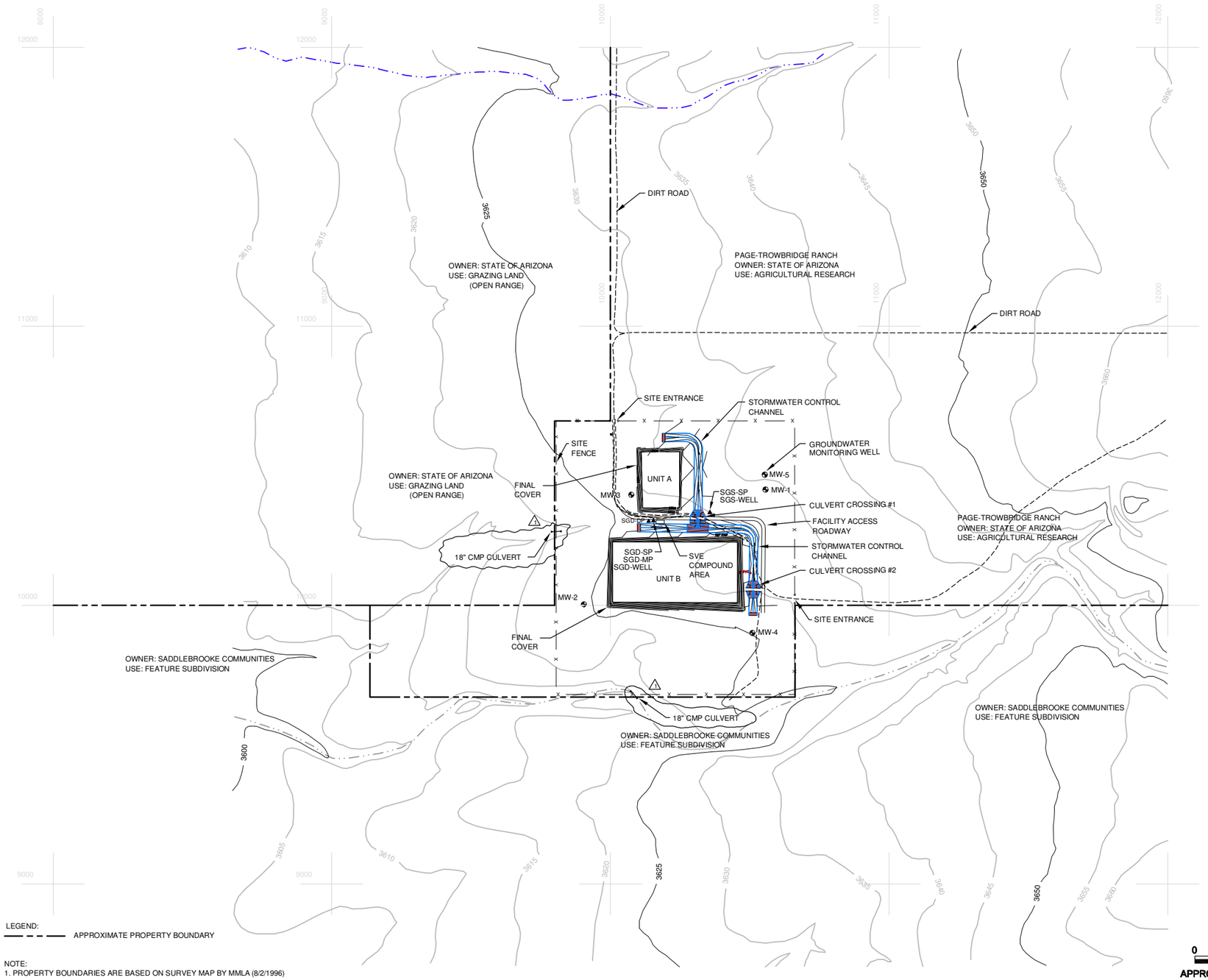
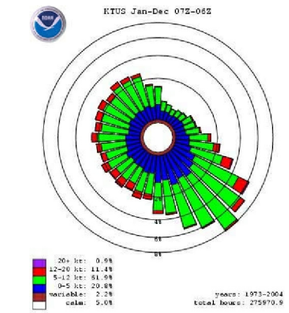
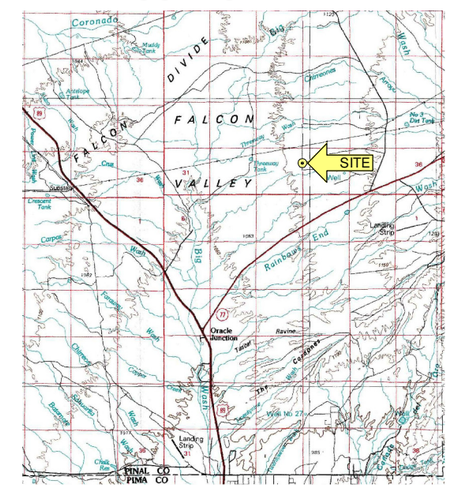


ALL WEATHER WINDROSE



SOURCE: U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER RECORD CENTER FOR YEARS JANUARY 1973 TO DECEMBER 2004.

LOCATION MAP



SOURCE: USGS MAMMOTH, ARIZONA 1986
1:100000 SCALE

LEGEND:
APPROXIMATE PROPERTY BOUNDARY

NOTE:
1. PROPERTY BOUNDARIES ARE BASED ON SURVEY MAP BY MMLA (8/2/1996)

0 200 400
APPROXIMATE SCALE IN FEET

SOURCE: STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, PHOENIX, ARIZONA DECEMBER 12, 1997.

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	ENG.	APPR.
5						
4						
3						
2						
1						
5	15	11	2011	REVISED FOR PERMIT APPLICATION	ENG.	M.Z.
4	17	06	2011	ISSUED FOR PERMIT APPLICATION	XX.	M.Z.

Client Logo:

Client:
UNIVERSITY OF ARIZONA
P.O. BOX 210460
TUCSON, AZ. 85721-0460

AMEC Earth & Environmental
1405 West Auto Drive
Tempe AZ 85284-1016

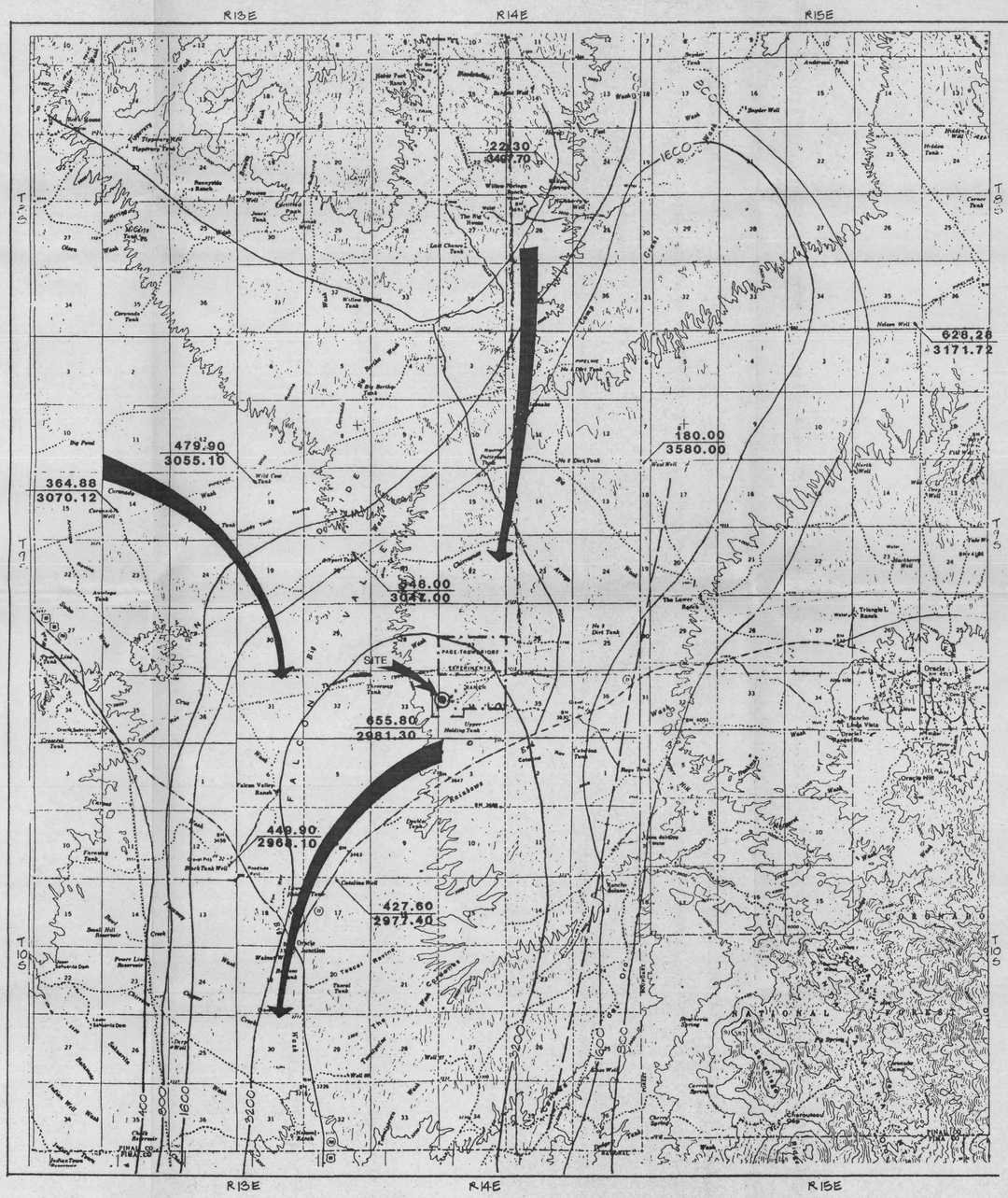
DATUM: --
PROJECTION: --
DRAWN BY: APS
REVIEWED BY: MZ
ORIGINAL SCALE: AS SHOWN

PROJECT: PAGE - TROWBRIDGE RANCH LANDFILL
RCRA PART B POST CLOSURE PERMIT APPLICATION
(EPA ID AZ98066584)

TITLE: TOPOGRAPHIC MAP

PROJECT NO.: A00377
REVISION NO. A
DATE: NOV 2011
DRAWING NO.: FIGURE 1R
SHEET NO.: _ of _

www.amec.com/earthandenvironmental



LEGEND

- BEDROCK ELEVATION BELOW LAND SURFACE
- APPROXIMATE LOCATION OF PIRATE FAULT
- STATIC WATER LEVEL
- WELL
- ALTITUDE OF GROUNDWATER
- GROUNDWATER FLOW DIRECTION

GROUNDWATER FLOW VELOCITY AT THE FACILITY ESTIMATED TO BE 10 TO 100 FEET PER YEAR (OSTERKAMP, 1974)

N

0 2 miles

SOURCE: ENVIRONMENTAL ENGINEERING CONSULTANTS. INC., FEBRUARY, 1989

REV.	DATE	DESCRIPTION	CK. BY

SHEET TITLE: GROUNDWATER FLOW DIRECTION AND RATE

PROJECT TITLE: PAGE-TROWBRIDGE RANCH LANDFILL RCRA PART B POST CLOSURE PERMIT APPLICATION (EPA I.D. AZ98066584)

CLIENT: UNIVERSITY OF ARIZONA
P.O. BOX 210460
TUCSON, ARIZONA 85721-0460

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
2702 N. 44TH ST. SUITE 1059 PHOENIX, AZ 85008
PH. (602) 840-2596 FAX (602) 224-0572

PROJ. NO. 01P5014.03 | DWN. BY: JCB | Q/A RVW. BY: JZ
DSN. BY: JCB | CHK. BY: JZ | APP. BY: JZ

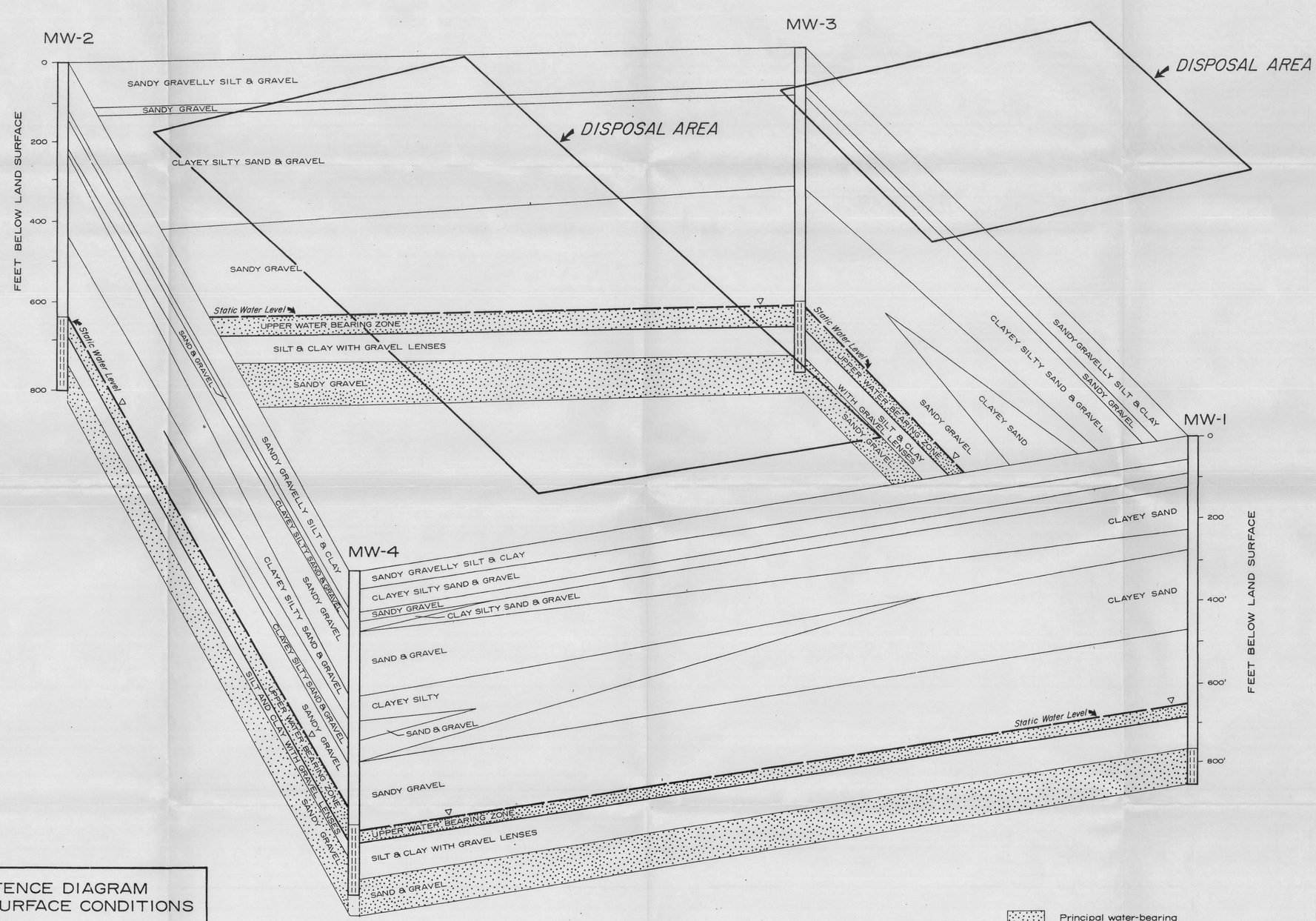
CADD FILE: 9503403D

DATE: 12/12/97

SCALE: AS SHOWN

FIGURE NO. 2

Reproduced from UA, 1997



GENERALIZED FENCE DIAGRAM
SHOWING SUBSURFACE CONDITIONS
BENEATH
PAGE-TROWBRIDGE RANCH
DISPOSAL FACILITY

SOURCE: ENVIRONMENTAL ENGINEERING CONSULTANTS, INC., FEBRUARY, 1989

SHEET TITLE: SUBSURFACE CONDITIONS

PROJECT TITLE: PAGE-TROWBRIDGE RANCH LANDFILL
RCRA PART B POST CLOSURE PERMIT
APPLICATION (EPA I.D. AZ98066584)

CLIENT: UNIVERSITY OF ARIZONA
P.O. BOX 210460
TUCSON, ARIZONA 85721-0460

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
2702 N. 44th ST., SUITE 125 PHOENIX, AZ 85008
PH. (602) 840-2596 FAX (602) 224-0572

PROJ. NO. 1905034.03	DWN. BY KCB	S/A PM BY JZ	
DSN. BY KCB	CHK. BY JZ	APP. BY JZ	

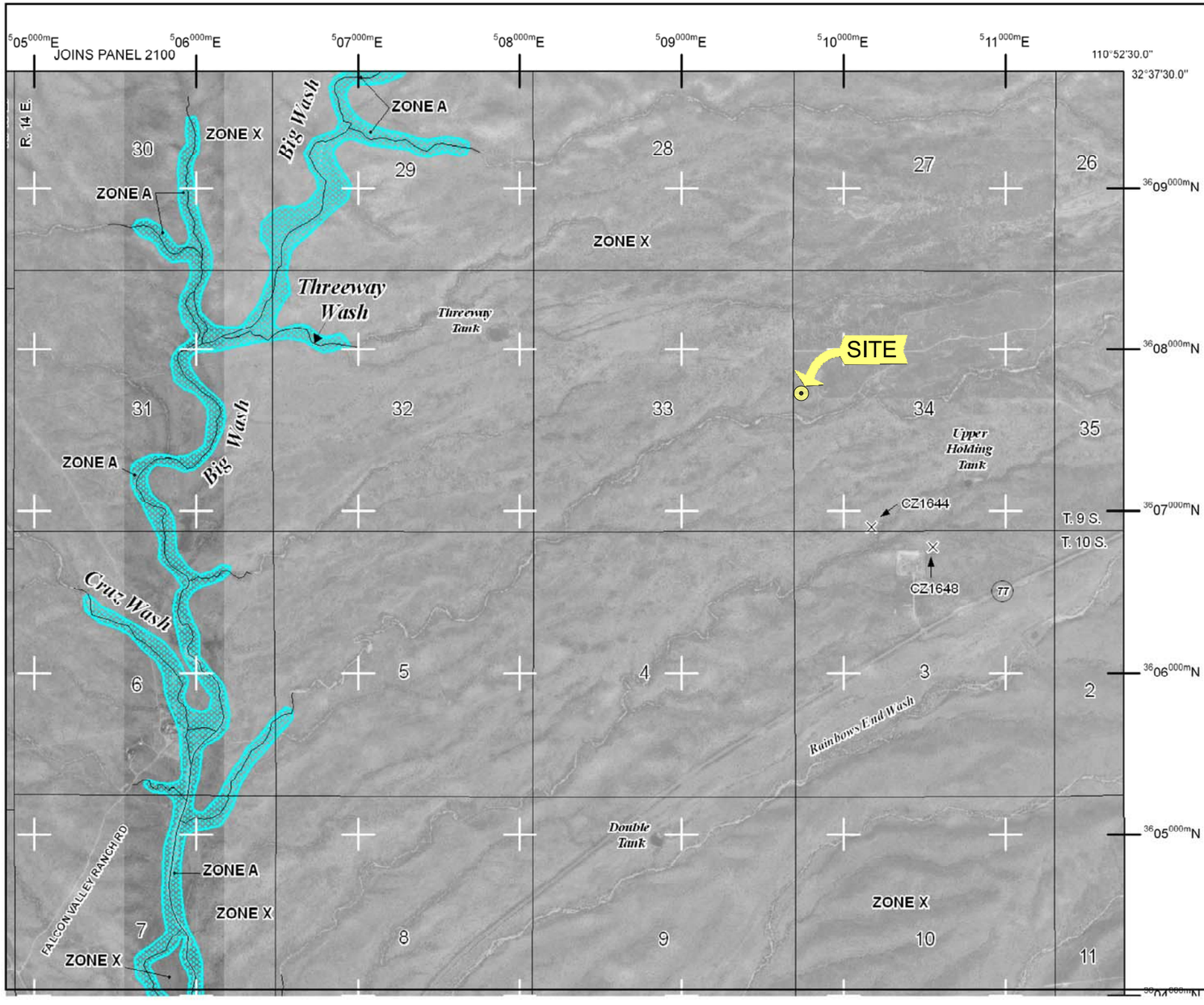
CADD. FILE: 9503403C

DATE: 12/12/97

SCALE: AS SHOWN

FIGURE NO. 3

Reproduced from UA, 1997



1000 0 2000 4000 FEET

0 600 1200 METERS

NFIP

PANEL 2475E

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

PINAL COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 2475 OF 2575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PINAL COUNTY, UNINCORPORATED AREAS	040077	2475	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04021C2475E

EFFECTIVE DATE
DECEMBER 4, 2007

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

SOURCE: http://map1.msc.fema.gov/idms

CLIENT LOGO

CLIENT: UNIVERSITY OF ARIZONA
PO BOX 210460
TUCSON, AZ, 85721-0460

AMEC Earth & Environmental
1405 West Auto Drive
Tempe, AZ, U.S.A. 85284-1016

DWN BY:	APS
CHK'D BY:	SM
DATUM:	--
PROJECTION:	--
SCALE:	AS SHOWN

PROJECT: PAGE - TROWBRIDGE RANCH LANDFILL
RCRA PART B POST CLOSURE PERMIT APPLICATION
(EPA ID AZ98066584)

TITLE: 100 YEAR FLOOD MAP

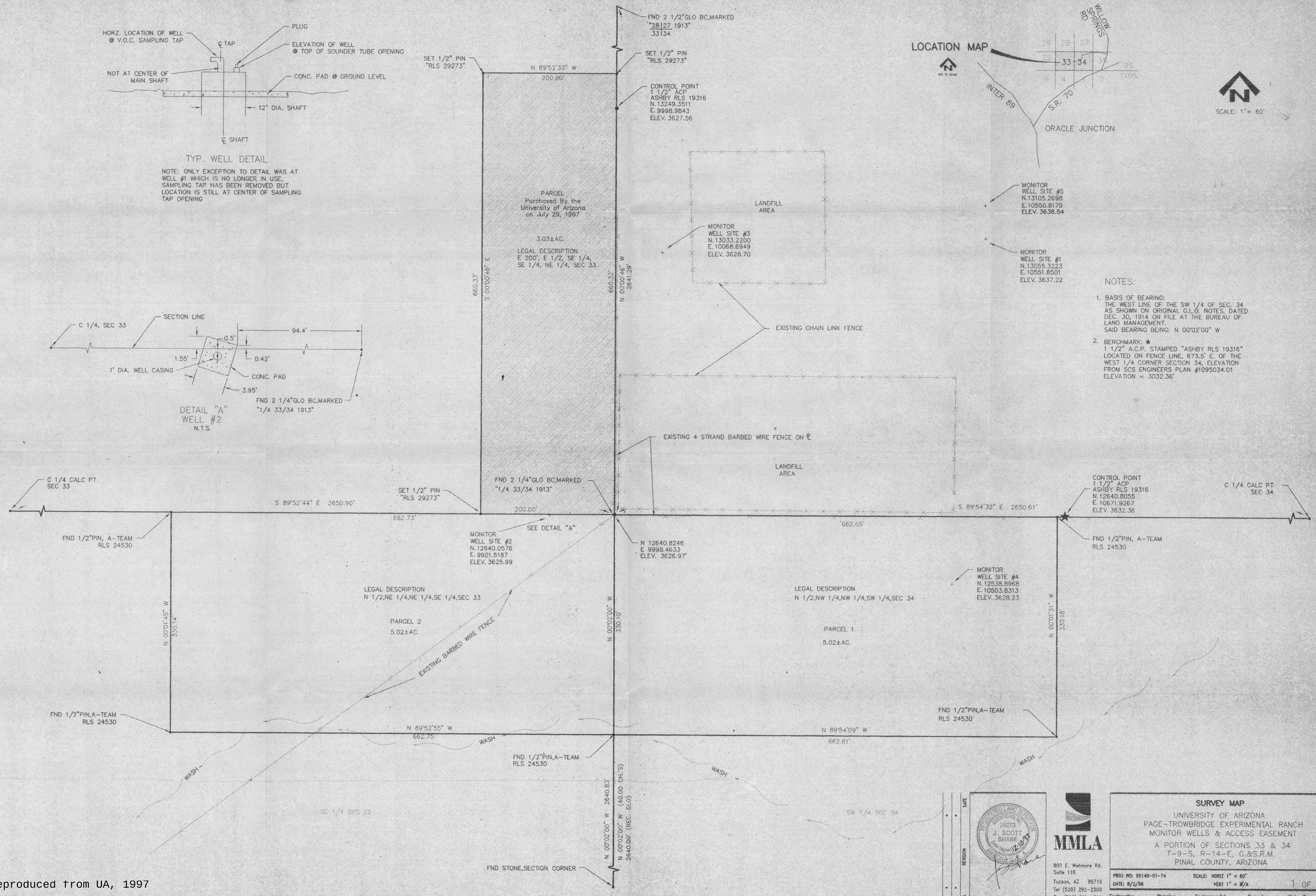
DATE:	JUNE 2011
PROJECT NO:	A00377
REV. NO.:	A
FIGURE No.	FIGURE 4

S:\AMEC-Offices\Tempe\11201\CAD\PTRL RCRA TopoMap_061511.dwg - FIGURE 4 - Jun. 15, 2011 9:32am - adam.stenberg

TYP. WELL DETAIL

NOTE: ONLY EXCEPTION TO DETAIL WAS AT WELL #1 WHICH IS NO LONGER IN USE, SAMPLING TAP HAS BEEN REMOVED BUT LOCATION IS STILL AT CENTER OF SAMPLING TAP OPENING

DETAIL "A"
WELL #2
N.T.S.



NOTES:

1. BASIS OF BEARING:
THE WEST LINE OF THE SW 1/4 OF SEC. 34 AS SHOWN ON ORIGINAL G.L.O. NOTES, DATED DEC. 30, 1914 ON FILE AT THE BUREAU OF LAND MANAGEMENT.
SAID BEARING BEING: N 00°02'00" W

2. BENCHMARK: ★
1 1/2" A.C.P. STAMPED "ASHBY RLS 19316" LOCATED ON FENCE LINE, 673.5' E. OF THE WEST 1/4 CORNER SECTION 34, ELEVATION FROM SCS ENGINEERS PLAN #1095034.01
ELEVATION = 3032.36'

NO.	REVISION	DATE

REGISTERED LAND SURVEYOR CERTIFICATE NO. 29273 J. SCOTT SHANE Date Signed 12-18-97 ARIZONA U.S.A.

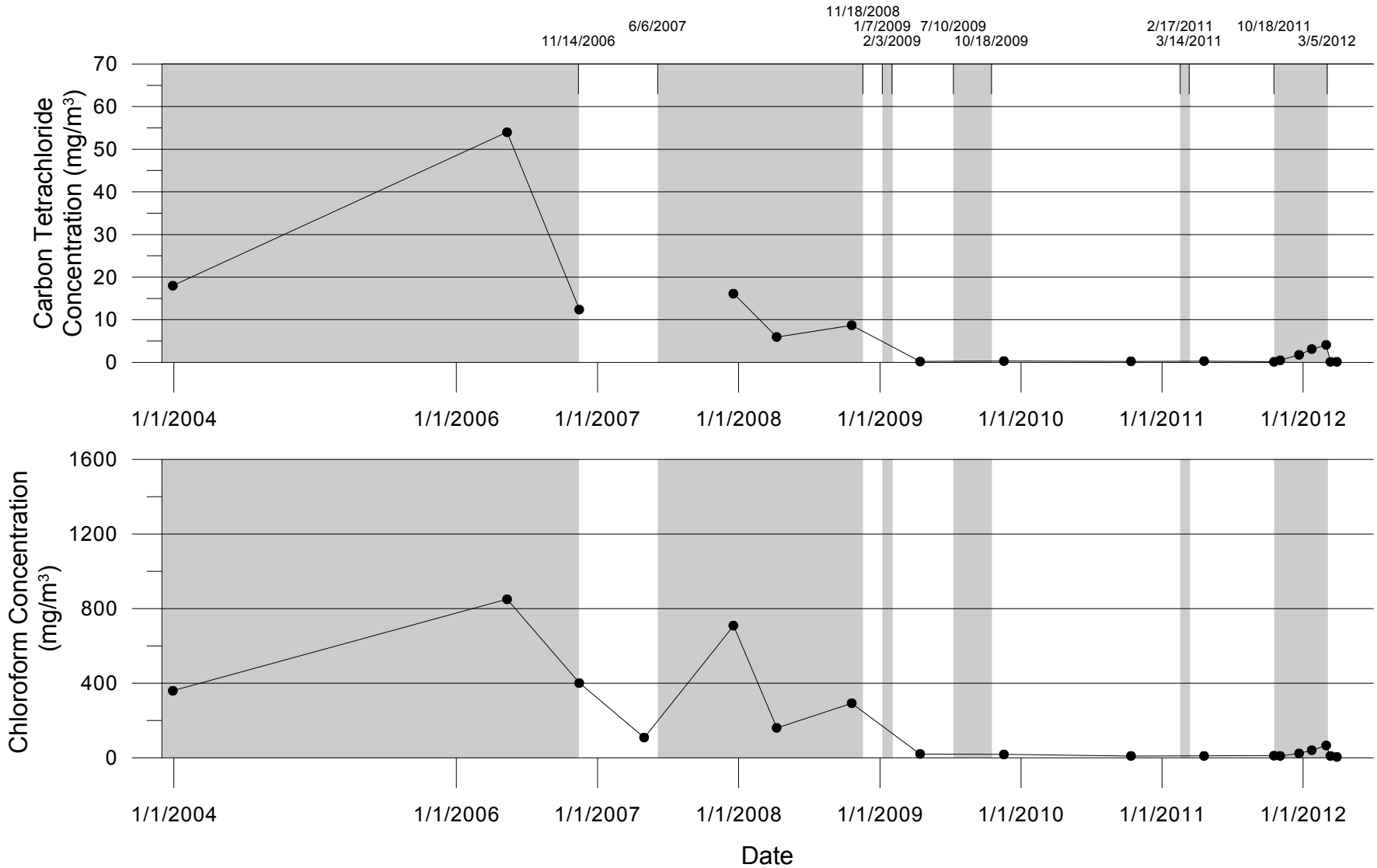
MMLA
800 E. Wetmore Rd.
Suite 110
Tucson, AZ 85719
Tel (520) 292-2300
Fax (520) 292-1290

SURVEY MAP
UNIVERSITY OF ARIZONA
PAGE-TROWBRIDGE EXPERIMENTAL RANCH
MONITOR WELLS & ACCESS EASEMENT
A PORTION OF SECTIONS 33 & 34
T-9-S, R-14-E, G.&S.R.M.
PINAL COUNTY, ARIZONA

PROJ NO: 95140-01-74 SCALE: HORIZ 1" = 60'
DATE: 8/2/96 VERT 1" = N/A
1 OF 1

Engineering • Planning • Environmental • Surveying • Water Resources

Reproduced from UA, 1997



LEGEND

● Consituent concentration is above the reporting limit.

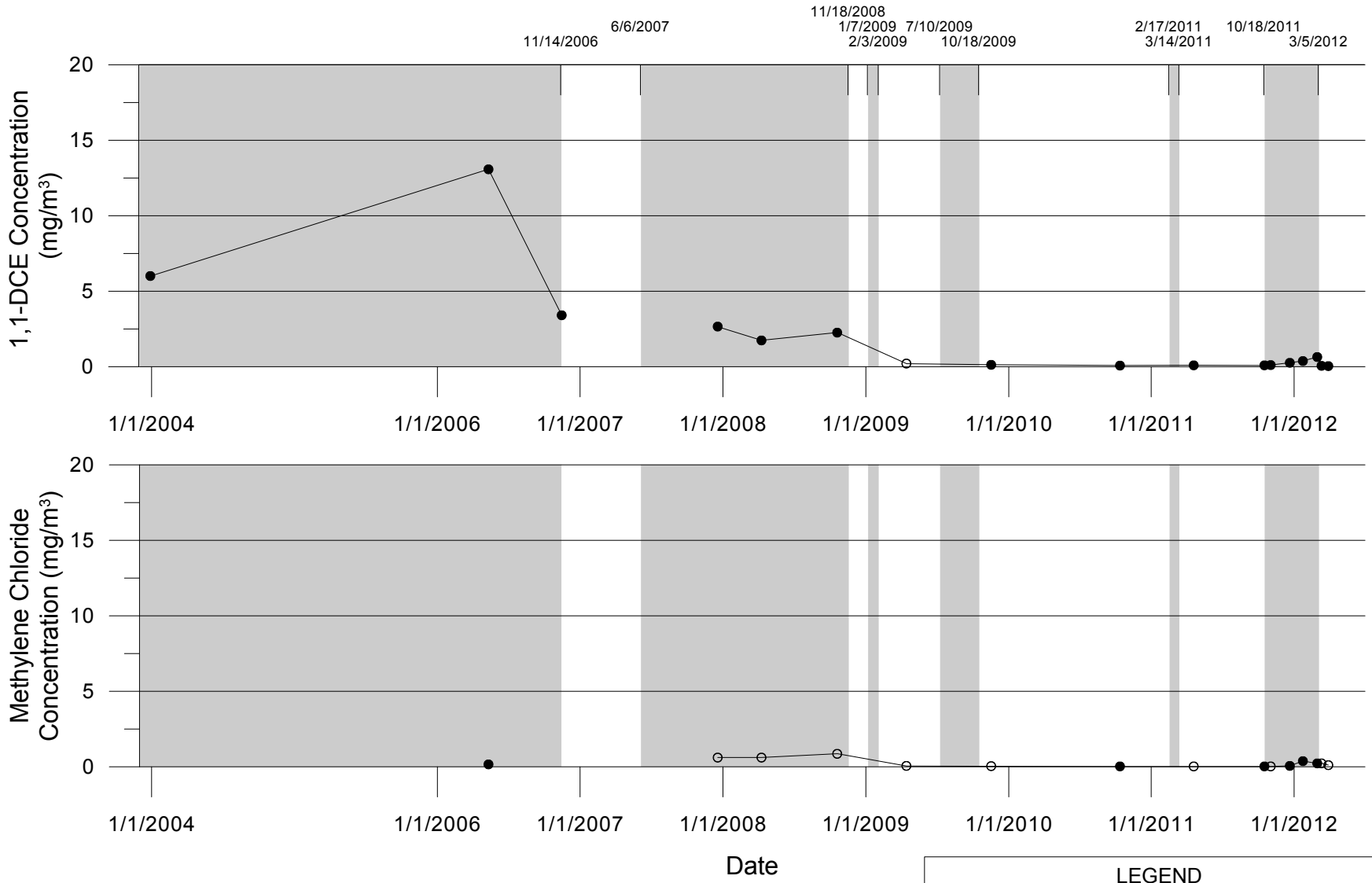
Soil vapor extraction system was nonoperational.

Note:
1.) A discontinuous line occurs where the the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
mg = milligrams
m = meter

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec	SGS-SP CARBON TETRACHLORIDE AND CHLOROFORM CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6a



LEGEND

- ● Constituent concentration is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.

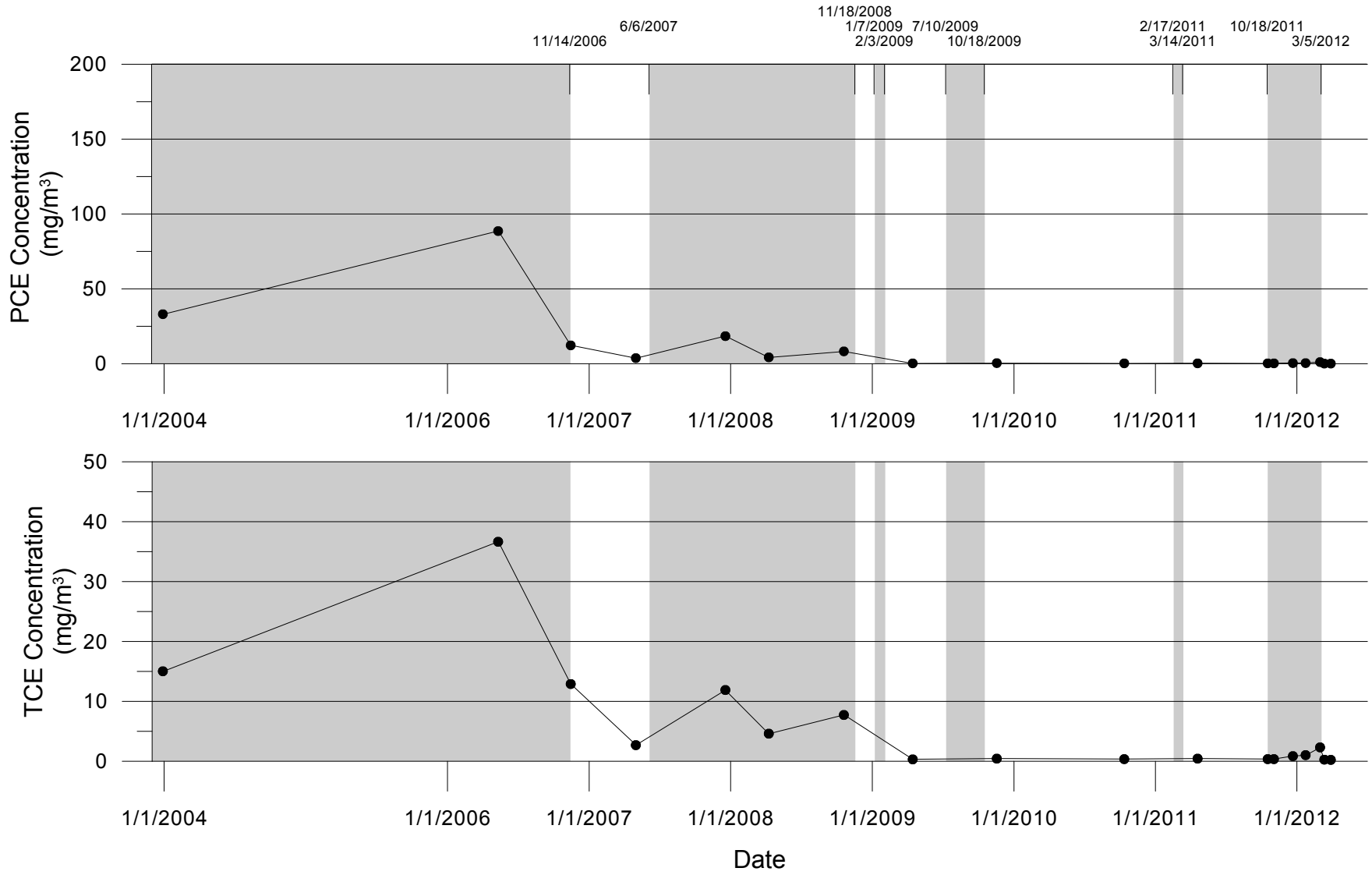
Abbreviations:
1,1-DCE = 1,1 Dichloroethene
mg = milligrams
m = meter

amec

SGS-SP 1,1-DCE AND METHYLENE CHLORIDE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6b

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

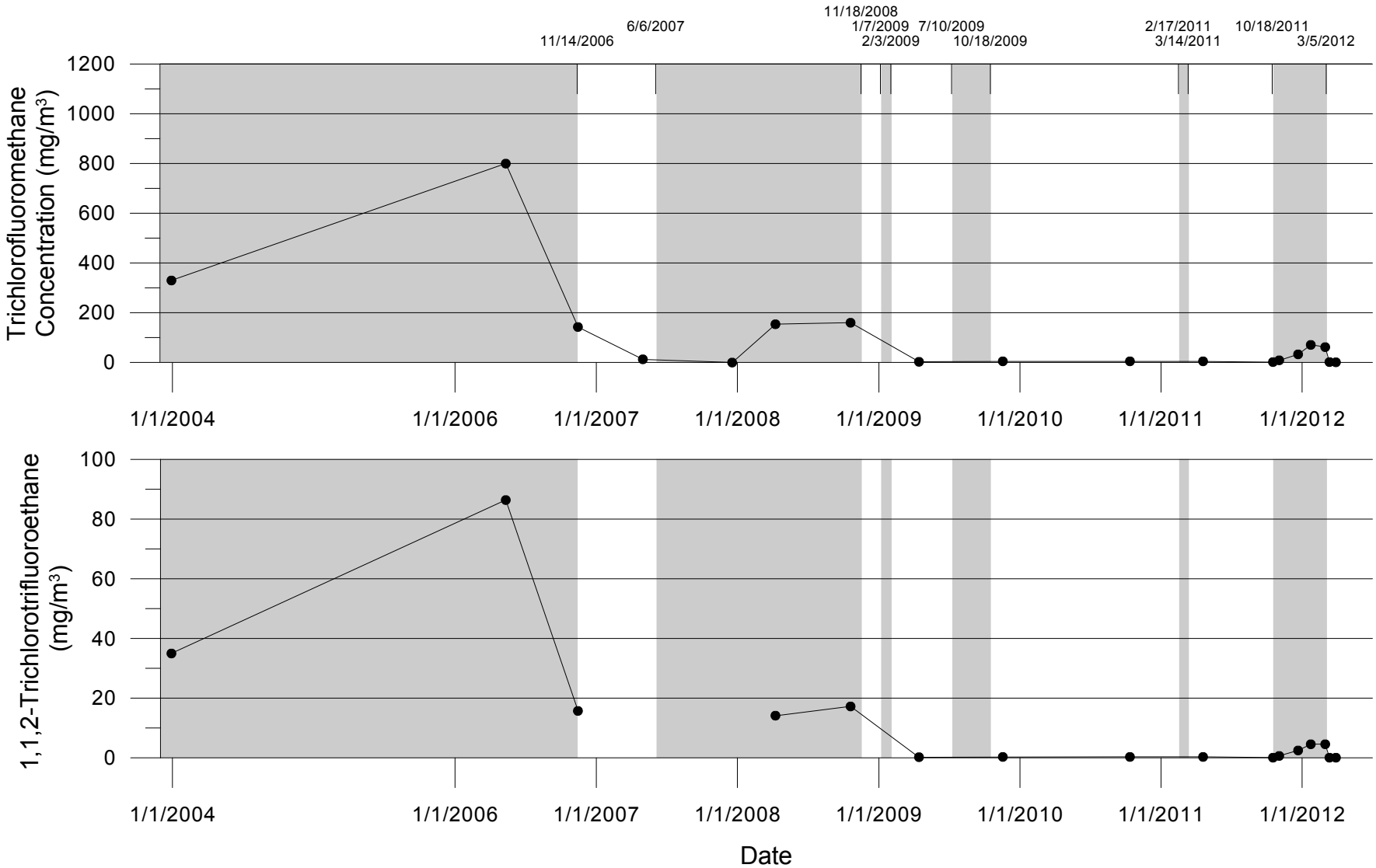


Abbreviations:
PCE = Tetrachloroethene
TCE = Trichloroethene
mg = milligrams
m = meter

LEGEND
● Constituent concentration is above the reporting limit.
Soil vapor extraction system was nonoperational.

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec	SGS-SP PCE AND TCE CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6c



LEGEND

● Consituent concentration is above the reporting limit.

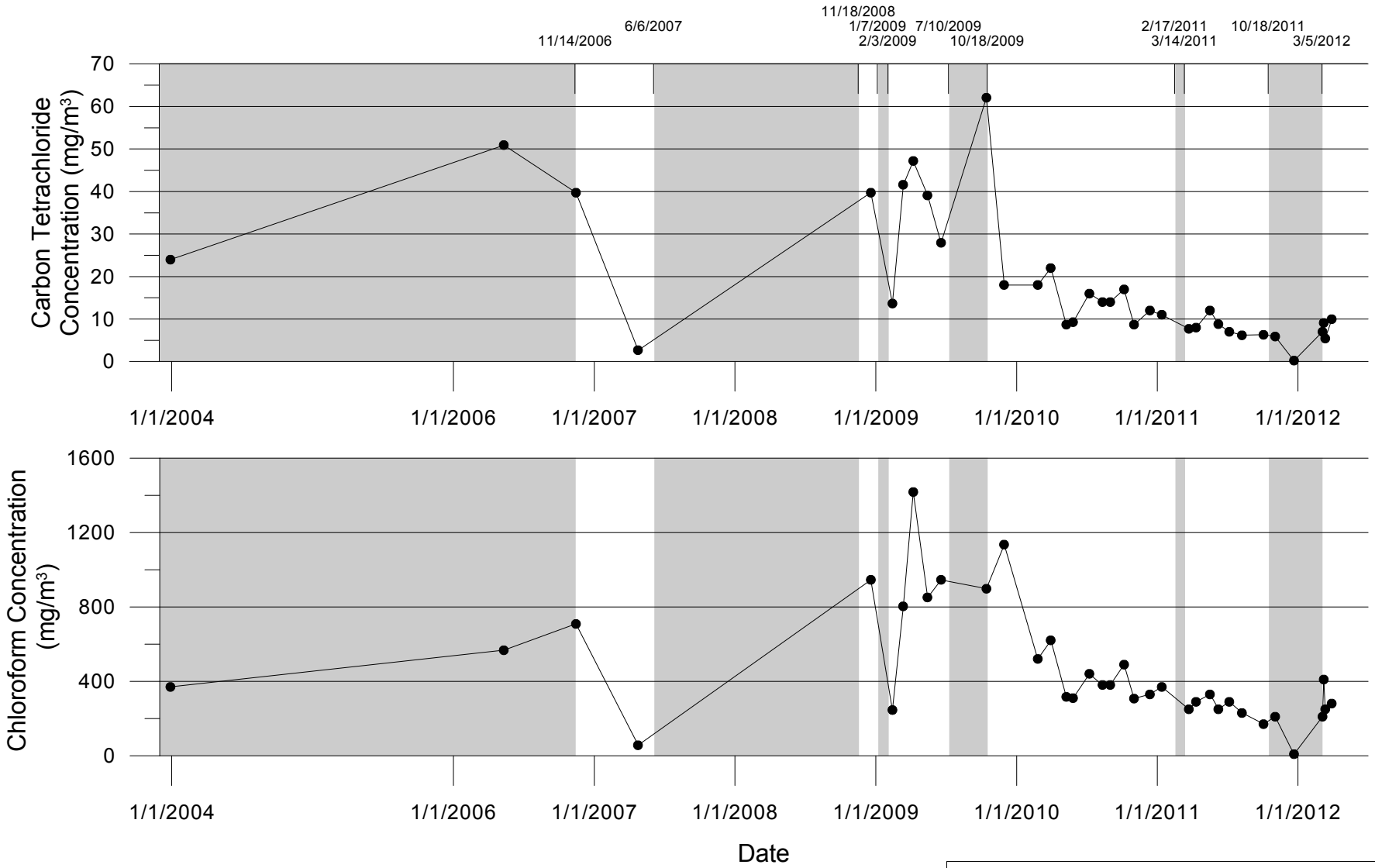
Soil vapor extraction system was nonoperational.

Note:
1.) A discontinuous line occurs where the the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
mg = milligrams
m = meter

amec	SGS-SP TRICHLOROFLUOROMETHANE AND 1,1,2-TRICHLOROTRIFLUOROETHANE CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6d

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



LEGEND

● Consituent concentration is above the reporting limit.

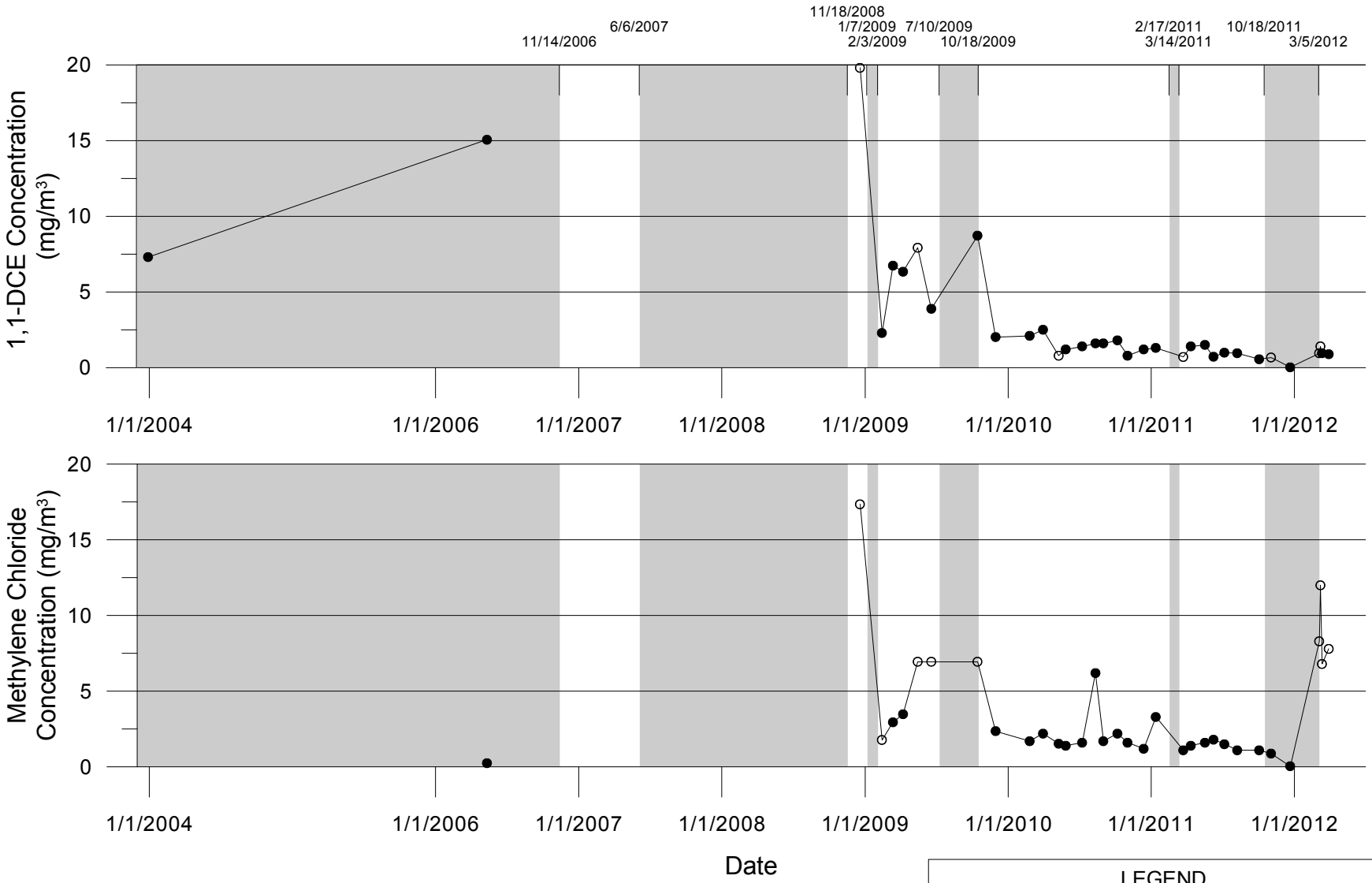
Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on 3/5/12 and 3/8/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
mg = milligrams
m = meter

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec	SGS-WELL CARBON TETRACHLORIDE AND CHLOROFORM CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6e



Note:
1.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.
2.) For field duplicates collected on 3/5/12 and 3/8/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
1,1-DCE = 1,1 Dichloroethene
mg = milligrams
m = meter

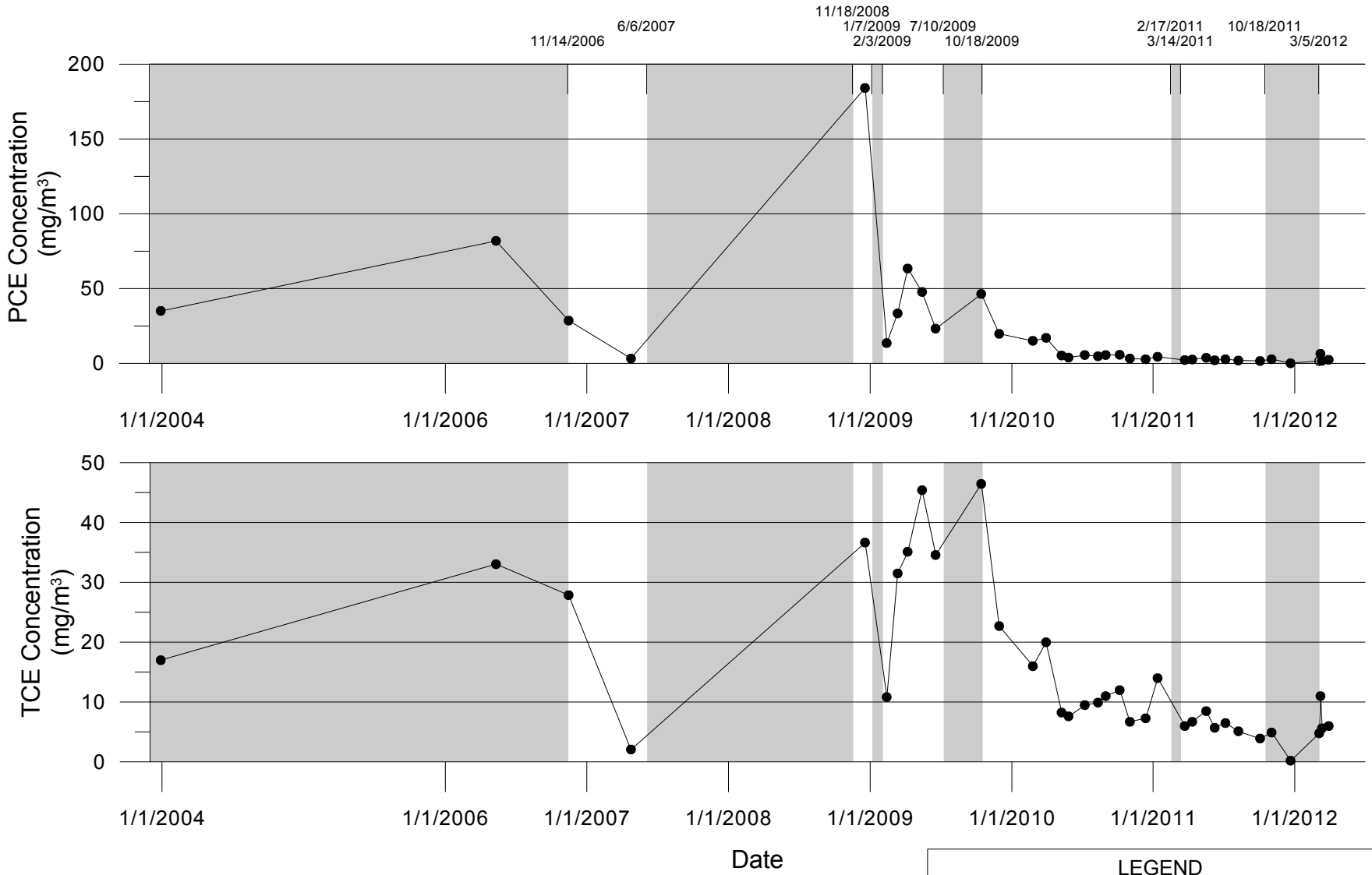
LEGEND
- ● Constituent concentration is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

amec

SGS-WELL 1,1-DCE AND METHYLENE CHLORIDE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6f

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



Abbreviations:
PCE = Tetrachloroethene
TCE = Trichloroethene
mg = milligrams
m = meter

LEGEND

- ● Constituent concentration is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on 3/5/12 and 3/8/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.

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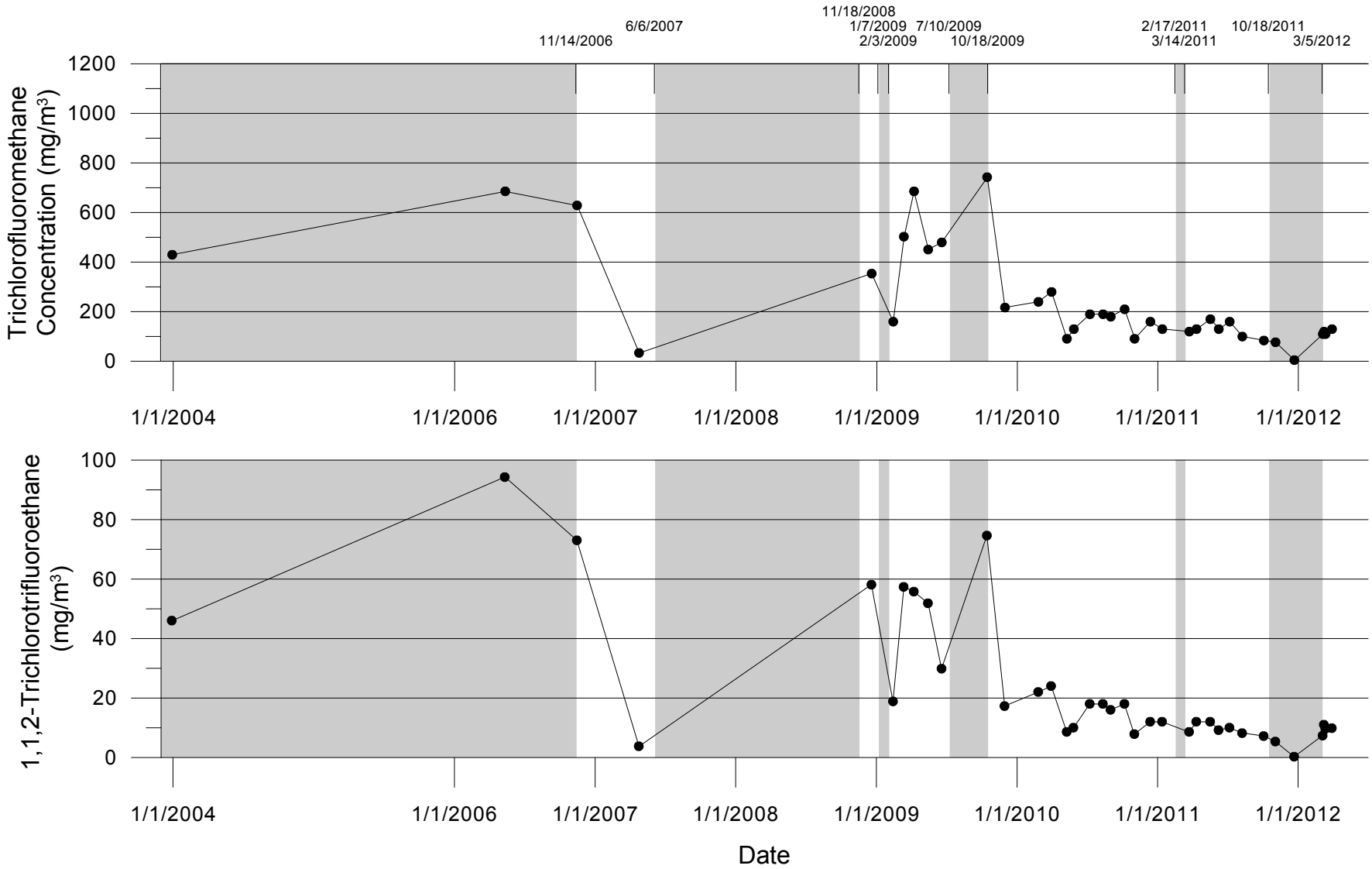
amec

SGS-WELL PCE AND TCE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6g



LEGEND

● Constituent concentration is above the reporting limit.

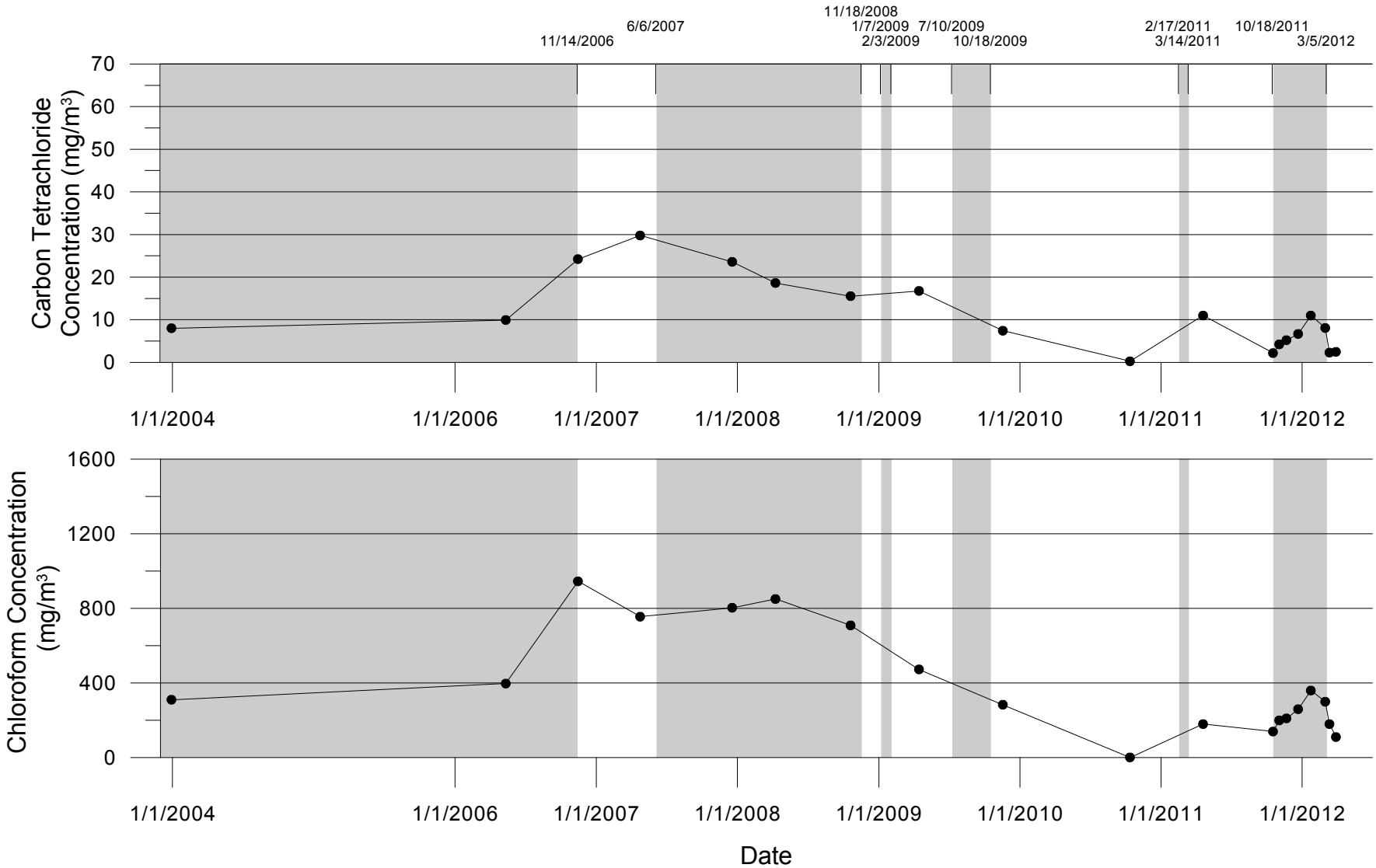
Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on 3/5/12 and 3/8/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
mg = milligrams
m = meter

amec	SGS-WELL TRICHLOROFLUOROMETHANE AND 1,1,2-TRICHLOROTRIFLUOROETHANE CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6h

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



LEGEND

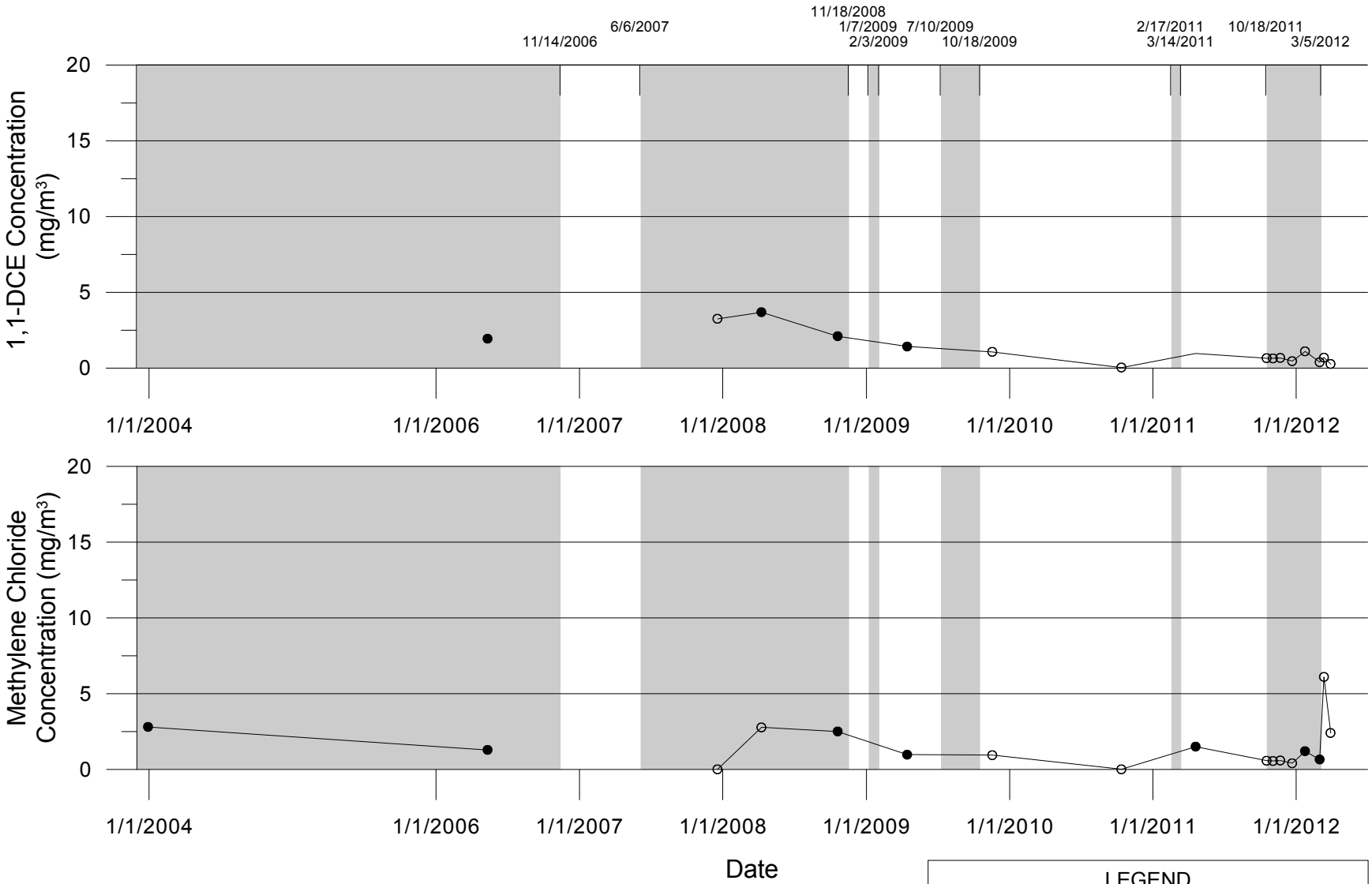
● Consituent value is above the reporting limit.

Soil vapor extraction system was nonoperational.

Abbreviations:
mg = milligrams
m = meter

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec	SGD-SP CARBON TETRACHLORIDE AND CHLOROFORM CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6i



LEGEND

- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) A discontinuous line occurs where the constituent concentratioon was nondetect and the reporting limit was not provided.

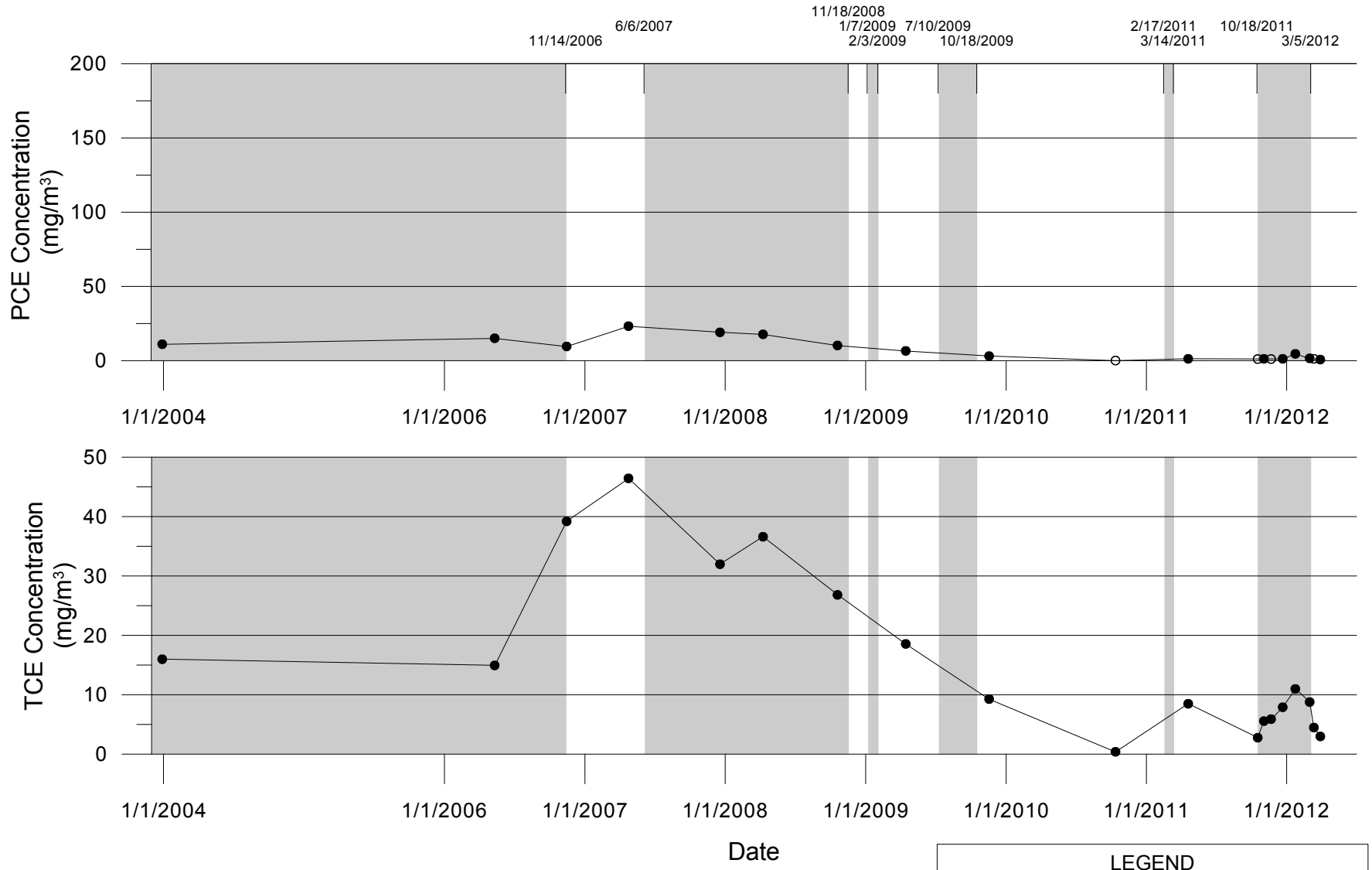
Abbreviations:
1,1-DCE = 1,1 Dichloroethene
mg = milligrams
m = meter

amec

SGD-SP 1,1-DCE AND METHYLENE CHLORIDE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6j

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



LEGEND

- ● Consitituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

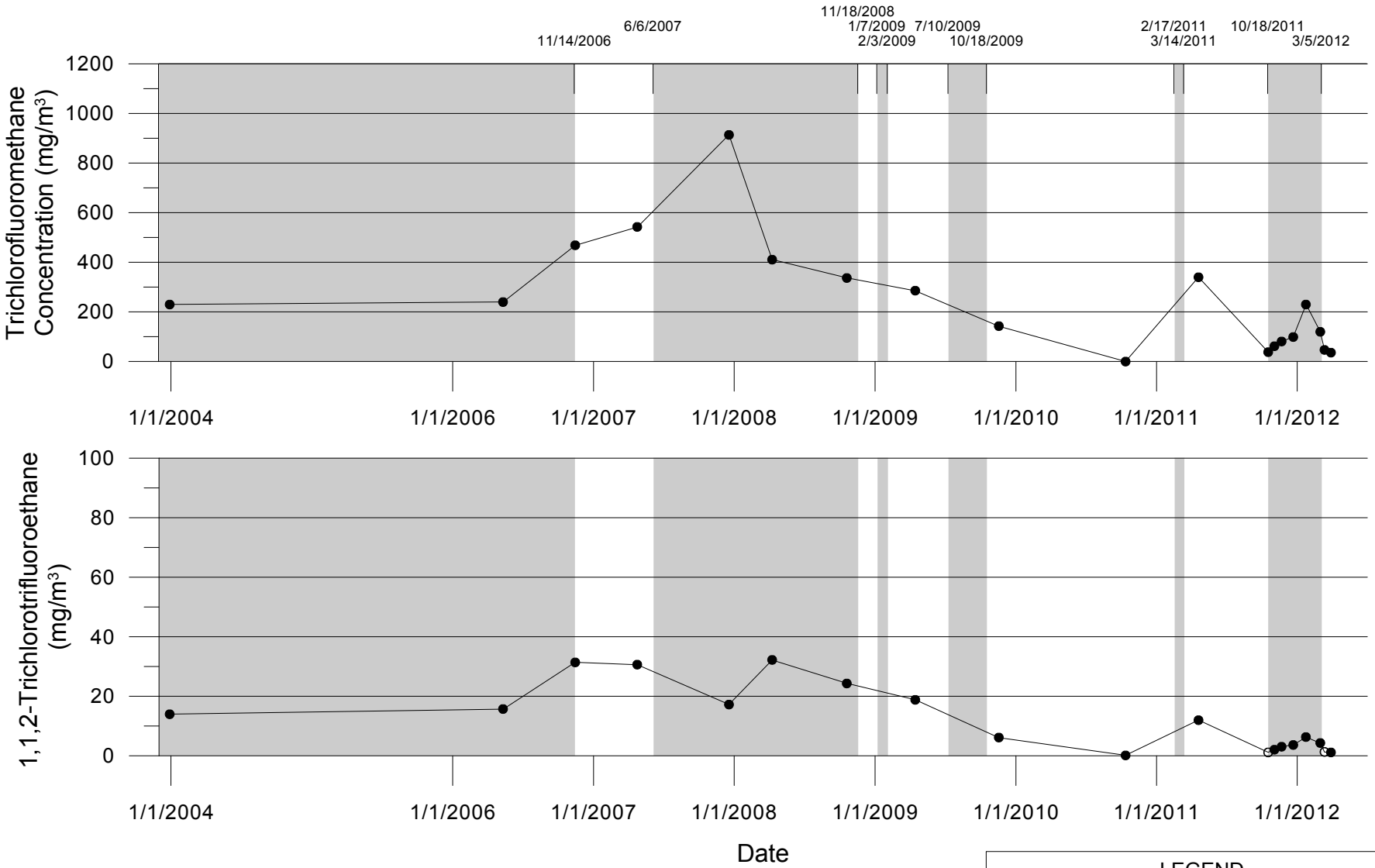
Abbreviations:
PCE = Tetrachloroethene
TCE = Trichloroethene
mg = milligrams
m = meter

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec

SGD-SP PCE AND TCE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6k



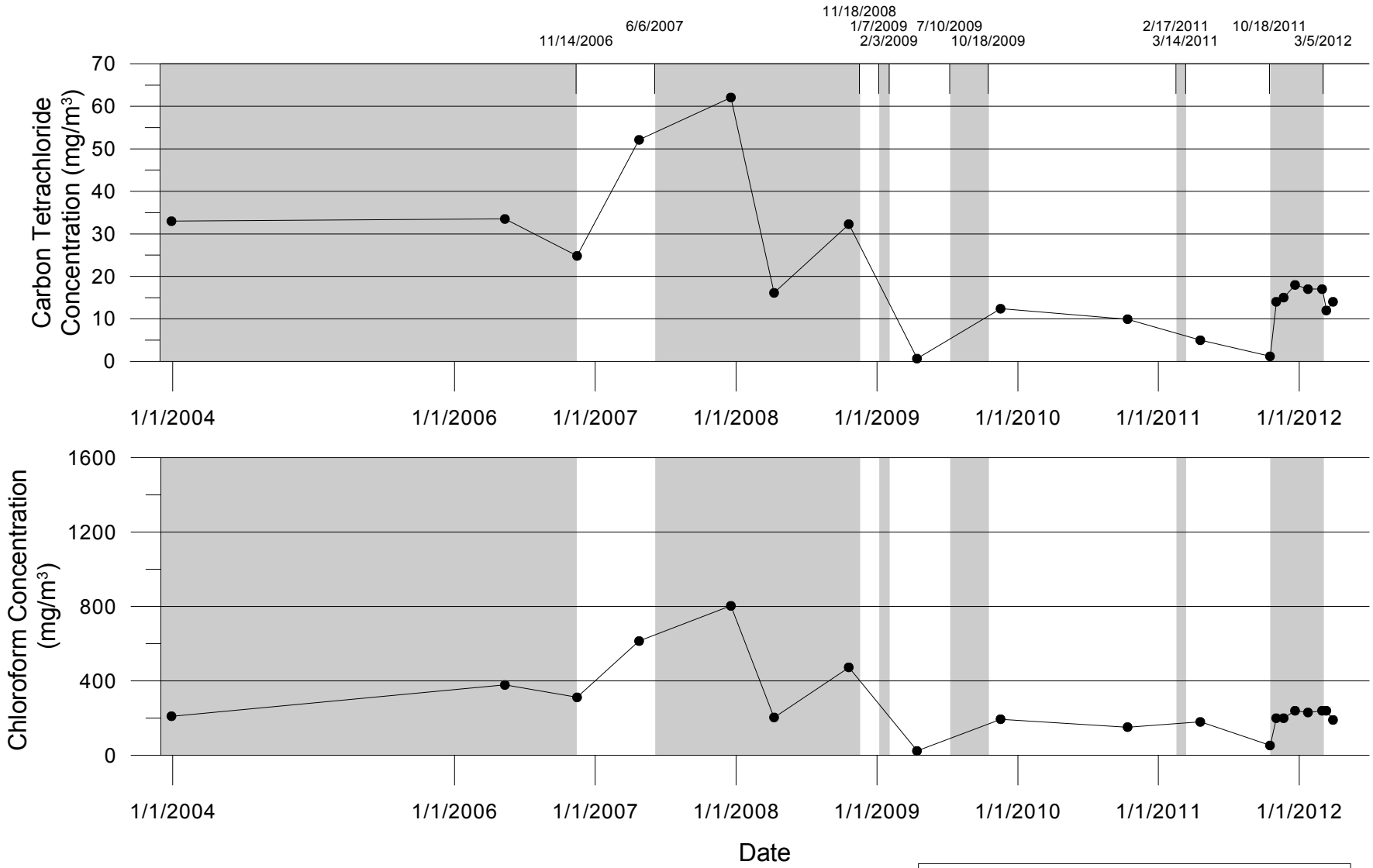
LEGEND

- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

Abbreviations:
mg = milligrams
m = meter

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf

amec	SGD-SP TRICHLOROFLUOROMETHANE AND 1,1,2-TRICHLOROTRIFLUOROETHANE CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6I



LEGEND

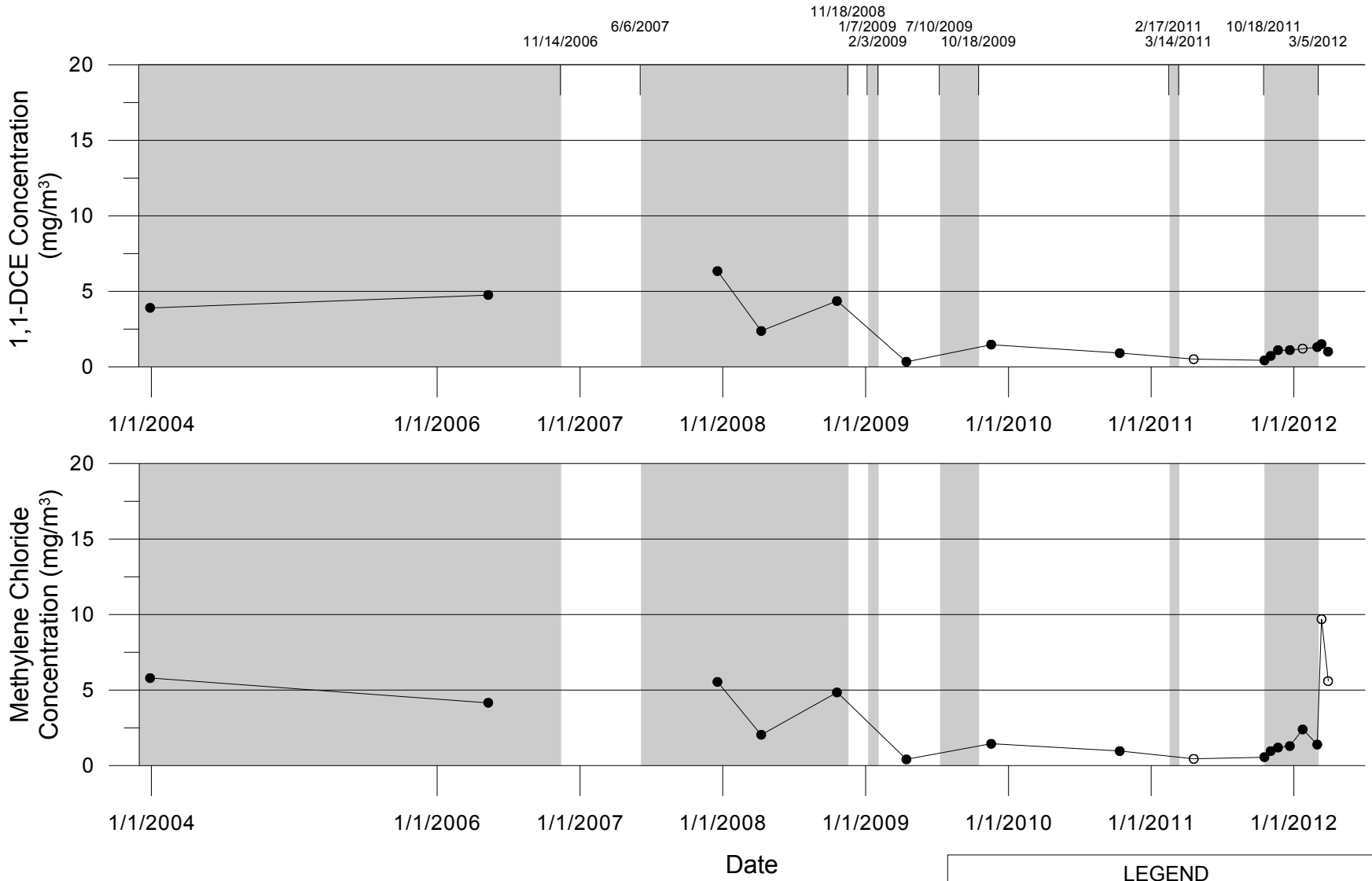
- ● Consituent value is above the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on 11/3/11, 11/22/11, 12/22/11, 1/24/12, 3/12/12, and 3/29/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
mg = milligrams
m = meter

amec	SGD-MP CARBON TETRACHLORIDE AND CHLOROFORM CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6m

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



Note:
1.) For field duplicates collected on 11/3/11, 11/22/11, 12/22/11, 1/24/12, 3/12/12, and 3/29/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.
2.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
1,1-DCE = 1,1 Dichloroethene
mg = milligrams
m = meter

LEGEND
- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

amec

SGD-MP 1,1-DCE AND METHYLENE CHLORIDE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6n

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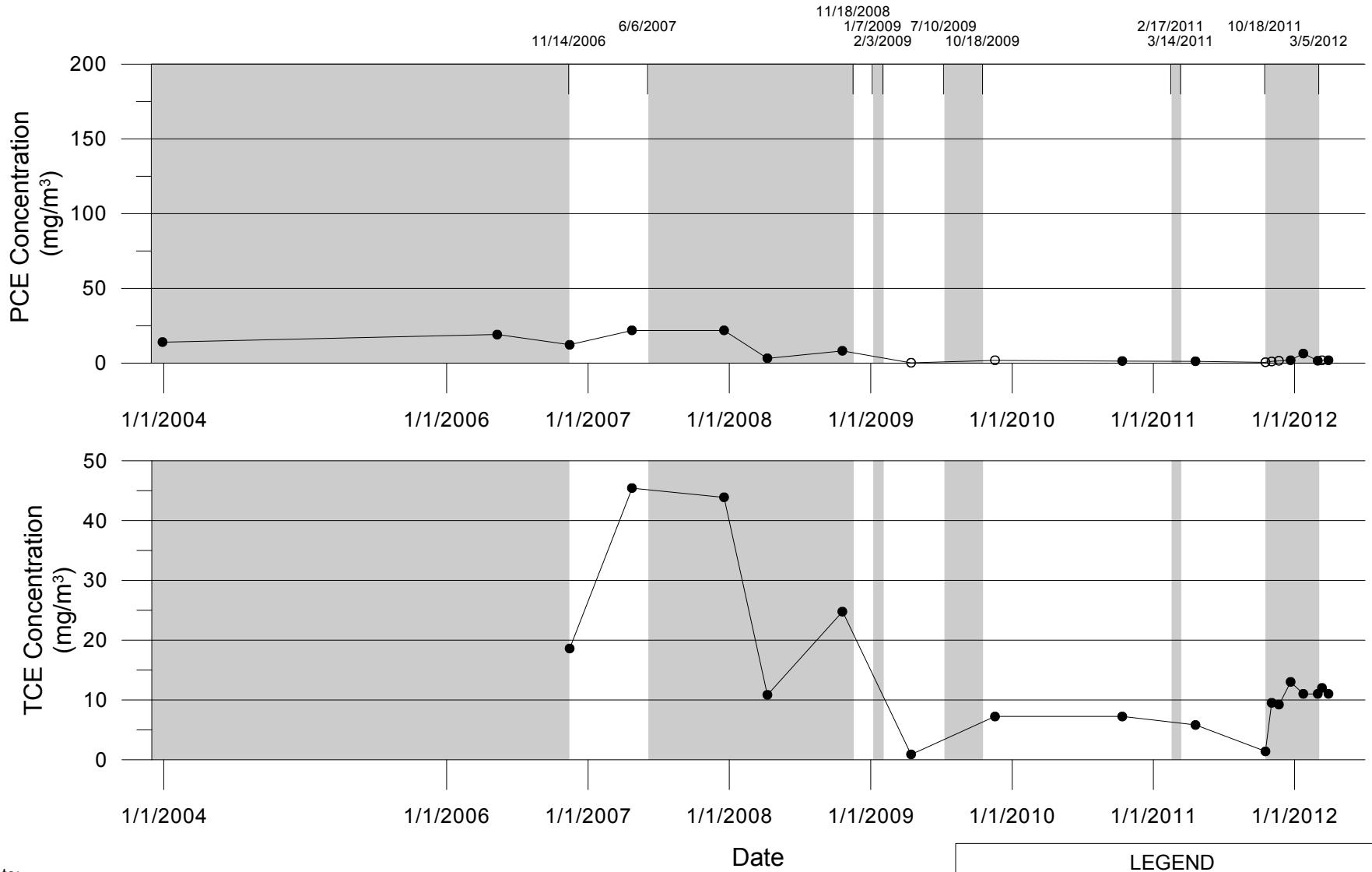


Note:
1.) For field duplicates collected on 11/3/11, 11/22/11, 12/22/11, 1/24/12, and 3/12/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.
2.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
PCE = Tetrachloroethene
TCE = Trichloroethene
mg = milligrams
m = meter

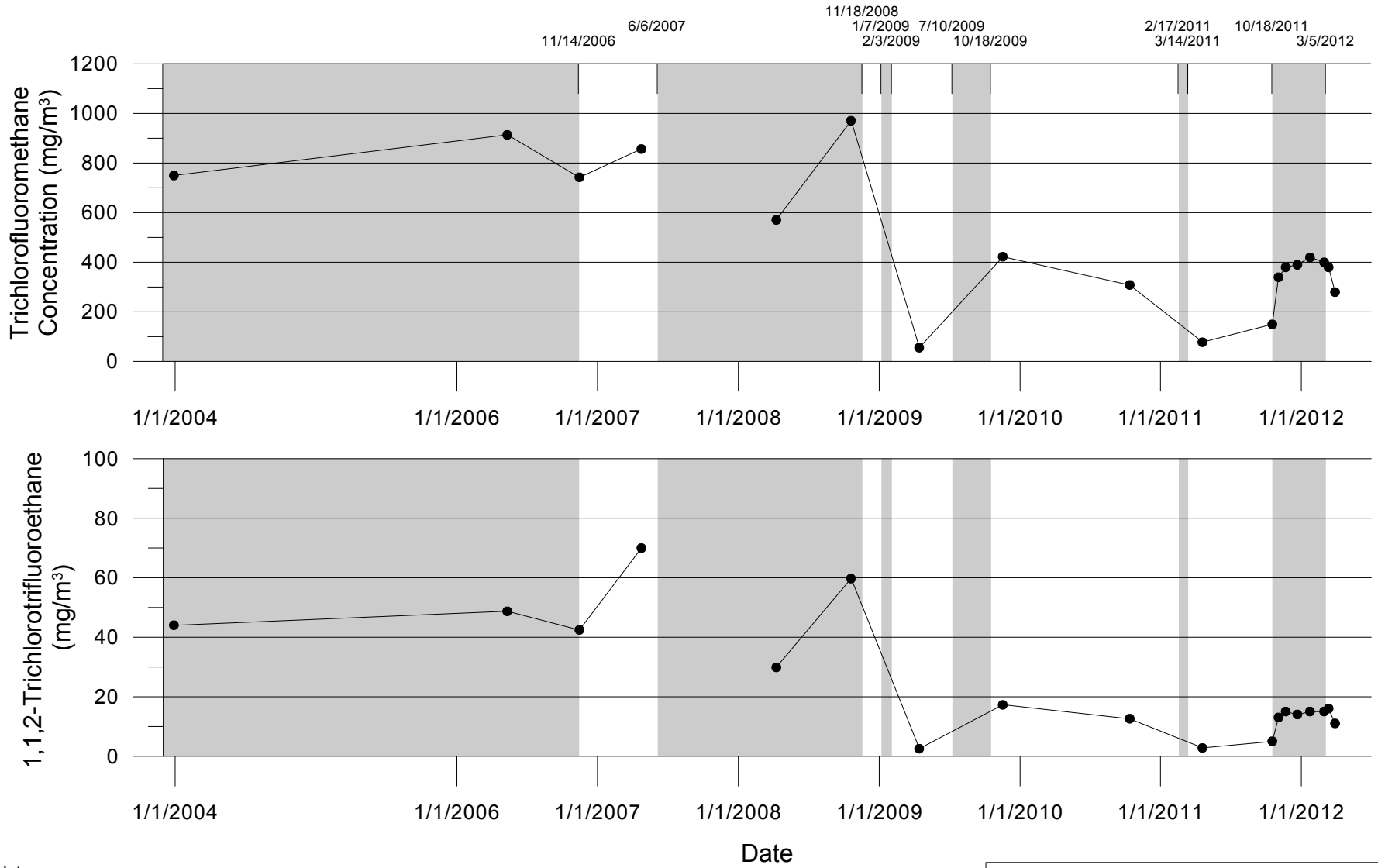
LEGEND
- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was not operational.

amec

SGD-MP PCE AND TCE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6o

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



Note:
1.) For field duplicates collected on 11/3/11, 11/22/11, 12/22/11, 1/24/12, and 3/29/12, concentrations from the original and duplicate sample were compared and the higher value is plotted.
2.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
mg = milligrams
m = meter

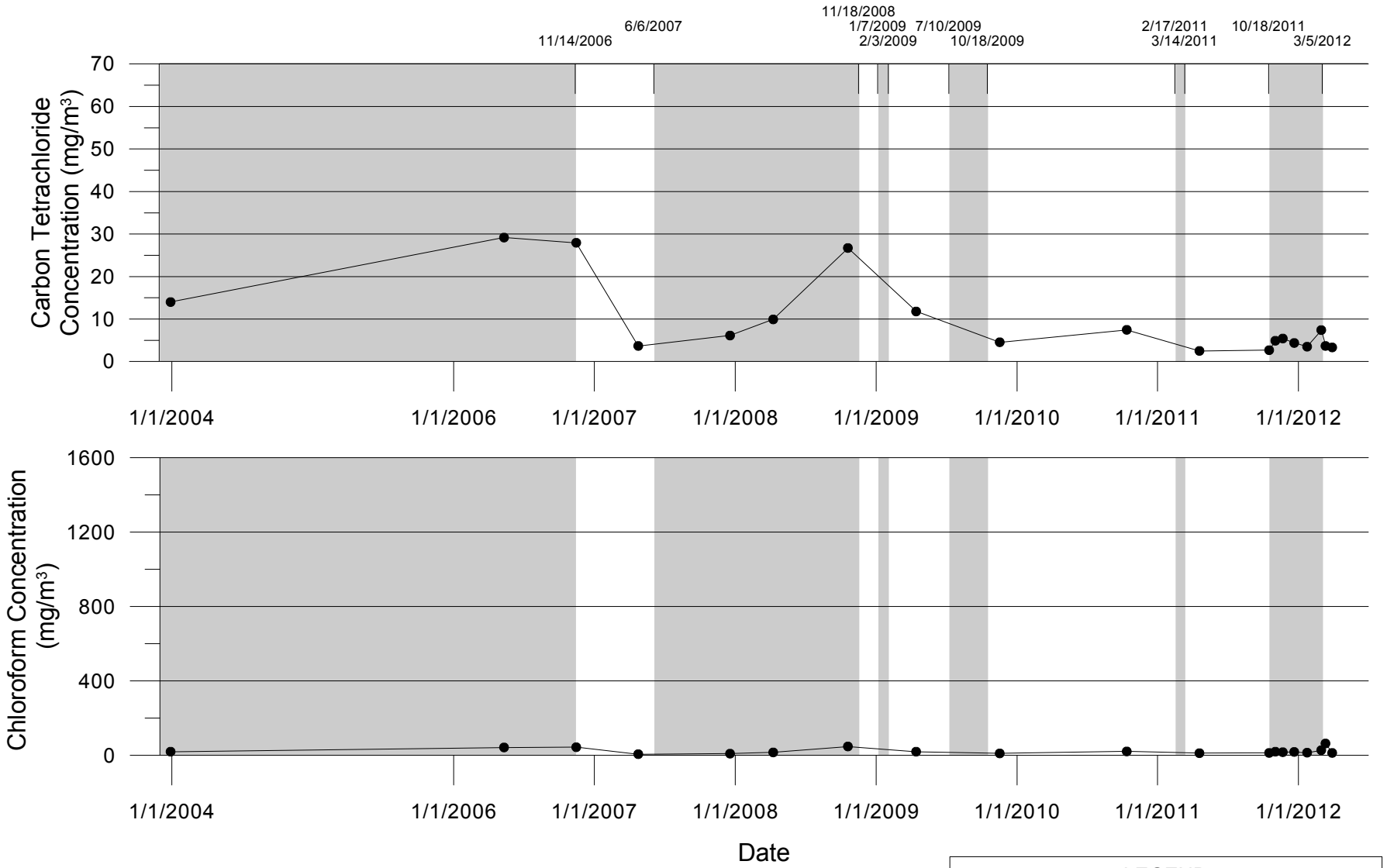
LEGEND
● Constituent value is above the reporting limit.
Soil vapor extraction system was nonoperational.

amec

SGD-MP TRICHLOROFLUOROMETHANE AND
1,1,2-TRICHLOROTRIFLUOROETHANE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6p

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



LEGEND

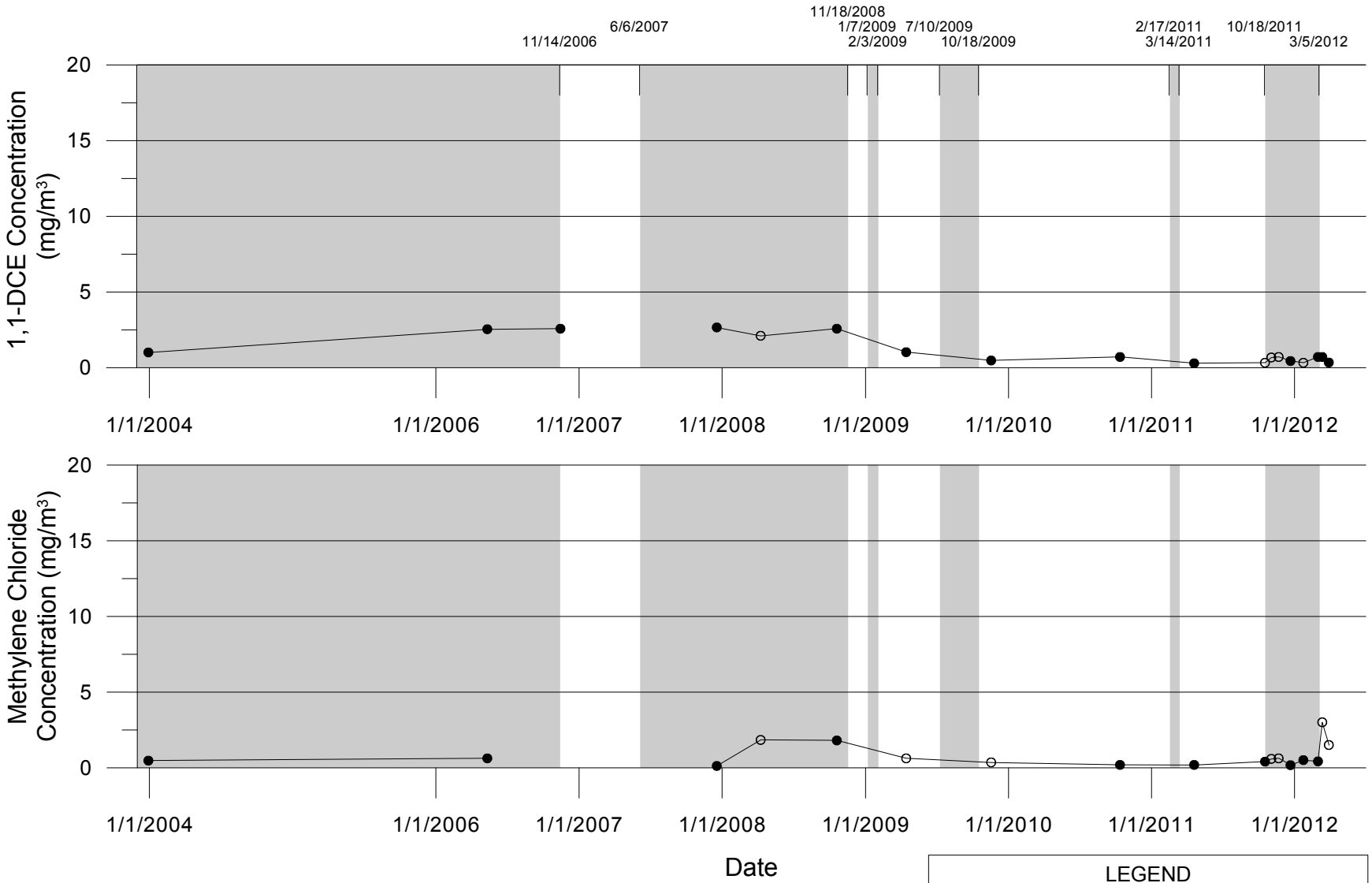
- ● Consituent value is above the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on April 20, 2011, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
mg = milligrams
m = meter

amec	SGD-DP CARBON TETRACHLORIDE AND CHLOROFORM CONCENTRATION TRENDS Page-Trowbridge Ranch Landfill Pinal County, Arizona	Prepared By: DO	Project No. 1420112039
		4/18/12	Figure No. 6q

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



LEGEND

- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

Note:
1.) For field duplicates collected on April 20, 2011, concentrations from the original and duplicate sample were compared and the higher value is plotted.

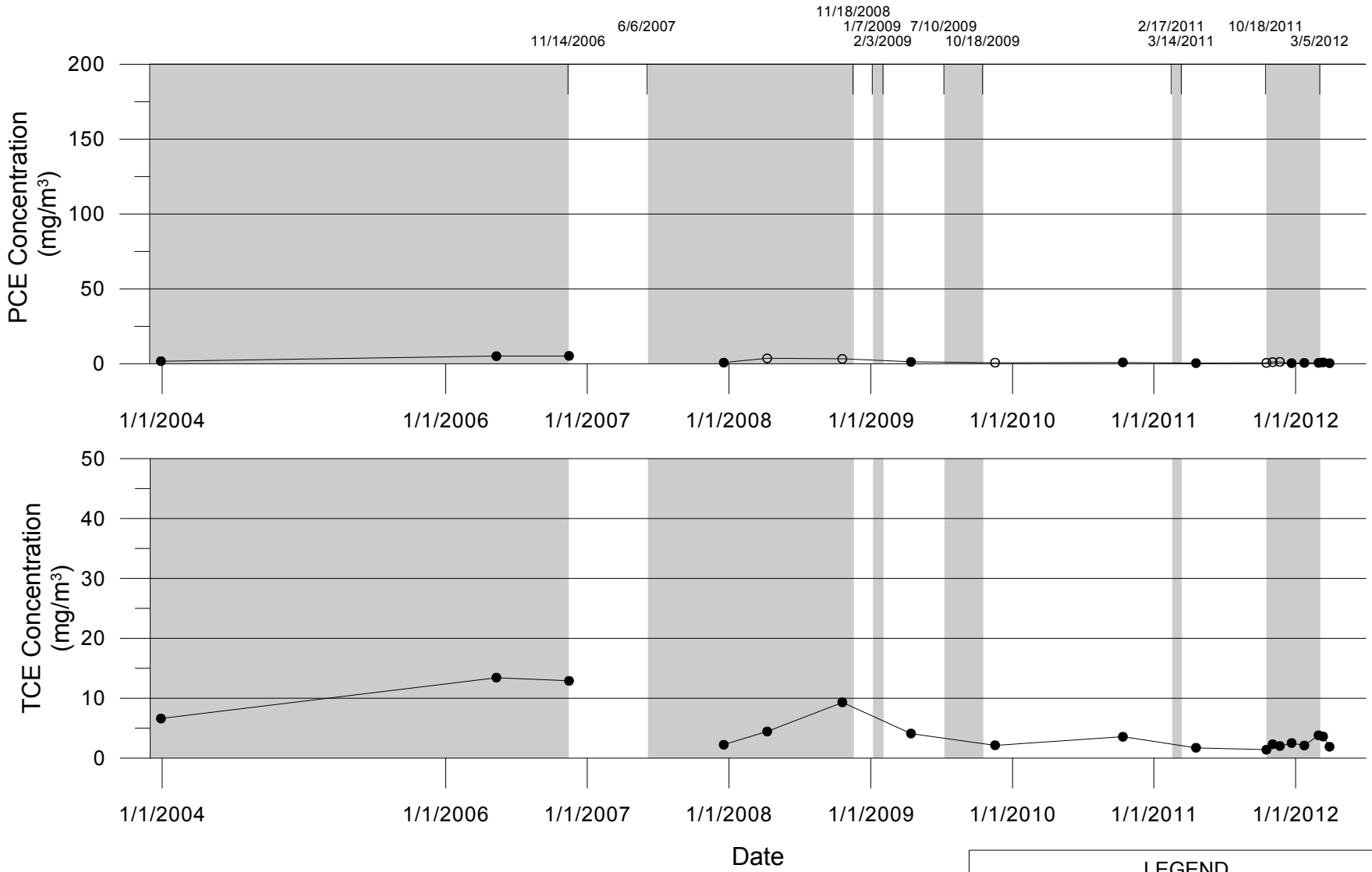
Abbreviations:
1,1-DCE = 1,1 Dichloroethene
mg = milligrams
m = meter

amec

SGD-DP 1,1-DCE AND METHYLENE CHLORIDE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6r

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



Note:
1.) For field duplicates collected on April 20, 2011, concentrations from the original and duplicate sample were compared and the higher value is plotted.
2.) A discontinuous line occurs where the constituent concentration was nondetect and the reporting limit was not provided.

Abbreviations:
PCE = Tetrachloroethene
TCE = Trichloroethene
mg = milligrams
m = meter

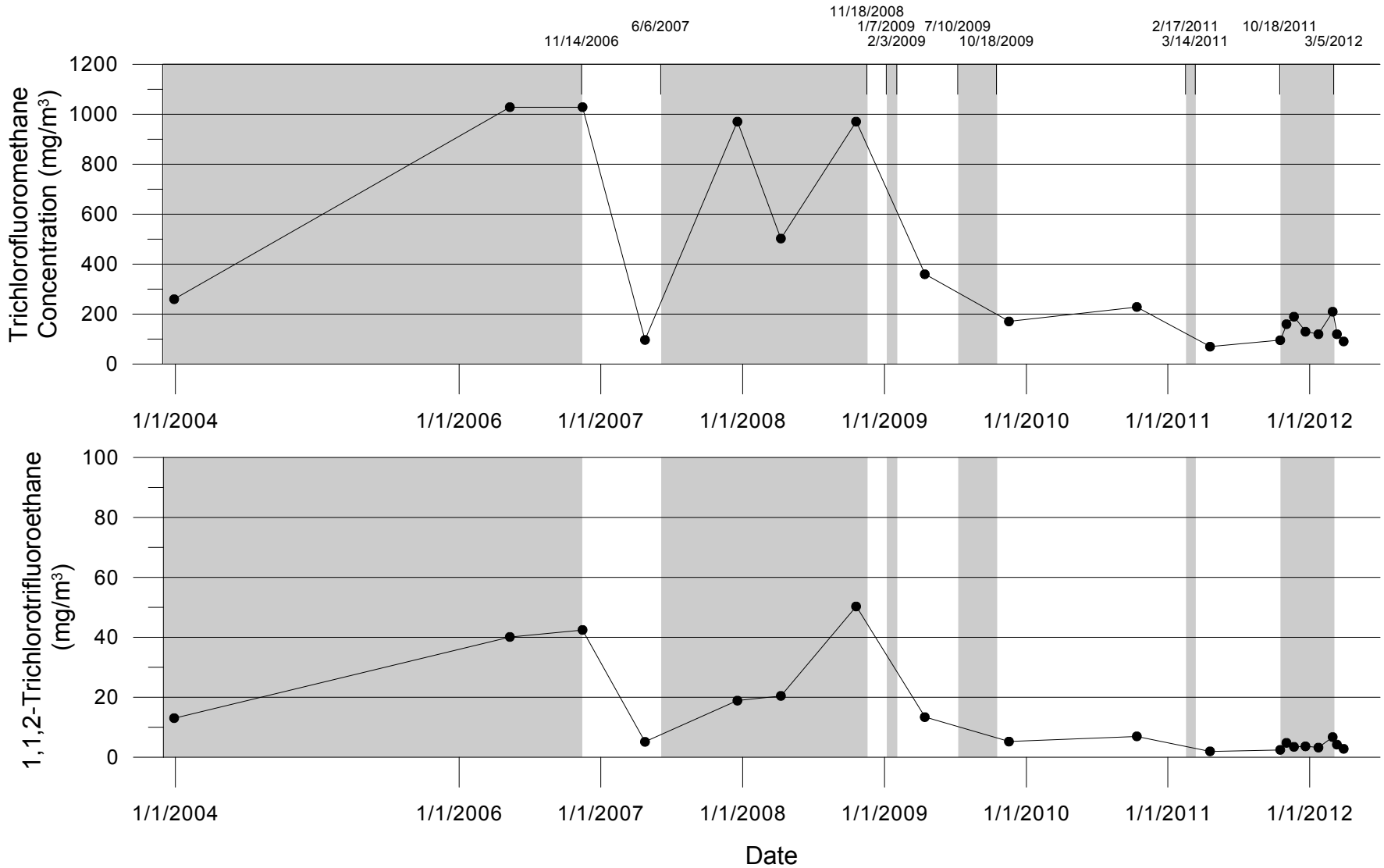
LEGEND
- ● Constituent value is above the reporting limit.
- ○ Non-detect is plotted as the reporting limit.
- Soil vapor extraction system was nonoperational.

amec

SGD-DP PCE AND TCE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6s

P:\A00439 - PTRL Rebound Study\4000 Data Analysis\Grapher\Concentration Trends.grf



Note:
1.) For field duplicates collected on April 20, 2011, concentrations from the original and duplicate sample were compared and the higher value is plotted.

Abbreviations:
mg = milligrams
m = meter

LEGEND
● Constituent value is above the reporting limit.
Soil vapor extraction system was nonoperational.

amec

SGD-DP TRICHLOROFLUOROMETHANE AND
1,1,2-TRICHLOROTRIFLUOROETHANE CONCENTRATION TRENDS
Page-Trowbridge Ranch Landfill
Pinal County, Arizona

Prepared By: DO	Project No. 1420112039
4/18/12	Figure No. 6t

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