
	11/11/2008	< 0.5	< 0.5	< 0.5	32	25	4.5	2.7	44	0.65
	8/28/2008	< 0.5	< 0.5	< 0.5	26	14	3.2	2.7	23	< 0.5
	4/17/2008	< 0.5	< 0.5	< 0.5	27	24	2.9	2.6	33	0.76
MW-16	41716	< 0.5	<1.0	<1.0	<1.0	26	<1.0	<1.0	<1.0	6.6
	41376	< 0.5	< 0.5	< 0.5	< 0.5	6.3	< 0.5	< 0.5	< 0.5	3.0
MW-17	3/18/2014	< 0.5	< 0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 0.5
	4/12/2013	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-18	3/18/2014	< 0.5	<1.0	<1.0	<1.0	170	<1.0	<1.0	<1.0	< 0.5
	4/12/2013	< 0.5	< 0.5	< 0.5	< 0.5	120	< 0.5	< 0.5	< 0.5	1.9
DUP <sup>(1)</sup>	4/12/2013	< 0.5	< 0.5	< 0.5	< 0.5	7.7	< 0.5	< 0.5	< 0.5	3.5
	AWQS	NE	5	NE	5	5	100	2	70	NE

**Notes:**

<sup>(1)</sup> Sample DUP is a blind duplicate sample of MW-16.

CFC 12 = Dichlorodifluoromethane

1,2-DCA = 1,2-Dichloroethane

MTBE = Methyl-Tert-Butyl-Ether

tDCE = trans-1,2-Dichloroethene

cDCE = cis-1,2-Dichloroethene

TCE = Trichloroethene

PCE = Tetrachloroethene

VC = Vinyl chloride

µg/L = micrograms per liter

AWQS = Aquifer Water Quality Standard

NE = Not Established



# Questions?

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## ADEQ Contacts:

Scott Goodwin, Project Manager  
Remedial Projects Section

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(602) 771-4452, 1-800-234-5677 ext. 771-4452

Caroline Oppleman, Community Involvement Coordinator  
Remedial Projects Section

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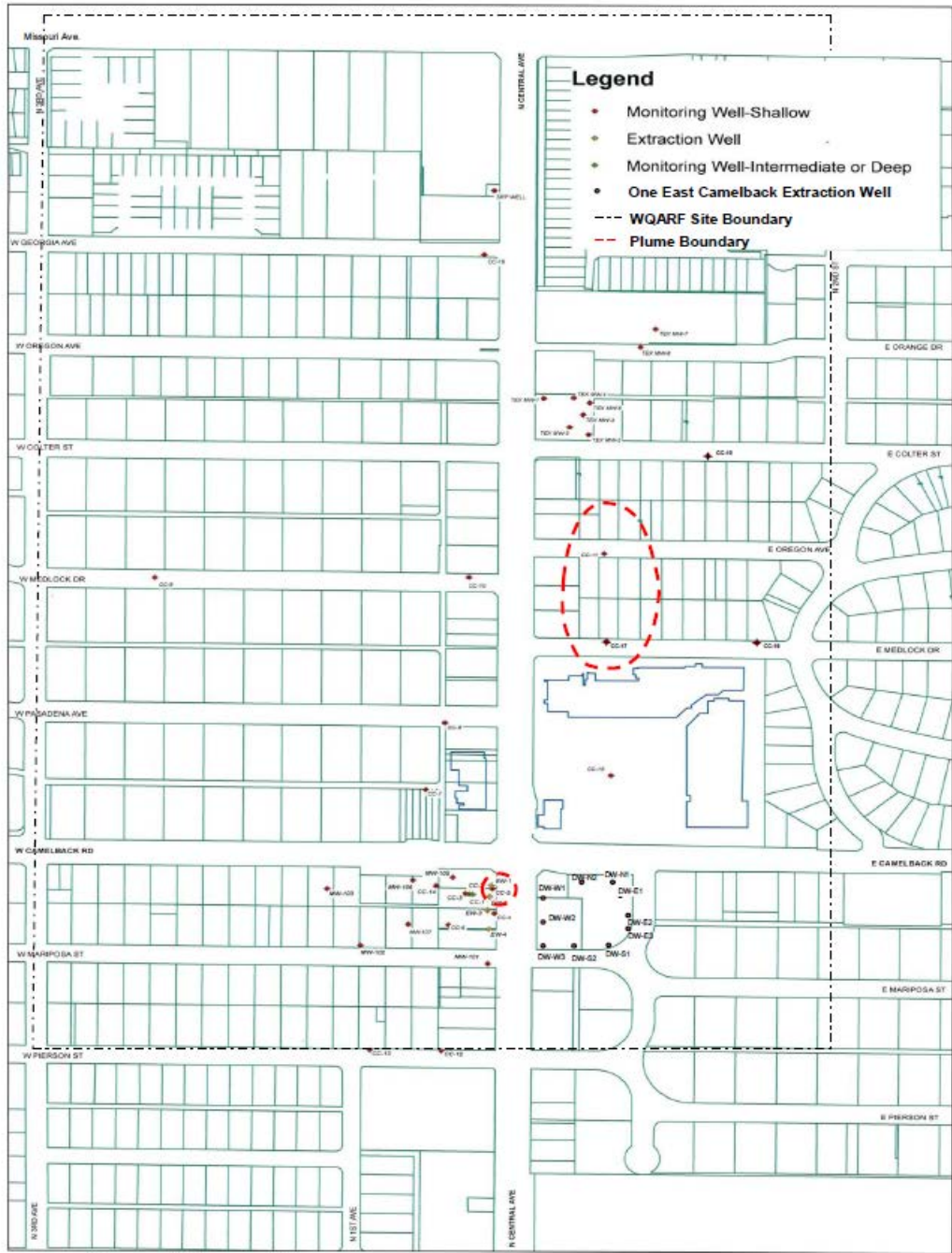


# Central and Camelback WQARF Site

Kevin Snyder, Project Manager

Caroline Oppleman, Community Involvement Coordinator

July 23, 2014 5:30 pm



**SITE MAP**

**Figure 1**



Groundwater Treatment Compound

SVE Compound

EW-1

CC-5

EW-2

EW-3

SVE-1

EW-4

SVE-FC

SVE-MP1

SVE-2S

SVE-2D

SVE-MP2



# Final Remedial Investigation (RI) Report

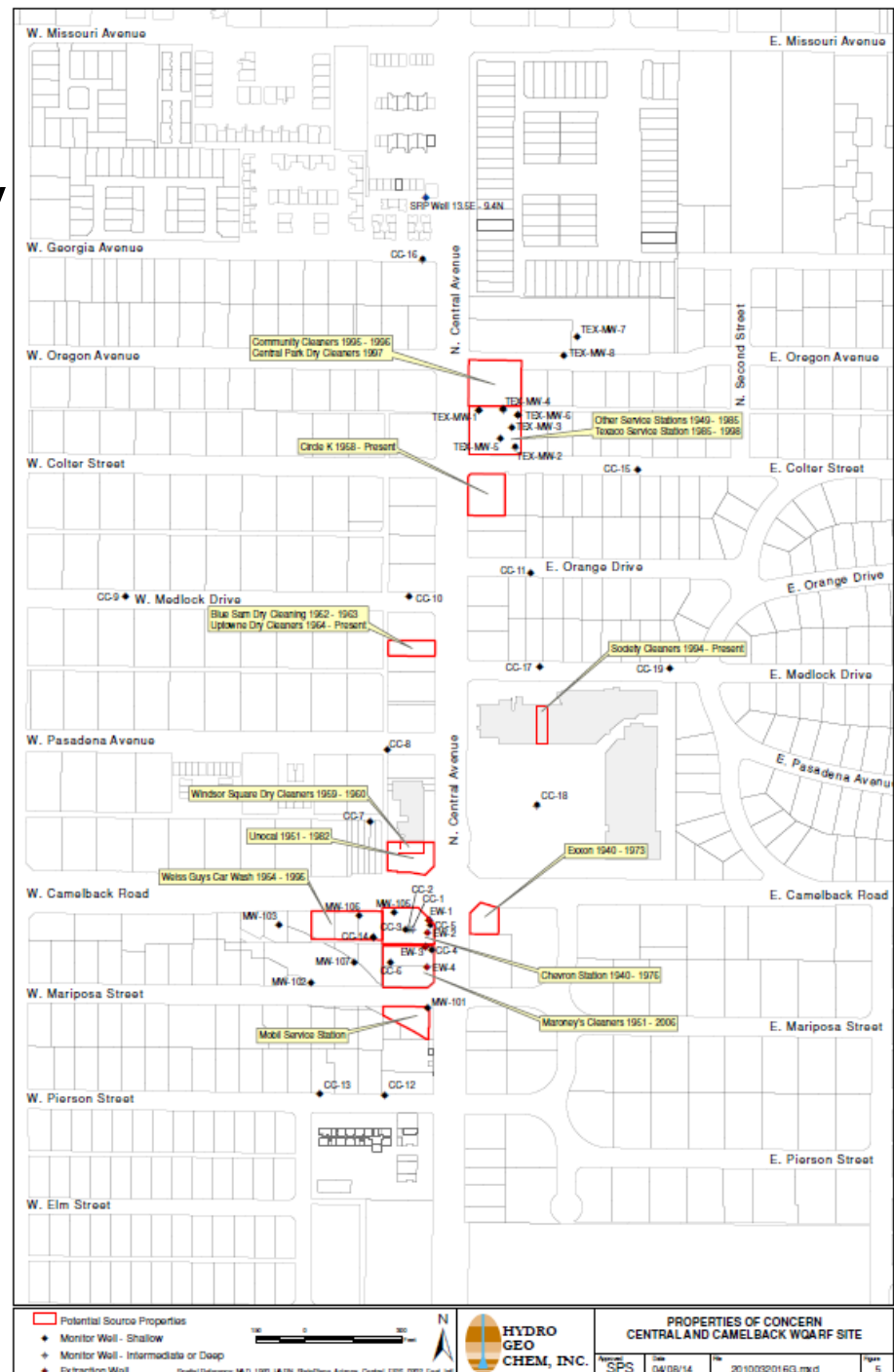
- Summarizes investigations conducted to date at study area.
- Contains Land and Water Use Report detailing current and reasonably foreseeable land and water uses.
- Will address comments to Draft RI Report in text and/or Responsiveness Summary Appendix.
- Will include the Remedial Objectives (ROs) Report.



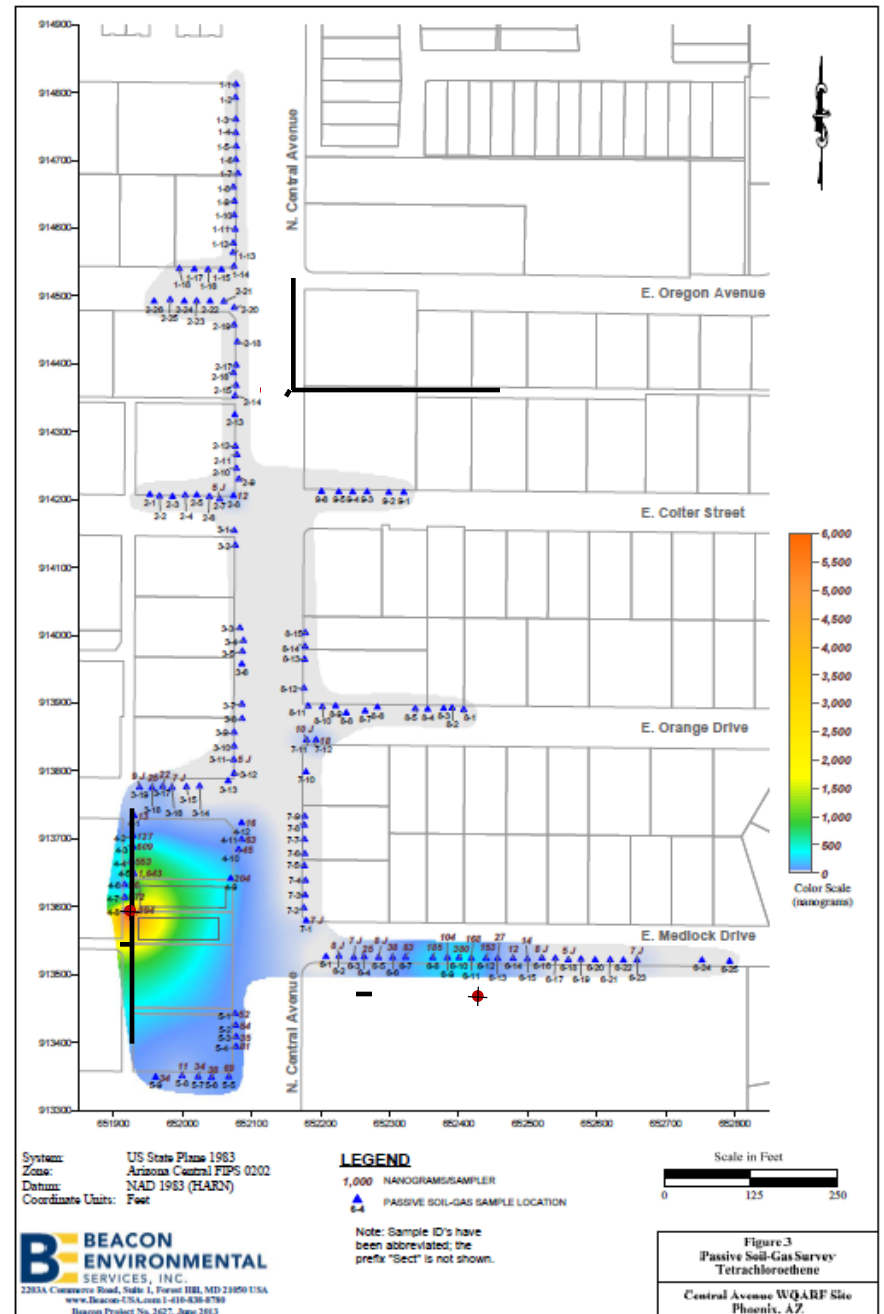
- Red dashed line represents estimated PCE plume at start of investigation.
- Blue dashed line represents estimated PCE plume as of last sampling event.



- Facilities reviewed/investigated by ADEQ.



- Recent investigations by ADEQ.







# Remedial Investigation Comments

RI Comments

When you are called on, please state the following:

Name

Organization/Company

Address

Phone and/or e-mail

Summarize your Comment

Please remember, all comments must be received by 5:00 pm on July 28, 2014.

# Remedial Objectives

Remedial Objectives (ROs) under R18-16-406(I)(4) are established for the current and reasonably foreseeable uses of land and beneficial uses of waters of the state.

ROs are the clean-up goals determined for a specific site.

ROs will be framed as uses of a resource to be protected, when the use needs to be available and how long a specific use might be needed by the affected public.

ROs must be determined with input and discussion with land owners, local governments, water providers, and the public including the CAB members for the site.

# Remedial Objectives

Example ROs from another WQARF site.

**To restore soil conditions to the remediation standards for residential and non-residential use specified in A.A.C. R18-7-203 (specifically background remediation standards prescribed in R18-7-204, predetermined remediation standards prescribed in R18-7-205, or site specific remediation standards prescribed in R18-7-206) that are applicable to the hazardous substances identified. This action is needed for the present time and for as long as the level of contamination in the soil threatens its use as a residential or non-residential property.**

**The remedial objective for regional groundwater at the site is to protect for the use of the groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water uses. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses.**

# Remedial Objectives

- Example RO request: “I would like the groundwater at the site cleaned so it can be used for drinking water if needed.”

If you want to provide an RO verbally or in writing, please state/include the following:

- Name
- Organization/Company
- Address
- Phone and/or e-mail
- Summarize your RO
- Please remember, all ROs must be received by 5:00 pm on July 28, 2014.

**Questions?**



# Contacts

## Contact Information

Kevin Snyder, Project Manager  
Remedial Projects Section

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# 16<sup>th</sup> Street and Camelback WQARF Site

Kevin Snyder, Project Manager

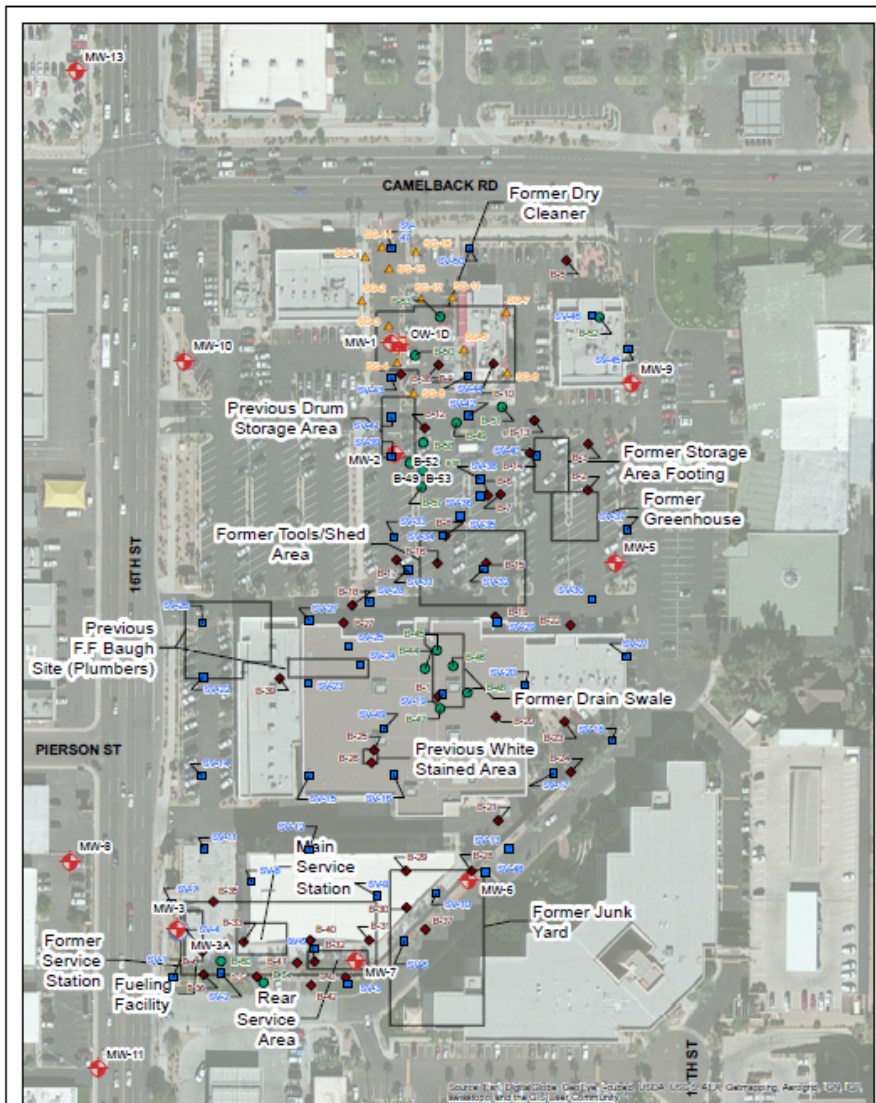
Caroline Oppleman, Community Involvement Coordinator

July 23, 2014 5:30pm



**Figure 1**  
**SITE LOCATION MAP**  
 REMEDIAL INVESTIGATION  
 SUMMARY REPORT  
 16TH STREET AND CAMELBACK WQARF SITE  
 PHOENIX, ARIZONA





Source: Esri, DigitalGlobe, GeoEye, Earthstar (USA), CNR, GEBCO, AeroGRID, IGN, Esri, Swisstopo, and the GIS User Community

**EXPLANATION**

- SOIL VAPOR SAMPLE (LAW, 1993a)
- ◆ SOIL VAPOR SAMPLE (LAW, 1993a)
- ▲ SOIL VAPOR SAMPLE (LAW, 1993b)
- ▲ SOIL VAPOR SAMPLE (ADEQ, 2005)
- ◆ MONITOR WELL
- OBSERVATION WELL
- REPLACEMENT MONITOR WELL
- FORMER BUILDING OR AREA OF CONCERN

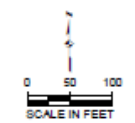
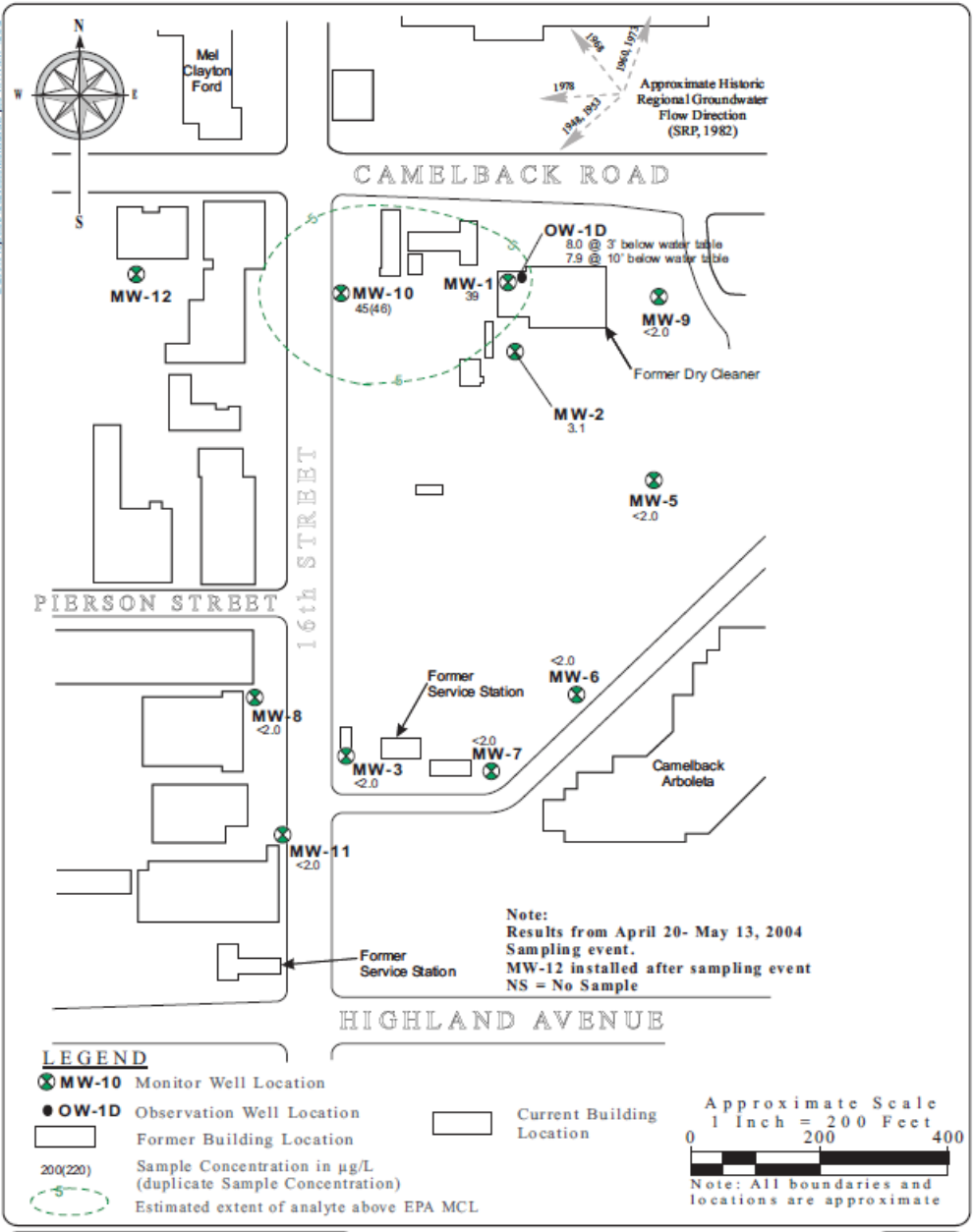


Figure 4  
**RI SAMPLING LOCATION MAP**  
 REMEDIAL INVESTIGATION  
 SUMMARY REPORT  
 16TH STREET AND CAMELBACK WQRF SITE  
 PHOENIX, ARIZONA

## Site History

- The southeast corner property was acquired by Bank One in 1989 through foreclosure.
- Bank One initiated site investigation. They collected soil samples, soil gas samples, installed wells, and collected groundwater samples through 1993. They also excavated contaminated soil from three areas of soil contamination by petroleum hydrocarbons in 1993.
- Contaminants at the site were tetrachloroethene (PCE) in the northern portion of the site and 1,2-dichloroethane (DCA) and 1,2-dichloropropane (DCP) in the southern portion of the site.

L:\Quality\Projects\51252\Isoconcentration.mxd MW-12.dwg

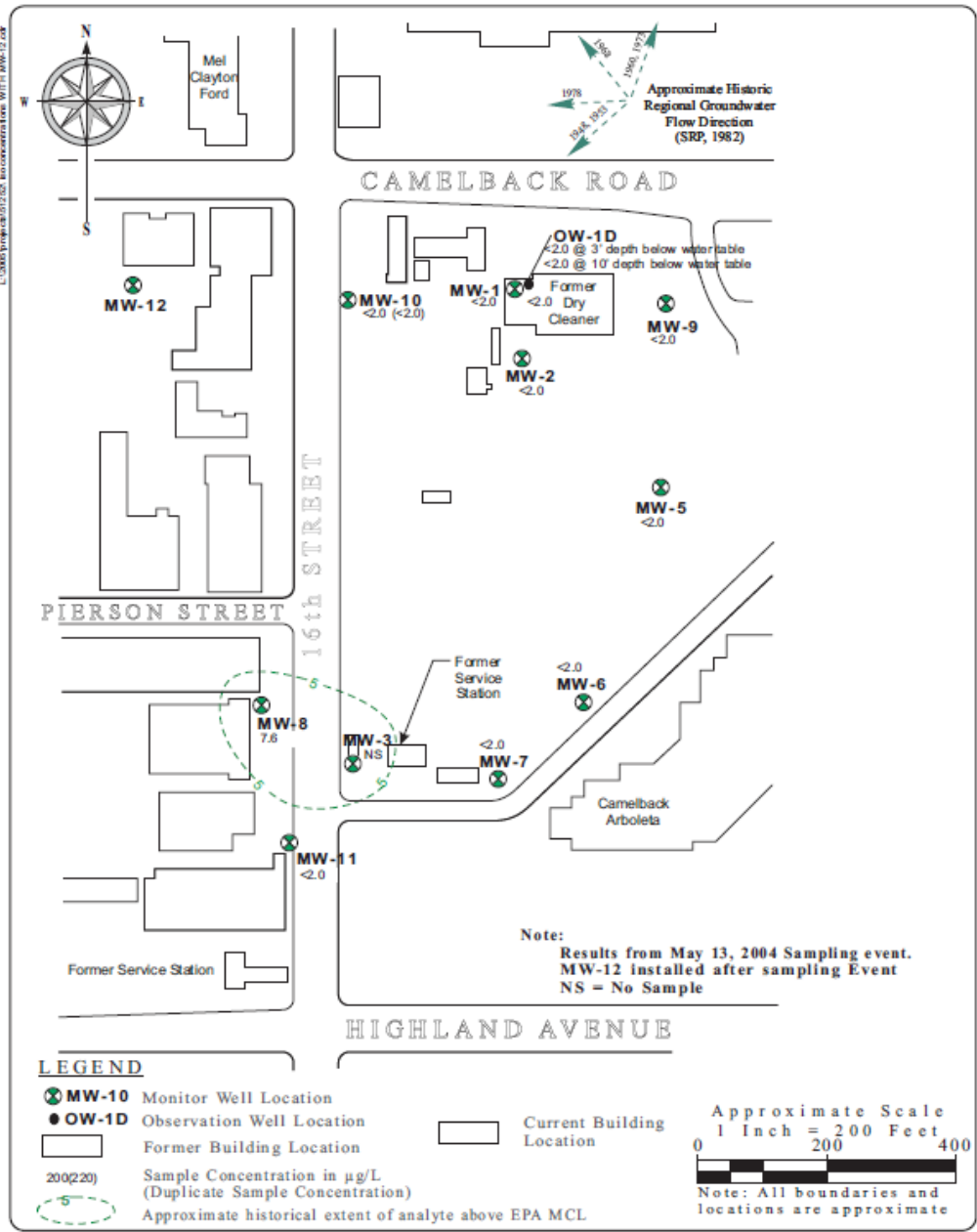


**KLEINFELDER**  
Project Number 51252 January 2005

Arizona Department of Environmental Quality  
16th Street and Camelback Road WQARF Site  
Phoenix, Arizona

**ISOCONCENTRATION  
CONTOUR MAP FOR PCE**

PLATE  
**5**



## Site History

- Bank One settled with ADEQ in 1994 and ADEQ took over investigation of the site.
- ADEQ collected soil samples, soil gas samples, installed wells, collected groundwater samples, and conducted a pilot study for soil and groundwater remediation.
- The pilot study indicated that soil vapor extraction (SVE) and air sparging were not cost effective.
- ADEQ continues to monitor and sample groundwater.

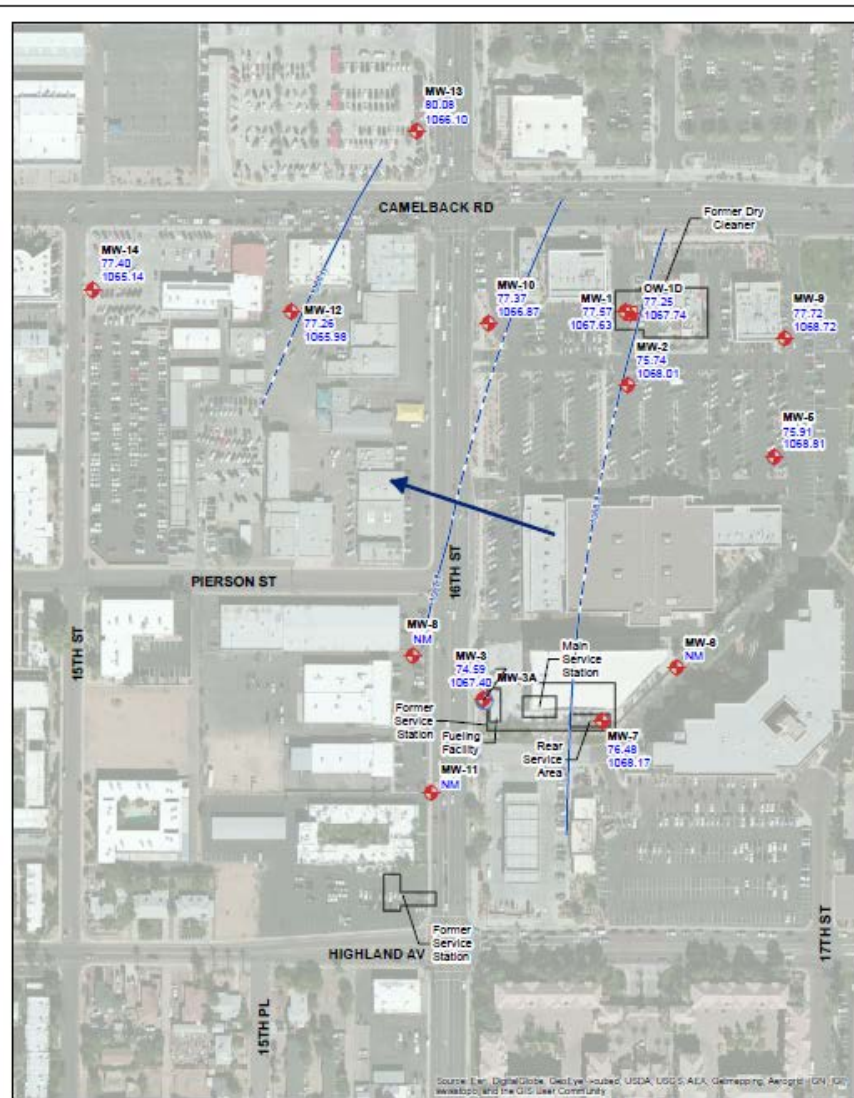
## Current Status

- PCE is currently the only contaminant of concern detected in groundwater at the site at concentrations greater than the Aquifer Water Quality Standard (AWQS).
- Contaminants appear to have naturally attenuated.

<b>Contaminant</b>	<b>December 28, 1999</b>	<b>August 30, 2007</b>	<b>April 17, 2014</b>
PCE	160 ug/l	20 ug/l	11.4 ug/l
1,2-DCA	400 ug/l	<2.0 ug/l	0.62 ug/l
1,2-DCP	15 ug/l	<2.0 ug/l	<0.5 ug/l







Source: Esri, DigitalGlobe, GeoEye, iSatellite, USDA, USGS, AeroGRID, IGN, GeoEye, and the GIS User Community

**EXPLANATION**

- 
- 0 75 150  
SCALE IN FEET
- MONITOR WELL

MW-1  
76.17 (DTW in ft below MP)  
1069.03 (Groundwater Elevation in ft amsl)
- OBSERVATION WELL
- REPLACEMENT MONITOR WELL
- GROUNDWATER ELEVATION CONTOUR (Dashed where inferred)
- DIRECTION OF GROUNDWATER FLOW
- DTW = DEPTH TO WATER  
AMSL = ABOVE MEAN SEA LEVEL  
MP = MEASURING POINT  
NM = NOT MEASURED

Note: Measuring Point = North side top of casing, DTW measured April 3, 2014.



Figure 9  
APRIL 2014  
**GROUNDWATER ELEVATION MAP**  
REMEDIAL INVESTIGATION SUMMARY REPORT  
16TH STREET AND CAMELBACK WQRF SITE  
PHOENIX, ARIZONA



## Future Planned Work

- Continue to monitor and sample groundwater.
- Prepare Remedial Investigation (RI) Report.
- Conduct Feasibility Study (FS).
- Prepare Proposed Remedial Action Plan (PRAP) and Record of Decision (ROD)