

**FEASIBILITY STUDY REPORT
EAST CENTRAL PHOENIX
40TH STREET AND INDIAN SCHOOL ROAD
WQARF REGISTRY SITE
PHOENIX, ARIZONA**



May 18, 2017

Arizona Department of Environmental Quality
Remedial Projects Unit
1110 West Washington St., Phoenix, Arizona 85007

FINAL
 FEASIBILITY STUDY REPORT
 EAST CENTRAL PHOENIX
 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE
 PHOENIX, ARIZONA

TABLE OF CONTENTS

Section	Page
ACRONYMS AND ABBREVIATIONS.....	iv
EXECUTIVE SUMMARY.....	ES-1
1.0 INTRODUCTION.....	1
1.1 PURPOSE AND SCOPE OF THE FEASIBILITY REPORT.....	1
1.2 REPORT ORGANIZATION.....	ERROR! BOOKMARK NOT DEFINED.
2.0 SITE BACKGROUND.....	2
2.1 CONCEPTUAL SITE MODEL.....	2
2.1.1 Site Description.....	2
2.1.2 Previous Remedial Actions or Early Response Actions/Interim Remedial Actions.....	5
2.1.3 Extent of Contamination.....	5
2.1.4 Unsaturated Zone.....	5
2.1.5 Risk Evaluation Summary.....	7
3.0 FEASIBILITY STUDY SCOPING.....	9
3.1 REGULATORY REQUIREMENTS (A.R.S. 49-287.03 AND A.A.C. R18-16-407).....	9
3.2 DELINEATION AND DESCRIPTION OF REMEDIATION AREAS.....	9
3.2.1 Vadose Zone Soils.....	9
3.2.2 Groundwater.....	10
3.3 REMEDIAL OBJECTIVES.....	10
3.3.1 Soil Remedial Objective.....	11
3.3.2 Groundwater Remedial Objective.....	11
4.0 IDENTIFICATION AND SCREENING REMEDIATION TECHNOLOGIES AND ALTERNATIVES.....	12
5.0 DEVELOPMENT OF A REFERENCE REMEDY AND ALTERNATIVE REMEDIES.....	12
6.0 DETAILED COMPARISON OF THE REFERENCE REMEDY AND THE ALTERNATIVE REMEDIES [A.A.C. R18-16-407(H)].....	12

TABLE OF CONTENTS (continued)

7. 0 PROPOSED REMEDY [A.A.C. R18-16-407(I)]..... 12
8. 0 COMMUNITY INVOLVEMENT (A.A.C. R18-16-404) 12
9. 0 REFERENCES..... 136

FIGURES

FIGURES

- 1 SITE LOCATION MAP
- 2 SITE MAP
- 3 REGISTERED WITHDRAWAL WELLS WITHIN 1-MILE RADIUS OF SITE
- 4 MAY 2016 WATER LEVEL ELEVATION AND TETRACHLOROETHENE IN GROUNDWATER
- 5 FEBRUARY 2017 WATER LEVEL ELEVATION AND TETRACHLOROETHENE IN GROUNDWATER
- 6 MAY 2017 WATER LEVEL ELEVATION AND TETRACHLOROETHENE IN GROUNDWATER
- 7 HISTORICAL SOIL VAPOR MONITORING AND TREATMENT AT SITE

APPENDICES

APPENDIX

- A GROUNDWATER AND SOIL VAPOR DATA
- B GROUNDWATER ELEVATION AND PCE CONCENTRATION GRAPHS

ACRONYMS AND ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AMEC	Amec Foster Wheeler Environment & Infrastructure, Inc.
A.R.S.	Arizona Revised Statutes
AS	Air Sparge
AWQS	Aquifer Water Quality Standard
bgs	Below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
CAB	Community Advisory Board
COC	Chemical of concern
COP	City of Phoenix
CSM	Conceptual site model
ECP	East Central Phoenix
EPA	U.S. Environmental Protection Agency
ERA	Early response action
ft/ft	Feet per foot
FS	Feasibility study
H+A	Hargis + Associates, Inc.
HGL	HydroGeoLogic, Inc.
mg/kg	milligrams per kilogram
MNA	Monitored natural attenuation
PCE	Perchloroethene/tetrachloroethene
PDB	Passive diffusion bag
PRAP	Proposed Remedial Action Plan

ACRONYMS AND ABBREVIATIONS (continued)

RI	Remedial investigation
ROs	Remedial objectives
SECOR	SECOR International, Inc.
SRP	Salt River Project
SVE	Soil Vapor Extraction
TCE	Trichloroethene
the Site	40th Street and Indian School Road
UAU	Upper alluvial unit
VOCs	Volatile organic compounds
WQARF	Water Quality Assurance Revolving Fund
µg/kg	micrograms per kilogram
µg/L	Micrograms per liter
µg/m ³	Micrograms per cubic meter

FINAL
FEASIBILITY STUDY REPORT
EAST CENTRAL PHOENIX
40TH STREET AND INDIAN SCHOOL ROAD
WATER QUALITY ASSURANCE REVOLVING FUND SITE
PHOENIX, ARIZONA

EXECUTIVE SUMMARY

This document presents a Feasibility Study (FS) for the 40th Street and Indian School Road site (the Site), of the East Central Phoenix (ECP) Water Quality Assurance Revolving Fund (WQARF) area, located in Phoenix, Arizona. This FS report has been prepared on behalf of the Arizona Department of Environmental Quality (ADEQ) in accordance with Arizona Administrative Code (A.A.C.) Title 18, Environmental Quality, Chapter 16, Section 407 (R18-16-407) to identify a reference remedy and alternative remedies capable of achieving the remedial objectives (ROs) proposed for the Site. However, identification and screening of remedial technologies and alternatives are not necessary because groundwater at the Site no longer exceeds the Arizona aquifer water quality standard (AWQS) of 5 µg/L for tetrachloroethene (PCE).

In 2015, ADEQ established ROs for the Site soil and it was determined that the ROs have been met with for soil. In 2015, ADEQ established ROs for the Site's groundwater. In 2017, it was determined that the ROs have been met with for groundwater, because the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE.

FINAL
FEASIBILITY STUDY REPORT
EAST CENTRAL PHOENIX
40TH STREET AND INDIAN SCHOOL ROAD
WATER QUALITY ASSURANCE REVOLVING FUND SITE
PHOENIX, ARIZONA

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF THE FEASIBILITY REPORT

This document presents a Feasibility Study (FS) for the 40th Street and Indian School Road site (the Site), of the East Central Phoenix (ECP) Water Quality Assurance Revolving Fund (WQARF) area, located in Phoenix, Arizona (Figure 1). This FS report has been prepared on behalf of the Arizona Department of Environmental Quality (ADEQ) in accordance with Arizona Administrative Code (A.A.C.) Title 18, Environmental Quality, Chapter 16, Section 407 (R18-16-407) and the FS Workplan (ADEQ, 2015b). However, identification and screening of remedial technologies and alternatives are not necessary for this Site because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE. This FS, documents rationale for site delisting from the WQARF Registry.

The purpose of a FS is to identify proposed remedies that may be capable of achieving the remedial objectives (ROs) proposed for the Site (ADEQ, 2015a) and to select a preferred remedy from among them which:

- 1) Assures the protection of public health, welfare, and the environment;
- 2) To the extent practicable, provides for the control, management, or cleanup of hazardous substances so as to allow for the maximum beneficial use of waters of the state;
- 3) Is reasonable, necessary, cost-effective, and technically feasible, and
- 4) Addresses any well that either supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is a part of a public water system, if the well currently, or in the foreseeable future would produce water that would not be fit for its current or reasonably foreseeable end use without treatment.

2.0 SITE BACKGROUND

The following descriptions are excerpted from selected reports prepared on behalf of ADEQ for the Site (Amec Foster Wheeler [AMEC], 2017; Hargis + Associates, Inc. [H+A], 2015a, 2015b, 2015c, 2015d, 2016, and 2017; HydroGeoLogic, Inc. [HGL], 2014; SECOR International, Inc. [SECOR], 2005a, 2005b, 2007a, 2007b; Stantec, 2008). These reports can be reviewed for more detailed Site information.

2.1 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) was developed to aid in understanding the likely contaminant transport and exposure pathways associated with the Site. The CSM integrates available site data and information including the operational history, geologic and hydrogeologic framework, potential source areas, and groundwater quality dynamics of the Site.

2.1.1 Site Description

The Site is located in the 4000 block of East Indian School Road in a mixed residential and commercial area of Phoenix, Arizona. The Site is one of six ECP WQARF sites (Figure 1). The current site is bounded by Devonshire Avenue to the North, 40th Street to the East, East Piccadilly Road to the South and 38th Place to the West (Figure 2).

In 1998, the Site was placed on the WQARF Registry with a score of 20 out of a possible 120 based on detection of PCE in soil and groundwater.

2.1.1.1 Local Geology and Hydrogeology

The hydrostratigraphic units underlying the Site have been defined based on a review and evaluation of data generated during groundwater assessments. The Site is located in the western portion of the Salt River Valley. The Site hydrogeology has been investigated to a maximum depth of 200 feet bgs within the Upper Alluvial Unit (UAU), based on drilling of 26 monitor wells or exploratory borings in 19 different locations at the Site. The base of the UAU has not been encountered during drilling activities to date; however, it has been reported that the UAU ranges in thickness from approximately 125 to 300 feet in the ECP area. The UAU at the Site consists of predominantly fine-grained, clayey silts and silt with

sand to sandy silts with trace amounts of gravel. The Middle Alluvial Unit (MAU) is believed to be absent in the vicinity of the Site (H+A, 2015b).

The horizontal hydraulic conductivity of the clayey sand with gravel/sandy gravel with silt, range from 0.75 to 130 feet per day, based on slug tests conducted at monitor wells AMW-01 and AMW-04, and approximately 27 feet per day based on a reported aquifer test (SECOR, 2007b).

2.1.1.2 Chemicals of Concern

Volatile organic compounds (VOCs) have been detected in soil vapor, soil, and groundwater samples collected at the Site. PCE is the chemical of concern (COC) associated with the Site. However, both PCE and trichloroethene (TCE) have historically been discovered in soil vapor, soil, and groundwater samples collected. TCE, when detected, is often an order of magnitude less than PCE (H+A, 2015b).

2.1.1.3 Potential Source Areas

Results of the industrial survey and Site investigations provide evidence of releases and the presence of PCE due to dry cleaning operations at the Kachina Cleaners facility and the former Allen's Cleaners facility. Historical operational information for these two facilities is presented below:

- **Kachina Cleaners** – The Kachina Cleaners facility is located approximately 300 feet west of the intersection of North 40th Street and Indian School Road at 3926 East Indian School Road (Figure 2). Kachina Cleaners is a dry cleaning and laundry facility that has been in operation from 1959 to the present. According to information provided to ADEQ, the dry cleaning process involves mixing dry cleaning solvent and detergent together in a dry cleaning machine. Approximately 40 to 50 gallons of PCE was used per week in the dry cleaning process. Spent filters (were/are) removed and disposed by Safety-Kleen Corporation. Waste PCE fluids are distilled for recycling, and leftover amounts of PCE are handled and disposed by Rinchem Company, Inc. (H+A, 2015b).
- **Former Allen's Cleaners** – Allen's Cleaners was located approximately 350 feet north of the intersection of North 40th Street and Indian School Road at 4129 North 40th Street. The facility was operated as a dry cleaning facility from approximately 1969 until 1989. The building has since been remodeled as an office building (Figure 2). The predominant dry cleaning solvent

used was PCE. Waste disposal was not documented until 1987 when Safety-Kleen Corporation was retained to transport and dispose of generated dry cleaning process waste products (H+A, 2015b).

2.1.1.4 Water Levels and Groundwater Movement

Water levels in the UAU have been monitored since April 1992 (H+A, 2015b). Monitor wells installed at the Site are screened across both shallow (water table) and deeper intervals within the UAU. Water levels in co-located shallow and deeper screened monitor wells are generally nearly identical.

During the period of record for the Site monitor wells, the depth to water has ranged from approximately 21 feet below ground surface (bgs) in the mid 1990's to approximately 49 feet bgs in August 2016 (H+A, 2015d; Appendix B). The direction of groundwater flow historically has been to the southwest with gradients ranging from approximately 0.005 to 0.008. Vertical gradients between the shallow and deeper zones of the UAU monitored at the Site are generally negligible.

2.1.1.5 Current and Future Groundwater Uses

The City of Phoenix (COP) and Salt River Project (SRP) pump groundwater as needed when surface water supplies cannot meet their customer needs. Current and future groundwater uses within the Site include the following (H+A, 2015a):

- The most accessible alternate water source for the COP is local groundwater. The COP currently has no plans to develop groundwater within the Site but will consider the Site area for well development in the future. Therefore, the potential exists for the COP to install future municipal wells within the Site or within one mile of the ECP sites.
- While there are no SRP wells in the immediate vicinity of the Site, SRP operates and maintains seven irrigation wells within one-mile of the 40th Street and Indian School Road Site (Figure 3).
- SRP will continue to need the irrigation wells in the Site area to be operational to supplement surface water supplies. SRP has indicated that they may change water usage from irrigation to drinking water within the foreseeable future to accommodate COP needs.

2.1.2 Previous Remedial Actions or Early Response Actions/Interim Remedial Actions

A soil vapor extraction/air sparge (SVE/AS) system was installed at the former Allen's Cleaners in 2004. The system included three SVE wells and six AS wells and was operated from October 2004 to July 2005 and removed approximately 33 pounds of PCE. This SVE/AS system significantly decreased PCE in soil vapor at both source areas.

No soil remedial activities, such as SVE and or soil excavations, have been performed at Kachina Cleaners. However, potential historical sources of contamination, including older dry cleaning equipment, may have been removed (H+A, 2015b).

On March 7, 2017, a one-time in-situ chemical oxidation (ISCO) treatment, consisting of a catalyzed hydrogen peroxide reagent, occurred due to a confirmed one-time detection of PCE of 8.6 µg/L in monitor well KMW-01. Two confirmatory groundwater sampling events, of monitor well KMW-01 on April 5, 2017 and May 3, 2017, confirmed the PCE concentration was below the Arizona AWQS of 5 µg/L of PCE (AMEC, 2017). Another site wide sampling event of all groundwater monitor wells on May 3, 2017, confirmed that PCE and TCE concentrations were below the Arizona AWQS of 5 µg/L of PCE in all monitoring wells (Hargis, 2017).

2.1.3 Extent of Contamination

2.1.3.1 Unsaturated Zone

At the former Allen's Cleaners facility, between 1992 and 1997, 45 soil samples were collected between 3 to 30 feet bgs and were analyzed for PCE. PCE was detected in seven soil samples at concentrations ranging from 0.040 to 2.750 milligrams per kilograms (mg/kg). Only four (4) samples exceeded the Groundwater Protection Level (GPL) and/or Soil Remediation Level (SRL) for PCE of 1.3 mg/kg and 0.51 mg/kg, respectively. All of these samples were collected adjacent to the north sump, between 3 to 6 feet bgs, and before the operation of the SVE system noted above. After operation of the SVE system, soil samples were collected adjacent to the north sump and PCE was not detected above the 0.025 mg/kg reporting limit. The deepest detection of PCE in soil was at a depth of 30 feet bgs with a reported concentration of 0.188 mg/kg. TCE and cis-1,2-dichloroethene (cis-1,2-DCE) have not been detected in any soil samples (H+A, 2015b).

At the Kachina Cleaners facility, between 1996 and 2006, 20 soil samples were collected between 5 to 40 feet bgs and were analyzed for PCE. PCE was detected in 5 soil samples at concentrations ranging from 0.0018 to 0.12 mg/kg. PCE was not detected above its respective GPL of 1.3 mg/kg and SRL of 0.51 mg/kg. The deepest detection of PCE in soil was at a depth of 17 feet bgs with a reported concentration of 0.0018 mg/kg. TCE and cis-1,2-DCE have not been detected in any soil samples (H+A, 2015b).

The distribution of PCE in soil vapor was not evaluated as part of the remedial investigation (RI) (H+A, 2015b). Historically, prior to operation of the SVE/AS system, PCE was detected in soil vapor at a maximum value of 460 µg/L from 5 feet to 40 feet bgs and at maximum value of 370 µg/L PCE and from 7 feet to 20 feet bgs in the vicinity of Kachina Cleaners.

A recent soil vapor monitoring round was conducted in April 2015 and the results were not available at the time the final RI was published (H+A, 2015c). The April 2015 results indicated the following:

- PCE detected at a concentration of 1.3 µg/L in SVE-01 at a depth of 22.5 bgs;
- PCE detected at a concentration of 0.32 µg/L in SVE-02 at a depth of 22.5 feet bgs; and
- PCE detected at a concentration of 2.7 µg/L in SVE-03 at a depth of 25 feet bgs by the mobile laboratory using the Modified TO-14 method and 11.0 µg/L by the EPA TO-15 method.

2.1.3.2 Groundwater

Concentrations of PCE in groundwater are generally declining in Site monitor wells since monitoring began in 1992 (Appendices A and B). The distribution of PCE presented in the RI report (H+A, 2014b) suggested a low-concentration plume that remained downgradient of the former Kachina Cleaners and the former Allen's Cleaners with a maximum groundwater concentration of 20 µg/L in May 2014 (monitor well AMW-08 located in the source area near Kachina Cleaners) (Figure 4). PCE was reported in monitor well AMW-08, at concentrations of:

- 20 µg/L in May 2014;
- 8 µg/L in December 2014;
- 5.1 µg/L in March 2015;
- 5.4 µg/L in May 2015;
- 5.3 µg/L in October 2015;
- 2.2 µg/L in August 2016; and
- 3.2 µg/L in May 2017.

The only other monitor well that exceeded the AWQS, since October 2015, was downgradient monitor well KMW-01. PCE was reported in monitor well KMW-01, at concentrations of:

- 4.6 µg/L in October 2013;
- 1.3 µg/L in December 2014;
- 5.4 µg/L in May 2014;
- 3 µg/L in March 2015;
- 3.5 µg/L in May 2015;
- 4.2 µg/L in October 2015;
- 4.8 µg/L in August 2016;
- 8.4 µg/L in February 2017;
- Non-detect in April 2017; and
- 3.3 µg/L in May 2017.

PCE concentrations in groundwater samples collected from all other wells, in 2013 through 2017 were below the Arizona AWQS for PCE of 5 µg/L (H+A, 2015b and H+A, 2017). The most recent groundwater level/PCE plume map from the May 2017 round is presented as Figure 5.

2.1.4 Risk Evaluation Summary

The RI report (H+A, 2015b) presented an analysis of migration or "exposure" pathways potentially taken by contaminants from the Site as they migrate away from the sources through the environmental media to potential environmental receptors.

2.1.4.1 Groundwater

Given the current depth to groundwater (approximately 40 to 50 feet bgs), human receptor contact is improbable. Although, a potential groundwater pathway could be established if active groundwater supply wells in the vicinity of the Site were to pump PCE-impacted groundwater to the surface. However, all groundwater concentrations are below the AWQS of 5 µg/L.

2.1.4.2 Surface Water

There are no natural surface water bodies within a 0.75-mile radius of the former Allen's Cleaners and Kachina Cleaners sites. Surface water impacts resulting from facility dry cleaning solvent releases are improbable. However, the ECP Site area irrigation is supplied by the SRP through the lateral canal system which connect to the Arizona and Grand Canals. The canal water is supplied by groundwater pumped from SRP wells (H+A, 2015b).

2.1.4.3 Air

Migration of PCE and or TCE by the air pathway is possible, given their high potential for volatilization from liquid to gas. Given that the Site is covered by asphalt or concrete, a direct exposure pathway from soil gas to potential receptors is improbable and, therefore, considered incomplete.

2.1.4.4 Soil

PCE-impacted soil has been documented at the Site. All soil concentrations are below the SRLs and GPLs. A PCE pathway from soil to groundwater has been established as detectable concentrations of PCE in groundwater have been identified. Given that the majority of the Site is covered by asphalt or concrete, a direct exposure pathway from residual high concentrations of PCE adsorbed on soil particles or trapped in pore spaces between soil particles to potential receptors, is incomplete. Additionally, all soil concentrations are below the SRLs and GPLs.

2.1.4.5 Biota

Biota transport can occur if contaminated groundwater is used in agricultural or livestock practices. There are no operational production wells within a 1,000-foot radius of the Site. Therefore, the biota exposure pathway is incomplete (H+A, 2015b).

3.0 FEASIBILITY STUDY SCOPING

3.1 REGULATORY REQUIREMENTS (A.R.S. 49-287.03 AND A.A.C. R18-16-407)

Arizona Revised Statutes (A.R.S.) 49-287.03 Section A states that ADEQ may conduct an FS to evaluate alternative potential remedies to the extent necessary to select a final remedy in a manner consistent with the rules and procedures adopted pursuant to A.R.S.49-282.06 (“Remedial Action Criteria: Rules”). Additionally, A.R.S. 49-287.03 Section F states that the FS shall be fully integrated with the results of the remedial investigation and shall include an alternative screening step to select a reasonable number of alternatives in a manner consistent with the rules and procedures adopted pursuant to A.R.S. 49-282.06.

This FS has been conducted in accordance with the Remedy Selection Rule R18-16-407, Sections A, B, E, F, G, H, and I.

A complete FS following the Remedy Selection Rule R18-16-407 is not necessary for the Site because groundwater no longer exceeds the Arizona AWQS of 5 µg/L for PCE.

3.2 DELINEATION AND DESCRIPTION OF REMEDIATION AREAS

3.2.1 Vadose Zone Soils

The RI concluded that a significant continuing soil source of PCE is no longer present in areas where historic PCE soil gas concentrations had been detected. The RI also concluded that remedial action (in addition to SVE conducted at Allen’s Cleaners) was not recommended for the vadose zone (H+A, 2015b; Figure 5; Appendix A).

The maximum concentration of PCE in soil gas samples collected in April 2015 was 11,000 micrograms per cubic meter (µg/m³) (Appendix A). Using a calculation and default values outlined in ADEQ (2011), this soil gas concentration relates to an approximate total soil concentration of 16 µg/kg (or 0.016 mg/kg). The calculation is as follows:

$$C_t = \frac{C_g \left[\frac{K_{oc} f_{oc} \rho_b}{H_o} + \frac{\theta_w}{H_o} + (\theta_t - \theta_w) \right]}{\rho_b}$$

Where:

C_t = Total concentration in soil (µg/kg)

C_g = Concentration in soil vapor (µg/L) is 11.0 based on April 2015 observed maximum concentration

f_{oc} = Mass fraction of natural soil organic carbon content (grams organic carbon/grams soil) - (0.006, ADEQ recommended default value)

K_{oc} = Soil organic carbon-water partitioning coefficient (milliliter per gram) – 155 for PCE

ρ_b = Dry Bulk Density (kilograms per liter) – 1.5 ADEQ recommended default value

H_o = Henry's Law Constant (dimensionless) – 0.754 for PCE

θ_t = Total soil porosity (volume of voids/volume total) - 0.43 recommended ADEQ default value

θ_w = Volumetric Water Content (volume of water/volume of soil) – 0.15 recommended default value

The current Arizona Soil Remedial Level (SRL) for PCE in soil is 0.51 mg/kg for residential land use at 10^{-6} cancer risk. The estimated total soil concentration for PCE using 2015 data (0.016 mg/kg) is well below this SRL. Based on existing data, there is no indication that there are areas in the vadose zone that require remediation.

3.2.2 Groundwater

Groundwater at the site does not require remediation based on the August 2016, April 2017 and May 2017 groundwater monitoring events. Groundwater samples collected from the Site monitor wells during these events did not exceed the Arizona AWQS of 5 µg/L for PCE. The distribution of residual PCE in groundwater for the May 2017 monitoring events is shown on Figure 6 with the highest PCE concentration of 3.3 µg/L.

3.3 REMEDIAL OBJECTIVES

ADEQ discussed and proposed ROs for the Site in 2015 (ADEQ, 2015a). Pursuant to A.A.C. R18-16-406 (I)(4), the ROs were chosen with consideration for the current and reasonably foreseeable future uses of land and water of the state that have been or are threatened to be affected by a release of a hazardous substance. PCE was identified as the sole COC for the Site. The source areas of the PCE were determined to be at the Kachina Cleaners facility and the former Allen's Cleaners facility.

3.3.1 Soil Remedial Objective

Although the former dry cleaner properties are currently zoned for commercial use, reasonably foreseeable use may be residential (ADEQ, 2015a). Therefore, appropriate Soil Remediation Levels (SRLs) apply and the ROs for land use at the former drycleaner properties are:

“To restore soil conditions to the remediation standards for intended end 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 (PCE). This action is needed for the present time and for as long as the level of contamination in the soil threatens its intended end use.” (ADEQ, 2015a).

The current soil concentrations are below SRLs and the ROs for soil have been met.

3.3.2 Groundwater Remedial Objective

Current groundwater use in the Site is for irrigation, however, the regional aquifer is considered to be a drinking water source for the COP and SRP. Therefore, the current and future use of the regional aquifer must be protected. (ADEQ, 2015a). The ROs for current and future use of groundwater supply is as follows:

“The remedial objective for regional groundwater at the site is to protect for the use of the groundwater supply by the COP and SRP from contamination at the Site. 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.” (ADEQ, 2015a).

The current groundwater concentrations are below the AWQS for PCE of 5 µg/L and the ROs for groundwater have been met.

4.0 IDENTIFICATION AND SCREENING OF REMEDIATION TECHNOLOGIES AND ALTERNATIVES

Although technically feasible, identification and screening of remedial technologies and alternatives are not reasonably cost effective or necessary pursuant to A.R.S. 49-282.06 because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE, and ROs have therefore been met.

5.0 DEVELOPMENT OF A REFERENCE REMEDY AND ALTERNATIVE REMEDIES

Development of a Reference Remedy and Alternative Remedies is not necessary because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE.

6.0 DETAILED COMPARISON OF THE REFERENCE REMEDY AND THE ALTERNATIVE REMEDIES [A.A.C. R18-16-407(H)]

Detailed comparison of the Reference Remedy and the Alternative Remedies is not necessary because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE.

7.0 PROPOSED REMEDY [A.A.C. R18-16-407(I)]

A Proposed Remedy is not necessary because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE.

8.0 COMMUNITY INVOLVEMENT (A.A.C. R18-16-404)

Public concerns and comments are considered throughout the entire WQARF process. This helps ADEQ to complete its mission of protecting public health, welfare and the environment in Arizona. The public is invited to attend the Community Advisory Board meetings and receive 40th Street and Indian School Road Site updates, as well as updates for other ECP WQARF sites. Site meeting agendas and meeting minutes can be found at: <http://www.azdeq.gov/environ/waste/sps/reg.html>. The latest Site information, documents, and notices can be found at: http://www.azdeq.gov/environ/waste/sps/East_Central_Phoenix_40th_Street_Indian_School_Road.html. A notice of the availability for the FS work plan (ADEQ, 2015b) was mailed to the Site mailing list, the Community Advisory Board (CAB), and other interested parties on May 14, 2015. The FS work plan was also discussed during the Summer/Fall 2015, Fall 2016 and Spring 2017 CAB meetings.

Community involvement is no longer necessary because groundwater at the Site no longer exceeds the Arizona AWQS of 5 µg/L for PCE, and this Site is recommended for delisting from the WQARF Registry. However, community involvement for the remaining sites in the ECP site area (as shown on Figure 1) will continue until a remedy or remedies are selected for the remaining sites.

9.0 REFERENCES

- Amec Foster Wheeler Environment & Infrastructure, Inc., 2017. ISCO Treatment Results Technical Memo ECP 40th Street and Indian School Road WQARF Site. May 2017
- Arizona Department of Environmental Quality (ADEQ), 2011. Soil Vapor Sampling Guidance. Revised May 19, 2011 (original publication date July 10, 2008).
- _____, 2015a. Remedial Objectives Report, 40th Street and Indian School Road Water Quality Assurance Revolving Fund Registry Site, Phoenix, Arizona.
- _____, 2015b. Feasibility Study Work Plan, East Central Phoenix, 40th Street and Indian School Road WQARF Registry Site, Phoenix, Arizona. May 2015.
- Hargis + Associates, Inc. (H+A), 2015a. Final Land and Water Use Report, 40th Street and Indian School Road Site, East Central Phoenix Water Quality Assurance Revolving Fund Site, Phoenix, Arizona. April 21, 2015.
- _____, 2015b. Remedial Investigation Report, East Central Phoenix, 40th Street and Indian School Road, Water Quality Assurance Revolving Fund Site, Phoenix, Arizona. Prepared for Arizona Department of Environmental Quality. April 30, 2015.
- _____, 2015c. Groundwater and Soil Vapor Monitoring Report (January 2013 through May 2015), , East Central Phoenix 40th and Indian School Road Water Quality Assurance Revolving Fund Site, Phoenix, Arizona. June 29, 2015.
- _____, 2015d. Groundwater Monitoring Technical Memorandum – Fall 2015, East Central Phoenix 40th Street and Indian School Road Water Quality Assurance Revolving Fund Site, Phoenix, Arizona. December 15, 2015.
- _____, 2016. Summary of Drilling/Sampling at Borehole KMW-08 / August 2016 Groundwater Monitoring, East Central Phoenix 40th Street and Indian School Road Water Quality Assurance Revolving Fund Site, Phoenix, Arizona. November 16, 2016.
- _____, 2017. Groundwater Monitoring Technical Memorandum – May 2017, East Central Phoenix 40th Street and Indian School Road, Water Quality Assurance Revolving Fund Site, Phoenix, Arizona

HydroGeoLogic, Inc. (HGL), 2014. Final Letter Report – Remedial Investigation, ECP 40th Street and Indian School Road WQARF Registry Site, Contract No. 13-048324, ADEQ Task Assignment No. 14-055490, HGL Project No. AR8003. March 10, 2014.

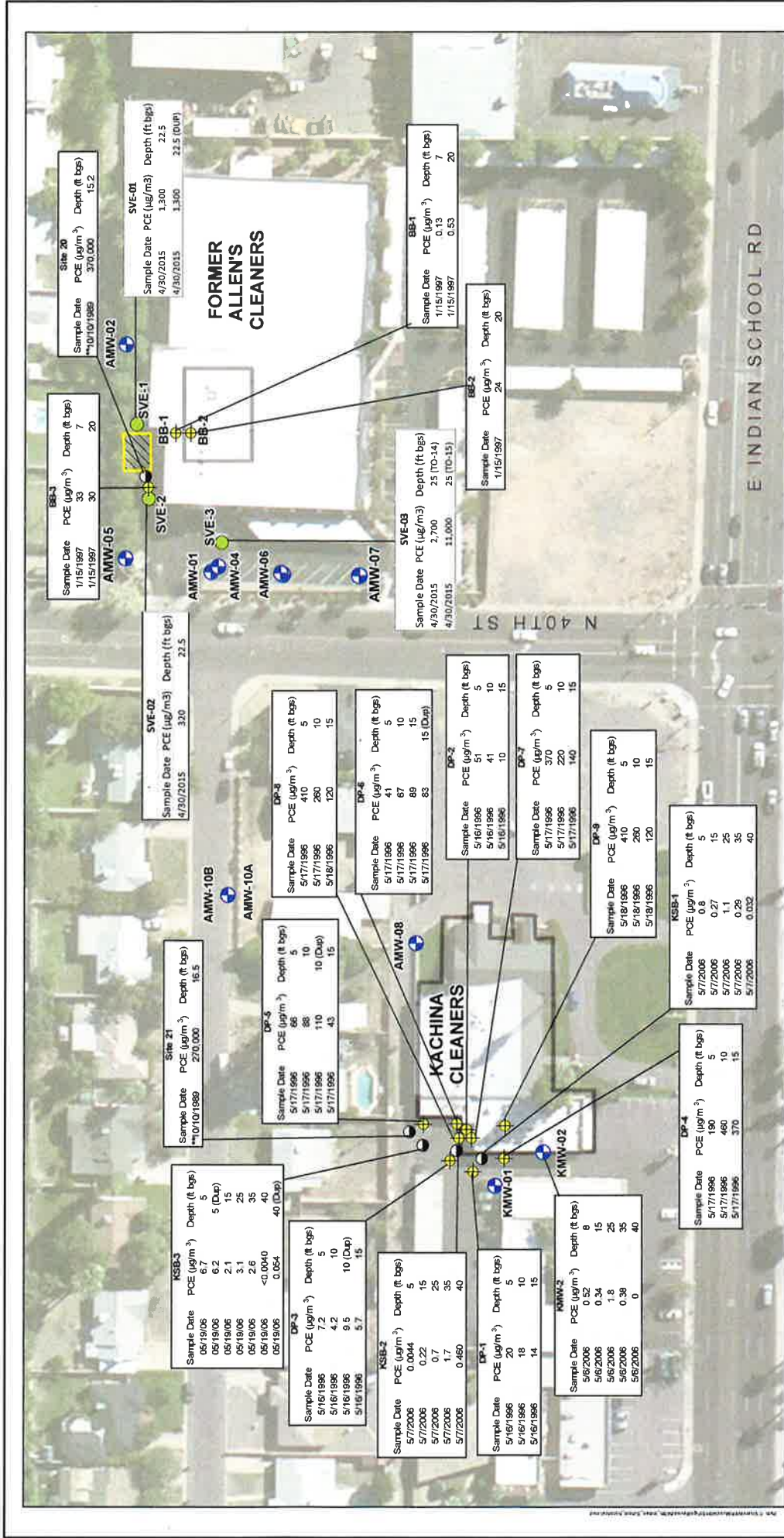
SECOR International, Inc. (SECOR), 2005a. Final, Operations and Maintenance Manual Soil Vapor Extraction and Air Sparging System at Former Allen's Cleaners Facility, 4020 East Indian School Rd, Phoenix, AZ. January 17, 2005.

_____, 2005b. Summary of Operations and Maintenance Activities, (June 2005), Former Allen's Cleaners. July 27, 2005.

_____, 2007a. Technical Memorandum, Boring and Groundwater Monitor/Vapor Extraction Well Installation, Kachina Cleaners Facility, 40th Street & Indian School Road. May 18, 2007.

_____, 2007b. Summary of Aquifer Slug Testing Conducted at the 40th Street and Indian School Road WQARF Site, Phoenix, Arizona. September 20, 2007.

Stantec, 2008. Groundwater Monitoring Wells AMW-09A, AMW-09BC, and AMW-10AB Installation Report. December 2, 2008.



Legend:

- Groundwater Monitor Well Locations
- Soil Vapor Monitoring Point Locations
- Direct Push Sampling Locations
- Soil Boring Locations
- Former Soil Vapor Extraction System

Note: Soil Vapor Extraction (SVE) system operated from 1994 to 1995. System decommissioned in 2003.

** Soil vapor sample collected prior to SVE treatment.

ft bgs = feet below ground surface

µg/m³ = micrograms per cubic meter

PCE = Tetrachloroethene

< = less than

Scale: 0 17.5 35 70 Feet

North Arrow

Site Information:

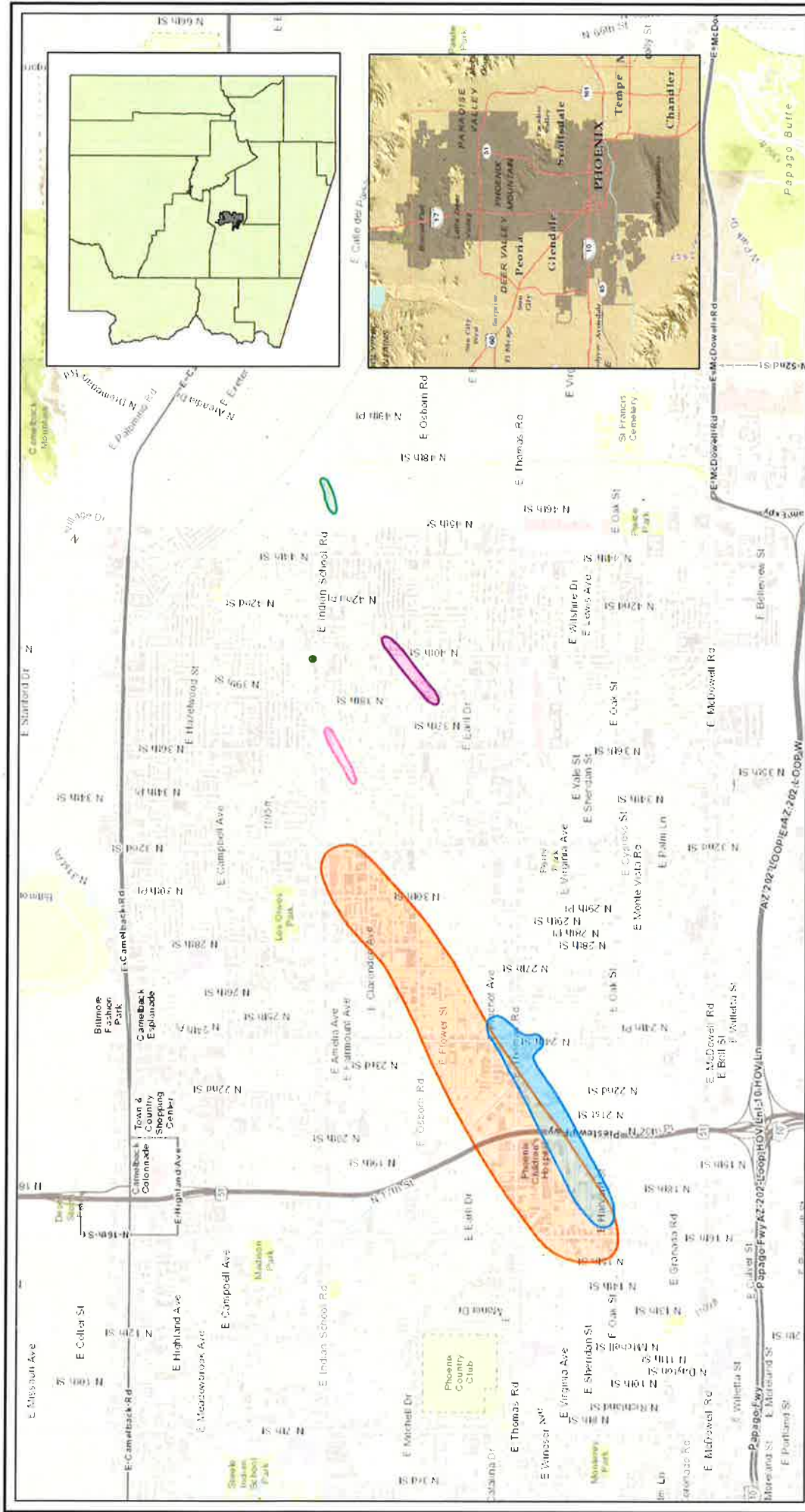
EAST CENTRAL PHOENIX
WOLF SITE
PHOENIX, ARIZONA

40TH STREET AND INDIAN SCHOOL
HISTORICAL SOIL VAPOR MONITORING
AND TREATMENT AT SITE

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY + ENGINEERING

5/15/2017
FIGURE 7

PREP BY: NKR REV BY: LLJM RPT NO 1134.41



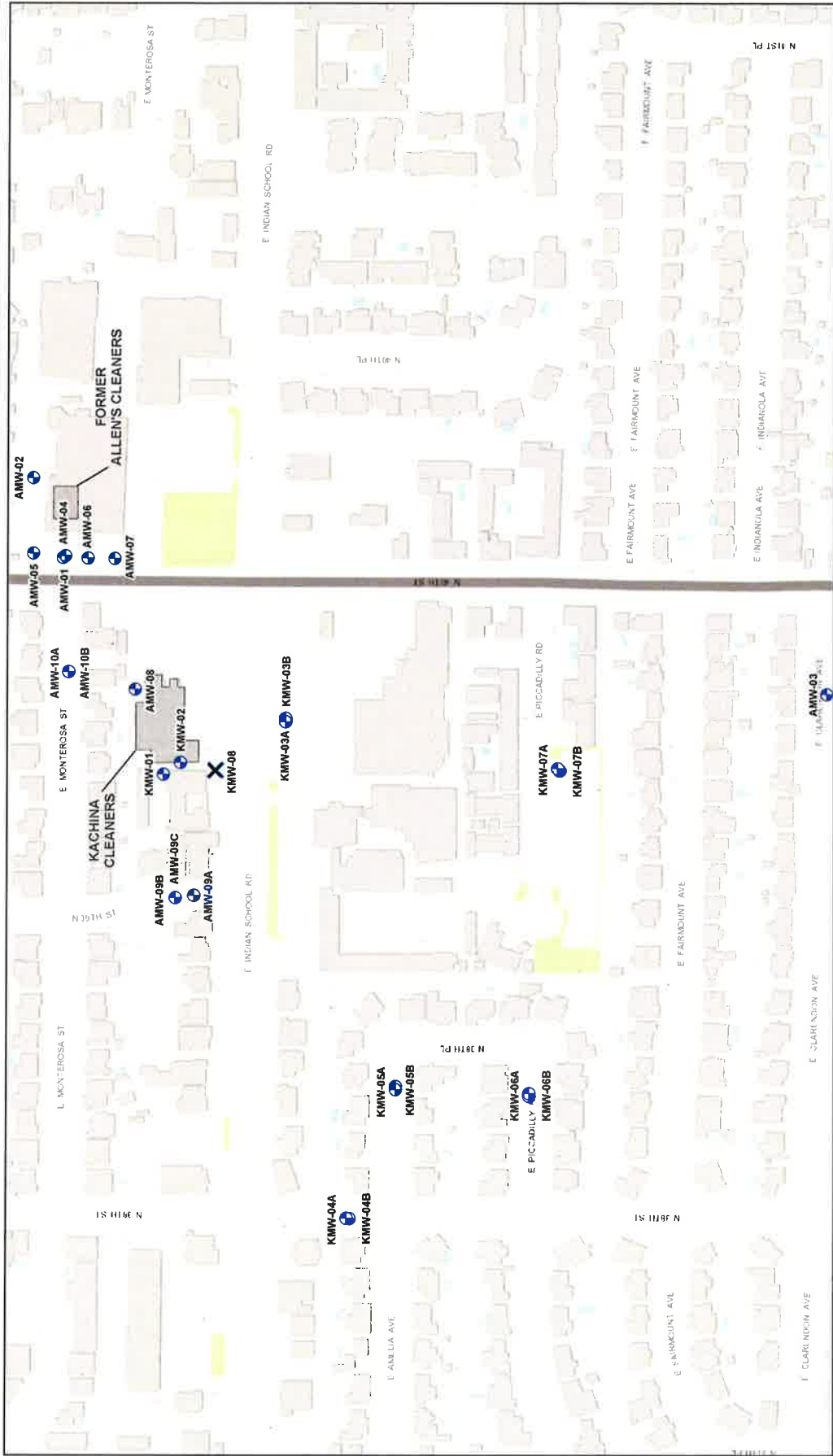
- ECP 24th Street and Grand Canal
- ECP 32nd Street and Indian School Road
- ECP 38th Street and Indian School Road
- ECP 40th Street and Osborn Road
- ECP 48th Street and Indian School Road
- ECP 40th Street and Indian School Road Area

EAST CENTRAL PHOENIX
WCOARF SITE
PHOENIX, ARIZONA

SITE LOCATION MAP

HARGIS ASSOCIATES, INC.
HYDROGEOLOGY ENGINEERING

5/15/2017
FIGURE 1
PREP BY: INKR REV BY: LJM RPT NO: 1132.4b



EXPLANATION
 ● Groundwater Monitor Well Location
 ✕ Abandoned Borehole



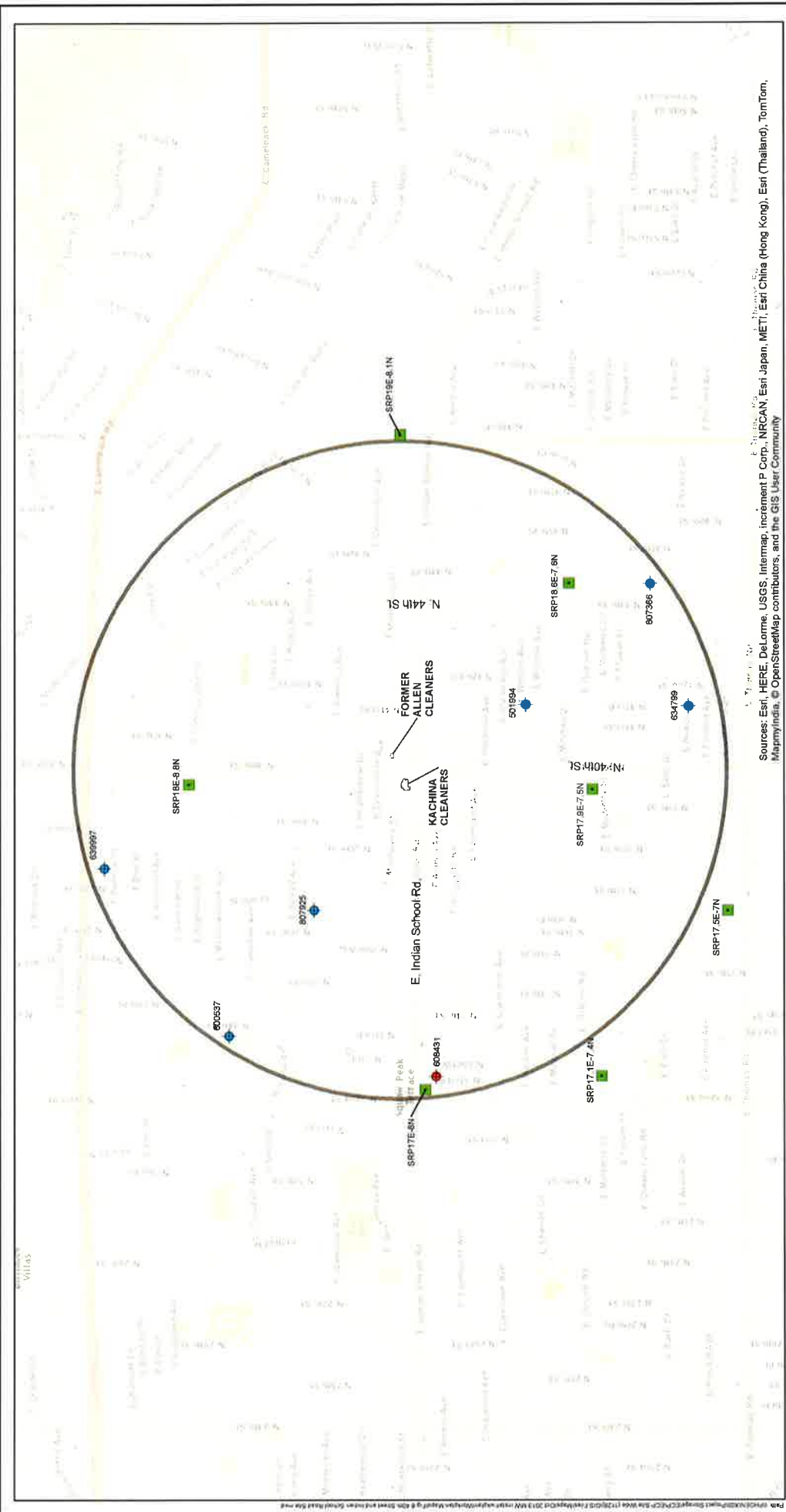
EAST CENTRAL PHOENIX
 WOORF SITE
 PHOENIX, ARIZONA

**40TH STREET AND INDIAN SCHOOL ROAD
 SITE MAP**



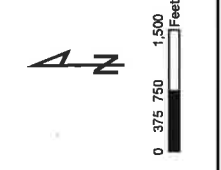
5/16/2017
 FIGURE 2

PREP BY: NKR REV BY: LLJM RPT NO: 1136.04



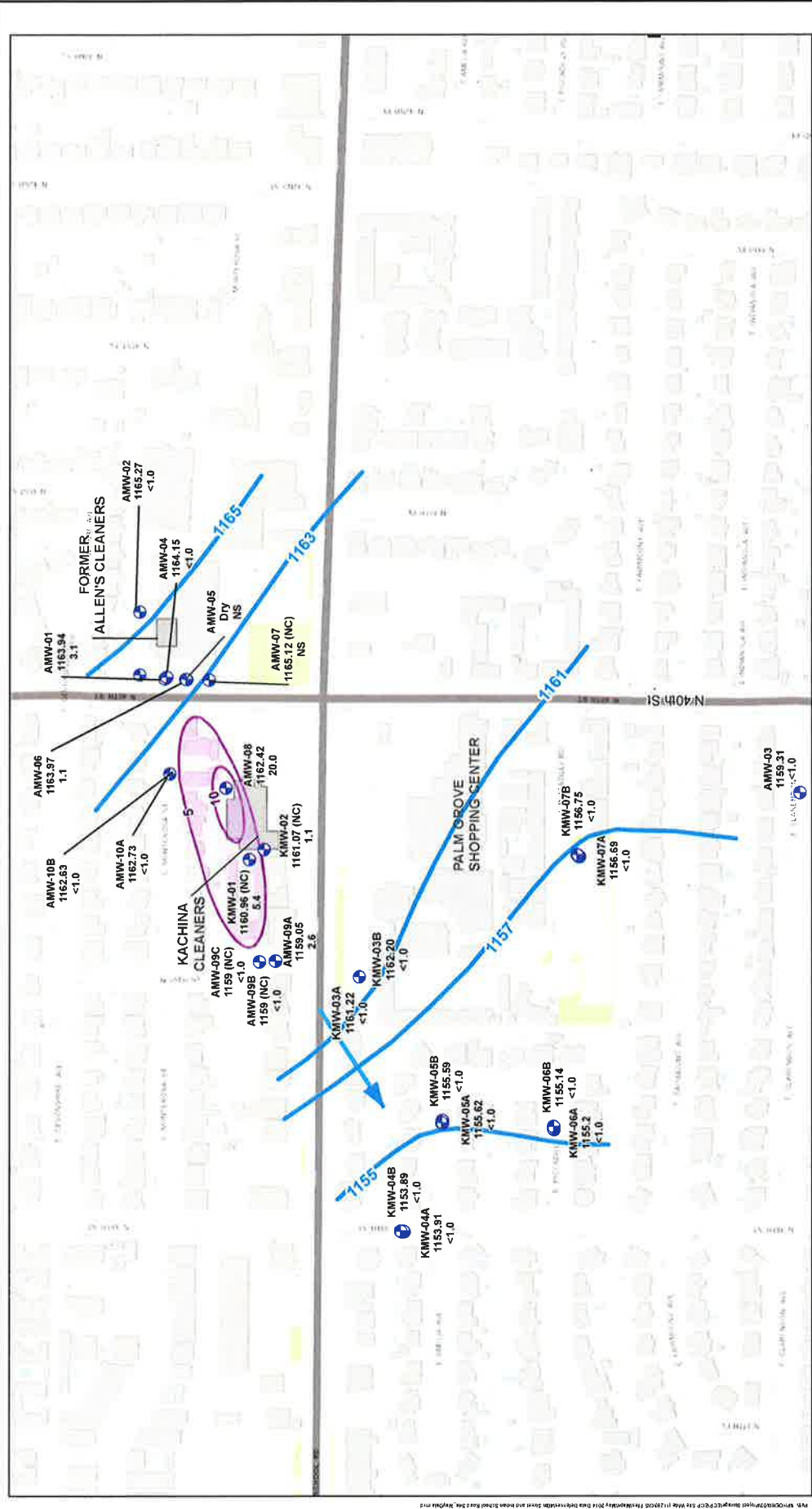
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

EAST CENTRAL PHOENIX	
WQARF SITE	
PHOENIX, ARIZONA	
REGISTERED WITHDRAWAL WELLS	
WITHIN 1-MILE RADIUS OF SITE	
40TH STREET AND INDIAN SCHOOL ROAD	
HARGIS - ASSOCIATES, INC.	2/22/2017
PREP BY: NKR	REV BY: JLM
RPT NO: 1136.41	



- NOTES:**
- ARS = Arizona Revised Statutes
 - WQARF = Water Quality Assurance Revolving Fund
 - This map falls within the City of Phoenix municipal service area.
 - Well information obtained from Arizona Department of Water Resources 55 Registry.

- 1 Mile Area
- SRP Production Well Location
- Non-Exempt Well Location - A groundwater well drilled within an Active Management Area under a groundwater right for withdrawal pursuant to ARS Title 45, Chapter 2, Article 5, 6, or 7.
- Exempt Well Locations - A groundwater well with maximum capacity of <35 gallons per minute
- 518068 - Well Registry Number for State of Arizona (55-XXXXXX)



EAST CENTRAL PHOENIX
 WQARF SITE
 PHOENIX, ARIZONA

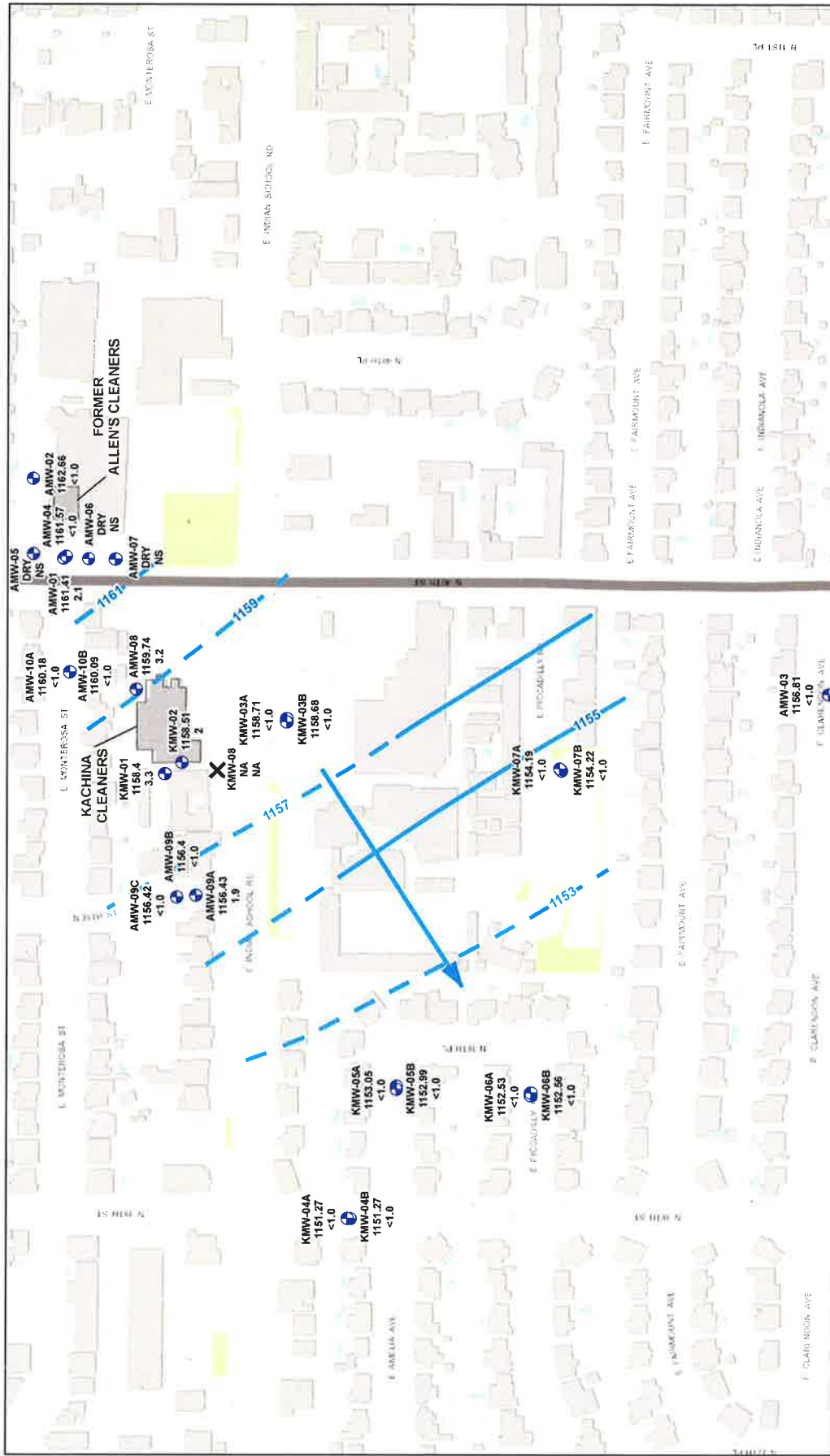
**MAY 2014 WATER LEVEL ELEVATION AND
 TETRACHLOROETHENE IN GROUNDWATER**

HARGIS + ASSOCIATES, INC.
 HYDROGEOLOGICAL ENGINEERING

2/22/2017
 FIGURE 4

PREP BY: NKR REV BY: LLUM RPT NO: 1134.41

- EXPLANATION**
- Groundwater Monitor Well Locations
 - Water Level Contour
 - Direction of Groundwater Flow
 - Estimated PCE Plume in Groundwater
 - NS** - Not Sampled
- 1159.31 - Groundwater elevation (ft above mean sea level) - May 2014
- <1.0 - Recent PCE groundwater concentration (µg/L)
- NC - Data not used in contouring and interpretation of groundwater flow direction; casing elevation measurement is considered suspect.



Document Path: P:\Projects\Site\Site\GWPCE\Site\Map\11291915\FRM\Map\11291915_GWPCE_Map.mxd

EXPLANATION

	Groundwater Monitor Well Location
	Abandoned Borehole
	Groundwater Elevation (in feet above mean sea level)
	Groundwater Elevation Contour (in feet above mean sea level)
	Estimated Direction of Groundwater Flow

<1.0 May 2017 PCE concentration (in micrograms per liter)

DRY No measurable waterlevel
 NA Not applicable
 NS Not sampled

Note: Water levels collected on April 10, 2017
 * Water level collected on 5/3/2017

EAST CENTRAL PHOENIX
 WQARF SITE
 PHOENIX, ARIZONA

MAY 2017

WATER LEVEL ELEVATION AND
 TETRACHLOROETHENE IN GROUNDWATER
 40TH STREET AND INDIAN SCHOOL ROAD SITE

HARGIS & ASSOCIATES, INC.
 Environmental & Geotechnical

PREP BY: NKR REV BY: LLJM RPT NO: 1136.04

FIGURE 6

APPENDIX A
GROUNDWATER AND SOIL VAPOR DATA

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-01	No Specific Depth	4/21/1992	NA	NA	8,700.0
40IS	AMW-01	No Specific Depth	5/22/1992	NA	NA	12,000.0
40IS	AMW-01	No Specific Depth	5/22/1992	NA	NA	10,000.0
40IS	AMW-01	No Specific Depth	7/2/1992	NA	NA	15,000.0
40IS	AMW-01	No Specific Depth	8/11/1992	NA	NA	5,900.0
40IS	AMW-01	No Specific Depth	12/16/1994	NA	NA	31,000.0
40IS	AMW-01	No Specific Depth	12/16/1994	NA	NA	24,000.0
40IS	AMW-01	No Specific Depth	3/28/1996	NA	NA	11,000.0
40IS	AMW-01	No Specific Depth	3/28/1996	NA	NA	12,000.0
40IS	AMW-01	No Specific Depth	3/10/1997	NA	NA	5,000.0
40IS	AMW-01	No Specific Depth	5/8/1997	NA	NA	1,800.0
40IS	AMW-01	No Specific Depth	5/8/1997	NA	NA	1,700.0
40IS	AMW-01	No Specific Depth	11/20/1997	NA	NA	18,000.0
40IS	AMW-01	No Specific Depth	11/20/1997	NA	NA	15,000.0
40IS	AMW-01	No Specific Depth	2/5/1998	NA	NA	37,000.0
40IS	AMW-01	Deep	3/21/2002	57.9	1154.40	6,500.0
40IS	AMW-01	Shallow	5/3/2002	36.2	1176.03	22,000.0
40IS	AMW-01	Deep	5/3/2002	58.2	1154.03	2,300.0
40IS	AMW-01	Shallow	9/4/2002	36.7	1175.57	17,000.0
40IS	AMW-01	Deep	9/4/2002	58.7	1153.57	490.0
40IS	AMW-01	Shallow	11/18/2002	36.6	1175.68	6,900.0
40IS	AMW-01	Deep	11/18/2002	57.6	1154.68	290.0
40IS	AMW-01	Shallow	2/19/2003	37.9	1174.42	5,100.0
40IS	AMW-01	Deep	2/19/2003	57.9	1154.42	380.0
40IS	AMW-01	Deep	2/19/2003	57.9	1154.42	340.0
40IS	AMW-01	Shallow	5/20/2003	38.7	1173.59	5,900.0
40IS	AMW-01	Deep	5/20/2003	57.7	1154.59	400.0
40IS	AMW-01	Shallow	12/10/2003	40.3	1171.98	2,000.0
40IS	AMW-01	Deep	12/10/2003	48.3	1163.98	110.0
40IS	AMW-01	Shallow	3/30/2004	41.6	1170.72	1,100.0
40IS	AMW-01	Deep	3/30/2004	57.6	1154.72	100.0
40IS	AMW-01	Shallow	10/12/2004	43.9	1168.41	1,330.0
40IS	AMW-01	Deep	10/12/2004	57.9	1154.41	34.9
40IS	AMW-01	Shallow	3/22/2005	45.6	1166.72	29.0
40IS	AMW-01	Deep	3/22/2005	57.6	1154.72	7.4
40IS	AMW-01	Shallow	10/6/2005	43.6	1168.64	95.0
40IS	AMW-01	Deep	10/6/2005	57.6	1154.64	9.4
40IS	AMW-01	Shallow	3/14/2006	44.6	1167.72	3.2
40IS	AMW-01	Deep	3/14/2006	58.6	1153.72	3.9
40IS	AMW-01	Shallow	10/27/2006	43.0	1169.28	8.7
40IS	AMW-01	Deep	10/27/2006	58.0	1154.28	5.2
40IS	AMW-01	Deep	10/27/2006	58.0	1154.28	5.5
40IS	AMW-01	Shallow	2/26/2007	44.3	1167.98	6.2
40IS	AMW-01	Deep	2/26/2007	58.3	1153.98	3.2
40IS	AMW-01	Deep	2/26/2007	58.3	1153.98	3.7

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-01	Shallow	9/26/2007	46.0	1166.27	9.1
40IS	AMW-01	Deep	9/26/2007	56.5	1155.77	6.2
40IS	AMW-01	Shallow	4/9/2008	47.0	1165.27	2.0
40IS	AMW-01	Shallow	4/9/2008	47.0	1165.27	2.2
40IS	AMW-01	Deep	4/9/2008	56.5	1155.77	2.1
40IS	AMW-01	Shallow	10/1/2008	45.0	1167.27	17.0
40IS	AMW-01	Deep	10/1/2008	56.5	1155.77	6.0
40IS	AMW-01	Deep	10/1/2008	56.5	1155.77	5.3
40IS	AMW-01	Deep	9/30/2013	57.1	1155.17	1.9
40IS	AMW-01	Shallow	5/19/2014	50.9	1161.37	3.1
40IS	AMW-01	Shallow	12/15/2014	50.9	1161.37	3.6
40IS	AMW-01	Shallow	12/15/2014	50.9	1161.37	3.6
40IS	AMW-01	Deep	12/15/2014	57.1	1155.17	2.6
40IS	AMW-01	Shallow	3/17/2015	50.9	1161.37	2.7
40IS	AMW-01	Deep	3/17/2015	57.1	1155.17	2.3
40IS	AMW-01	Deep	3/17/2015	57.1	1155.17	2.9
40IS	AMW-01	Shallow	5/15/2015	50.9	1161.37	2.1
40IS	AMW-01	Deep	5/15/2015	57.1	1155.17	2.2
40IS	AMW-01	Shallow	10/27/2015	50.9	1161.37	3.1
40IS	AMW-01	Deep	10/27/2015	57.1	1155.17	3.6
40IS	AMW-01	Shallow	8/23/2016	50.90	1161.37	1.6
40IS	AMW-01	Deep	8/23/2016	57.10	1155.17	1.9
40IS	AMW-01	Shallow	2/12/2017	50.90	1161.37	1.7
40IS	AMW-01	Deep	2/12/2017	57.10	1155.17	1.5
40IS	AMW-01	Deep	5/3/2017	57.10	1155.17	2.1
40IS	AMW-02	No Specific Depth	7/2/1992	NA	NA	0.5
40IS	AMW-02	No Specific Depth	8/10/1992	NA	NA	3.4
40IS	AMW-02	No Specific Depth	12/16/1994	NA	NA	12.0
40IS	AMW-02	No Specific Depth	3/21/1996	NA	NA	2.4
40IS	AMW-02	No Specific Depth	3/10/1997	NA	NA	1.0
40IS	AMW-02	No Specific Depth	5/7/1997	NA	NA	<0.5
40IS	AMW-02	No Specific Depth	11/18/1997	NA	NA	1.4
40IS	AMW-02	No Specific Depth	2/3/1998	NA	NA	1.0
40IS	AMW-02	Deep	3/21/2002	58.1	1155.43	1.1
40IS	AMW-02	Shallow	5/2/2002	36.4	1177.10	<0.5
40IS	AMW-02	Deep	5/2/2002	58.4	1155.10	<0.5
40IS	AMW-02	Shallow	9/4/2002	36.8	1176.65	<0.5
40IS	AMW-02	Deep	9/4/2002	57.8	1155.65	<0.5
40IS	AMW-02	Shallow	11/18/2002	36.8	1176.71	<0.5
40IS	AMW-02	Deep	11/18/2002	57.8	1155.71	<0.5
40IS	AMW-02	Shallow	2/19/2003	38.0	1175.53	<0.5
40IS	AMW-02	Deep	2/19/2003	58.0	1155.53	<0.5
40IS	AMW-02	Shallow	5/20/2003	38.8	1174.68	<0.5

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-02	Deep	5/20/2003	57.8	1155.68	<0.5
40IS	AMW-02	Shallow	12/10/2003	40.4	1173.06	<0.5
40IS	AMW-02	Deep	3/30/2004	57.7	1155.83	<0.5
40IS	AMW-02	Deep	10/12/2004	57.9	1155.55	<0.4
40IS	AMW-02	Shallow	3/22/2005	45.3	1168.15	<1.0
40IS	AMW-02	Deep	3/15/2006	58.4	1155.08	<1.0
40IS	AMW-02	Deep	10/27/2006	57.9	1155.63	<1.0
40IS	AMW-02	Deep	2/26/2007	58.1	1155.37	<1.0
40IS	AMW-02	Shallow	9/26/2007	46.0	1167.49	<1.0
40IS	AMW-02	Deep	9/26/2007	56.5	1156.99	<1.0
40IS	AMW-02	Shallow	4/9/2008	46.5	1166.99	<1.0
40IS	AMW-02	Deep	4/9/2008	56.5	1156.99	<1.0
40IS	AMW-02	Shallow	10/1/2008	45.0	1168.49	<1.0
40IS	AMW-02	Deep	10/1/2008	56.5	1156.99	<1.0
40IS	AMW-02	Deep	9/30/2013	57.1	1156.39	<1.0
40IS	AMW-02	Shallow	5/3/2014	50.9	1162.59	<1.0
40IS	AMW-02	Shallow	5/3/2014	50.9	1162.59	<1.0
40IS	AMW-02	Shallow	5/19/2014	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	5/19/2014	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	12/15/2014	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	3/17/2015	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	5/15/2015	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	10/27/2015	50.8	1162.69	<1.0
40IS	AMW-02	Shallow	8/23/2016	50.80	1162.69	<1.0
40IS	AMW-02	Deep	5/3/2017	57.10	1156.39	<1.0
40IS	AMW-03	No Specific Depth	8/10/1992	NA	NA	<0.2
40IS	AMW-03	No Specific Depth	12/12/1994	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	3/29/1996	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	3/11/1997	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	5/6/1997	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	11/17/1997	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	2/2/1998	NA	NA	<1.0
40IS	AMW-03	No Specific Depth	3/21/2002	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	9/4/2002	NA	NA	<0.5
40IS	AMW-03	No Specific Depth	9/4/2002	NA	NA	<0.5
40IS	AMW-03	Shallow	10/1/2008	38.0	1162.42	<1.0
40IS	AMW-03	Deep	10/1/2008	56.5	1143.92	<1.0
40IS	AMW-03	Shallow	9/30/2013	43.9	1156.52	<1.0
40IS	AMW-03	Deep	9/30/2013	50.5	1149.92	<1.0
40IS	AMW-03	Deep	9/30/2013	57.0	1143.42	<1.0
40IS	AMW-03	Shallow	5/3/2014	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	5/3/2014	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	5/19/2014	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	5/19/2014	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	12/15/2014	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	3/17/2015	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	5/15/2015	44.0	1156.42	<1.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-03	Shallow	10/27/2015	44.0	1156.42	<1.0
40IS	AMW-03	Shallow	8/23/2016	44.00	1156.42	<1.0
40IS	AMW-03	Deep	5/3/2017	50.50	1149.92	<1.0
40IS	AMW-04	No Specific Depth	5/1/1997	NA	NA	<0.5
40IS	AMW-04	Deep	3/21/2002	97.9	1114.32	1.0
40IS	AMW-04	Shallow	5/2/2002	82.3	1129.97	<0.5
40IS	AMW-04	Deep	5/2/2002	98.3	1113.97	<0.5
40IS	AMW-04	Shallow	9/4/2002	81.7	1130.51	<0.5
40IS	AMW-04	Deep	9/4/2002	97.7	1114.51	<0.5
40IS	AMW-04	Shallow	11/18/2002	81.6	1130.63	0.9
40IS	AMW-04	Deep	11/18/2002	97.6	1114.63	1.4
40IS	AMW-04	Shallow	2/19/2003	81.9	1130.36	<0.5
40IS	AMW-04	Deep	2/19/2003	97.9	1114.36	<0.5
40IS	AMW-04	Shallow	5/20/2003	80.9	1131.36	<0.5
40IS	AMW-04	Deep	5/20/2003	97.7	1114.53	0.7
40IS	AMW-04	Deep	12/10/2003	98.3	1113.91	<0.5
40IS	AMW-04	Deep	3/30/2004	97.6	1114.65	<0.5
40IS	AMW-04	Deep	10/12/2004	97.9	1114.35	0.5
40IS	AMW-04	Deep	3/22/2005	97.4	1114.83	<1.0
40IS	AMW-04	Deep	3/14/2006	98.3	1113.91	<1.0
40IS	AMW-04	Deep	10/27/2006	97.8	1114.47	<1.0
40IS	AMW-04	Deep	2/26/2007	96.8	1115.47	<1.0
40IS	AMW-04	Shallow	9/26/2007	82.0	1130.23	<1.0
40IS	AMW-04	Deep	9/26/2007	96.5	1115.73	<1.0
40IS	AMW-04	Shallow	4/9/2008	82.0	1130.23	<1.0
40IS	AMW-04	Deep	4/9/2008	98.0	1114.23	<1.0
40IS	AMW-04	Deep	4/9/2008	98.0	1114.23	<1.0
40IS	AMW-04	Shallow	10/1/2008	82.0	1130.23	<1.0
40IS	AMW-04	Deep	10/1/2008	98.0	1114.23	<1.0
40IS	AMW-04	Shallow	9/30/2013	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	5/3/2014	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	12/15/2014	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	3/17/2015	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	5/15/2015	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	5/15/2015	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	10/27/2015	85.4	1126.83	<1.0
40IS	AMW-04	Shallow	8/23/2016	85.40	1126.83	<1.0
40IS	AMW-04	Shallow	5/3/2017	85.40	1126.83	<1.0
40IS	AMW-05	No Specific Depth	5/1/1997	NA	NA	24.0
40IS	AMW-05	Shallow	3/21/2002	34.9	1177.54	810.0
40IS	AMW-05	Shallow	5/3/2002	36.3	1176.12	460.0
40IS	AMW-05	Shallow	9/4/2002	36.7	1175.68	720.0
40IS	AMW-05	Shallow	11/18/2002	36.6	1175.78	150.0
40IS	AMW-05	Shallow	2/19/2003	37.9	1174.54	170.0
40IS	AMW-05	Shallow	5/20/2003	38.7	1173.71	110.0
40IS	AMW-05	Shallow	12/10/2003	40.3	1172.09	57.0
40IS	AMW-05	Shallow	3/30/2004	40.6	1171.82	200.0
40IS	AMW-05	Shallow	3/22/2005	41.9	1170.54	15.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-05	Shallow	10/27/2006	41.8	1170.61	54.0
40IS	AMW-06	No Specific Depth	5/1/1997	NA	NA	1,800.0
40IS	AMW-06	Shallow	5/2/2002	36.1	1175.85	210.0
40IS	AMW-06	Deep	5/2/2002	48.1	1163.85	2,300.0
40IS	AMW-06	Shallow	9/4/2002	36.6	1175.39	380.0
40IS	AMW-06	Deep	9/4/2002	47.6	1164.39	70.0
40IS	AMW-06	Shallow	11/18/2002	36.4	1175.59	37.0
40IS	AMW-06	Shallow	11/18/2002	36.4	1175.59	28.0
40IS	AMW-06	Deep	11/18/2002	48.4	1163.59	97.0
40IS	AMW-06	Shallow	2/19/2003	37.7	1174.25	38.0
40IS	AMW-06	Deep	2/19/2003	47.7	1164.25	29.0
40IS	AMW-06	Shallow	5/20/2003	38.5	1173.43	48.0
40IS	AMW-06	Shallow	5/20/2003	38.5	1173.43	51.0
40IS	AMW-06	Deep	5/20/2003	47.5	1164.43	17.0
40IS	AMW-06	Shallow	12/10/2003	40.2	1171.82	69.0
40IS	AMW-06	Deep	12/10/2003	48.2	1163.82	10.0
40IS	AMW-06	Deep	12/10/2003	48.2	1163.82	47.0
40IS	AMW-06	Shallow	3/30/2004	41.4	1170.55	41.0
40IS	AMW-06	Shallow	3/30/2004	41.4	1170.55	41.0
40IS	AMW-06	Deep	3/30/2004	47.4	1164.55	36.0
40IS	AMW-06	Shallow	10/12/2004	42.7	1169.24	377.0
40IS	AMW-06	Deep	10/12/2004	47.7	1164.24	125.0
40IS	AMW-06	Shallow	3/22/2005	45.0	1166.98	28.0
40IS	AMW-06	Deep	3/22/2005	48.0	1163.98	33.0
40IS	AMW-06	Shallow	10/6/2005	43.3	1168.65	4.5
40IS	AMW-06	Deep	10/6/2005	48.3	1163.65	1.0
40IS	AMW-06	Deep	10/6/2005	48.3	1163.65	1.0
40IS	AMW-06	Deep	3/14/2006	48.2	1163.73	1.0
40IS	AMW-06	Deep	10/27/2006	47.7	1164.28	1.5
40IS	AMW-06	Deep	2/26/2007	46.7	1165.28	1.7
40IS	AMW-06	Deep	9/26/2007	47.0	1164.97	2.1
40IS	AMW-06	Deep	9/26/2007	47.0	1164.97	2.2
40IS	AMW-06	Deep	4/9/2008	46.5	1165.47	1.6
40IS	AMW-06	Deep	10/1/2008	47.0	1164.97	3.8
40IS	AMW-06	Deep	9/30/2013	49.1	1162.87	<1.0
40IS	AMW-06	Deep	5/3/2014	49.1	1162.87	1.1
40IS	AMW-06	Deep	12/15/2014	49.1	1162.87	<1.0
40IS	AMW-06	Deep	3/17/2015	49.1	1162.87	<1.0
40IS	AMW-06	Deep	3/17/2015	49.1	1162.87	1.0
40IS	AMW-06	Deep	5/15/2015	49.1	1162.87	4.1
40IS	AMW-06	Deep	10/27/2015	49.1	1162.87	3.0
40IS	AMW-07	No Specific Depth	9/5/1997	NA	NA	10.0
40IS	AMW-07	Shallow	5/2/2002	36.2	1175.63	3.3
40IS	AMW-07	Shallow	5/2/2002	36.2	1175.63	3.1
40IS	AMW-07	Deep	5/2/2002	46.2	1165.63	2.7
40IS	AMW-07	Shallow	9/4/2002	36.6	1175.18	3.6
40IS	AMW-07	Deep	9/4/2002	45.6	1166.18	3.2

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-07	Shallow	11/18/2002	36.4	1175.37	6.9
40IS	AMW-07	Deep	11/18/2002	46.4	1165.37	25.0
40IS	AMW-07	Shallow	2/19/2003	37.8	1174.02	6.1
40IS	AMW-07	Deep	2/19/2003	45.8	1166.02	10.0
40IS	AMW-07	Shallow	5/20/2003	38.6	1173.21	4.6
40IS	AMW-07	Deep	5/20/2003	45.6	1166.21	8.1
40IS	AMW-07	Deep	12/10/2003	46.2	1165.61	2.9
40IS	AMW-07	Deep	3/30/2004	45.5	1166.34	3.7
40IS	AMW-07	Deep	10/12/2004	45.8	1166.06	2.9
40IS	AMW-07	Shallow	3/22/2005	45.3	1166.51	<1.0
40IS	AMW-07	Deep	3/22/2005	48.3	1163.51	33.0
40IS	AMW-07	Deep	10/6/2005	45.4	1166.40	<1.0
40IS	AMW-07	Deep	3/14/2006	45.4	1166.46	<1.0
40IS	AMW-07	Deep	10/27/2006	44.8	1167.01	1.2
40IS	AMW-07	Deep	2/26/2007	43.8	1168.01	1.1
40IS	AMW-07	Deep	9/26/2007	44.5	1167.31	2.4
40IS	AMW-07	Deep	4/9/2008	45.0	1166.81	<1.0
40IS	AMW-07	Deep	10/1/2008	45.0	1166.81	2.7
40IS	AMW-08	Deep	6/13/2003	58.0	1152.22	75.0
40IS	AMW-08	Deep	12/10/2003	58.1	1152.17	49.0
40IS	AMW-08	Deep	3/30/2004	57.3	1152.89	23.0
40IS	AMW-08	Deep	10/12/2004	57.7	1152.53	16.5
40IS	AMW-08	Deep	3/22/2005	58.2	1151.99	5.6
40IS	AMW-08	Deep	3/22/2005	58.2	1151.99	4.8
40IS	AMW-08	Deep	10/6/2005	58.2	1152.01	37.0
40IS	AMW-08	Deep	3/14/2006	58.2	1152.04	9.1
40IS	AMW-08	Deep	3/14/2006	58.2	1152.04	13.0
40IS	AMW-08	Deep	10/27/2006	57.6	1152.63	78.0
40IS	AMW-08	Deep	2/26/2007	57.9	1152.31	62.0
40IS	AMW-08	Deep	9/26/2007	56.5	1153.72	18.0
40IS	AMW-08	Deep	9/26/2007	56.5	1153.72	23.0
40IS	AMW-08	Deep	4/9/2008	56.5	1153.72	20.0
40IS	AMW-08	Deep	10/1/2008	56.5	1153.72	48.0
40IS	AMW-08	Deep	10/1/2008	56.5	1153.72	48.0
40IS	AMW-08	Deep	9/30/2013	58.3	1151.92	3.4
40IS	AMW-08	Intermediate	5/3/2014	53.9	1156.32	3.8
40IS	AMW-08	Deep	5/3/2014	58.3	1151.92	4.6
40IS	AMW-08	Shallow	12/15/2014	49.6	1160.62	6.9
40IS	AMW-08	Shallow	12/15/2014	49.6	1160.62	6.4
40IS	AMW-08	Intermediate	12/15/2014	53.9	1156.32	8.0
40IS	AMW-08	Deep	12/15/2014	58.3	1151.92	4.3
40IS	AMW-08	Shallow	3/17/2015	49.6	1160.62	5.1
40IS	AMW-08	Intermediate	3/17/2015	53.9	1156.32	3.6
40IS	AMW-08	Intermediate	3/17/2015	53.9	1156.32	3.4
40IS	AMW-08	Deep	3/17/2015	58.3	1151.92	3.4
40IS	AMW-08	Shallow	5/15/2015	49.6	1160.62	3.8
40IS	AMW-08	Shallow	5/15/2015	49.6	1160.62	5.4
40IS	AMW-08	Intermediate	5/15/2015	53.9	1156.32	4.5
40IS	AMW-08	Deep	5/15/2015	58.3	1151.92	2.5
40IS	AMW-08	Shallow	10/27/2015	49.6	1160.62	5.3
40IS	AMW-08	Intermediate	10/27/2015	53.9	1156.32	4.7

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-08	Deep	10/27/2015	58.3	1151.92	1.5
40IS	AMW-08	Intermediate	8/23/2016	53.90	1156.32	2.0
40IS	AMW-08	Deep	8/23/2016	58.30	1151.92	1.4
40IS	AMW-08	Intermediate	2/12/2017	53.90	1156.32	1.6
40IS	AMW-08	Deep	2/12/2017	58.30	1151.92	1.1
40IS	AMW-08	Intermediate	5/3/2017	53.90	1156.32	3.2
40IS	AMW-08	Deep	5/3/2017	58.30	1151.92	2.7
40IS	AMW-09A	Shallow	4/9/2008	47.0	1160.25	30.0
40IS	AMW-09A	Shallow	4/9/2008	50.0	1157.25	37.0
40IS	AMW-09A	Intermediate	4/9/2008	55.0	1152.25	34.0
40IS	AMW-09A	Intermediate	4/9/2008	60.0	1147.25	49.0
40IS	AMW-09A	Intermediate	4/9/2008	65.0	1142.25	57.0
40IS	AMW-09A	Intermediate	4/9/2008	70.0	1137.25	62.0
40IS	AMW-09A	Deep	4/9/2008	73.0	1134.25	55.0
40IS	AMW-09A	Deep	4/9/2008	73.0	1134.25	56.0
40IS	AMW-09A	Shallow	10/1/2008	45.0	1162.25	120.0
40IS	AMW-09A	Deep	10/1/2008	71.5	1135.75	170.0
40IS	AMW-09A	Deep	10/1/2008	71.5	1135.75	180.0
40IS	AMW-09A	Intermediate	9/30/2013	56.5	1150.75	1.0
40IS	AMW-09A	Intermediate	9/30/2013	64.1	1143.15	1.0
40IS	AMW-09A	Deep	9/30/2013	71.7	1135.55	<1.0
40IS	AMW-09A	Deep	9/30/2013	71.7	1135.55	<1.0
40IS	AMW-09A	Shallow	5/3/2014	50.6	1156.65	2.6
40IS	AMW-09A	Shallow	12/15/2014	50.6	1156.65	1.5
40IS	AMW-09A	Shallow	12/15/2014	50.6	1156.65	2.1
40IS	AMW-09A	Intermediate	12/15/2014	61.7	1145.55	1.7
40IS	AMW-09A	Shallow	3/17/2015	50.6	1156.65	2.0
40IS	AMW-09A	Intermediate	3/17/2015	61.7	1145.55	2.2
40IS	AMW-09A	Shallow	5/15/2015	50.6	1156.65	2.5
40IS	AMW-09A	Intermediate	5/15/2015	61.7	1145.55	3.0
40IS	AMW-09A	Intermediate	5/15/2015	61.7	1145.55	3.6
40IS	AMW-09A	Shallow	10/27/2015	50.6	1156.65	1.9
40IS	AMW-09A	Intermediate	10/27/2015	61.7	1145.55	1.7
40IS	AMW-09A	Shallow	8/23/2016	50.60	1156.65	<1.0
40IS	AMW-09A	Intermediate	8/23/2016	61.70	1145.55	<1.0
40IS	AMW-09A	Shallow	2/12/2017	50.60	1156.65	3.2
40IS	AMW-09A	Intermediate	2/12/2017	61.70	1145.55	1.3
40IS	AMW-09A	Shallow	5/3/2017	56.10	1151.15	1.9
40IS	AMW-09A	Intermediate	5/3/2017	61.70	1145.55	<1.0
40IS	AMW-09B	Shallow	4/9/2008	80.0	1127.18	<1.0
40IS	AMW-09B	Shallow	4/9/2008	85.0	1122.18	<1.0
40IS	AMW-09B	Shallow	4/9/2008	90.0	1117.18	<1.0
40IS	AMW-09B	Deep	4/9/2008	95.0	1112.18	<1.0
40IS	AMW-09B	Deep	4/9/2008	100.0	1107.18	<1.0
40IS	AMW-09B	Deep	4/9/2008	103.0	1104.18	<1.0
40IS	AMW-09B	Shallow	10/1/2008	82.0	1125.18	<1.0
40IS	AMW-09B	Deep	10/1/2008	103.0	1104.18	<1.0
40IS	AMW-09B	Shallow	9/30/2013	82.8	1124.38	<1.0
40IS	AMW-09B	Shallow	5/3/2014	82.8	1124.38	<1.0
40IS	AMW-09B	Shallow	12/15/2014	82.8	1124.38	<1.0
40IS	AMW-09B	Shallow	3/17/2015	82.8	1124.38	<1.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	AMW-09B	Shallow	5/15/2015	82.8	1124.38	<1.0
40IS	AMW-09B	Shallow	10/27/2015	82.8	1124.38	<1.0
40IS	AMW-09B	Shallow	8/23/2016	82.80	1124.38	<1.0
40IS	AMW-09B	Shallow	2/12/2017	82.80	1124.38	<1.0
40IS	AMW-09B	Shallow	5/3/2017	82.80	1124.38	<1.0
40IS	AMW-09C	Shallow	4/9/2008	117.0	1090.15	<1.0
40IS	AMW-09C	Intermediate	4/9/2008	127.0	1080.15	<1.0
40IS	AMW-09C	Deep	4/9/2008	136.5	1070.65	<1.0
40IS	AMW-09C	Shallow	10/1/2008	117.0	1090.15	<1.0
40IS	AMW-09C	Deep	10/1/2008	136.5	1070.65	<1.0
40IS	AMW-09C	Shallow	9/30/2013	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	9/30/2013	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	5/3/2014	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	12/15/2014	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	3/17/2015	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	5/15/2015	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	10/27/2015	117.7	1089.45	<1.0
40IS	AMW-09C	Shallow	8/23/2016	117.70	1089.45	<1.0
40IS	AMW-09C	Shallow	2/12/2017	117.70	1089.45	<1.0
40IS	AMW-09C	Shallow	5/3/2017	117.70	1089.45	<1.0
40IS	AMW-10A	Shallow	10/1/2008	45.0	1165.80	<1.0
40IS	AMW-10A	Intermediate	10/1/2008	56.0	1154.80	<1.0
40IS	AMW-10A	Deep	10/1/2008	67.0	1143.80	<1.0
40IS	AMW-10A	Intermediate	9/30/2013	55.3	1155.50	<1.0
40IS	AMW-10A	Intermediate	9/30/2013	61.3	1149.50	<1.0
40IS	AMW-10A	Deep	9/30/2013	67.5	1143.30	<1.0
40IS	AMW-10A	Shallow	5/3/2014	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	5/3/2014	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	12/15/2014	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	3/17/2015	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	5/15/2015	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	10/27/2015	50.6	1160.20	<1.0
40IS	AMW-10A	Shallow	8/23/2016	50.60	1160.20	<1.0
40IS	AMW-10A	Intermediate	5/3/2017	56.31	1154.49	<1.0
40IS	AMW-10B	Shallow	10/1/2008	82.0	1128.42	<1.0
40IS	AMW-10B	Intermediate	10/1/2008	92.0	1118.42	<1.0
40IS	AMW-10B	Deep	10/1/2008	102.0	1108.42	<1.0
40IS	AMW-10B	Shallow	9/30/2013	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	9/30/2013	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	5/3/2014	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	5/19/2014	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	12/15/2014	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	3/17/2015	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	5/15/2015	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	10/27/2015	82.3	1128.12	<1.0
40IS	AMW-10B	Shallow	8/23/2016	82.30	1128.12	<1.0
40IS	AMW-10B	Shallow	5/3/2017	82.31	1128.11	<1.0
40IS	KMW-01	No Specific Depth	5/19/1994	NA	NA	55.0
40IS	KMW-01	No Specific Depth	5/19/1994	NA	NA	58.0
40IS	KMW-01	No Specific Depth	12/15/1994	NA	NA	130.0
40IS	KMW-01	No Specific Depth	3/21/1996	NA	NA	340.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	KMW-01	No Specific Depth	3/13/1997	NA	NA	540.0
40IS	KMW-01	No Specific Depth	5/7/1997	NA	NA	400.0
40IS	KMW-01	No Specific Depth	11/19/1997	NA	NA	500.0
40IS	KMW-01	No Specific Depth	2/4/1998	NA	NA	360.0
40IS	KMW-01	Deep	3/21/2002	57.9	1151.20	310.0
40IS	KMW-01	Deep	3/21/2002	57.9	1151.20	340.0
40IS	KMW-01	Shallow	5/2/2002	36.3	1172.82	50.0
40IS	KMW-01	Deep	5/2/2002	58.3	1150.82	420.0
40IS	KMW-01	Shallow	9/4/2002	36.6	1172.45	46.0
40IS	KMW-01	Deep	9/4/2002	57.6	1151.45	250.0
40IS	KMW-01	Deep	9/4/2002	57.6	1151.45	250.0
40IS	KMW-01	Shallow	11/18/2002	36.5	1172.57	38.0
40IS	KMW-01	Deep	11/18/2002	57.5	1151.57	100.0
40IS	KMW-01	Shallow	2/19/2003	37.9	1171.16	15.0
40IS	KMW-01	Deep	2/19/2003	57.9	1151.16	170.0
40IS	KMW-01	Deep	2/19/2003	57.9	1151.16	38.0
40IS	KMW-01	Shallow	5/20/2003	38.7	1170.39	5.3
40IS	KMW-01	Deep	5/20/2003	56.7	1152.39	58.0
40IS	KMW-01	Deep	5/20/2003	57.7	1151.39	63.0
40IS	KMW-01	Shallow	12/10/2003	40.3	1168.76	5.7
40IS	KMW-01	Deep	12/10/2003	58.3	1150.76	36.0
40IS	KMW-01	Shallow	3/30/2004	41.9	1167.17	3.4
40IS	KMW-01	Deep	3/30/2004	57.9	1151.17	55.0
40IS	KMW-01	Shallow	10/12/2004	43.0	1166.09	8.9
40IS	KMW-01	Deep	10/12/2004	58.0	1151.09	21.0
40IS	KMW-01	Shallow	3/22/2005	45.6	1163.43	9.6
40IS	KMW-01	Deep	3/22/2005	57.6	1151.43	11.0
40IS	KMW-01	Deep	3/22/2005	57.6	1151.43	10.0
40IS	KMW-01	Shallow	10/6/2005	43.5	1165.58	14.0
40IS	KMW-01	Deep	10/6/2005	57.5	1151.58	61.0
40IS	KMW-01	Shallow	3/15/2006	44.5	1164.58	8.5
40IS	KMW-01	Deep	3/15/2006	58.5	1150.58	12.0
40IS	KMW-01	Shallow	10/27/2006	42.9	1166.21	20.0
40IS	KMW-01	Deep	10/27/2006	56.9	1152.21	26.0
40IS	KMW-01	Shallow	2/26/2007	44.2	1164.86	23.0
40IS	KMW-01	Deep	2/26/2007	57.2	1151.86	57.0
40IS	KMW-01	Shallow	9/26/2007	46.0	1163.07	35.0
40IS	KMW-01	Deep	9/26/2007	56.5	1152.57	22.0
40IS	KMW-01	Shallow	4/9/2008	46.5	1162.57	35.0
40IS	KMW-01	Deep	4/9/2008	56.5	1152.57	16.0
40IS	KMW-01	Shallow	10/1/2008	45.0	1164.07	61.0
40IS	KMW-01	Deep	10/1/2008	56.5	1152.57	31.0
40IS	KMW-01	Deep	9/30/2013	55.5	1153.57	4.6
40IS	KMW-01	Deep	5/3/2014	50.5	1158.57	5.4
40IS	KMW-01	Deep	5/3/2014	50.5	1158.57	4.9
40IS	KMW-01	Deep	5/3/2014	55.5	1153.57	2.6
40IS	KMW-01	Deep	12/15/2014	50.5	1158.57	1.3
40IS	KMW-01	Deep	12/15/2014	56.2	1152.87	<1.0
40IS	KMW-01	Deep	12/15/2014	56.2	1152.87	1.0
40IS	KMW-01	Deep	3/17/2015	50.5	1158.57	3.0
40IS	KMW-01	Deep	3/17/2015	50.5	1158.57	3.5

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	KMW-01	Deep	3/17/2015	56.2	1152.87	1.2
40IS	KMW-01	Deep	5/15/2015	50.5	1158.57	3.5
40IS	KMW-01	Deep	5/15/2015	56.2	1152.87	1.6
40IS	KMW-01	Shallow	10/27/2015	50.5	1158.57	4.2
40IS	KMW-01	Deep	10/27/2015	56.2	1152.87	1.7
40IS	KMW-01	Shallow	8/23/2016	50.50	1158.57	4.8
40IS	KMW-01	Deep	8/23/2016	56.20	1152.87	2.5
40IS	KMW-01	Shallow	2/12/2017	50.50	1158.57	8.6
40IS	KMW-01	Deep	2/12/2017	56.20	1152.87	1.8
40IS	KMW-01	Shallow	4/5/2017	51.00	NR	<2.0
40IS	KMW-01	Shallow	5/3/2017	51.00	1158.07	3.1
40IS	KMW-01	Shallow	5/3/2017	51.00	1158.07	3.3
40IS	KMW-02	Shallow	6/2/2006	43.5	1165.32	1.4
40IS	KMW-02	Deep	6/2/2006	57.5	1151.32	<1.0
40IS	KMW-02	Shallow	10/27/2006	42.5	1166.30	1.8
40IS	KMW-02	Deep	10/27/2006	54.5	1154.30	1.4
40IS	KMW-02	Shallow	2/26/2007	43.9	1164.98	2.2
40IS	KMW-02	Deep	2/26/2007	60.9	1147.98	1.5
40IS	KMW-02	Shallow	9/26/2007	45.5	1163.33	2.8
40IS	KMW-02	Deep	9/26/2007	61.5	1147.33	1.9
40IS	KMW-02	Shallow	4/9/2008	46.5	1162.33	2.4
40IS	KMW-02	Deep	4/9/2008	61.5	1147.33	1.5
40IS	KMW-02	Shallow	10/1/2008	45.0	1163.83	3.8
40IS	KMW-02	Deep	10/1/2008	61.5	1147.33	1.3
40IS	KMW-02	Shallow	9/30/2013	54.1	1154.73	1.4
40IS	KMW-02	Deep	9/30/2013	60.1	1148.73	1.1
40IS	KMW-02	Shallow	5/3/2014	49.9	1158.93	1.1
40IS	KMW-02	Deep	5/3/2014	60.5	1148.33	<1.0
40IS	KMW-02	Shallow	12/15/2014	49.9	1158.93	2.2
40IS	KMW-02	Deep	12/15/2014	60.5	1148.33	<1.0
40IS	KMW-02	Shallow	3/17/2015	49.9	1158.93	<1.0
40IS	KMW-02	Shallow	3/17/2015	49.9	1158.93	<1.0
40IS	KMW-02	Deep	3/17/2015	60.5	1148.33	<1.0
40IS	KMW-02	Shallow	5/15/2015	49.9	1158.93	1.3
40IS	KMW-02	Shallow	10/27/2015	49.9	1158.93	3.1
40IS	KMW-02	Deep	10/27/2015	60.5	1148.33	<1.0
40IS	KMW-02	Shallow	8/23/2016	49.90	1158.93	1.3
40IS	KMW-02	Deep	8/23/2016	60.50	1148.33	<1.0
40IS	KMW-02	Shallow	2/12/2017	49.90	1158.93	2.2
40IS	KMW-02	Deep	2/12/2017	60.50	1148.33	<1.0
40IS	KMW-02	Shallow	5/3/2017	54.10	1154.73	2.0
40IS	KMW-02	Deep	5/3/2017	60.50	1148.33	<1.0
40IS	KMW-03A	Shallow	5/19/2014	50.7	1110.52	<1.0
40IS	KMW-03A	Shallow	12/15/2014	50.7	1110.52	<1.0
40IS	KMW-03A	Shallow	3/17/2015	50.7	1110.52	<1.0
40IS	KMW-03A	Shallow	5/15/2015	50.7	1110.52	<1.0
40IS	KMW-03A	Shallow	10/27/2015	50.7	1110.52	<1.0
40IS	KMW-03A	Shallow	8/23/2016	50.70	1110.52	<1.0
40IS	KMW-03A	Shallow	2/12/2017	50.70	1110.52	<1.0
40IS	KMW-03A	Shallow	5/3/2017	50.70	1157.60	<1.0
40IS	KMW-03B	Shallow	5/19/2014	86.8	1121.49	<1.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	KMW-03B	Shallow	12/15/2014	86.8	1121.49	<1.0
40IS	KMW-03B	Shallow	3/17/2015	86.8	1121.49	<1.0
40IS	KMW-03B	Shallow	5/15/2015	86.8	1121.49	<1.0
40IS	KMW-03B	Shallow	10/27/2015	86.8	1121.49	<1.0
40IS	KMW-03B	Shallow	8/23/2016	86.80	1121.49	<1.0
40IS	KMW-03B	Shallow	2/12/2017	86.80	1121.49	<1.0
40IS	KMW-03B	Shallow	5/3/2017	86.80	1121.49	<1.0
40IS	KMW-04A	Shallow	4/10/2014	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	5/19/2014	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	12/15/2014	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	3/17/2015	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	5/15/2015	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	10/27/2015	51.7	1150.73	<1.0
40IS	KMW-04A	Shallow	8/23/2016	51.70	1150.73	<1.0
40IS	KMW-04A	Shallow	5/3/2017	57.10	1145.33	<1.0
40IS	KMW-04B	Shallow	4/10/2014	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	5/19/2014	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	12/15/2014	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	3/17/2015	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	5/15/2015	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	10/27/2015	83.3	1119.17	<1.0
40IS	KMW-04B	Shallow	8/23/2016	83.80	1119.17	<1.0
40IS	KMW-04B	Shallow	5/3/2017	83.30	1119.17	<1.0
40IS	KMW-05A	Shallow	4/10/2014	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	5/19/2014	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	5/19/2014	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	12/15/2014	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	3/17/2015	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	5/15/2015	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	10/27/2015	50.4	1152.35	<1.0
40IS	KMW-05A	Shallow	8/23/2016	50.40	1152.35	<1.0
40IS	KMW-05A	Shallow	2/12/2017	50.40	1152.35	<1.0
40IS	KMW-05A	Shallow	5/3/2017	50.40	1152.35	<1.0
40IS	KMW-05B	Shallow	4/10/2014	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	5/19/2014	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	12/15/2014	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	12/15/2014	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	3/17/2015	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	5/15/2015	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	10/27/2015	82.4	1120.31	<1.0
40IS	KMW-05B	Shallow	8/23/2016	82.40	1120.31	<1.0

TABLE A-1
HISTORIC TETRACHLOROETHENE IN GROUNDWATER
 EAST CENTRAL PHOENIX - 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Site	Well ID	Sample Interval Zone	Sample Date	Sample Depth (btoc in feet bgs)	Sample Elevation (feet amsl)	PCE
40IS	KMW-05B	Shallow	2/12/2017	82.40	1120.31	<1.0
40IS	KMW-05B	Shallow	5/3/2017	82.40	1120.31	<1.0
40IS	KMW-06A	Shallow	4/10/2014	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	5/19/2014	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	12/15/2014	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	3/17/2015	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	5/15/2015	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	10/27/2015	49.1	1151.59	<1.0
40IS	KMW-06A	Shallow	8/23/2016	49.10	1151.59	<1.0
40IS	KMW-06A	Shallow	5/3/2017	49.10	1151.59	<1.0
40IS	KMW-06B	Shallow	4/10/2014	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	5/19/2014	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	5/19/2014	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	12/15/2014	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	3/17/2015	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	5/15/2015	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	10/27/2015	87.1	1113.60	<1.0
40IS	KMW-06B	Shallow	8/23/2016	87.10	1113.60	<1.0
40IS	KMW-06B	Shallow	5/3/2017	87.10	1113.60	<1.0
40IS	KMW-07A	Shallow	4/10/2014	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	5/19/2014	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	12/15/2014	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	3/17/2015	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	3/17/2015	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	5/15/2015	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	10/27/2015	46.8	1153.64	<1.0
40IS	KMW-07A	Shallow	8/23/2016	46.80	1153.64	<1.0
40IS	KMW-07A	Shallow	5/3/2017	51.80	1148.64	<1.0
40IS	KMW-07B	Shallow	4/10/2014	82.1	1118.38	<1.0
40IS	KMW-07B	Shallow	5/19/2014	82.1	1118.38	<1.0
40IS	KMW-07B	Shallow	12/15/2014	82.1	1118.38	<1.0
40IS	KMW-07B	Shallow	12/15/2014	82.1	1118.38	<1.0
40IS	KMW-07B	Shallow	3/17/2015	82.1	1118.38	<1.0
40IS	KMW-07B	Shallow	5/15/2015	82.10	1118.38	<1.0
40IS	KMW-07B	Shallow	10/27/2015	82.10	1118.38	<1.0
40IS	KMW-07B	Shallow	8/23/2016	82.10	1118.38	<1.0
40IS	KMW-07B	Shallow	5/3/2017	82.10	1118.38	<1.0

Notes:

< 1.0 concentration not detected at or above the reporting limit

µg/L micrograms per liter

40IS East Central Phoenix Water Quality Assurance Revolving Fund Site - 40th Street and Indian School Road Site

amsl above mean sea level

AWQS Aquifer Water Quality Standard

bgs below ground surface

btoc below top of casing

J an estimated concentration

NR not reported

PCE tetrachloroethene

BOLD indicates a concentration detected above the reporting limit

BOLD indicates a concentration detected above AWQS for PCE

TABLE A-2
SOIL VAPOR RESULTS
 EAST CENTRAL PHOENIX 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Sampling Location	Date Sampled	Sample Depth (feet bgs)	Tetrachloroethene ($\mu\text{g}/\text{m}^3$)	Trichloroethene ($\mu\text{g}/\text{m}^3$)	Notes
Site ID No. 20	10/10/1989	15.2	370,000	920	
Site ID No. 21	10/10/1989	16.5	270,000	<500	
DP-1	5/16/1996	5	20,000	<1,000	
DP-1	5/16/1996	10	18,000	<1,000	
DP-1	5/16/1996	15	14,000	<1,000	
DP-2	5/16/1996	5	51,000	<1,000	
DP-2	5/16/1996	10	41,000	<1,000	
DP-2	5/16/1996	15	10,000	<1,000	
DP-3	5/16/1996	5	7,200	<1,000	
DP-3	5/16/1996	10	4,200	<1,000	
DP-3	5/16/1996	10	9,500	<1,000	DUP
DP-3	5/16/1996	15	5,700	<1,000	
DP-4	5/17/1996	5	190,000	<1,000	
DP-4	5/17/1996	10	460,000	<1,000	
DP-4	5/17/1996	15	370,000	<1,000	
DP-5	5/17/1996	5	66,000	<1,000	
DP-5	5/17/1996	10	88,000	<1,000	
DP-5	5/17/1996	10	110,000	<1,000	DUP
DP-5	5/17/1996	15	43,000	<1,000	
DP-6	5/17/1996	5	41,000	<1,000	
DP-6	5/17/1996	10	67,000	<1,000	
DP-6	5/17/1996	15	89,000	<1,000	
DP-6	5/17/1996	15	83,000	<1,000	DUP
DP-7	5/17/1996	5	370,000	<5,000	
DP-7	5/17/1996	10	220,000	<5,000	
DP-7	5/17/1996	15	140,000	<1,000	
DP-8	5/17/1996	5	410,000	<1,000	
DP-8	5/17/1996	10	260,000	<1,000	
DP-8	5/18/1996	15	120,000	<1,000	
DP-9	5/18/1996	5	160,000	<1,000	
DP-9	5/18/1996	10	180,000	<1,000	
DP-9	5/18/1996	12	250,000	<1,000	
BB-1-7	1/15/1997	7	130	<100	
BB-1-20	1/15/1997	7	530	<100	
BB-2-7	1/15/1997	7	31,000	<100	1
BB-2-20	1/15/1997	20	24,000	<100	1
BB-3-7	1/15/1997	7	33,000	<100	
BB-3-20	1/15/1997	20	30,000	<5,000	
KMW2-8	5/6/2006	8	520	<8	2
KMW2-15	5/6/2006	15	340	<8	2
KMW2-25	5/6/2006	25	1,800	17	2
KMW2-35	5/6/2006	35	380	<8	2
KMW2-40	5/6/2006	40	290	<8	2
KSB1-5	5/7/2006	5	800	13	2
KSB1-15	5/7/2006	15	270	<8	2

TABLE A-2
SOIL VAPOR RESULTS
 EAST CENTRAL PHOENIX 40TH STREET AND INDIAN SCHOOL ROAD
 WATER QUALITY ASSURANCE REVOLVING FUND SITE

Sampling Location	Date Sampled	Sample Depth (feet bgs)	Tetrachloroethene ($\mu\text{g}/\text{m}^3$)	Trichloroethene ($\mu\text{g}/\text{m}^3$)	Notes
KSB1-25	5/7/2006	25	1,100	16	2
KSB1-35	5/7/2006	35	290	<8	2
KSB1-40	5/7/2006	40	32	<8	2
KSB3-5	5/19/2006	5	6,700	45	2
KSB3-5D	5/19/2006	5	6,200	38	DUP, 2
KSB3-15	5/19/2006	15	2,100	39	2
KSB3-25	5/19/2006	25	3,100	80	2
KSB3-35	5/19/2006	35	2,600	70	2
KSB3-40	5/19/2006	40	<4	<4	2
KSB3-40D	5/19/2006	40	54	<12	DUP, 2
KSB2-5	5/20/2006	5	4	<32	2
KSB2-15	5/20/2006	15	220	<51.2	2
KSB2-25	5/20/2006	25	700	<500	2
KSB2-35	5/20/2006	35	1,700	<1,280	2
KSB2-40	5/20/2006	40	460	7.5	2
SVE-01	4/30/2015	22.5	1,300	<100	
SVE-01	4/30/2015	22.5	1,300	<100	DUP
SVE-02	4/30/2015	22.5	320	<20	
SVE-03	4/30/2015	25	2,700	52	
SVE-03	4/30/2015	25	11,000	<27	

NOTES:

Detections are shown in **BOLD** type.

(1) = Sample dilution required.

(2) = Sample results reported as ppmV on laboratory report.

FOOTNOTES

bgs = below ground surface

PCE = tetrachloroethene

TCE = trichloroethene

(<) = less than; the value is the Limit of Detection for that compound

NA = not analyzed or not available

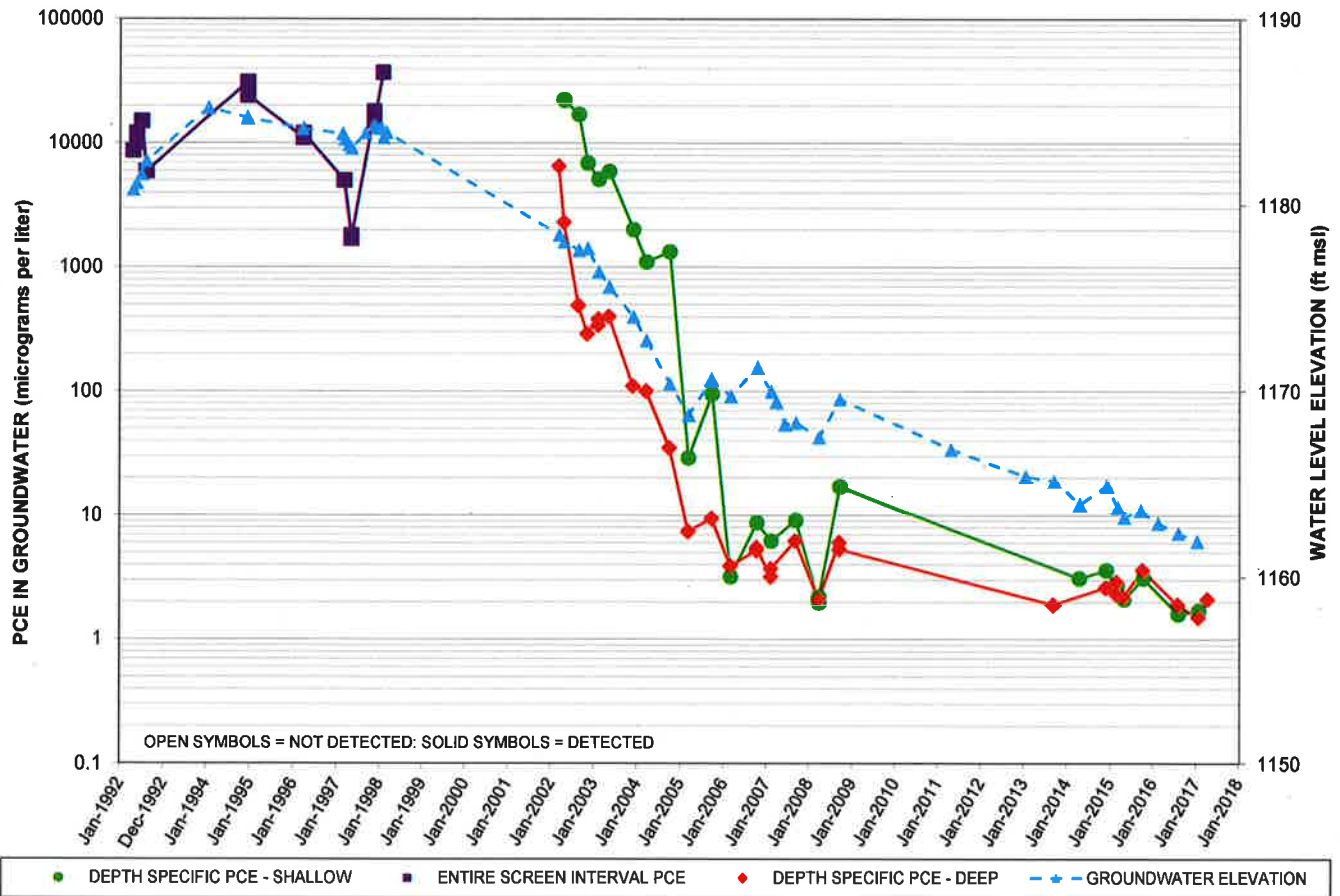
DUP = duplicate sample



HARGIS + ASSOCIATES, INC.

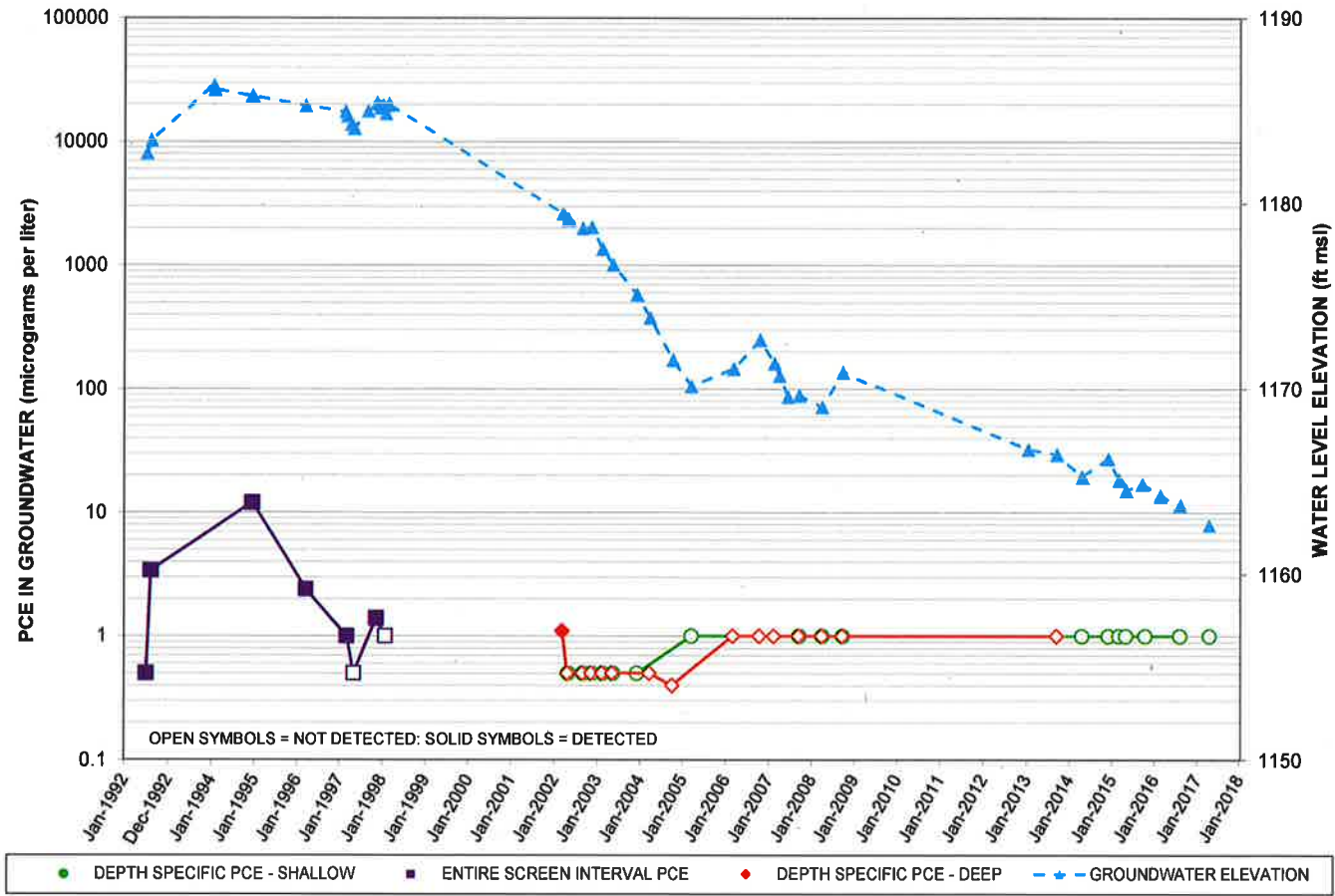
APPENDIX B

GROUNDWATER ELEVATION AND TETRACHLOROETHENE HYDROGRAPHS



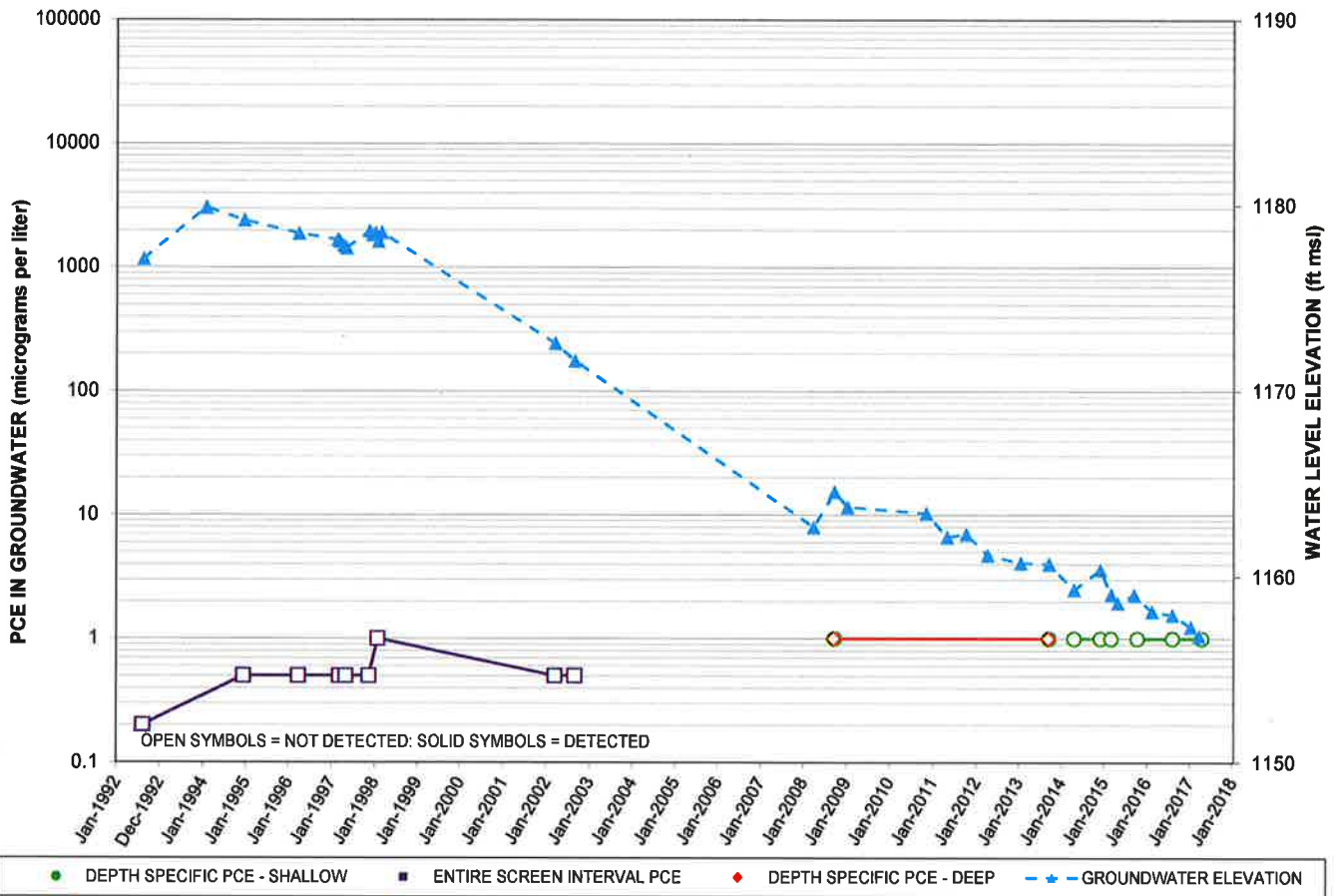
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-1. MONITOR WELL AMW-01 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



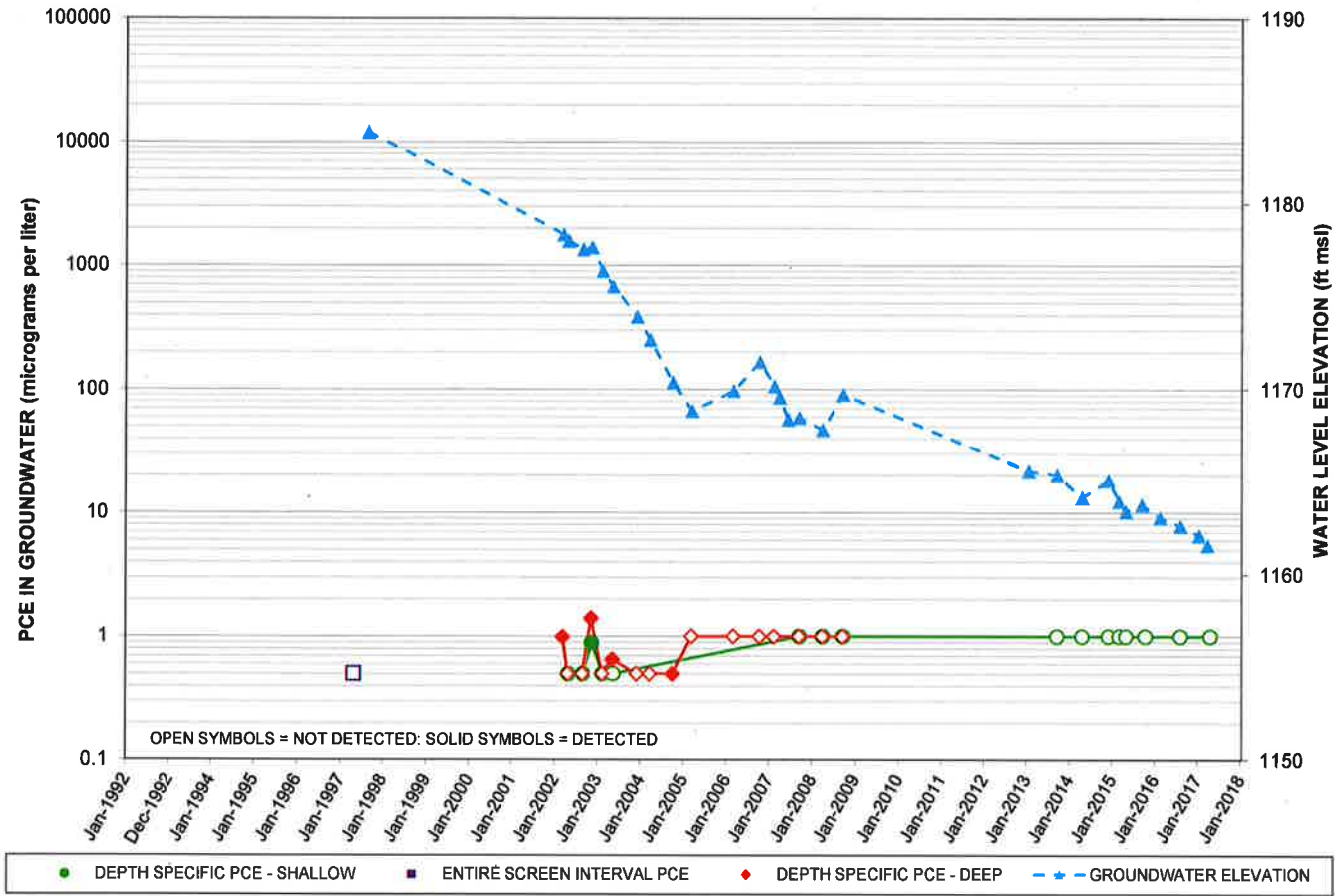
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-2. MONITOR WELL AMW-02 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



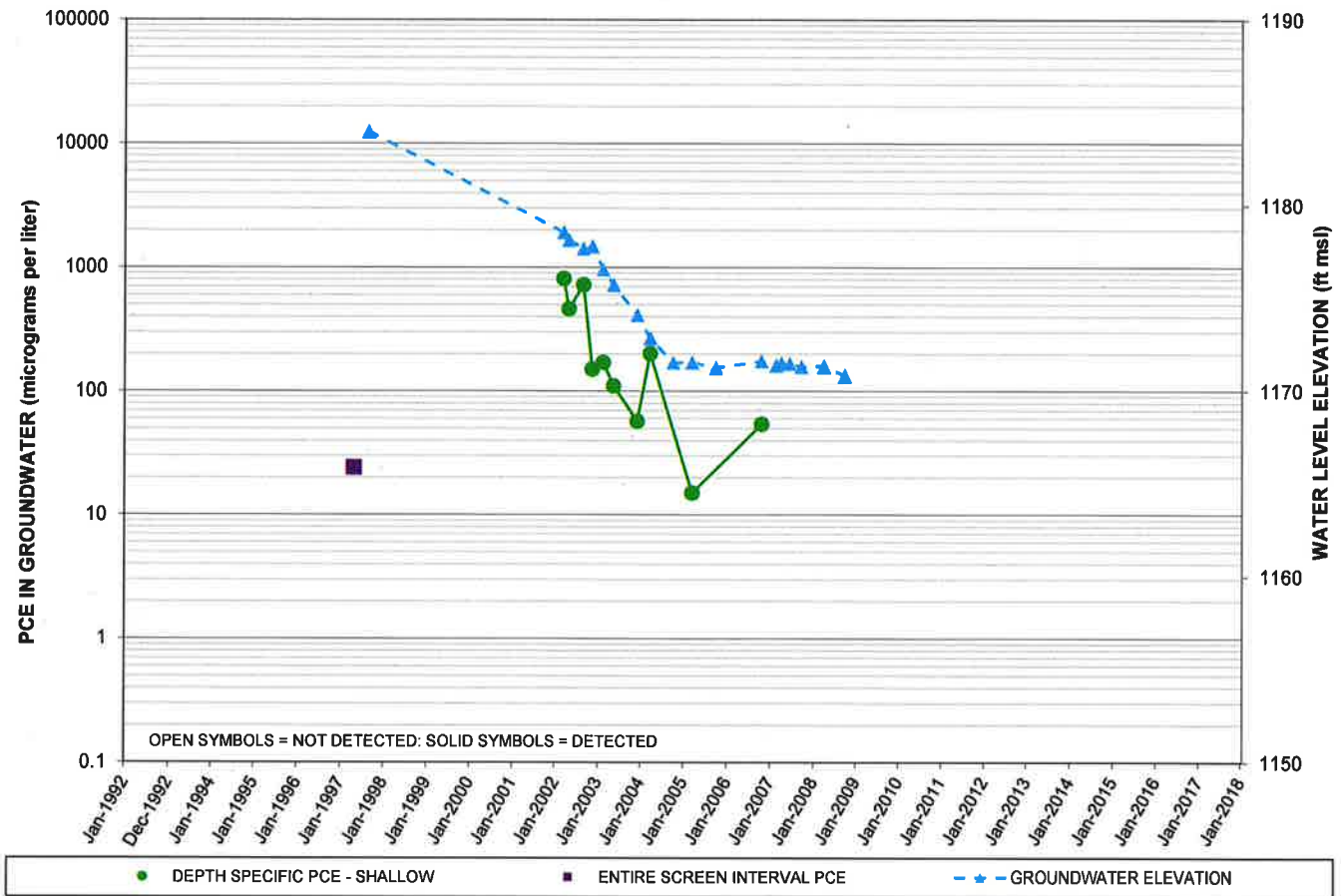
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-3. MONITOR WELL AMW-03 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



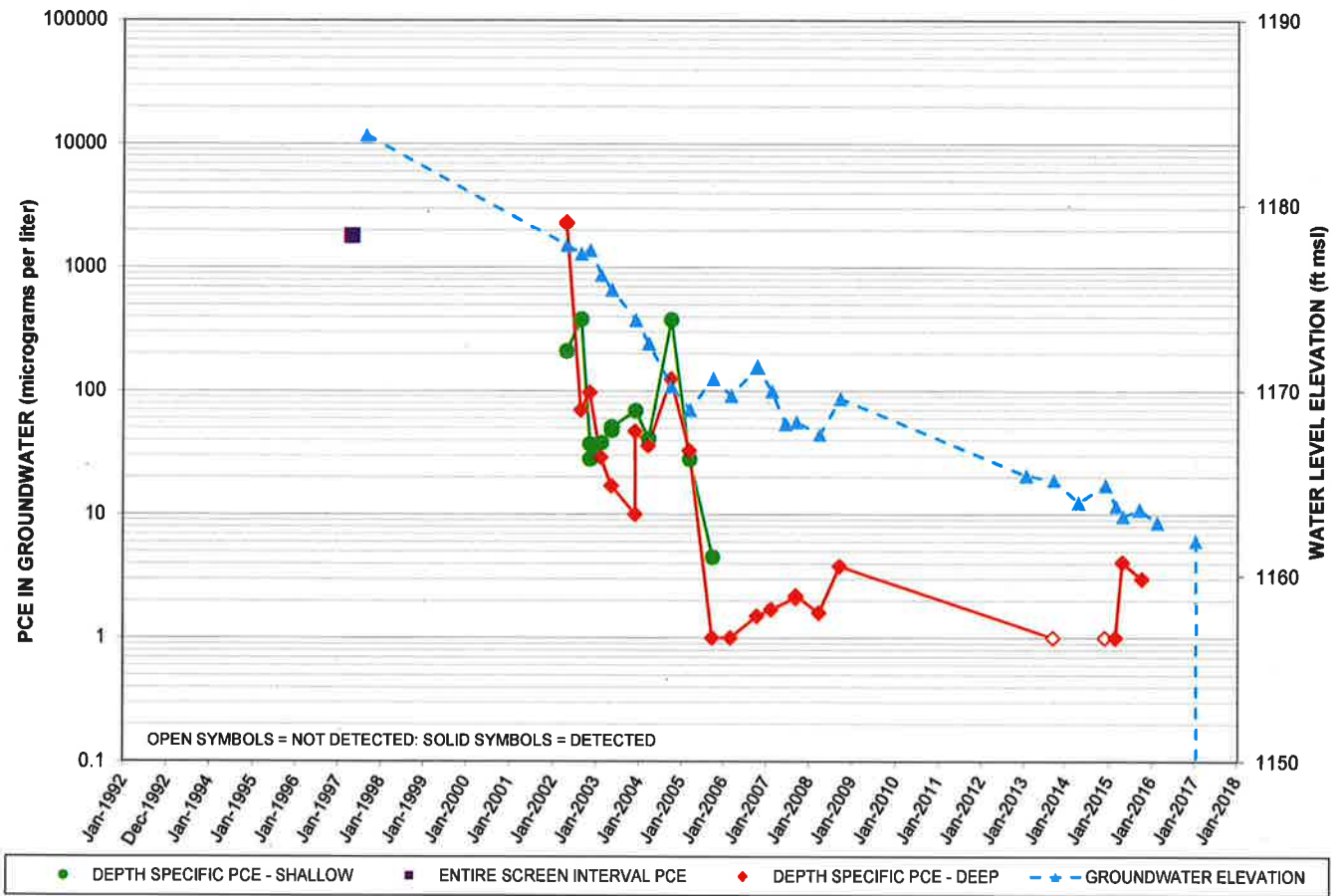
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-4. MONITOR WELL AMW-04 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



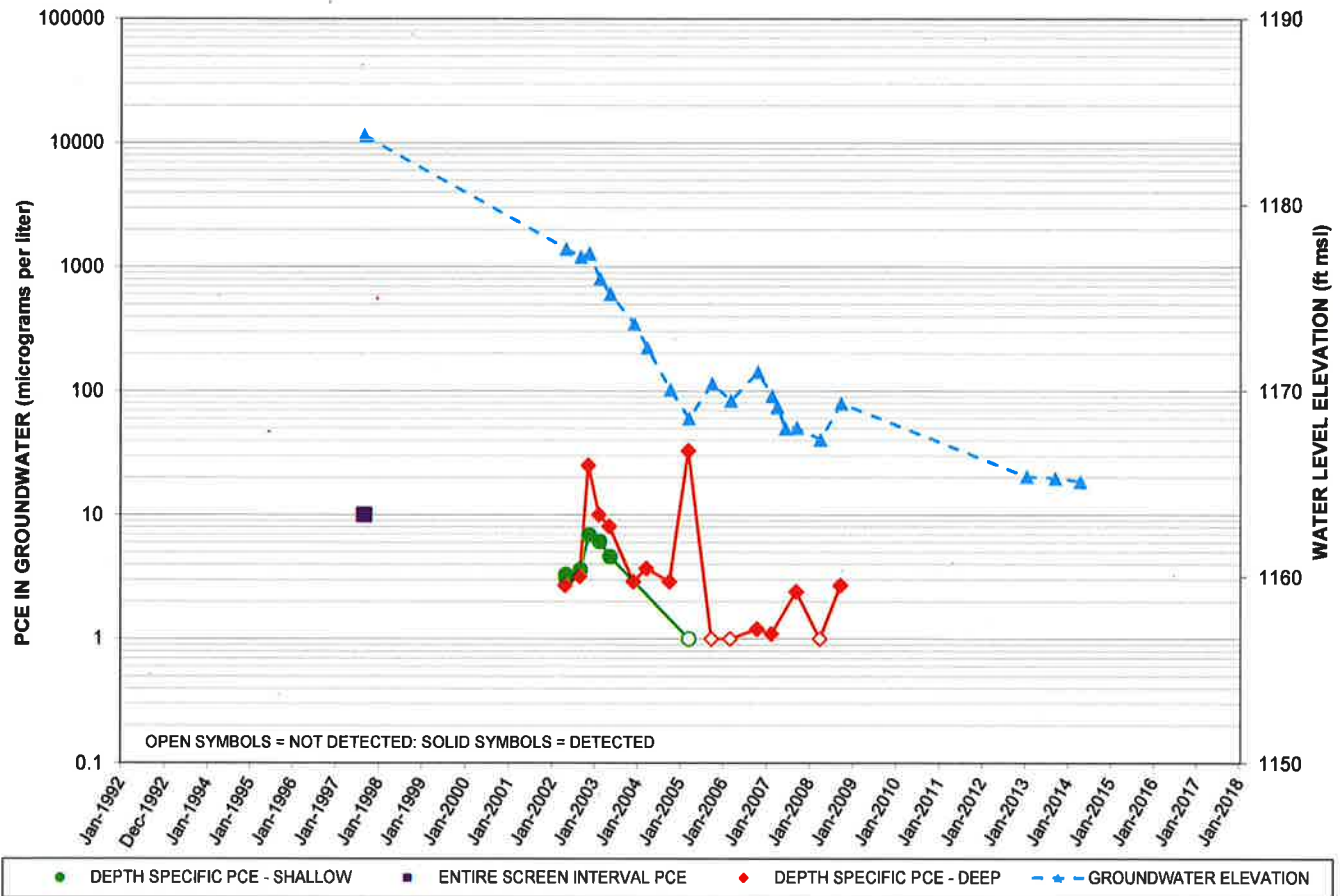
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-5. MONITOR WELL AMW-05 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



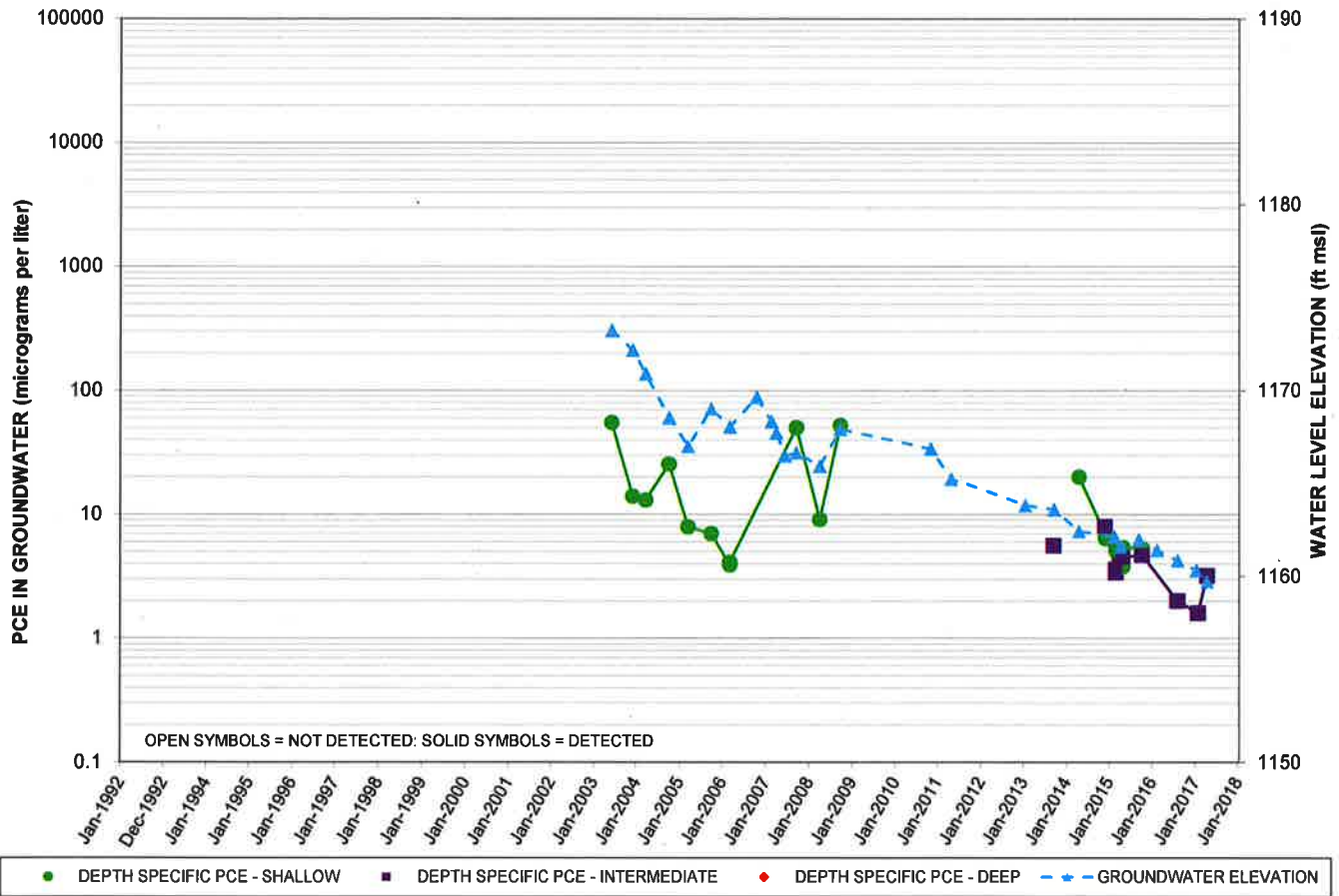
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-6. MONITOR WELL AMW-06 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



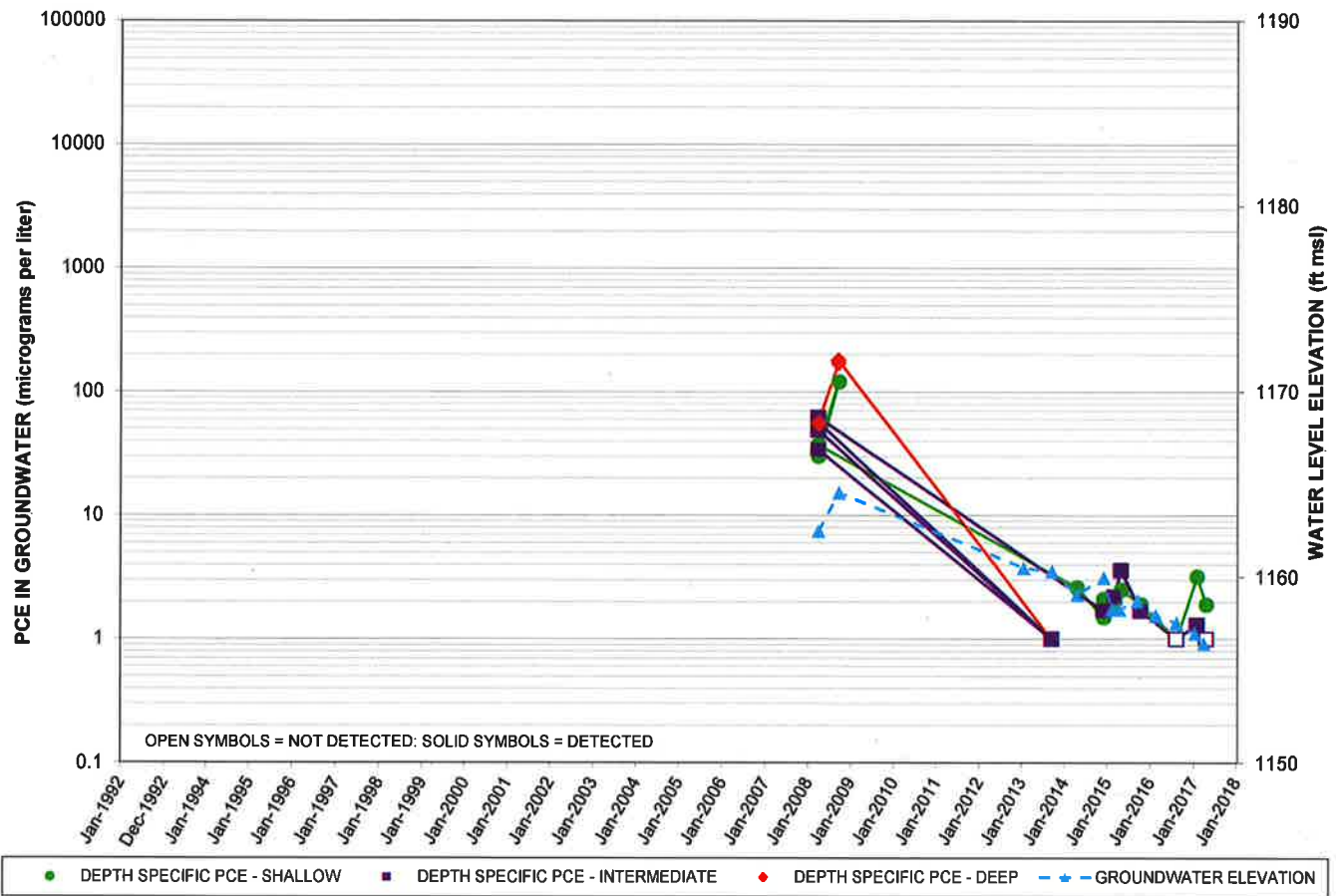
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-7. MONITOR WELL AMW-07 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



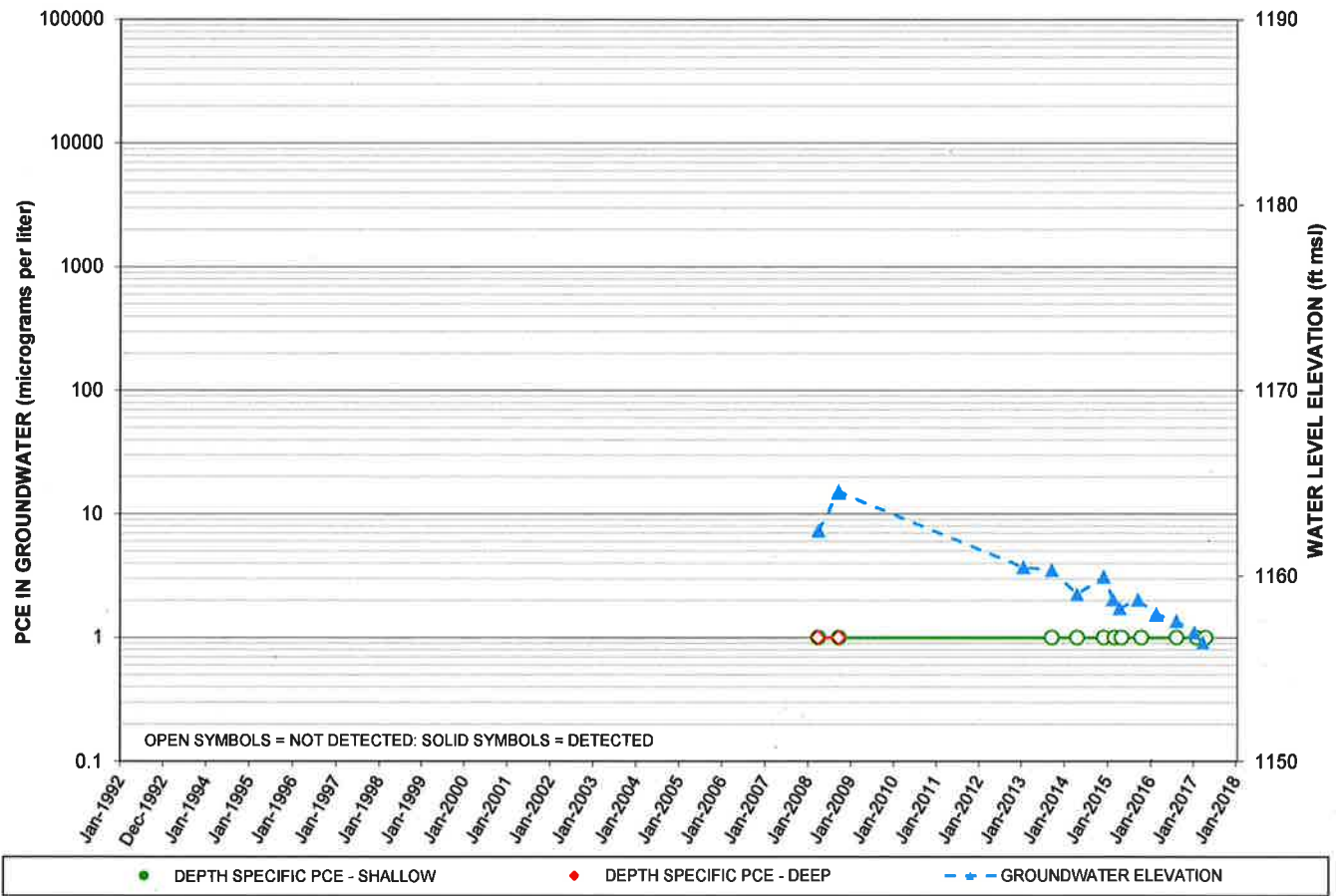
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-8. MONITOR WELL AMW-08 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



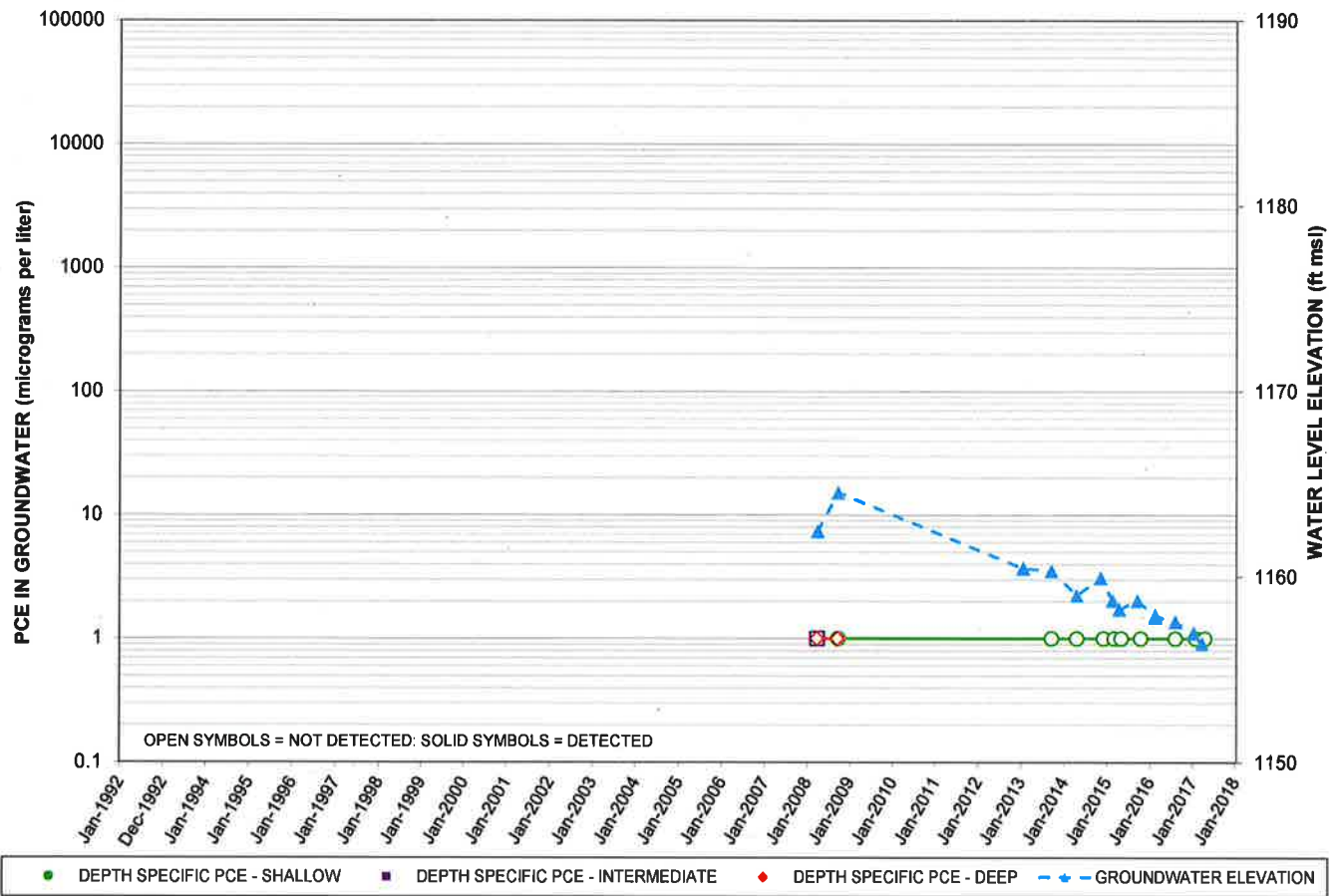
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-9. MONITOR WELL AMW-09A HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



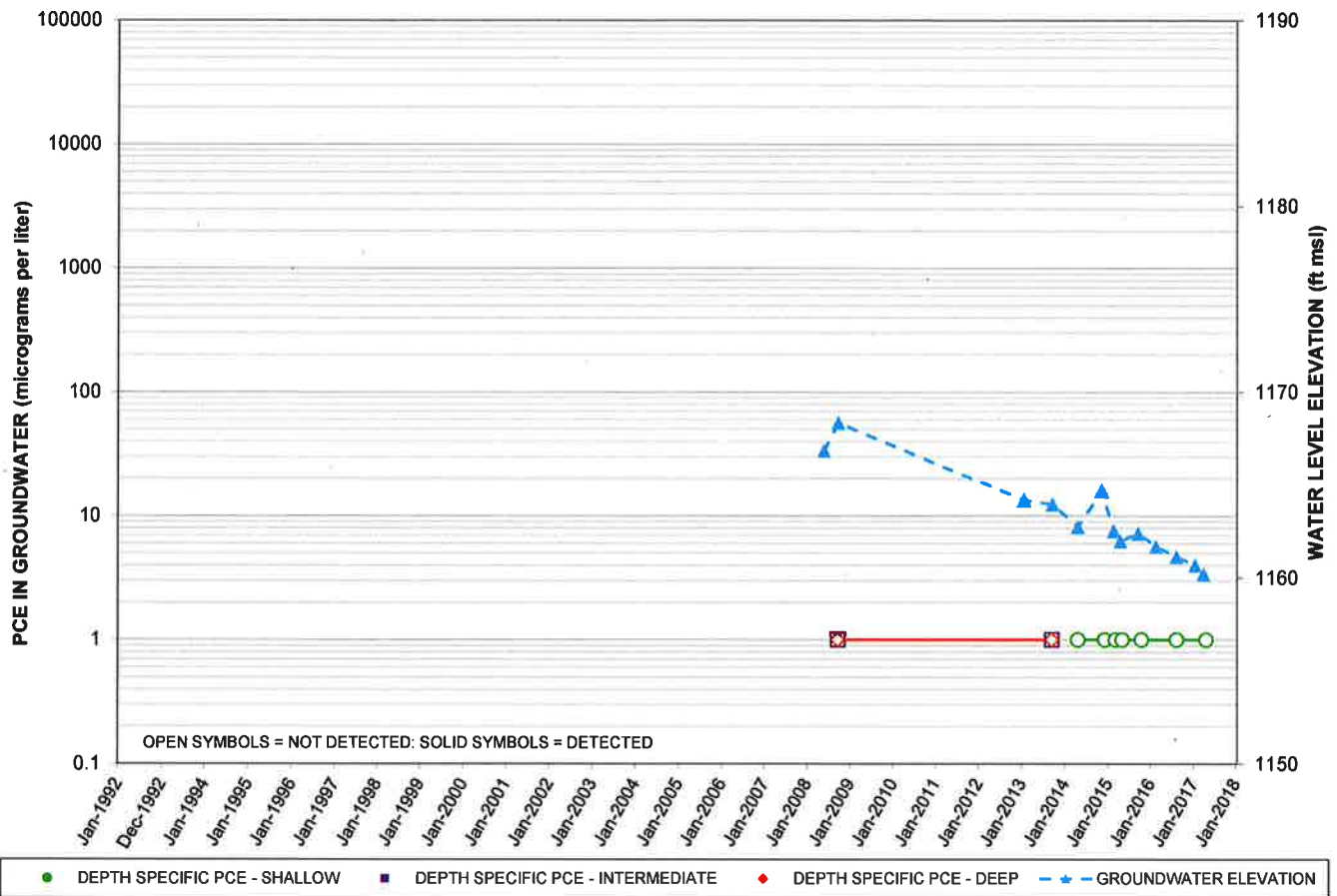
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-10. MONITOR WELL AMW-09B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



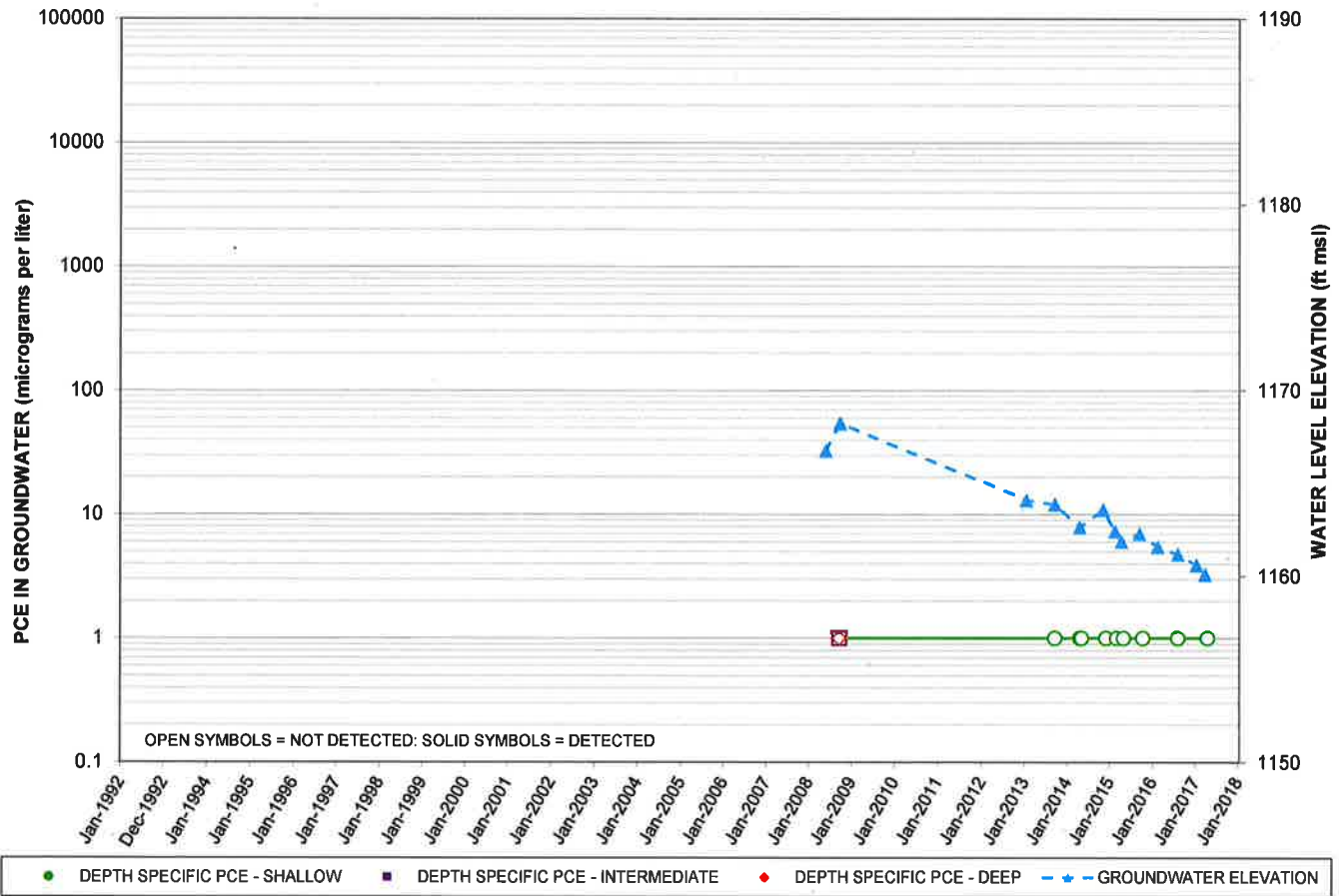
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-11. MONITOR WELL AMW-09C HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



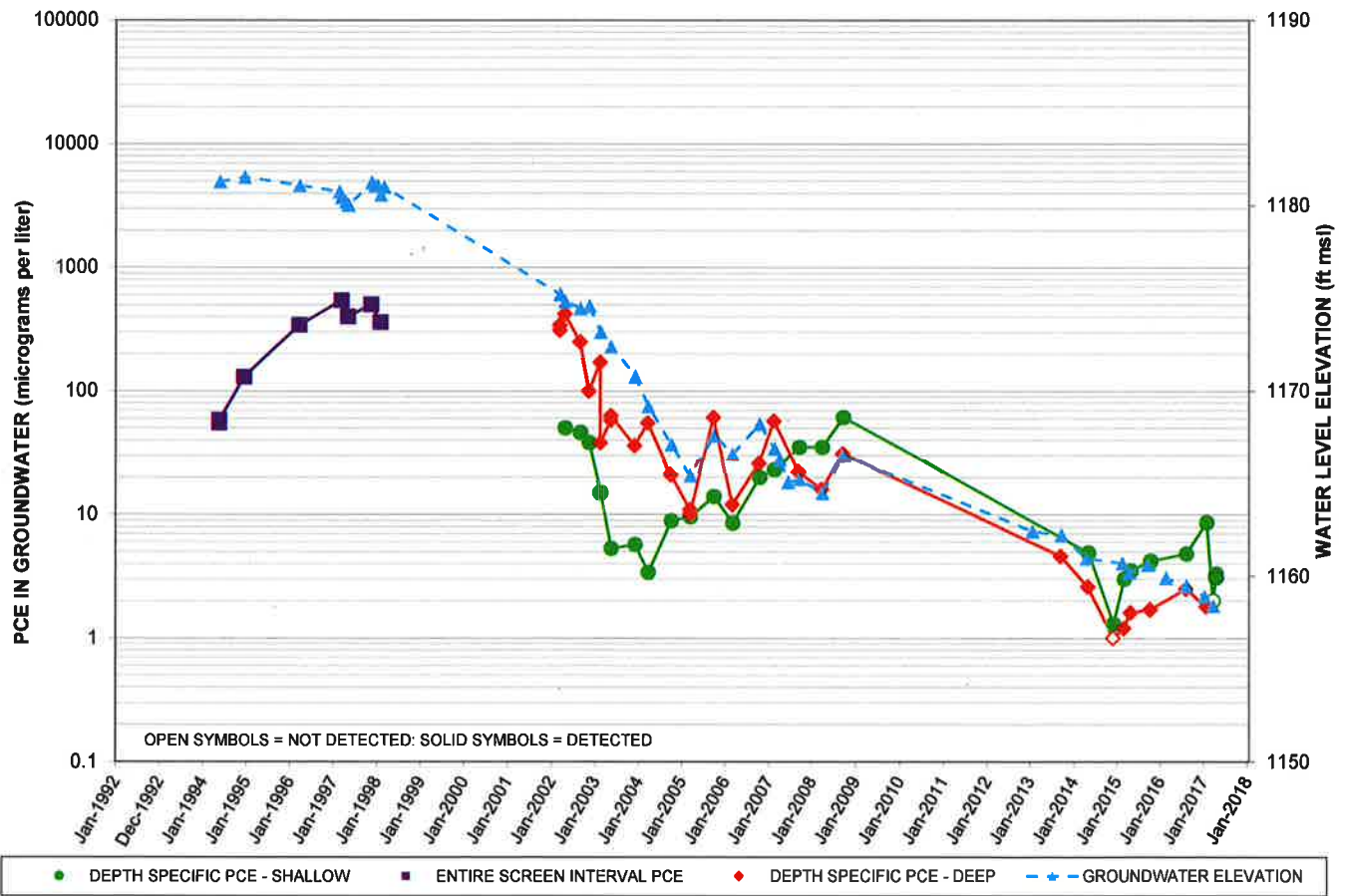
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-12. MONITOR WELL AMW-10A HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



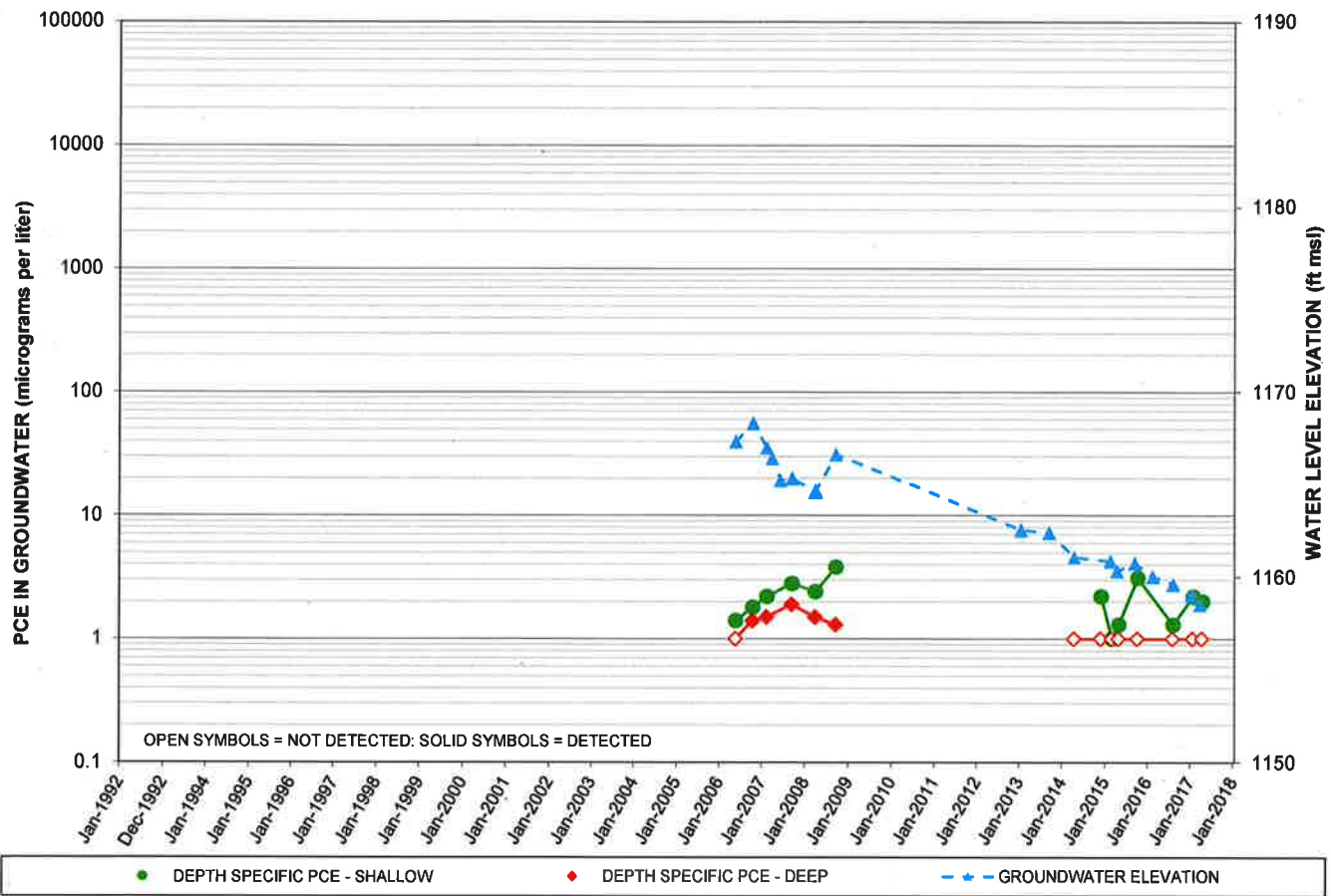
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-13. MONITOR WELL AMW-10B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



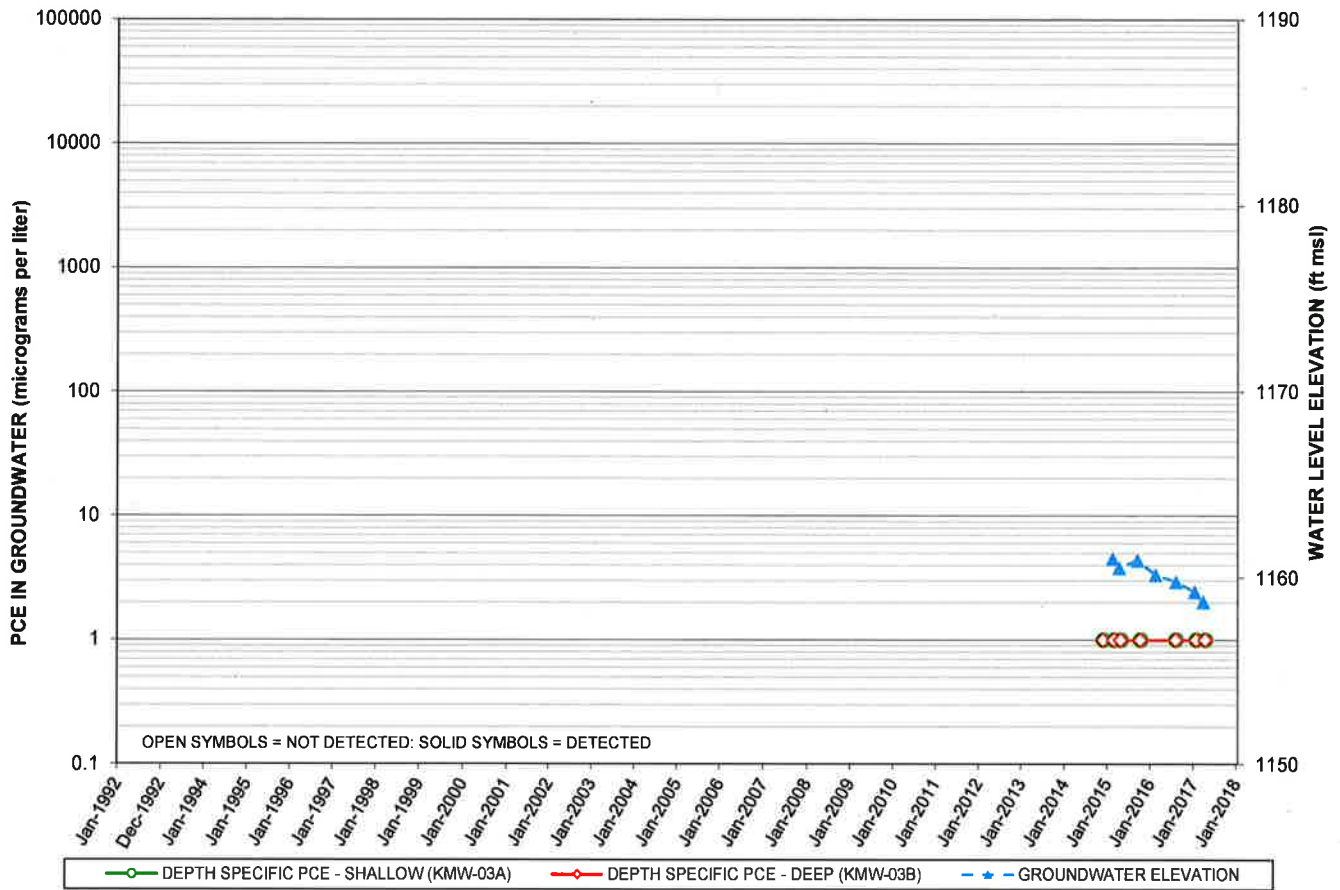
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-14. MONITOR WELL KMW-01 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



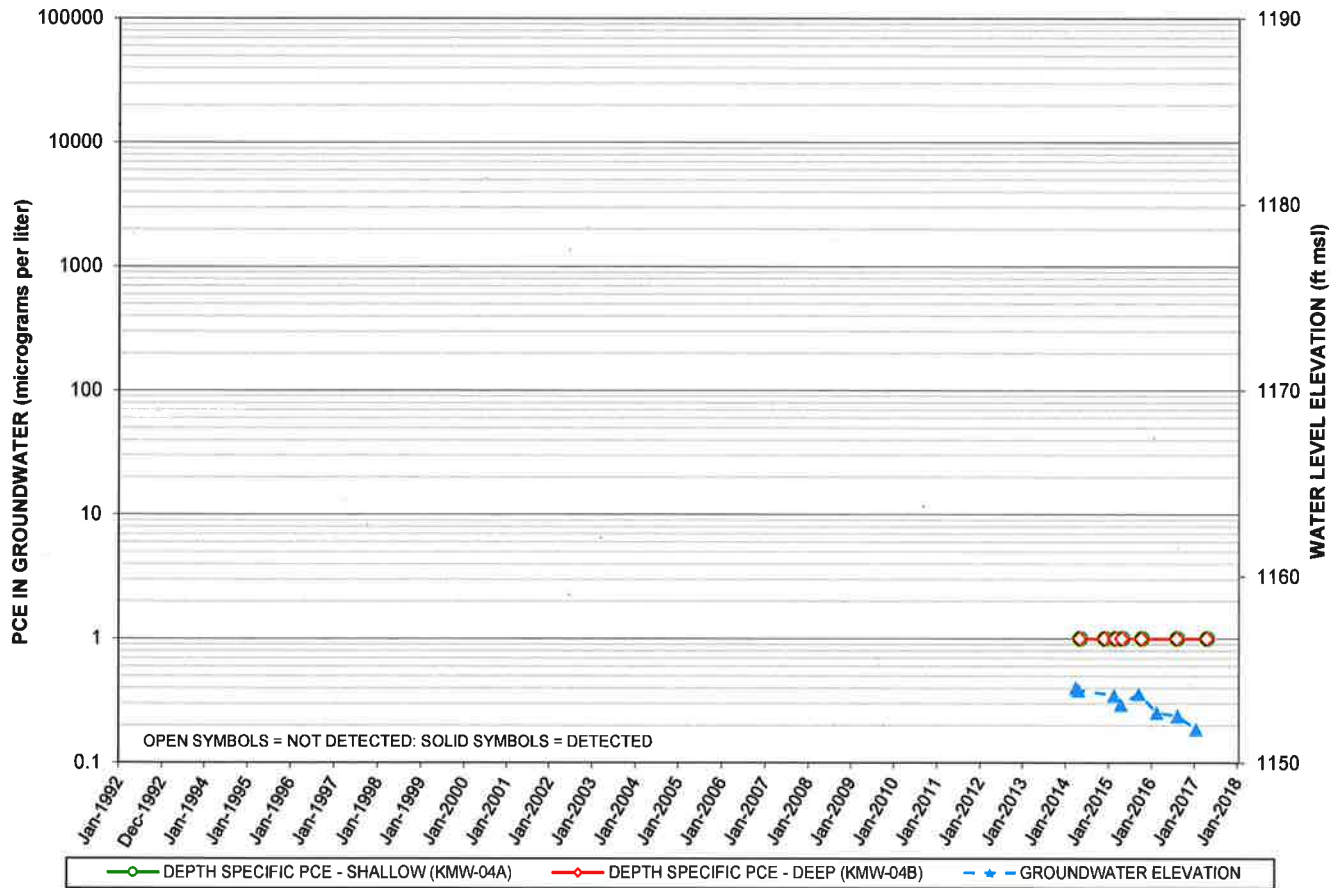
PCE = Tetrachloroethylene
ft msl = feet mean sea level

FIGURE B-15. MONITOR WELL KMW-02 HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



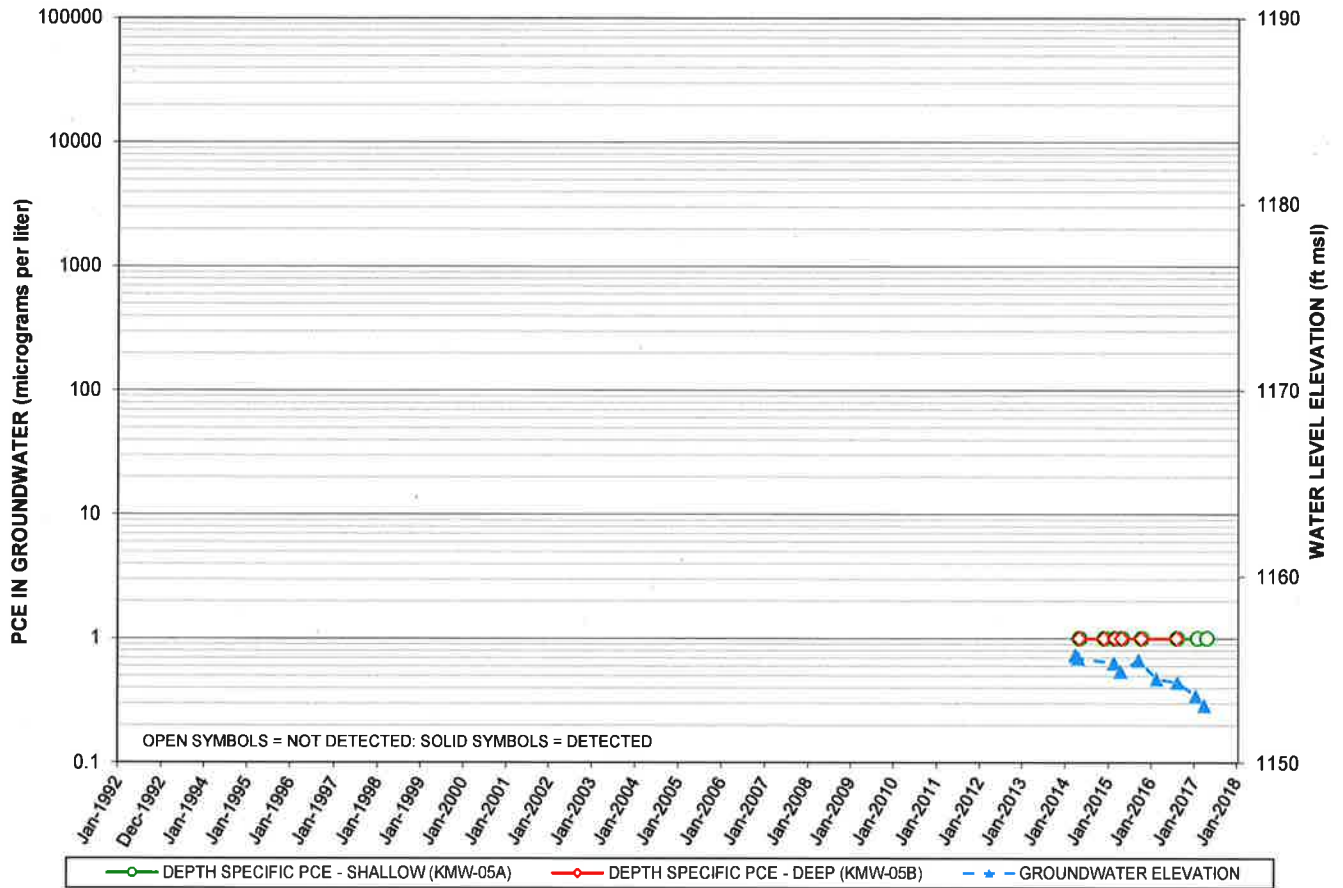
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-16. MONITOR WELL KMW-03A/B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



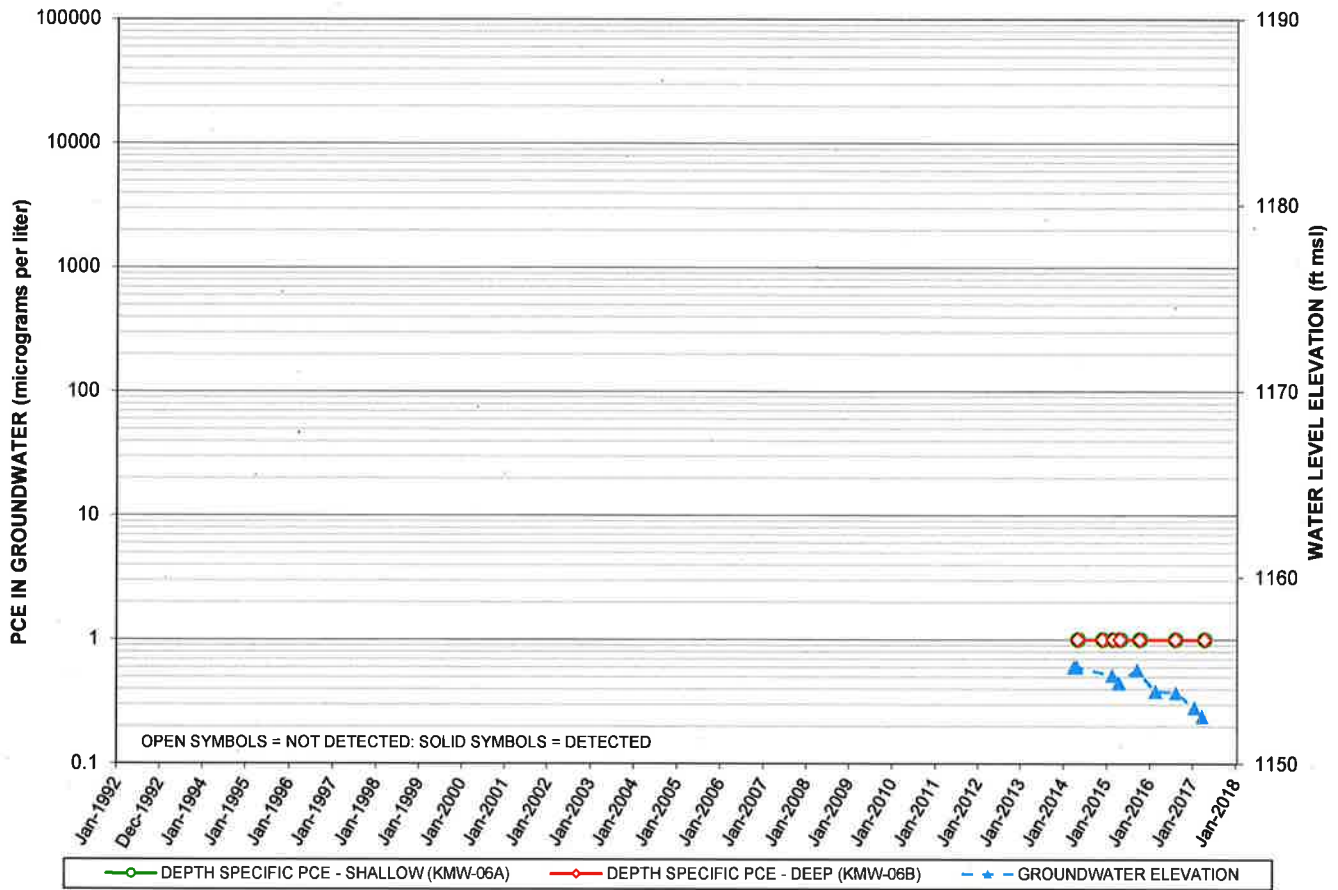
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-17. MONITOR WELL KMW-04A/B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



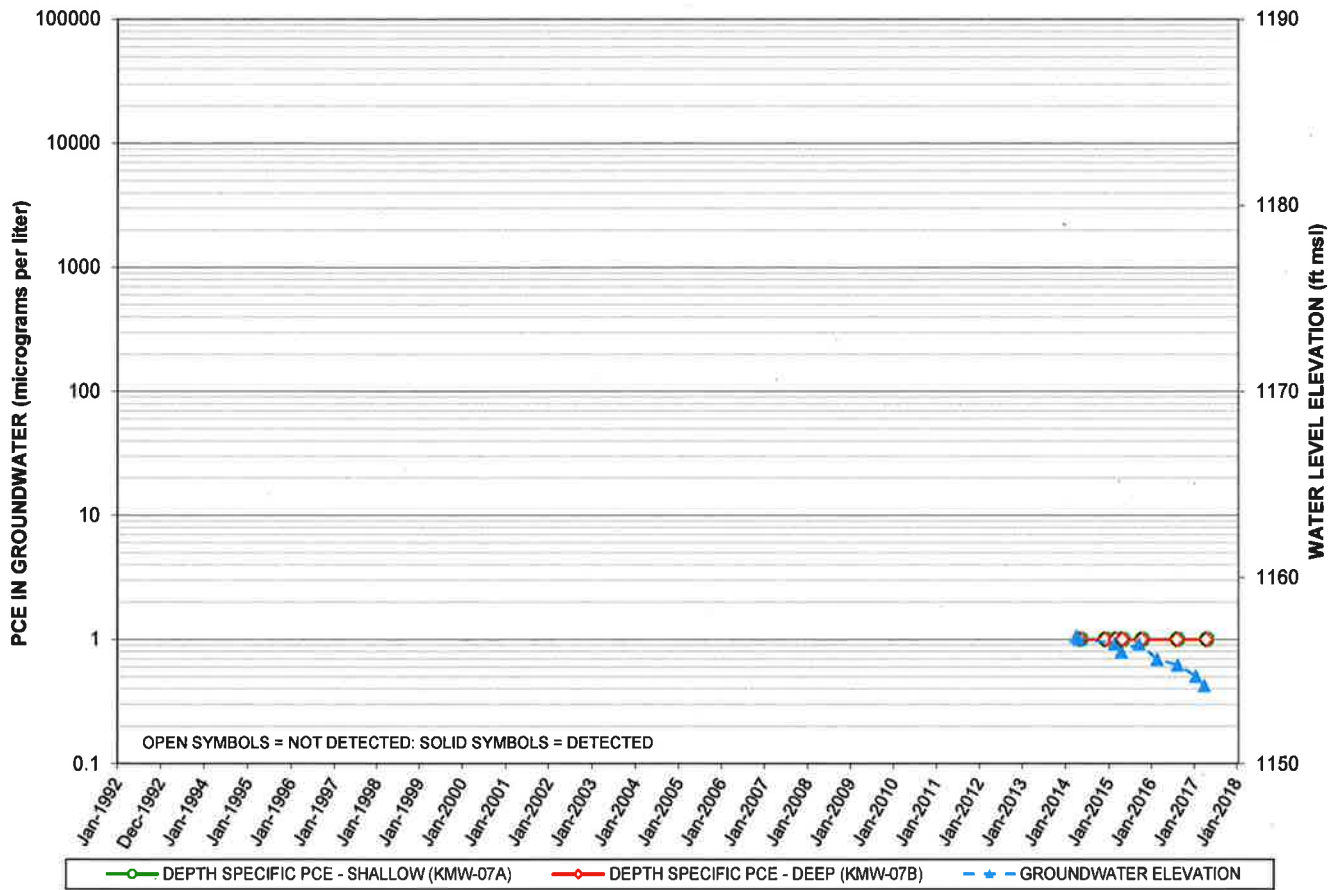
PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-18. MONITOR WELL KMW-05A/B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-19. MONITOR WELL KMW-06A/B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE



PCE = Tetrachloroethylene
 ft msl = feet mean sea level

FIGURE B-20. MONITOR WELL KMW-07A/B HYDROGRAPH - 40TH AND INDIAN SCHOOL ROAD SITE