

**Phoenix-Goodyear Airport (PGA) Area/Western Avenue Plume
Community Advisory Group (CAG) Meeting**

Wednesday, May 21, 2014

6:00 p.m. to 8:30 p.m.

City of Goodyear, City Hall

190 N. Litchfield Road, Room 117, Goodyear, AZ 85338

DRAFT MINUTES

CAG Members in Attendance:

Lisa Amos
Tim Birdsall
David Ellis
Karl Havlicek
Diane Krone
Frank Scott – Co-chair
Earl Smith
Glen Turner

ADEQ Staff in Attendance:

Delfina Olivarez, Western Avenue Project Manager
Tina LePage, Remedial Projects Section Manager
Wendy Flood, Community Involvement Coordinator

Facilitator:

Dr. Marty Rozelle

Others in Attendance:

Anitria Hirshtan, ITSI Gilbane; Larry Phillips, ITSI Gilbane; Pat Hunnewell, Matrix New World Engineering; Stephanie Lyn Koehne, AMEC; Jim Creedon, Crane Company; Chris Legg, Brown & Caldwell; Kathy Hunter, Hargis+Associates, Inc.; Julie Riemenschneider, City of Phoenix Aviation Dept.; Marilyn Havlicek.

Welcome and Introductions – Co-Chair Frank Scott called meeting to order. Introductions were made by CAG Members and audience.

WESTERN AVENUE WQARF SITE (See attached presentation)

Proposed Remedial Action Plan (PRAP) Overview - CAG Discussion and Answer Session – Brian Waggle, Hargis + Associates, Inc.

Mr. Waggle reviewed the site history, the scope of work in the PRAP; identification of the groundwater contaminant to be addressed (tetrachloroethylene [PCE]); the proposed remedy and how it was selected. A CAG member wanted to confirm the ownership of monitor well EMW-22LC because it hadn't been discussed in previous meetings. The ADEQ consultant stated the understanding was the well belonged to the PGA-South site. Also that it is a deep well screened in Subunit C and was used in testing of City of Goodyear (City) production well COG-01. It provided a good observation point for the testing activities due to its depth. The CAG member stated that they thought this would be misleading in the report since it implies that it is part of the Western Avenue monitoring system. Additionally, the report also indicates that well COG-01 is listed as a monitoring well, and is functioning water production well which is also misleading. The ADEQ consultant confirmed that well COG-01 is a water production well, but that ADEQ does collect groundwater samples from the well to assess PCE concentrations.

A CAG member stated that they felt the verbiage in the PRAP regarding concentrations of PCE being detected in well COG-01 do not suggest any impact has been applied to local water supplies was misleading as there has been an impact. The ADEQ consultant indicated that ADEQ's definition of "impact" means that PCE was present in a groundwater sample from the well at a concentration greater than the Aquifer Water Quality Standard (AWQS). Since PCE concentrations in all groundwater samples collected to date from well COG-01 have not exceeded the AWQS, no impact on the well's use has occurred. However, the verbiage in the PRAP could be modified.

A CAG member asked which site wells would be monitored in the future. The ADEQ consultant indicated that the wells referenced would be monitored and have been monitored all along with the exception of well GMW-05, which has been removed due to development of the property. Wells EMW-22LC and GMW-04 are also PGA South wells that ADEQ has been allowed to monitor. The loss of well GMW-05 will not negatively impact the site monitoring program because only water levels were monitored. Several others nearby wells can be used to assess water level conditions in its absence.

A CAG member questioned the use of "abandon and destroy" in the PRAP as a possibility for well COG-01 status as the well is an asset to the City. Since the regulatory agency is the responsible party will there be any assurances made to the City if the well is lost. ADEQ responded that they are not the responsible party but are addressing the contamination issue. The remedial objectives presented provide for the loss of the well in conjunction with input from the City.

Another CAG member inquired as to whether alternatives to "abandon and destroy" for well COG-01, such as well head treatment, have been reviewed. The ADEQ consultant responded that once the City reviewed the results of the COG-01 test, the City concluded that there was a well problem. Well COG-01 has been repaired on several occasions and additional repairs or treatments would not be practicable or fiscally responsible.

A CAG member asked about the comment that there is no contamination in Subunit B and how did ADEQ come to that conclusion since there are no monitoring wells in B. The ADEQ consultant stated that ADEQ does have one well, MW-08, located in the lower portion of Subunit A and upper portion of Subunit B. The CAG member asked that since the concentrations were around 4 ppb is ADEQ confident that there are no contaminants in Subunit B that will go to either Subunit A or Subunit C and are the contaminant amounts reducing like the others wells. The ADEQ consultant stated that there was

no evidence of this occurring since there are PCE concentrations of 0.4 and 0.2 ppb in Subunit C wells located down gradient at the PGA South site. These concentrations are well below the AQWS of 5 ppb, and that yes, the contaminant concentrations are reducing overall at well MW-08.

Call to the Public:

An audience member asked that if the concentrations have been decreasing over the last 20 years can that be contributed to water depth decrease. The ADEQ consultant responded that water depth has decreased by approximately 1 foot per year over the last 20 years and could be playing a role in the decreased concentrations but didn't feel it was the only factor. The ADEQ consultant stated that concentrations of PCE are being reduced by dilution and dispersion. He also indicated that if the water levels rose, it is possible that PCE concentrations in groundwater could increase. However, any residual PCE will have volatilized as water levels declined and if re-saturation occurred, the PCE concentrations would not be expected to be as high.

The same audience member asked what the amount of water was in well MW-01 and was the entire saturated thickness of Subunit A being monitored by the site monitor wells. The ADEQ consultant stated that there was approximately 20 feet of water remaining in well MW-01 and that ADEQ's wells do not extend across the full thickness of Subunit A. However, there is evidence that concentrations of PCE decrease with depth and that ADEQ's wells are appropriate for monitoring the highest concentrations of PCE mass remaining in Subunit A.

The same audience member asked if the PCE mass was defined. The ADEQ consultant stated he felt it was and that there was no evidence to support the possibility of more or a larger contaminant mass at depths below Subunit A monitor wells. This is based on the decreasing concentrations with depth in Subunit A as well as no or low concentrations of PCE in Subunit C wells located down gradient of the site.

The same audience member wanted to confirm the monitoring schedule of well COG-01 in the PRAP. The ADEQ consultant indicated it would be semi-annually by ADEQ but that the City could be monitoring it as well. The audience member commented that they thought it should be ADEQ's responsibility to make sure that the well is not impacted and is a minimal thing to do to ensure the residents are not impacted. The ADEQ consultant responded that the monitoring of that well has been quarterly for some time but could discuss the frequency with ADEQ.

An audience participant indicated that they felt since this was a State PRAP that the purpose isn't to put restrictions on or requests of other agencies. Any requests or restrictions should be worked out individually between the City, State and the Agencies and not part of this official plan.

CAG Business:

- ✓ Discussion of items to be included in official written response to ADEQ. Unanimous acceptance of outlined letter concept for review by the board before submittal to EPA.
- ✓ Work with community to request RSVP if attending the August meeting due to meeting room size limitation.

Future Meeting Agenda Discussion

The next CAG meeting is scheduled for Thursday, August 7, 2014 at the Estrella Mountain Ranch beginning at 6:00 p.m. Remaining meeting times and locations are as follows:

Thursday November 6, 2014 – Quarterly CAG Pebble Creek Community

Adjournment

Western Avenue WQARF Site

Western Avenue

Proposed Remedial Action Plan (PRAP)

CAG / Public Meeting – May 21, 2014

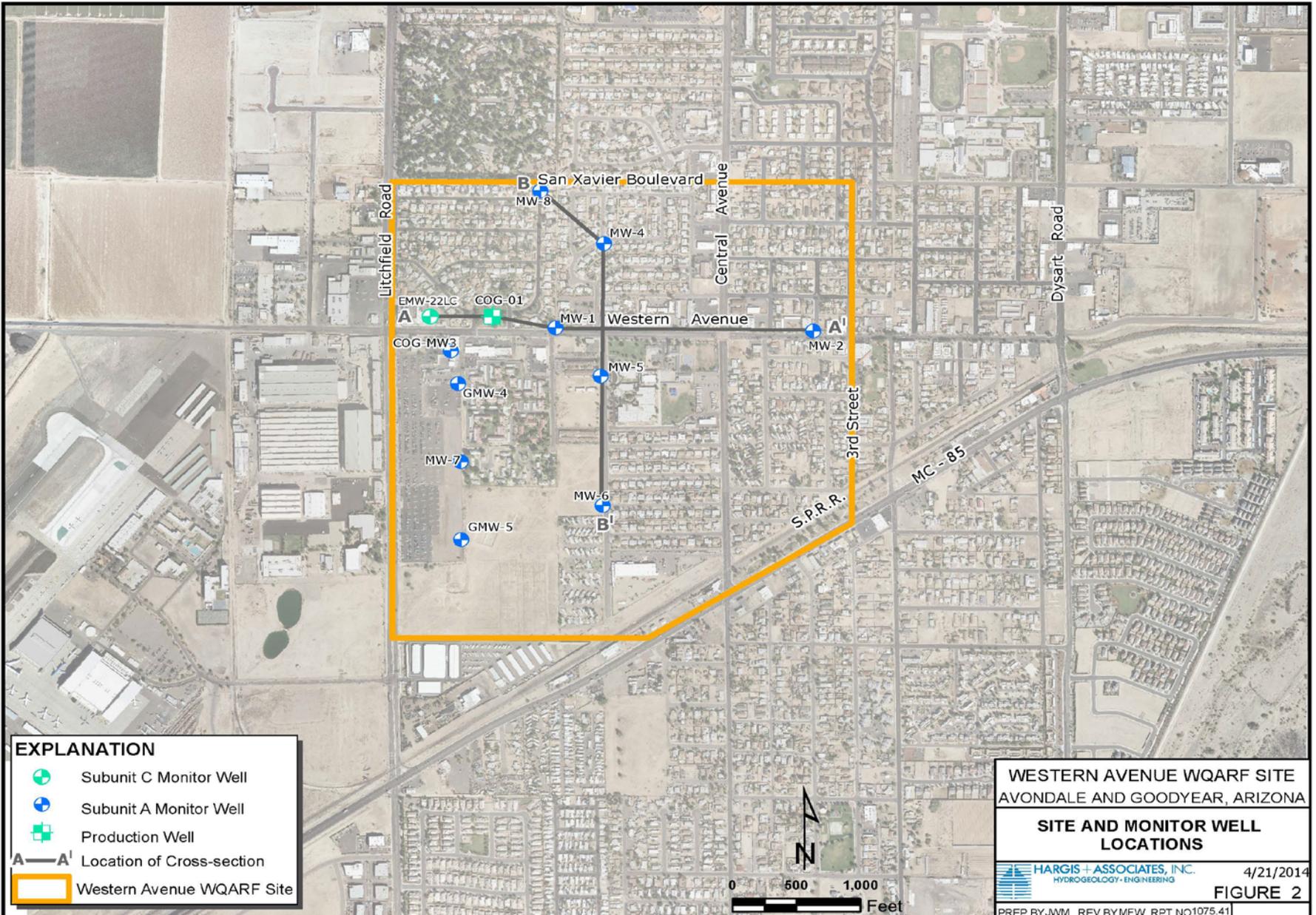


PURPOSE OF THE PRAP

- **Describe the proposed remedy for the Western Avenue (WA) Site**
- **Proposed remedy addresses tetrachloroethene (PCE) in groundwater**
- **Proposed remedy is monitored natural attenuation (MNA) with contingencies**
- **MNA based on the remedial investigation (RI) and feasibility study (FS)**
- **Prepared pursuant to AAC R18-16-408**

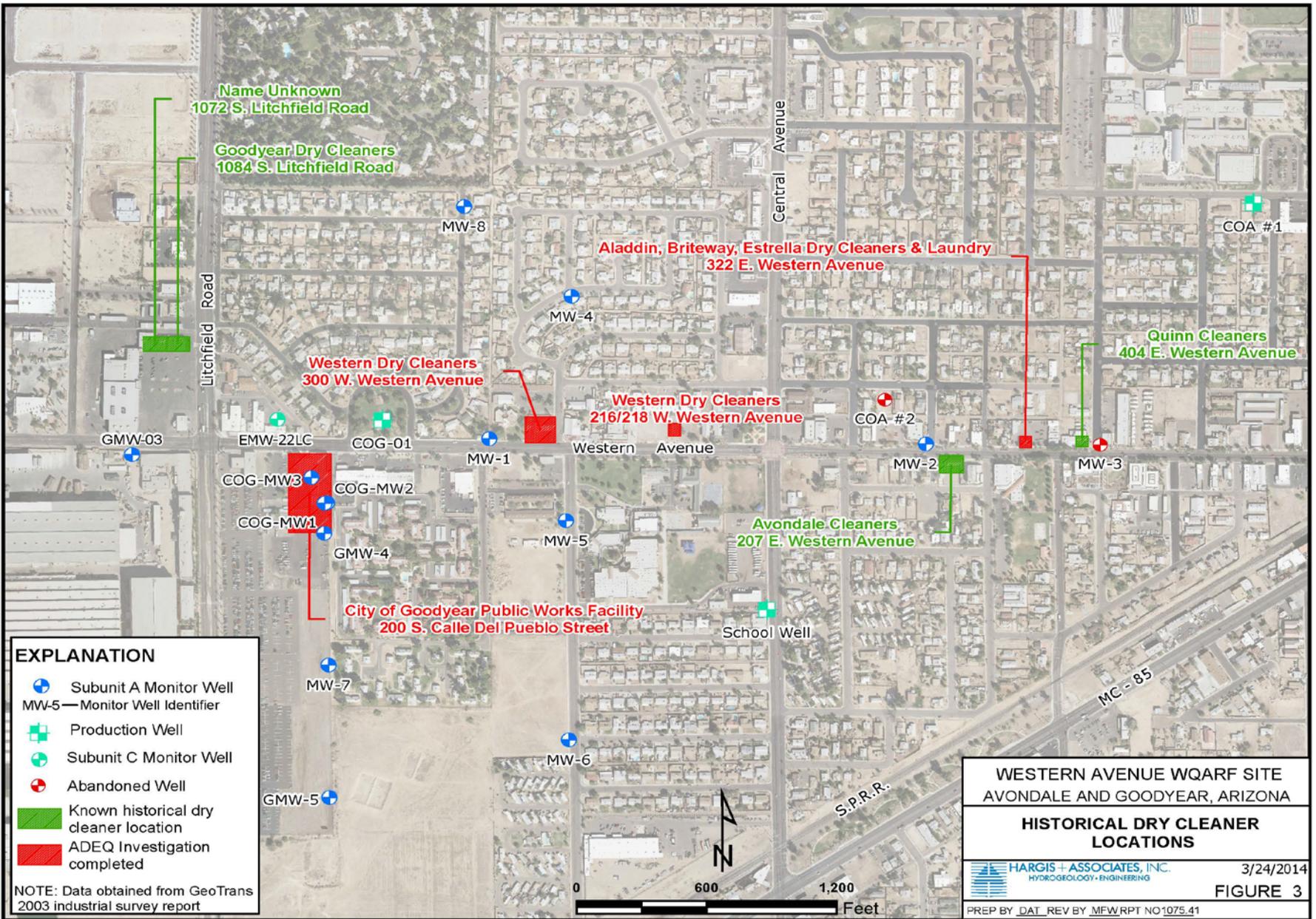
SCOPE OF THE PRAP

- **Site History**
- **Conceptual Site Model**
 - **Potential source areas**
 - **Groundwater conditions**
 - **Extent of contamination**
- **Remedial Objectives**
- **Description of MNA w/contingencies**
- **Community involvement**



HISTORY/SOURCE AREA INVESTIGATIONS

- **PCE detected in Subunit A PGA-S wells in 1993**
- **Preliminary Investigations (PIs) conducted by ADEQ in 1994/1995**
 - **City of Goodyear Public Works Facility**
 - **Western Avenue Dry Cleaners**
 - **Groundwater, soil, and soil vapor sampling at each location**
 - **Results - No vadose zone source(s) of PCE identified at either PI location**



EXPLANATION

-  Subunit A Monitor Well
-  Monitor Well Identifier
-  Production Well
-  Subunit C Monitor Well
-  Abandoned Well
-  Known historical dry cleaner location
-  ADEQ Investigation completed

NOTE: Data obtained from GeoTrans 2003 industrial survey report

WESTERN AVENUE WQARF SITE AVONDALE AND GOODYEAR, ARIZONA	
HISTORICAL DRY CLEANER LOCATIONS	
 HARGIS + ASSOCIATES, INC. HYDROGEOLOGY • ENGINEERING	3/24/2014
FIGURE 3	
PREP BY DAT_REV BY MFW/RPT NO1075.41	

POTENTIAL SOURCE AREAS (cont'd)

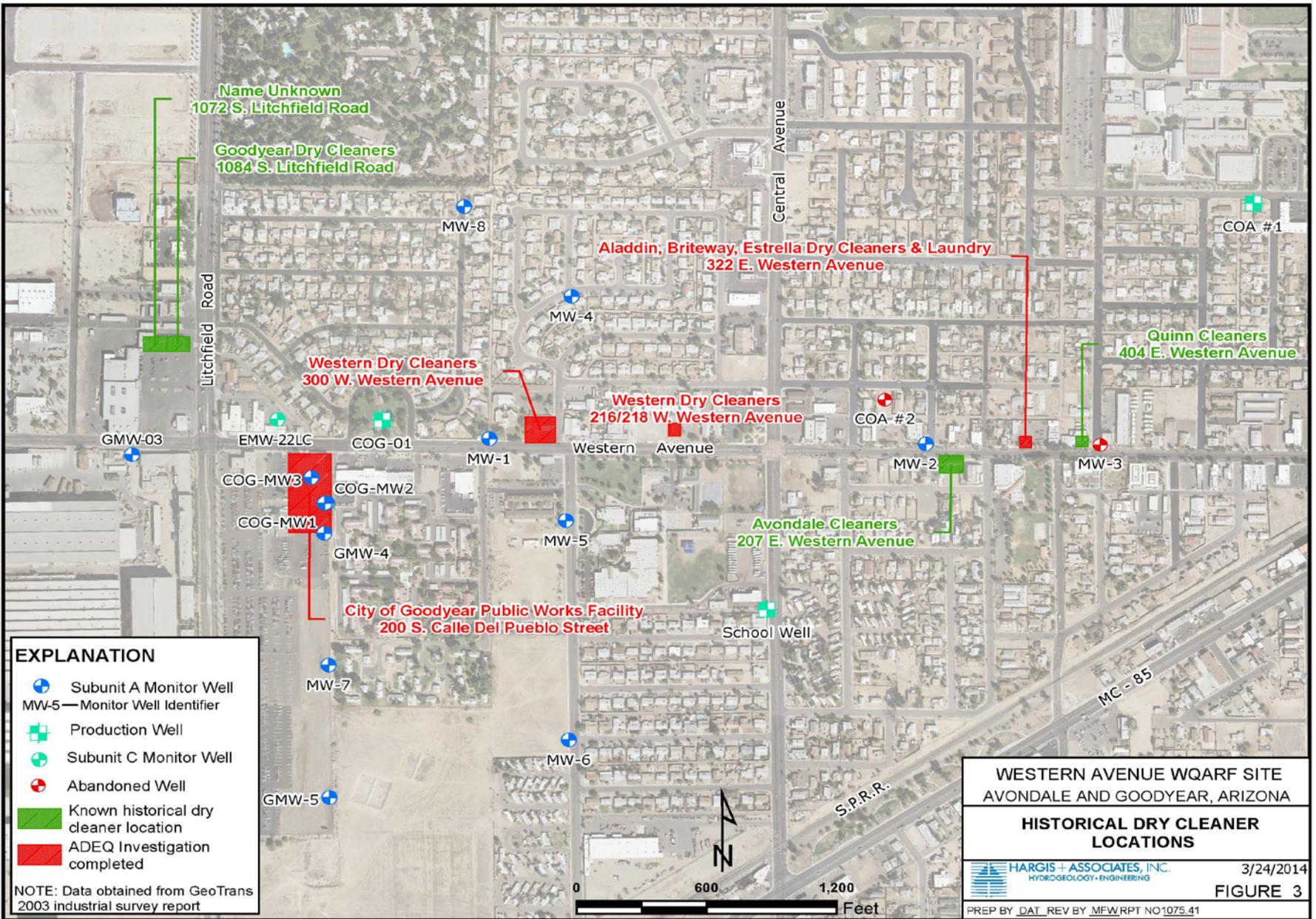
- **Industrial Survey conducted by ADEQ in 2001**
 - **Purpose** – identify properties where PCE may have been used/disposed of
 - **Scope** – reviewed data from following sources:

POTENTIAL SOURCE AREAS (cont'd)

- **Dry cleaner location survey**
- **City directories**
- **ADEQ and EPA environmental databases**
- **Air photos**
- **Facility confirmation**

POTENTIAL SOURCE AREAS (cont'd)

- **Six former or existing dry cleaner locations identified in site area:**
 - **Western Avenue Dry Cleaning**
 - **Aladdin Dry Cleaning**
 - **Avondale City Cleaners**
 - **Quinn Cleaners**
 - **Goodyear Dry Cleaners, and**
 - **Unnamed @ 1072 S. Litchfield Road**



EXPLANATION

-  Subunit A Monitor Well
-  MW-5 — Monitor Well Identifier
-  Production Well
-  Subunit C Monitor Well
-  Abandoned Well
-  Known historical dry cleaner location
-  ADEQ Investigation completed

NOTE: Data obtained from GeoTrans 2003 industrial survey report

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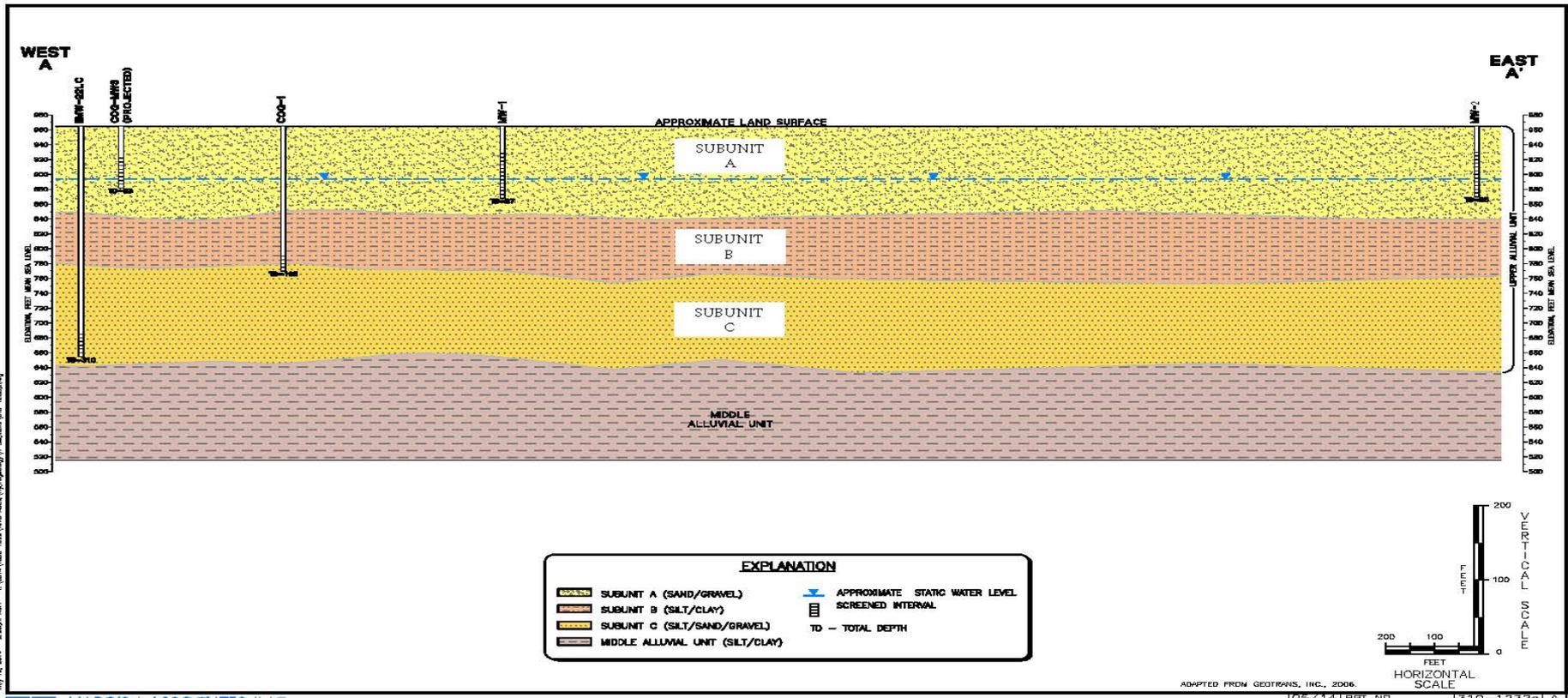
POTENTIAL SOURCE AREA (cont'd)

- **Aladdin Dry Cleaners**
 - **No PCE detected in soil samples**
 - **PCE in soil vapor from ND to 70 ug/l**

POTENTIAL SOURCE AREAS (cont'd)

- **Most probable source areas were Western Avenue Dry Cleaners and Aladdin Dry Cleaners**
- **However, ADEQ concluded that none represented a significant or continuing source of PCE to groundwater**
- **ADEQ letter summarizing best efforts to identify source/responsible party dated March 6, 2014.**

GROUNDWATER CONDITIONS



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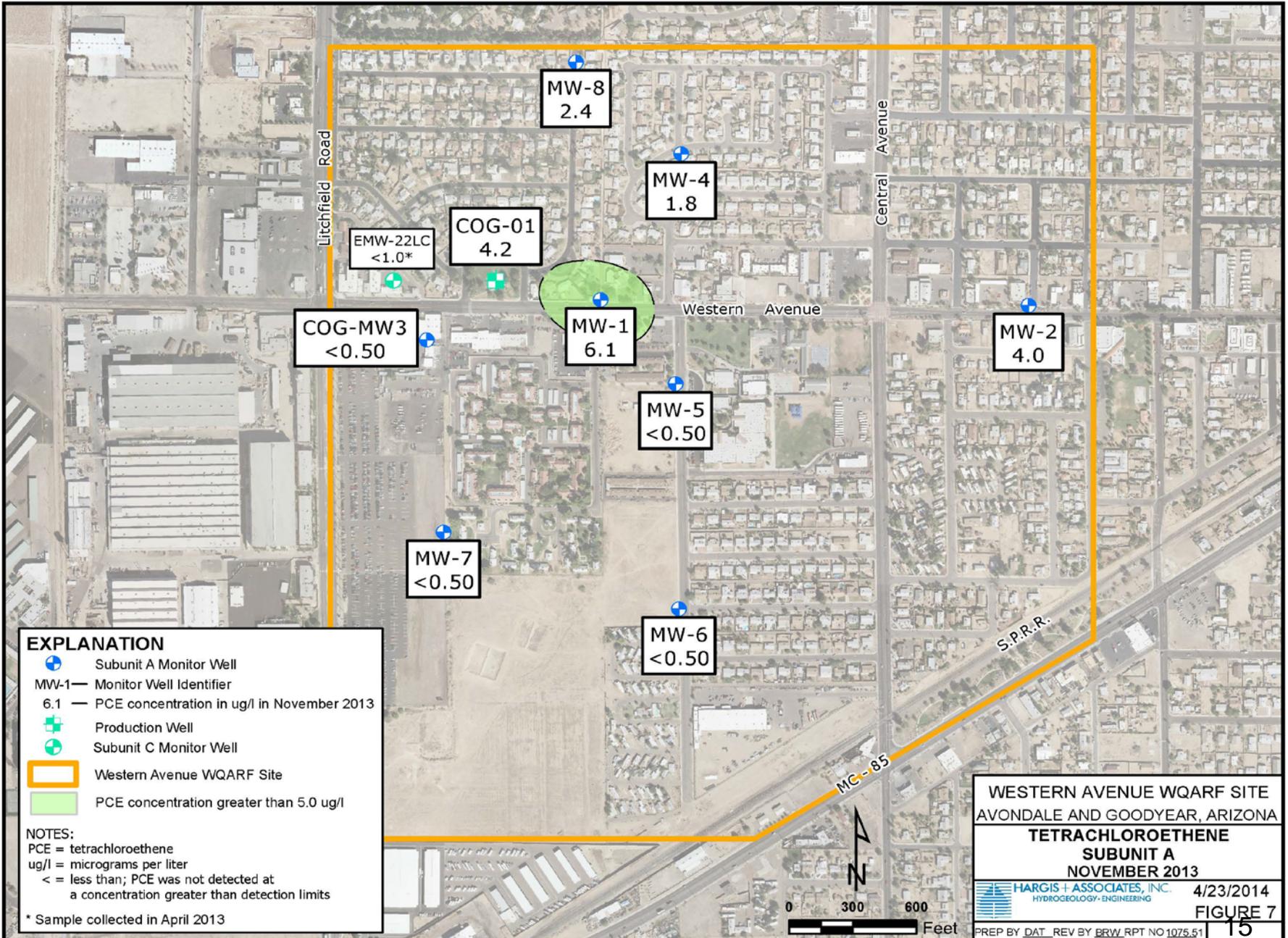
FIGURE 5.
EAST - WEST HYDROGEOLOGIC CROSS SECTION

EXTENT OF CONTAMINATION

- **Soil – none identified**

- **Groundwater - horizontal extent**
 - **Subunit A – Some areas with PCE greater than AWQS**
 - **Extent defined by monitoring well network**

 - **PCE not greater than AWQS in Subunits B or C**



EXPLANATION

- Subunit A Monitor Well
- MW-1 — Monitor Well Identifier
- 6.1 — PCE concentration in ug/l in November 2013
- Production Well
- Subunit C Monitor Well
- Western Avenue WQARF Site
- PCE concentration greater than 5.0 ug/l

NOTES:
 PCE = tetrachloroethene
 ug/l = micrograms per liter
 < = less than; PCE was not detected at a concentration greater than detection limits

* Sample collected in April 2013

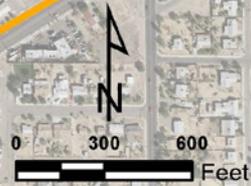
WESTERN AVENUE WQARF SITE
 AVONDALE AND GOODYEAR, ARIZONA

TETRACHLOROETHENE
SUBUNIT A
NOVEMBER 2013

HARGIS + ASSOCIATES, INC.
 HYDROGEOLOGY - ENGINEERING

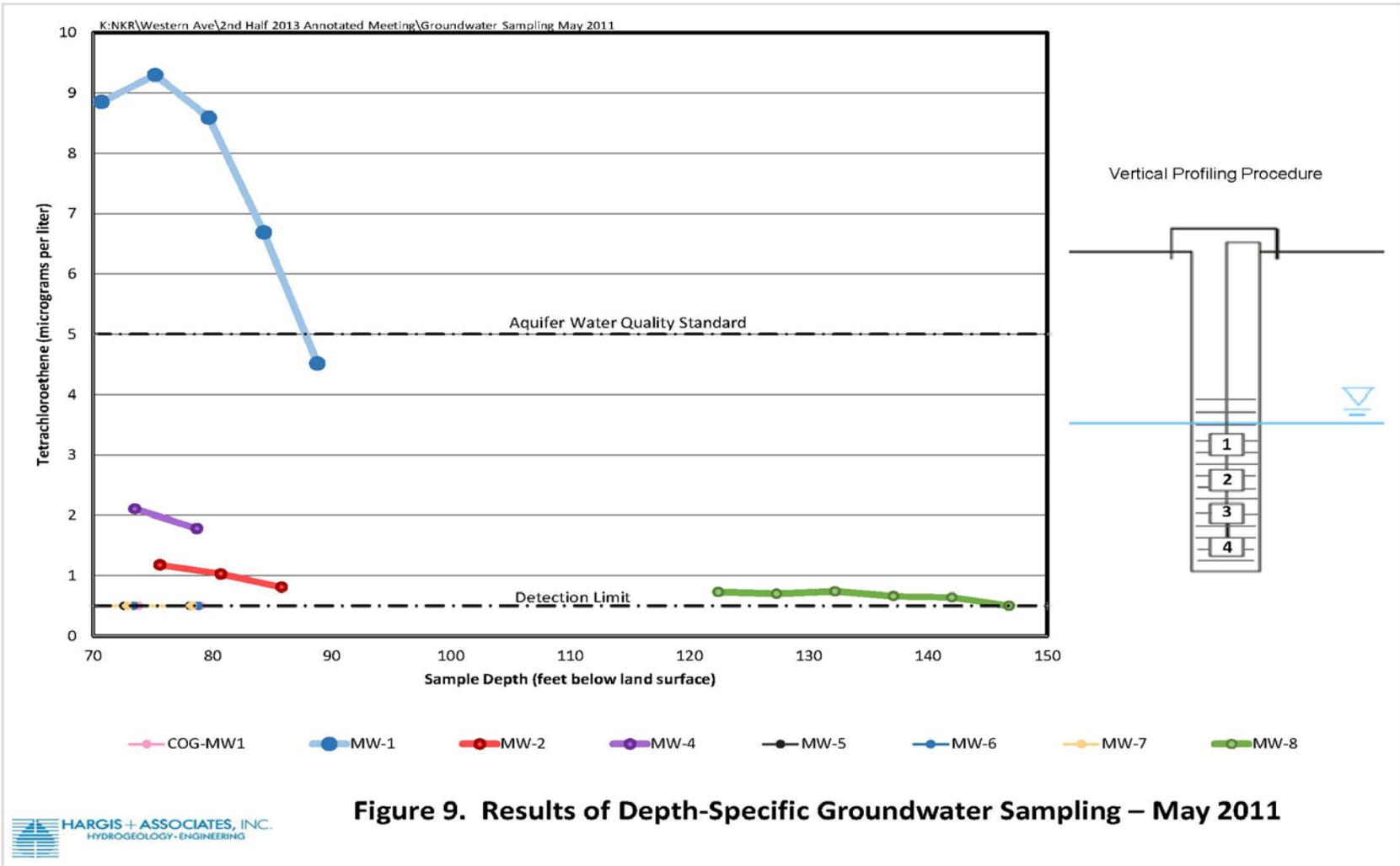
4/23/2014
 FIGURE 7

PREP BY DAT_REV BY BRW_RPT NO 1075.51



EXTENT OF CONTAMINATION (cont'd)

- **Groundwater - vertical extent**
 - **PCE greater than AWQS is limited to Subunit A**
 - **Evidence that PCE decreases with depth**
 - **Vertical profiling in Subunit A monitor wells**
 - **Hydropunch investigation**



EXTENT OF CONTAMINATION (cont'd)

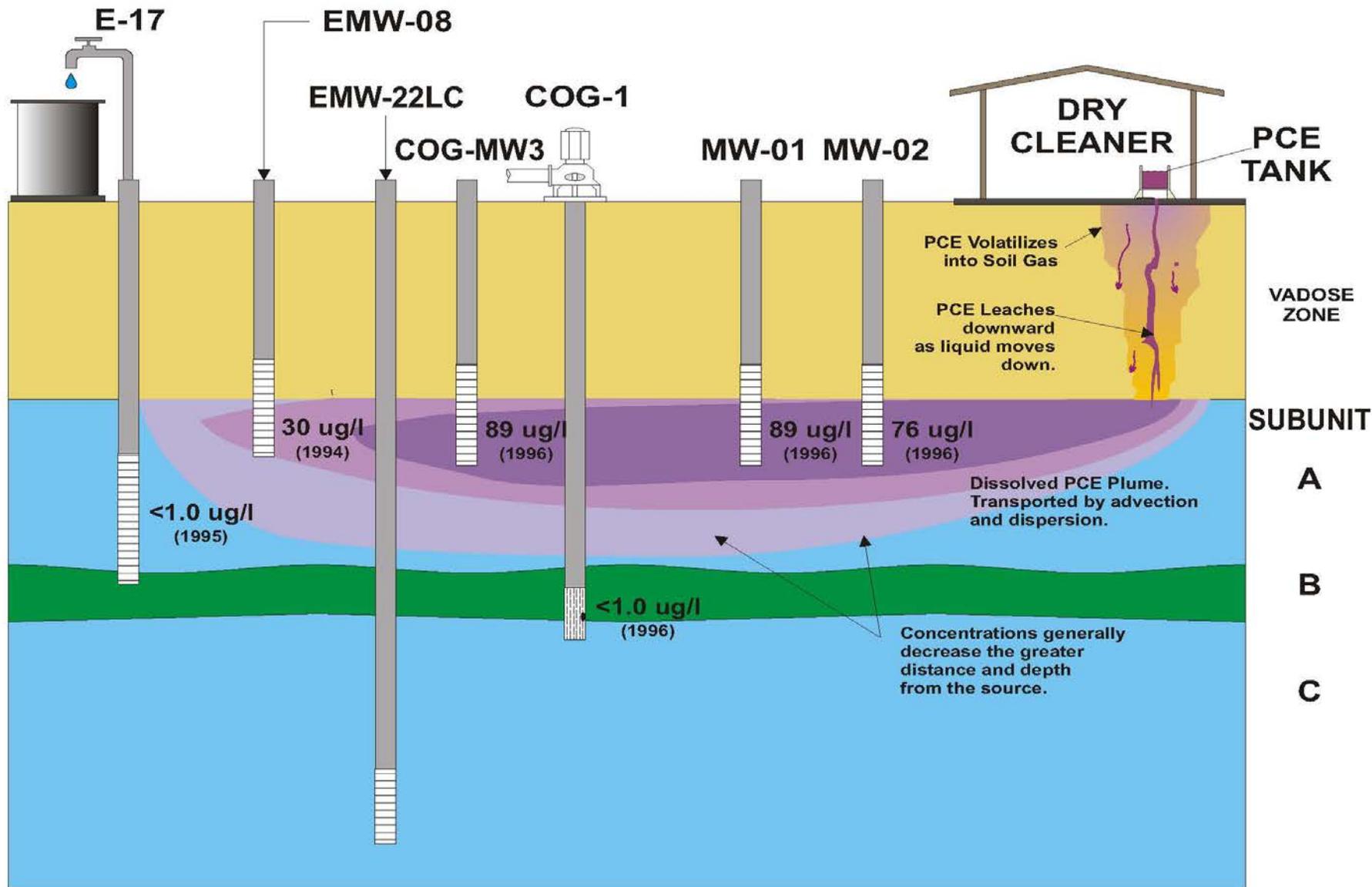
- **Groundwater - vertical extent**
 - **RI hydropunch investigation in 2000**
 - **MW-5:**
 - 65 feet – 4.1 ug/l
 - 95 feet – 0.54 ug/l
 - 125 feet - <0.5 ug/l
 - **MW-7:**
 - 75 feet – <0.5 ug/l
 - 95 feet – <0.5 ug/l
 - 115 feet - <0.5 ug/l

EXTENT OF CONTAMINATION (cont'd)

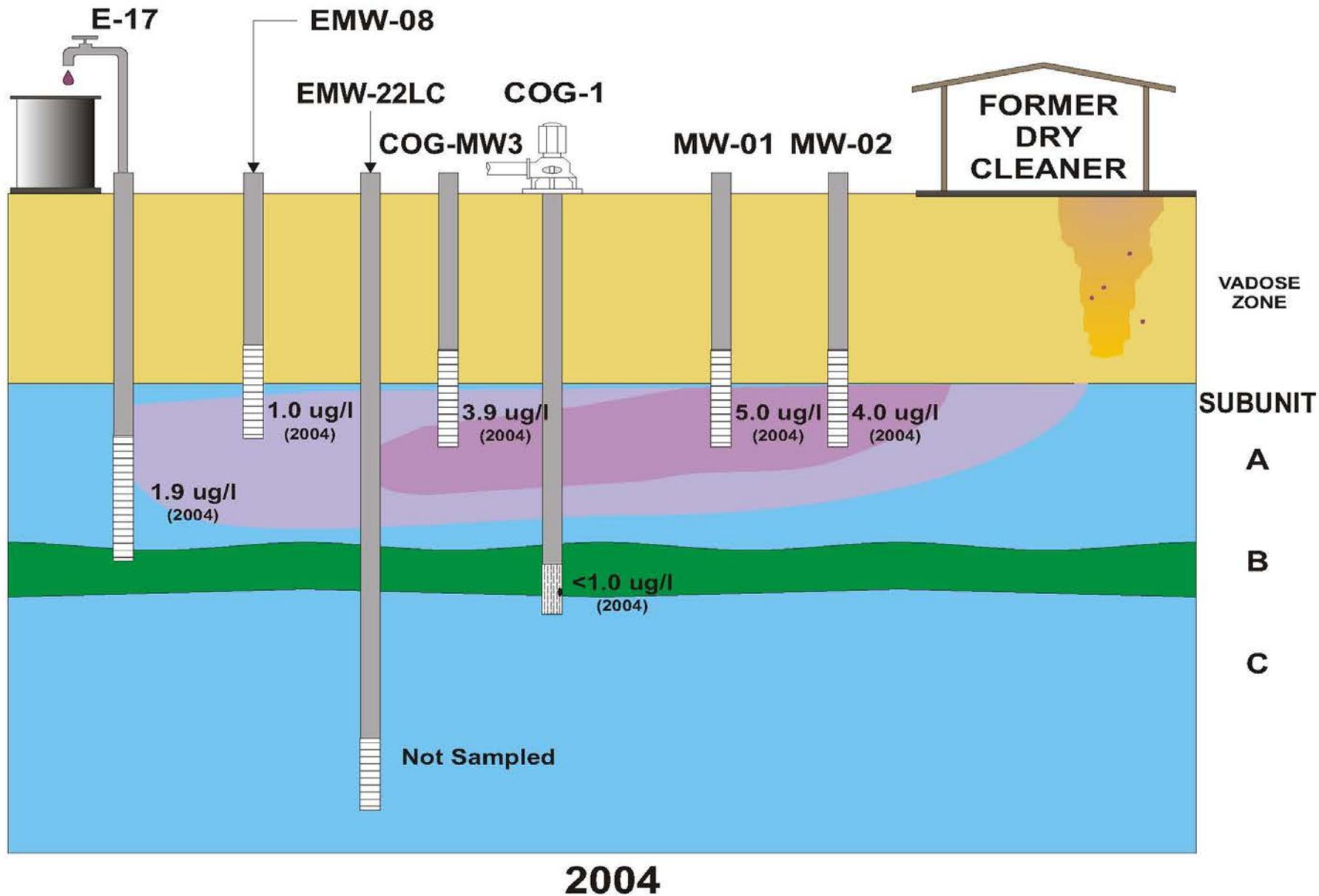
- **Subunit A monitor wells monitor highest concentrations of PCE**
- **No evidence of a large mass of PCE below the monitor wells**
- **Wells appropriate for monitoring PCE in groundwater**

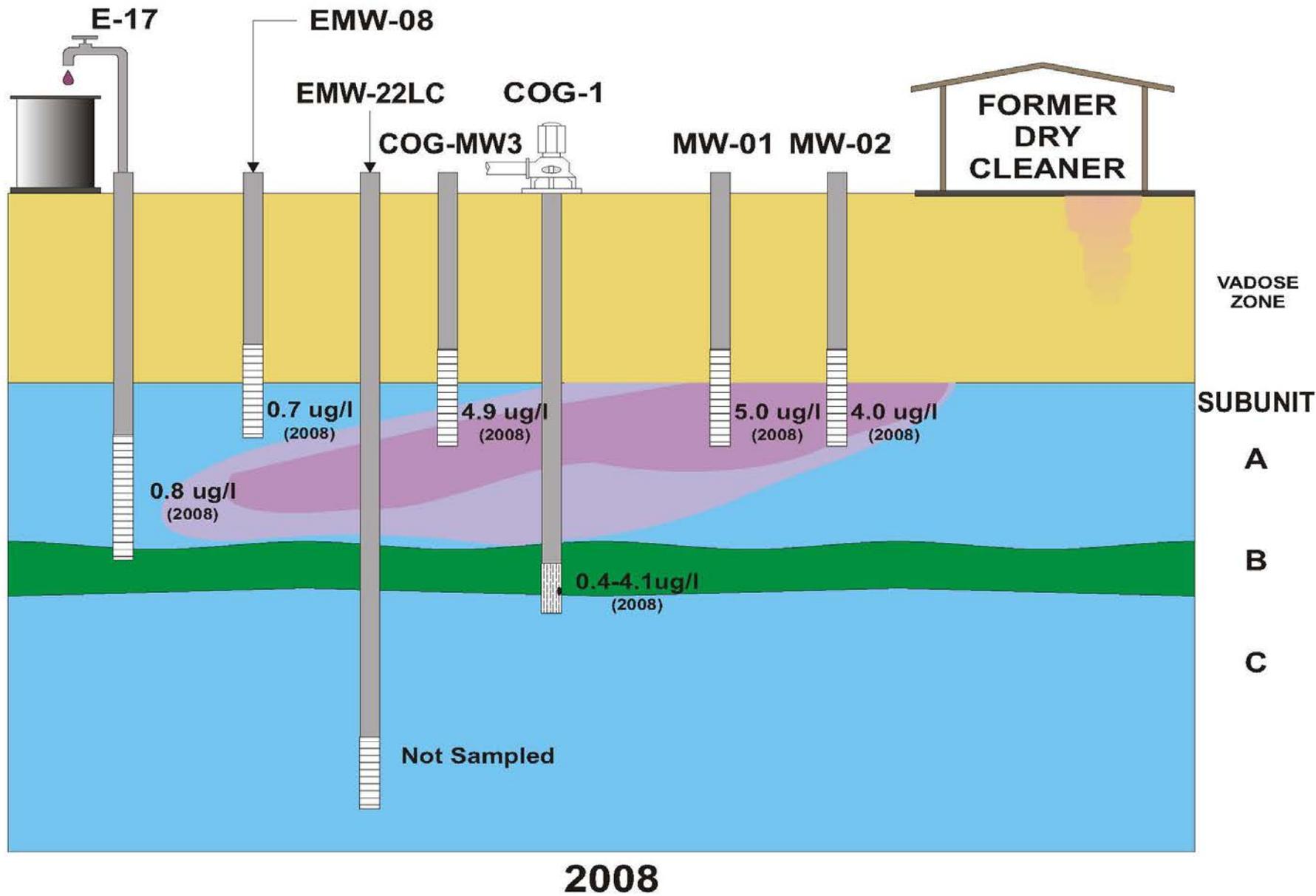
CONCEPTUAL SITE MODEL

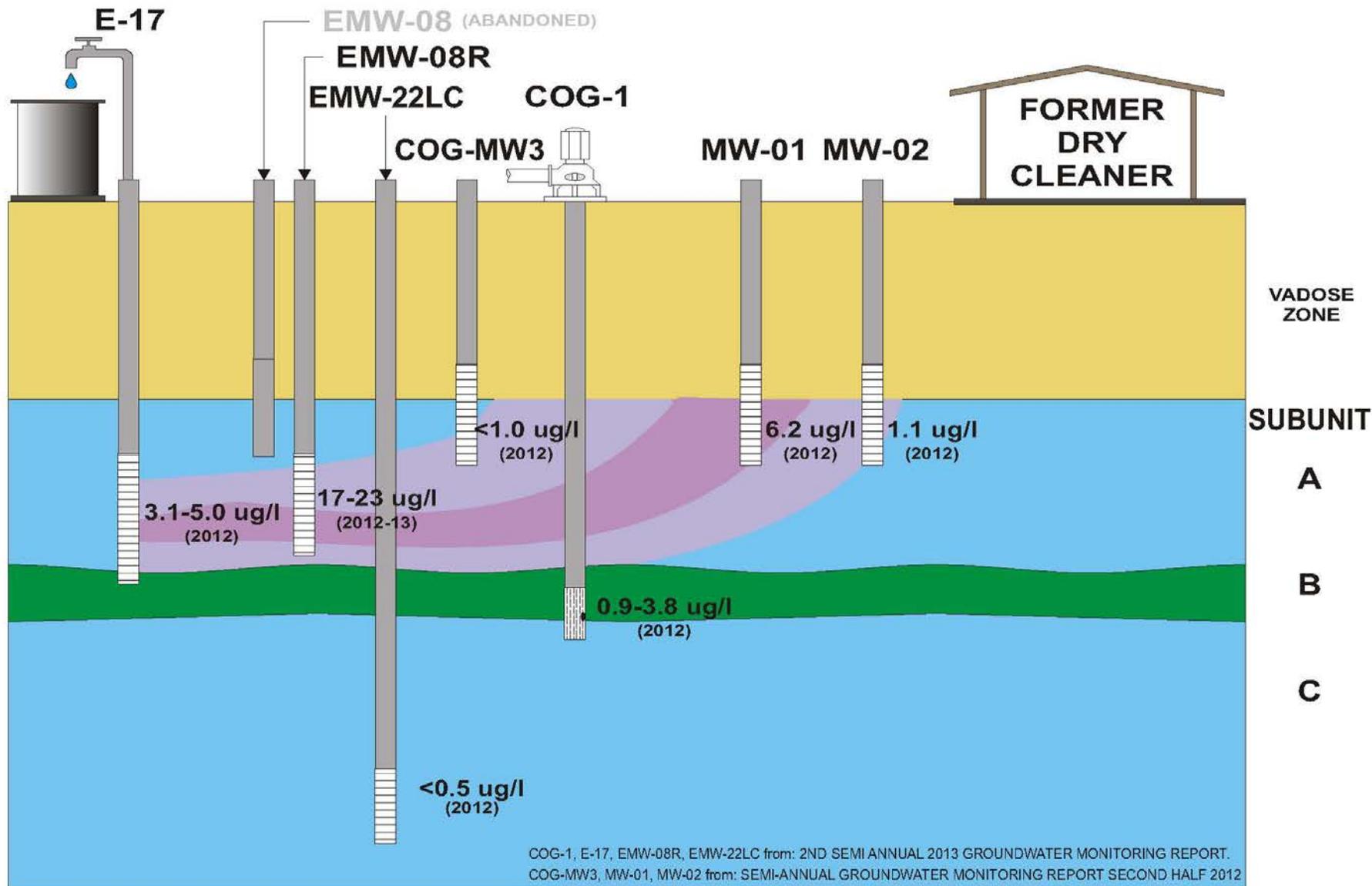
- **Release or releases of PCE along Western Avenue**
- **Downward movement of PCE through vadose zone to Subunit A groundwater**
- **Transport of PCE in groundwater by advection and dispersion to the west-northwest**
- **Intercepted and removed by PGA-S extraction wellfield**
- **Natural attenuation by sorption, dilution, volatilization, and dispersion**



1994-96

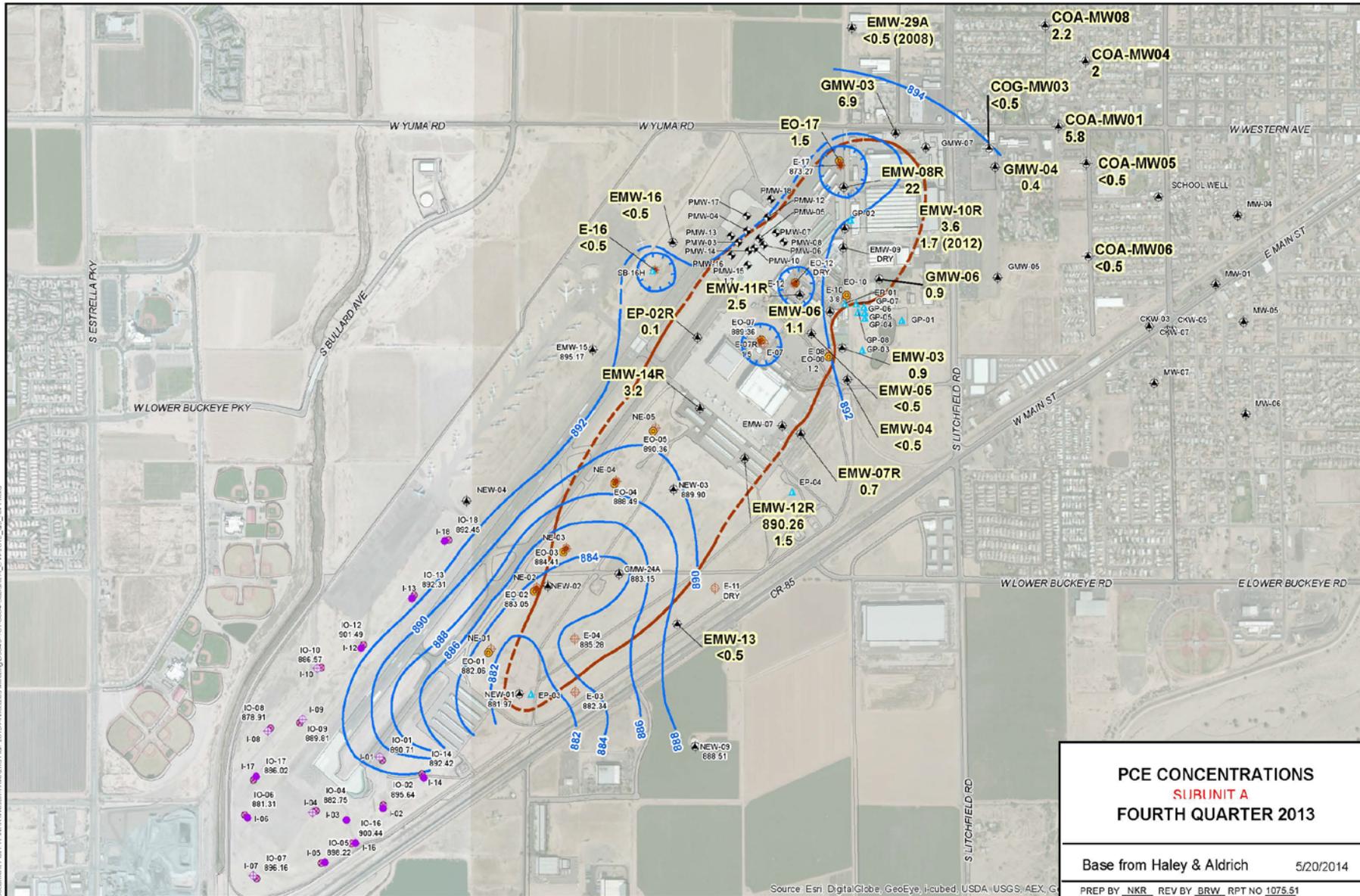






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SUBUNIT C

- No exceedences of AWQS at well COG-01
- PCE not present at well EMW-22LC
- No exceedences of AWQS or ND at PGA-S site



REMEDIAL OBJECTIVES

- Goals to be achieved by the chosen remedy
- ROs typically established for groundwater use and land use.
- Western Avenue Site ROs established in 2009.

REMEDIAL OBJECTIVES

- Groundwater Use:
 - *...protect the supply of groundwater for municipal and irrigation use and...provide for the groundwater supply lost due to contamination associated with the Western Avenue WQARF site.*
- Land use:
 - None; no areas of significantly PCE-impacted soil or soil vapor identified.

PROPOSED REMEDY

MNA w/contingencies

- Capable of achieving the groundwater RO
 - No significant continuing source
 - PCE concentrations decreased significantly last 15-20 years
 - Present extent of PCE greater than the AWQS minimal
 - Area near Subunit A wells MW-1 and sporadically MW-2
 - Present information does not suggest any impact on local water supplies
 - No AWQS exceedances at well COG-01 or other downgradient water supply wells

PROPOSED REMEDY – MNA (cont'd)

- Scope of MNA
 - Semiannual groundwater monitoring
 - Water levels to confirm direction of Subunit A groundwater movement
 - Groundwater sampling for VOCs to monitor Subunit A PCE concentrations and additional MNA parameters
 - Groundwater sampling for VOCs of well COG-01 to monitor potential PCE migration from Subunit A to C
 - Annual reporting
 - Monitoring frequency to be evaluated after one year

PROPOSED REMEDY – MNA (cont'd)

- Contingencies – Any future potential risk to Subunit C water supply wells
 - Installation of a Subunit C monitor well
 - Abandon and destroy well COG-01 if two consecutive sampling events with PCE greater than the AWQS
 - Contingencies implemented in cooperation with the Cities of Goodyear and Avondale

COMMUNITY INVOLVEMENT

- Notice of availability April 25, 2014
- Available at Sam Garcia Western Avenue Library
- Instructions for written comments
- Comment period extended to June 23, 2014
- This meeting for informational/Q&A purposes

Questions/Discussion