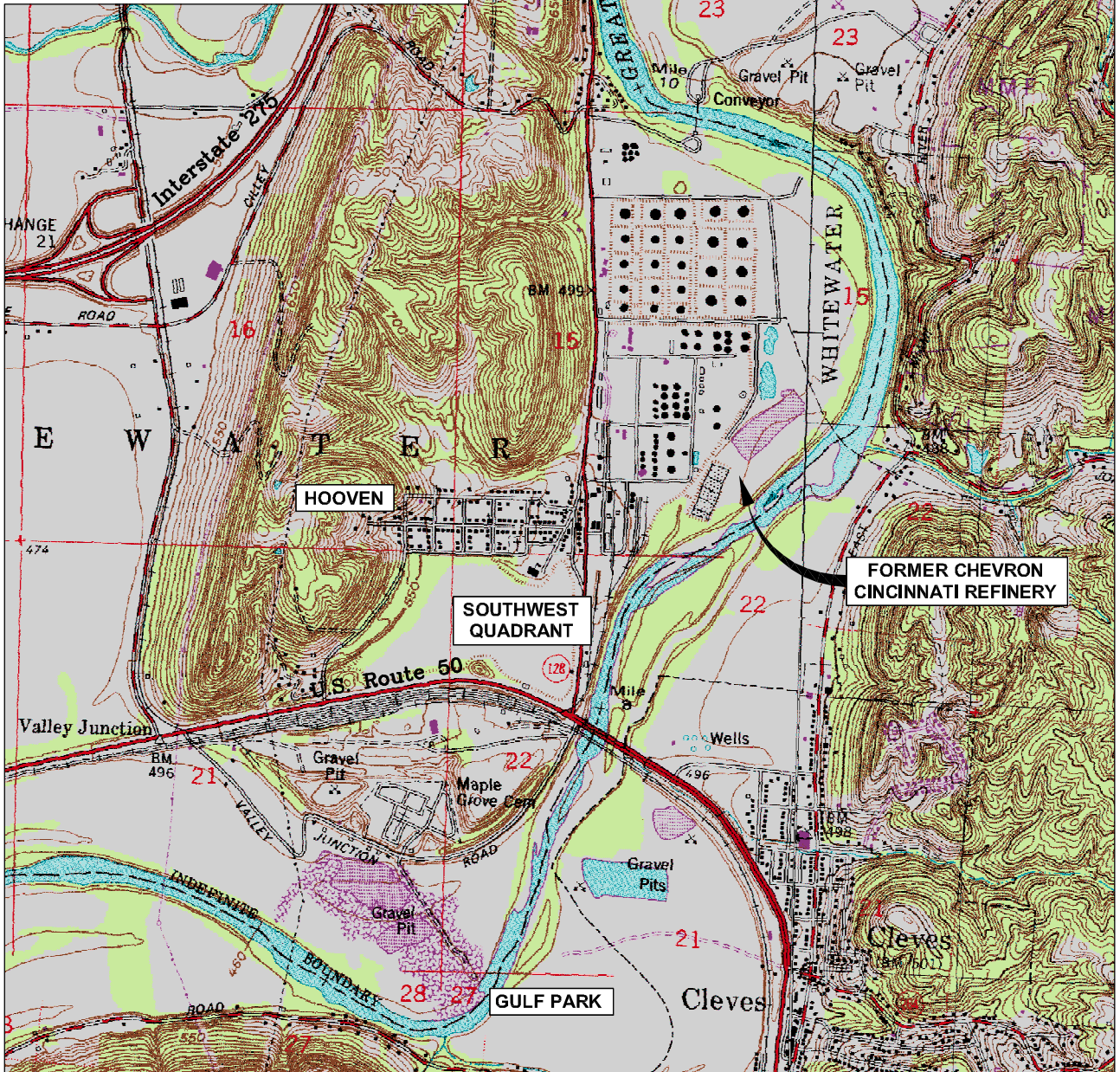
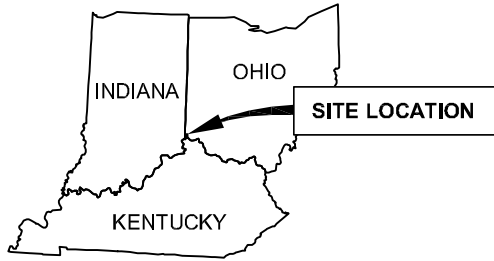
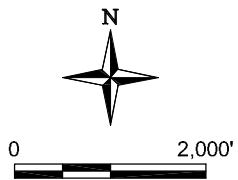


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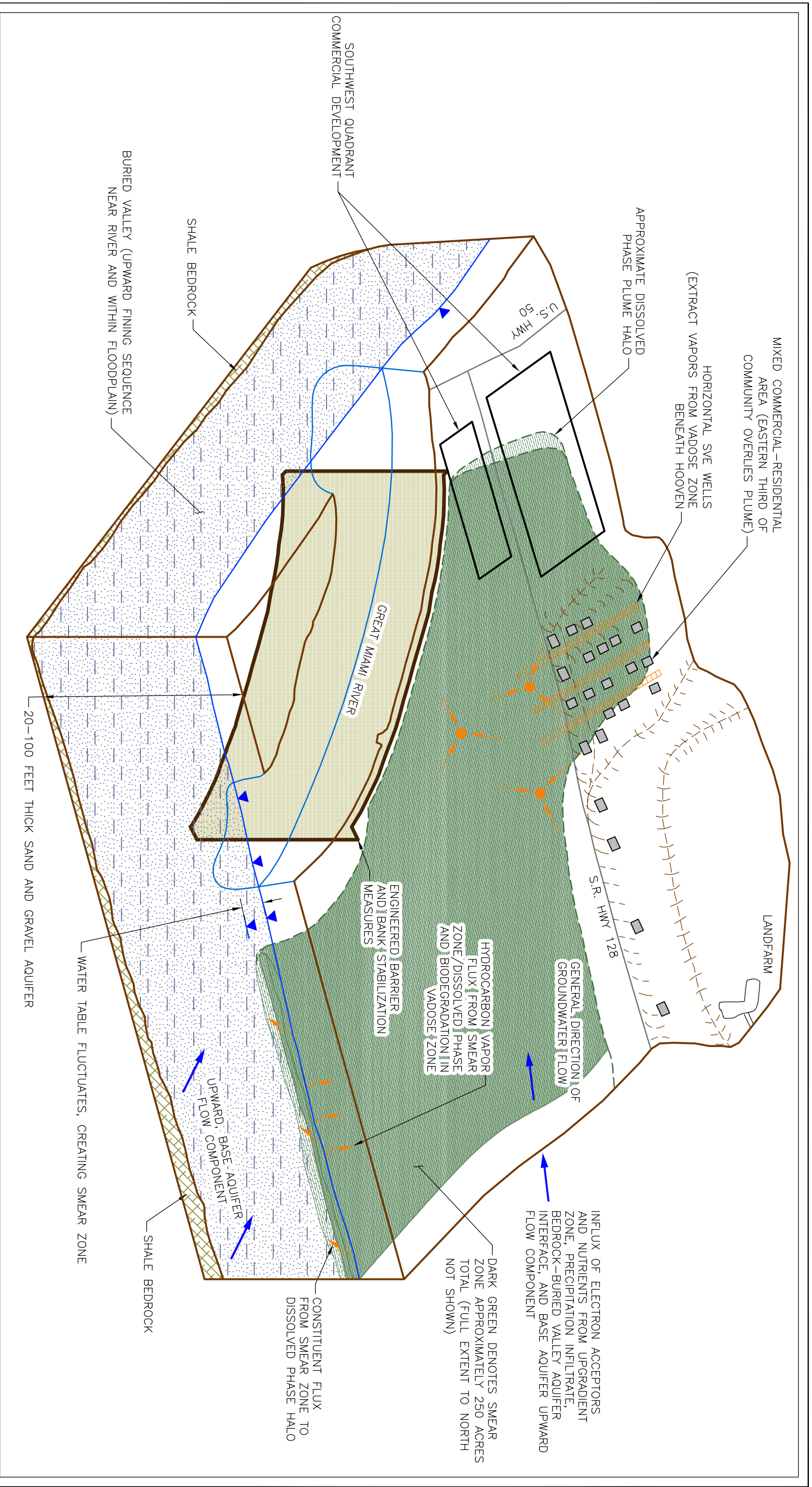
Basemap: U.S.G.S 7.5' Quadrangles, Hooven and Addyston, Ohio, 1996



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FIGURE 1-1
SITE LOCATION MAP
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

Drawn By: REP	Checked By: JP	Scale: 1" = 2,000'	Date: 1/13/2011	File: 500USGSSITE201201
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Source: Provided by Chevron Cincinnati.

EXPLANATION





-  HIGH-GRADE PUMPING TARGETED AREAS WITH HIGHEST RESIDUAL LNAPL SATURATION.
-  WATER LEVEL
-  DISSOLVED PHASE PLUME EXTENT
-  SMEAR ZONE EXTENT

FIGURE 1-2

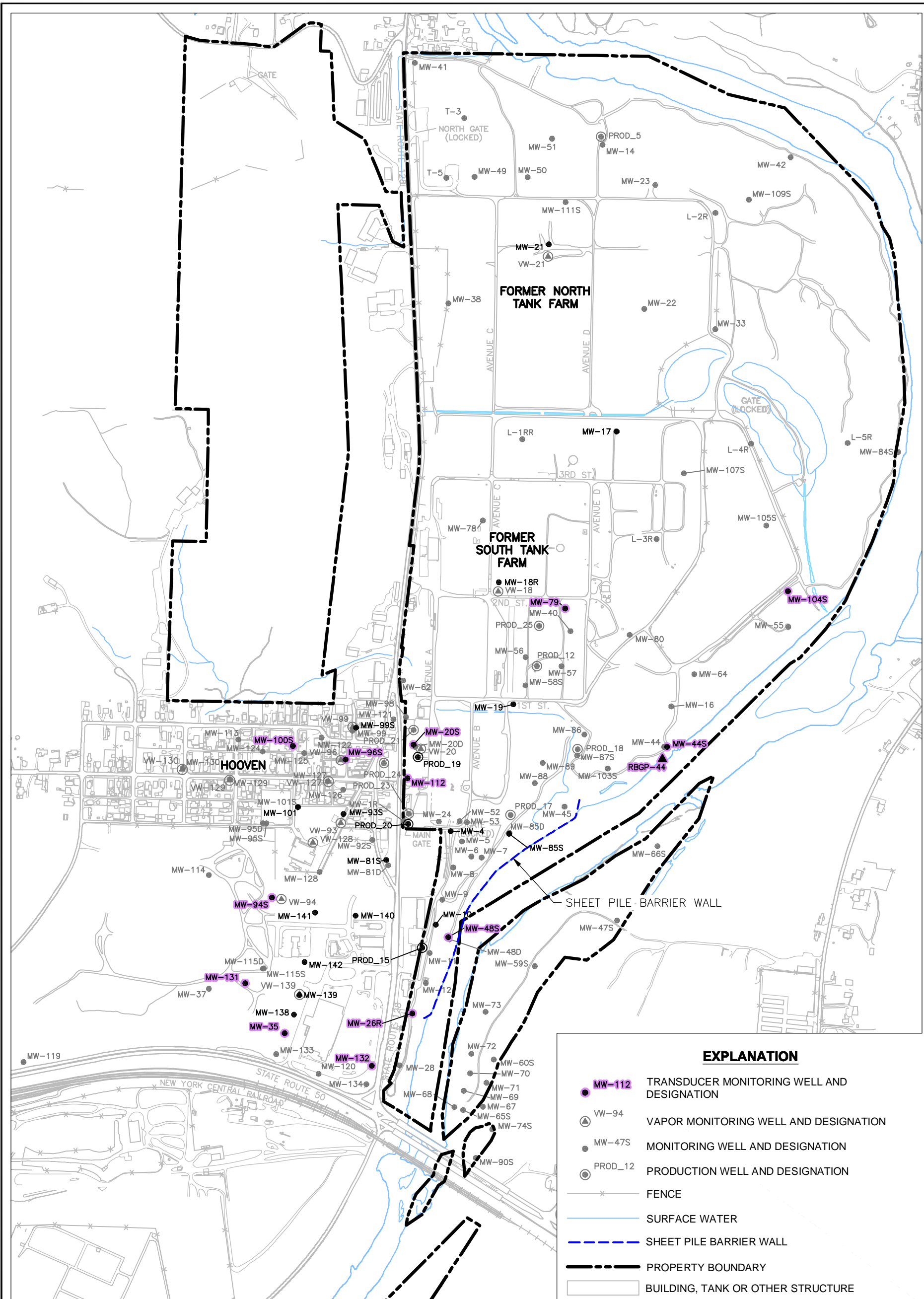
GROUNDWATER CONCEPTUAL SITE MODEL

SECOND 2011 SEMIANNUAL MONITORING PERIOD
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0 650'

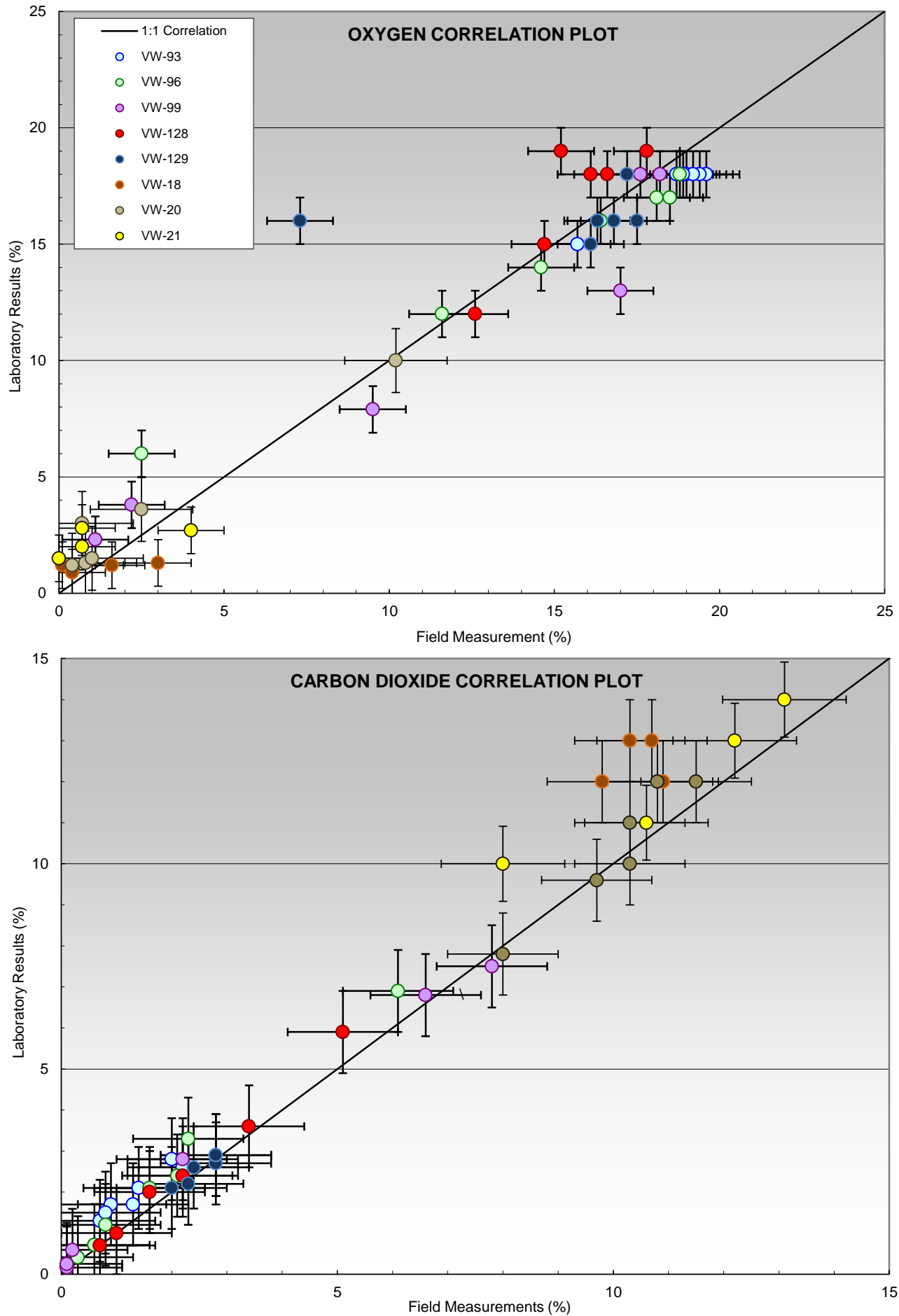
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FIGURE 2-1

TRANSDUCER MONITORING WELLS

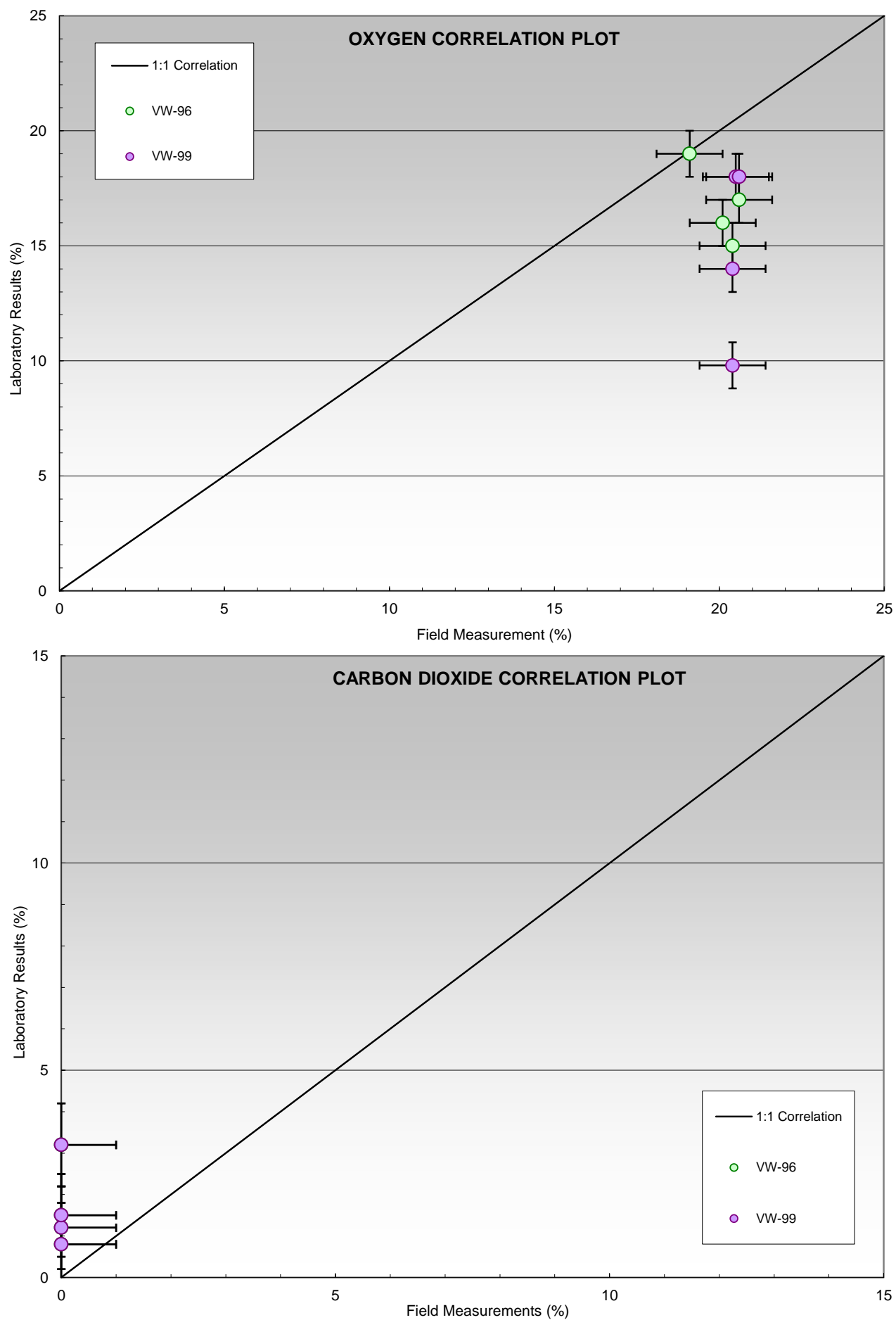
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

FIGURE 2-10. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, JULY 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



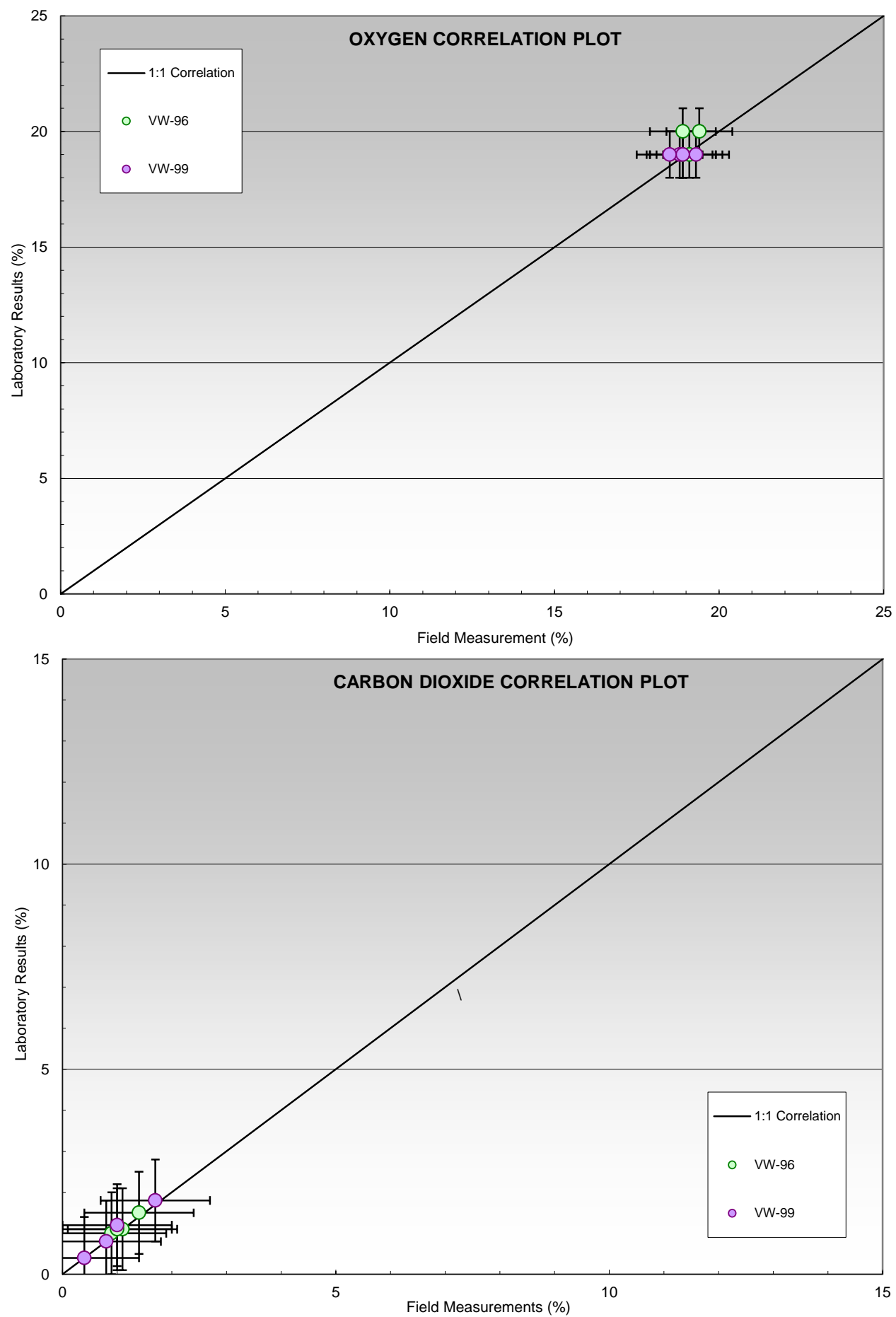
US EPA ARCHIVE DOCUMENT

FIGURE 2-11. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, SEPTEMBER 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO

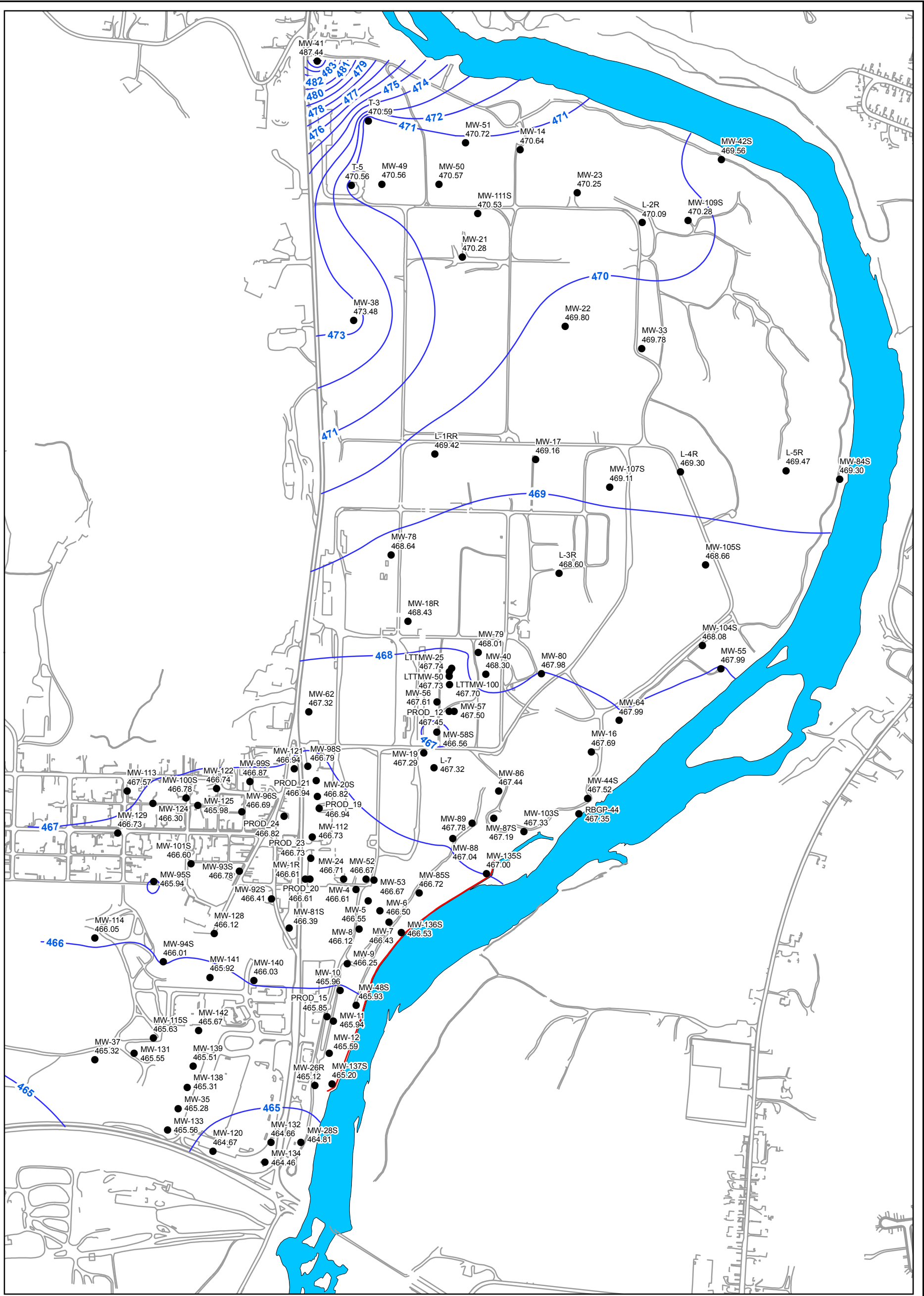


US EPA ARCHIVE DOCUMENT

FIGURE 2-12. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, OCTOBER 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



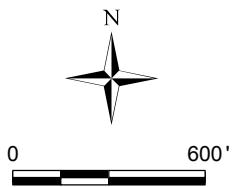
US EPA ARCHIVE DOCUMENT



EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 foot
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.

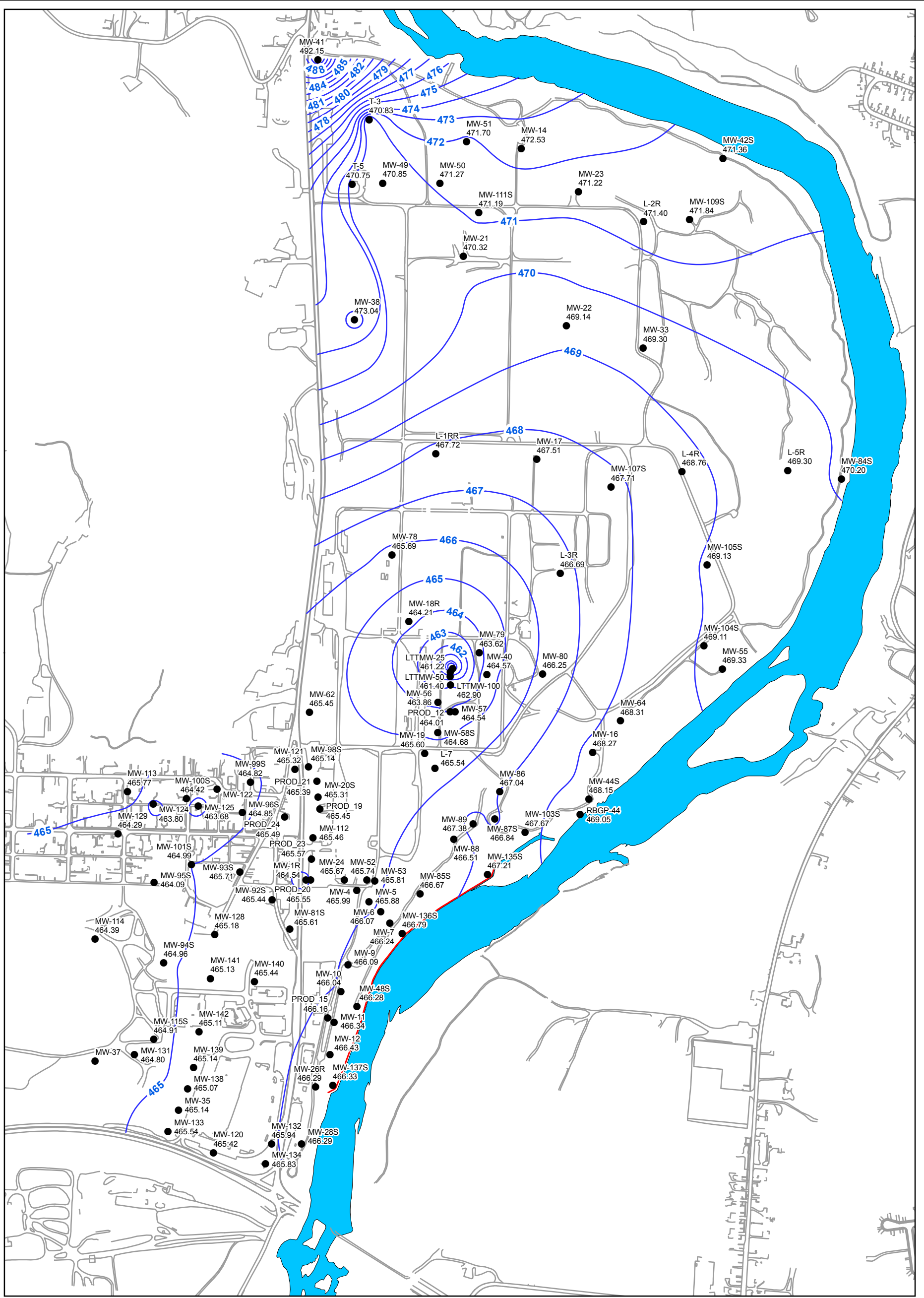


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FIGURE 2-2

**POTENTIOMETRIC SURFACE MAP
 JULY 28, 2011**

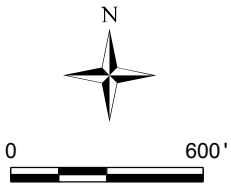
**SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY
 HOOVEN, OHIO**



EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 foot
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.



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FIGURE 2-3

**POTENTIOMETRIC SURFACE MAP
 SEPTEMBER 29, 2011**

**SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY
 HOOVEN, OHIO**

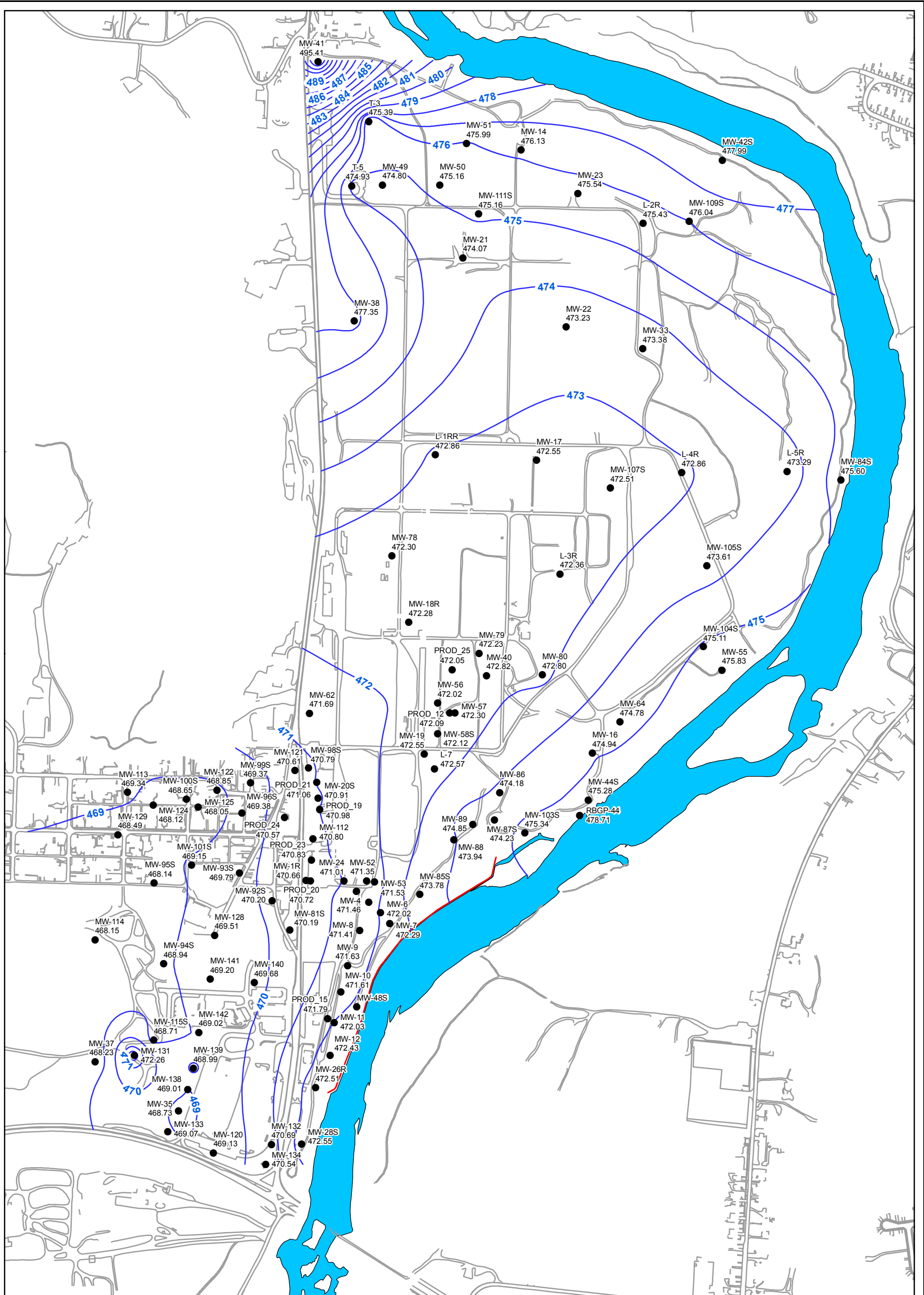
Drawn By: BR

Checked By: PM

Scale: 1" = 600'

Date: 9/25/12

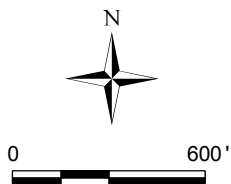
File: Sept_29_2011_Potsurface.mxd



EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 feet
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.



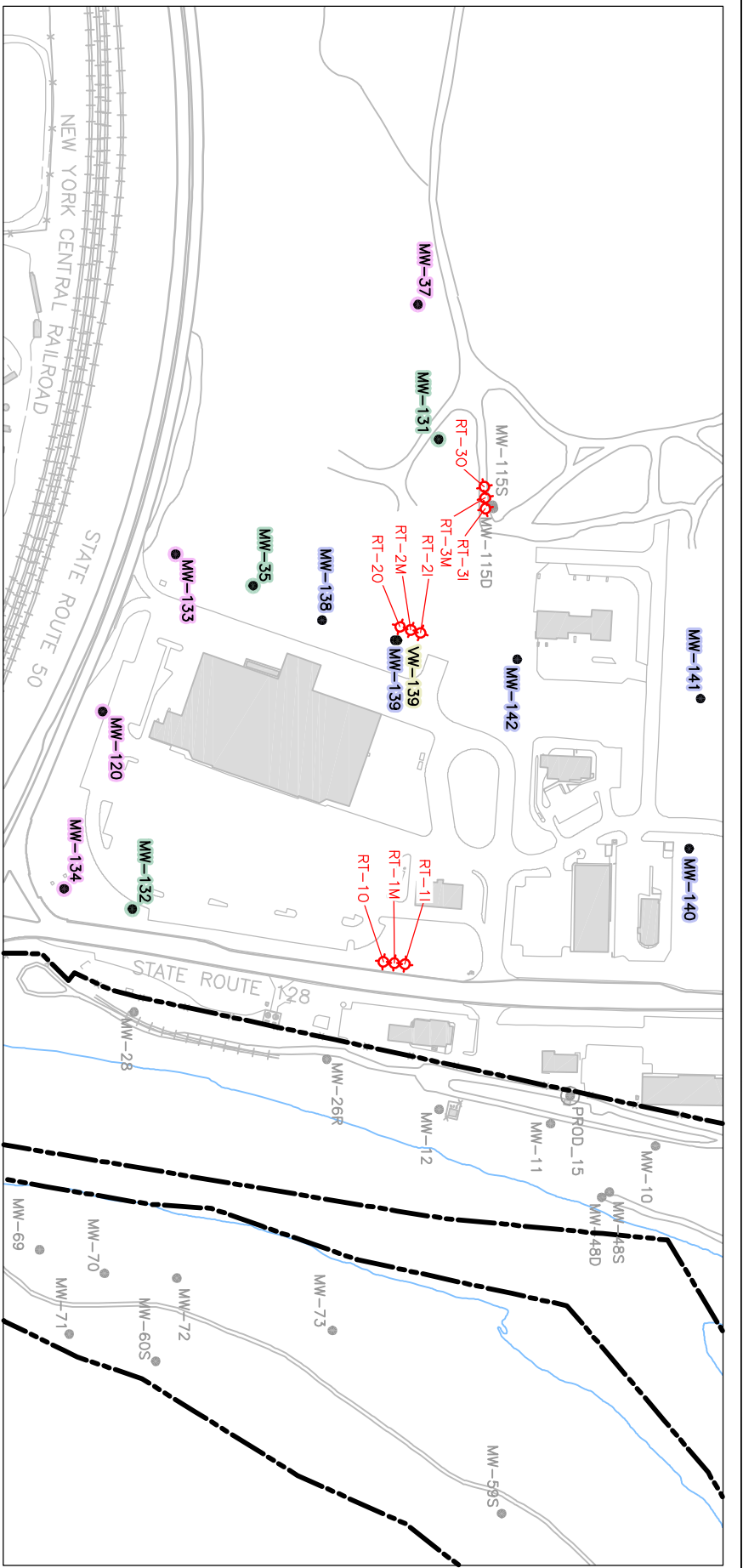
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FIGURE 2-4

**POTENTIOMETRIC SURFACE MAP
 NOVEMBER 29, 2011**

**SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY
 HOOVEN, OHIO**

Drawn By: BR | Checked By: PM | Scale: 1" = 600' | Date: 4/11/12 | File: Nov_29_2011_Potsurface.mxd



EXPLANATION

- RT-20
RT-2M
RT-2R
RT-21
RT-2R
- MW-138
- MW-35
- MW-37
- VW-139
- MW-47S
- PROD_12

- PERMANENT ROST TRANSECT AND DESIGNATION
(I-INNER, M-MIDDLE, O-OUTER)
- MONITORING WELL AND DESIGNATION
(INSTALLED MARCH 2009)
- SENTINEL MONITORING WELL AND DESIGNATION
- POINT OF COMPLIANCE MONITORING WELL
AND DESIGNATION
- NESTED VAPOR WELL AND DESIGNATION
- MONITORING WELL AND DESIGNATION
- PRODUCTION WELL AND DESIGNATION

- SURFACE WATER
- PROPERTY BOUNDARY
- BUILDING, TANK OR OTHER STRUCTURE



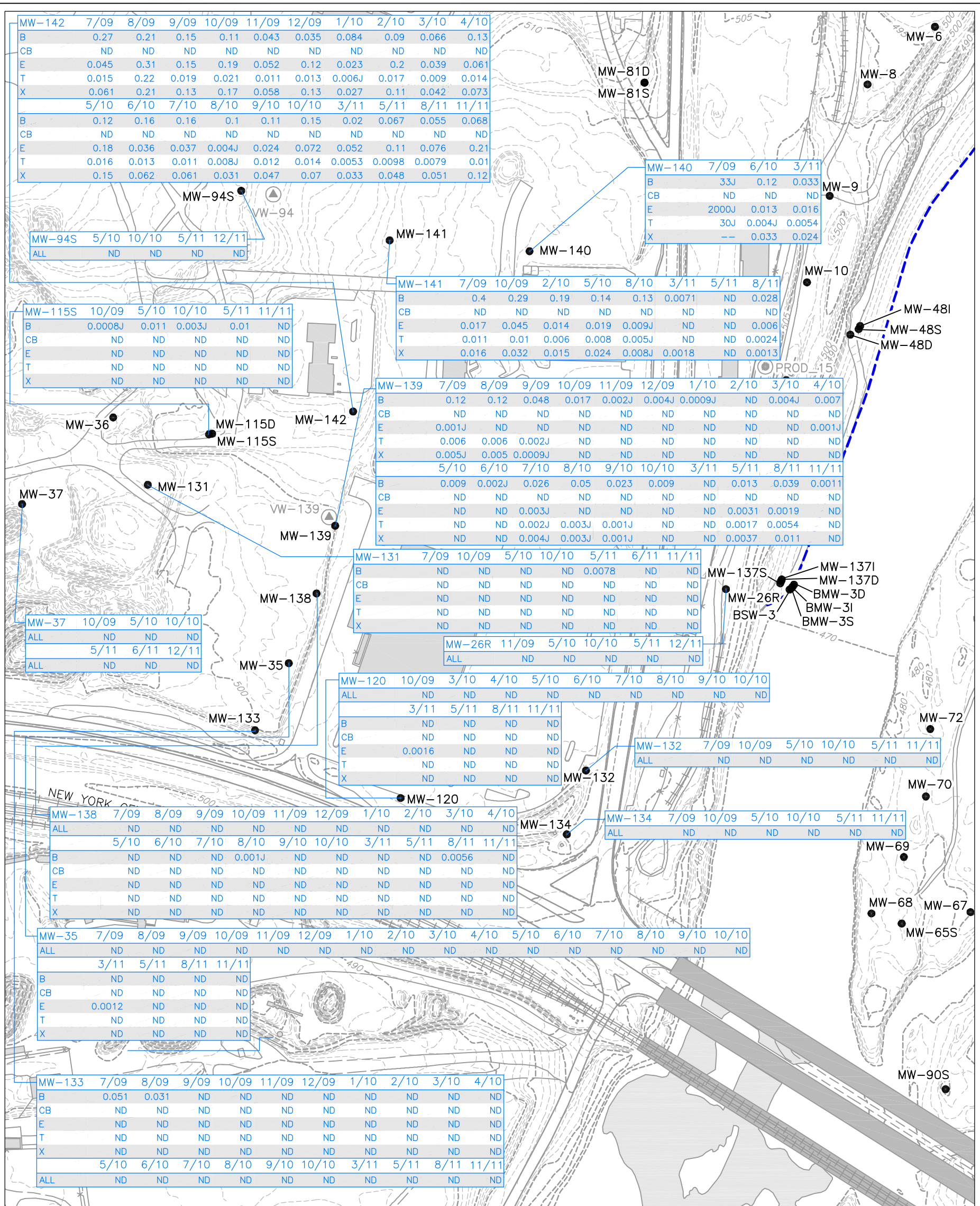
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**SENTINEL, POINT OF COMPLIANCE, AND ROST
MONITORING NETWORK**

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CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

FIGURE 2-5

Drawn By: REP Checked By: JP Scale: 1"=300' Date: 11/19/2010 File: 500ROST-TTRANSECTS201201



EXPLANATION

CONSTITUENT TABLE EXPLANATION

- BSW-3D BARRIER MONITORING WELL AND DESIGNATION
- MW-27 MONITORING WELL AND DESIGNATION
- VW-94 NESTED SOIL VAPOR MONITORING WELL AND DESIGNATION
- PROD_15 PRODUCTION WELL AND DESIGNATION
- SHEET PILE BARRIER WALL
- FENCE
- BUILDING, TANK OR OTHER STRUCTURE
- GROUND SURFACE CONTOURS (INTERVAL= 5')

WELL DESIGNATION	←	MW-133	3/10	←	SAMPLE DATE
Benzene	→	B	0.5		
Chlorobenzene	→	CB	0.8		
Ethylbenzene	→	E	0.8		
Toluene	→	T	0.7		
Xylenes, Total	→	X	0.8		

NOTES:

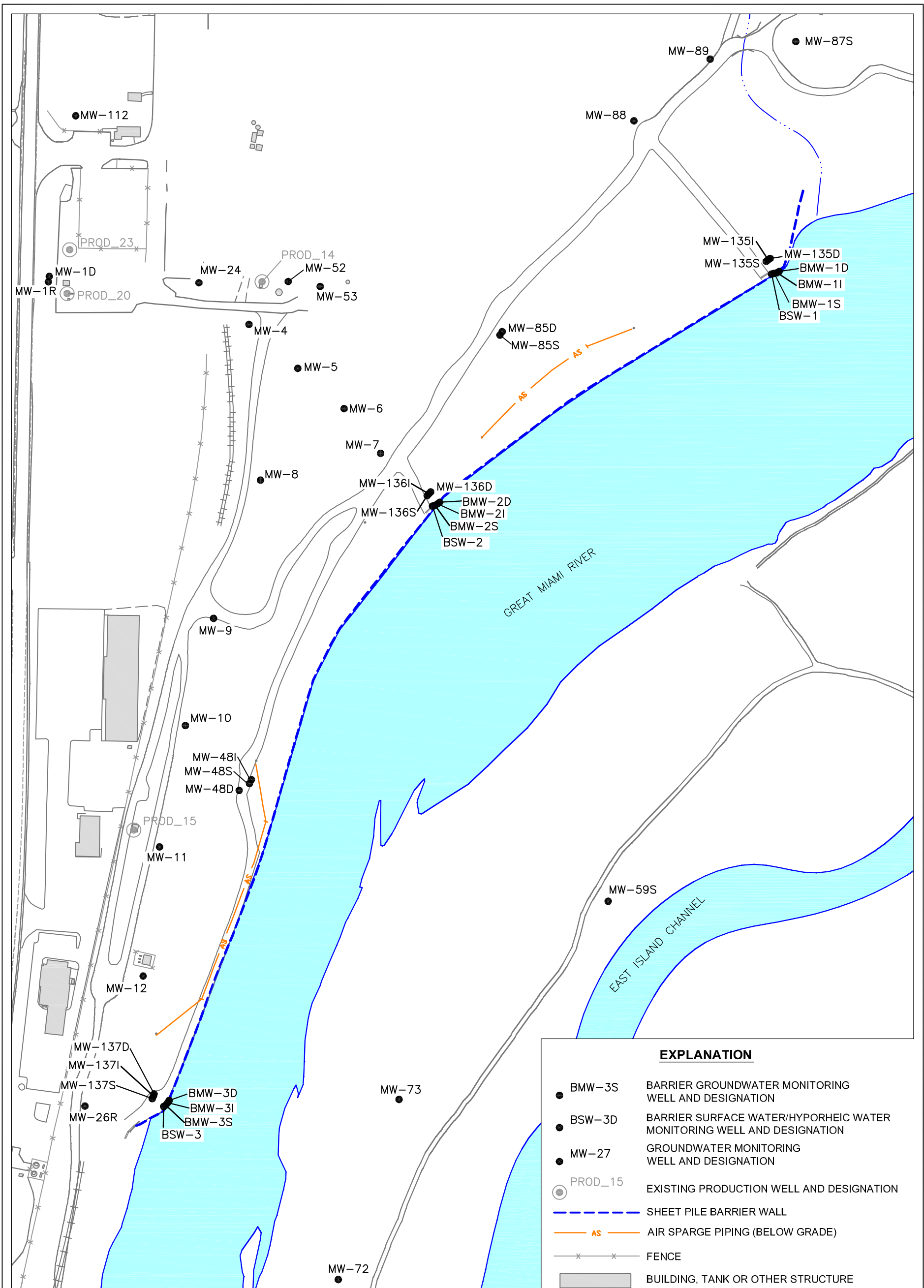
- ALL VALUES ARE IN MILLIGRAMS PER LITER (mg/L)
- J = ESTIMATED CONCENTRATION
- = NOT MEASURED



0 200'

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FIGURE 2-6
SOUTHWEST QUAD DISSOLVED PHASE
RESULTS SUMMARY
(JULY 2009 THROUGH DECEMBER 2011)
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO



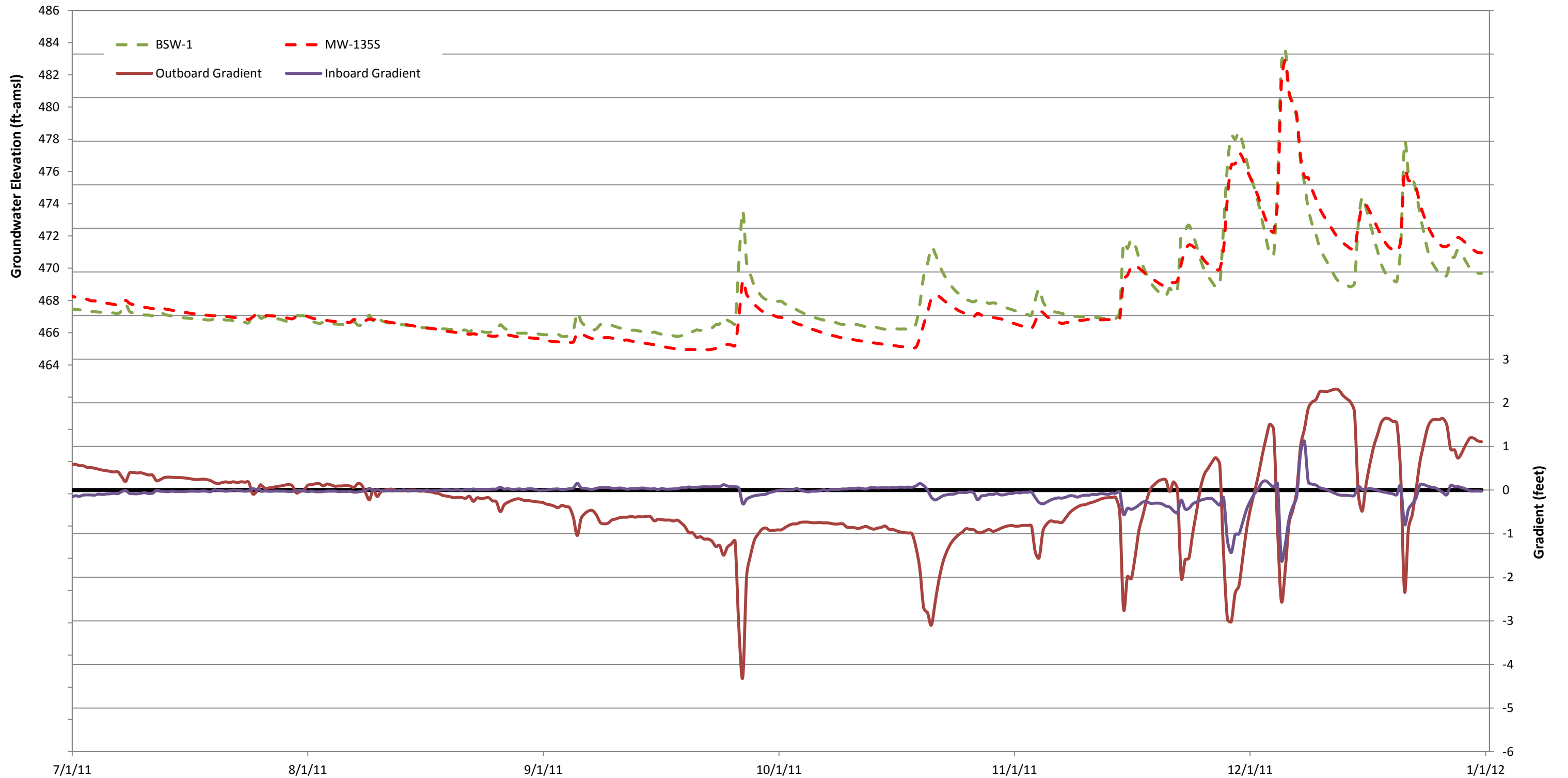
EXPLANATION	
● BMW-3S	BARRIER GROUNDWATER MONITORING WELL AND DESIGNATION
● BSW-3D	BARRIER SURFACE WATER/HYPORHEIC WATER MONITORING WELL AND DESIGNATION
● MW-27	GROUNDWATER MONITORING WELL AND DESIGNATION
○ PROD_15	EXISTING PRODUCTION WELL AND DESIGNATION
---	SHEET PILE BARRIER WALL
— AS —	AIR SPARGE PIPING (BELOW GRADE)
— x —	FENCE
■	BUILDING, TANK OR OTHER STRUCTURE



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FIGURE 2-7
BARRIER PERFORMANCE AIR SPARGE AND MONITORING WELL NETWORK
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

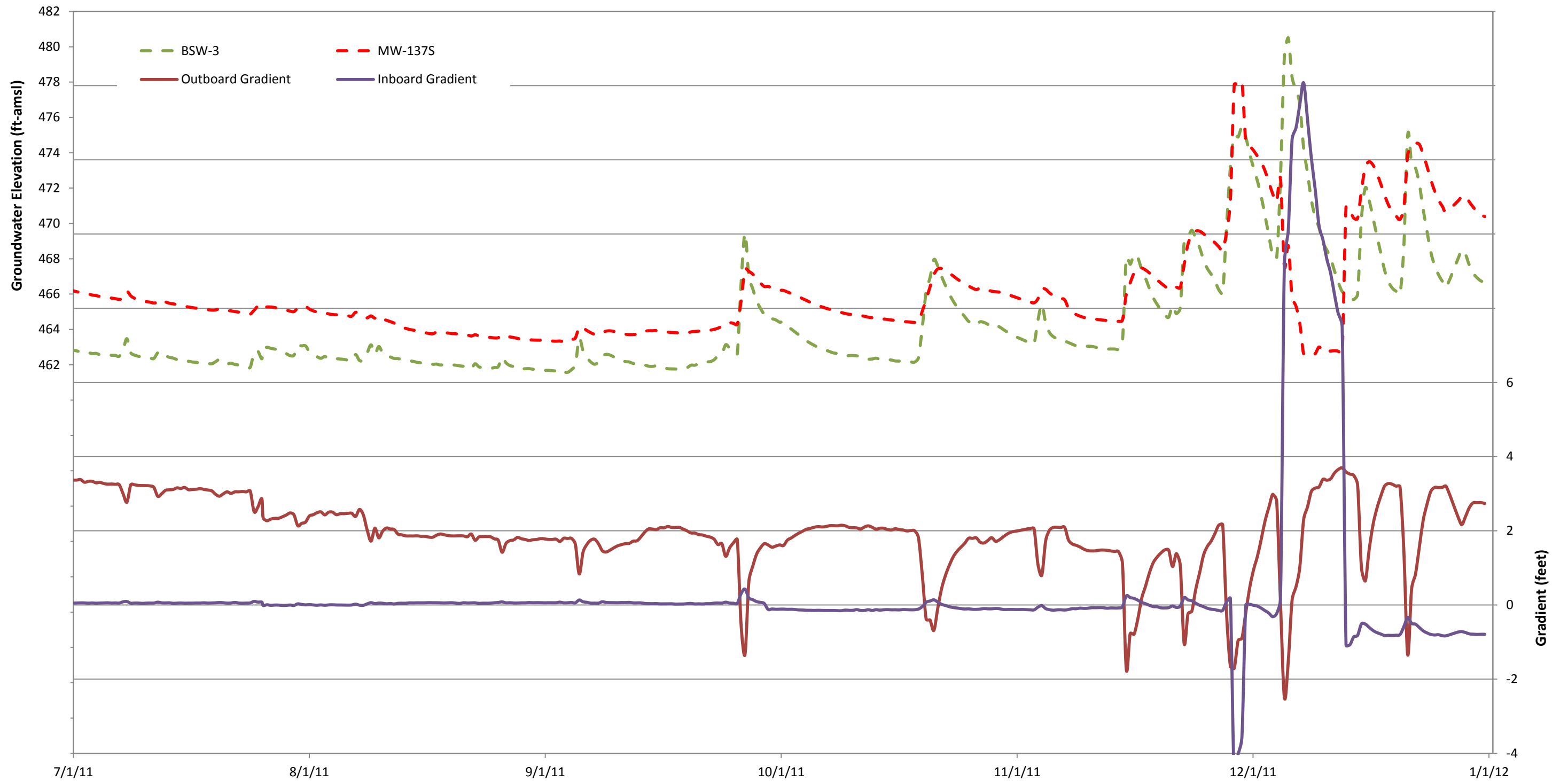
FIGURE 2-8. BARRIER WALL NORTH TRANSECT VERTICAL GRADIENTS
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



EXPLANATION

Outboard Gradient - Groundwater elevation at BMW-1D minus the surface water elevation at BSW-1.
 Inboard Gradient - Groundwater elevation at MW-135D minus the groundwater elevation at MW-135S.
 Upward vertical gradient shown as positive values, downward vertical gradient shown as negative values.

FIGURE 2-9. BARRIER WALL SOUTH TRANSECT VERTICAL GRADIENTS
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



EXPLANATION

Outboard Gradient - Groundwater elevation at BMW-3D minus the surface water elevation at BSW-3.
 Inboard Gradient - Groundwater elevation at MW-137D minus the groundwater elevation at MW-137S.
 Upward vertical gradient shown as positive values, downward vertical gradient shown as negative values

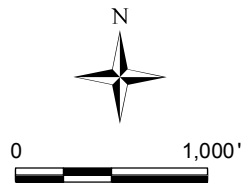
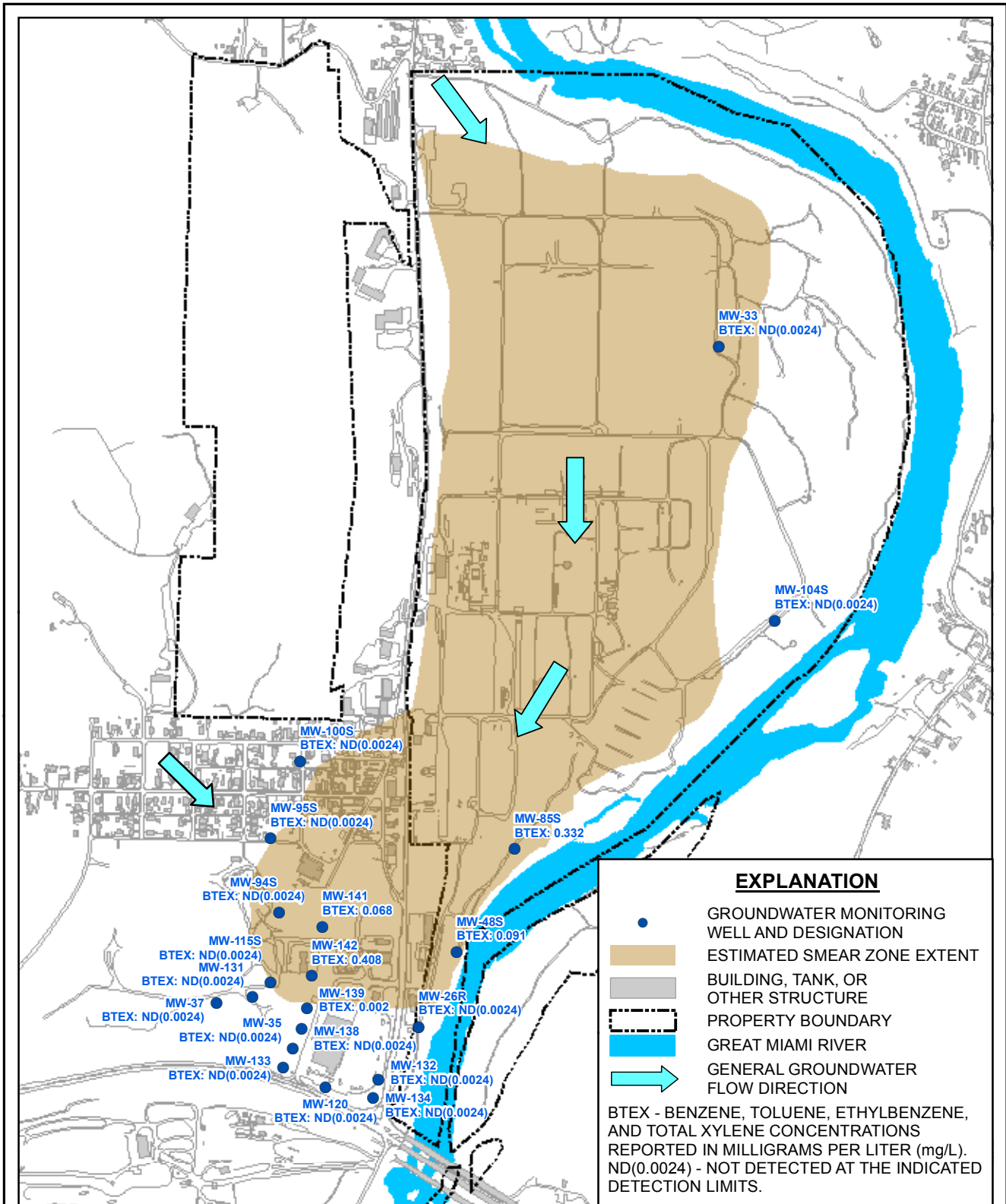


FIGURE 3-1

DISSOLVED PHASE CONSTITUENT CONCENTRATIONS

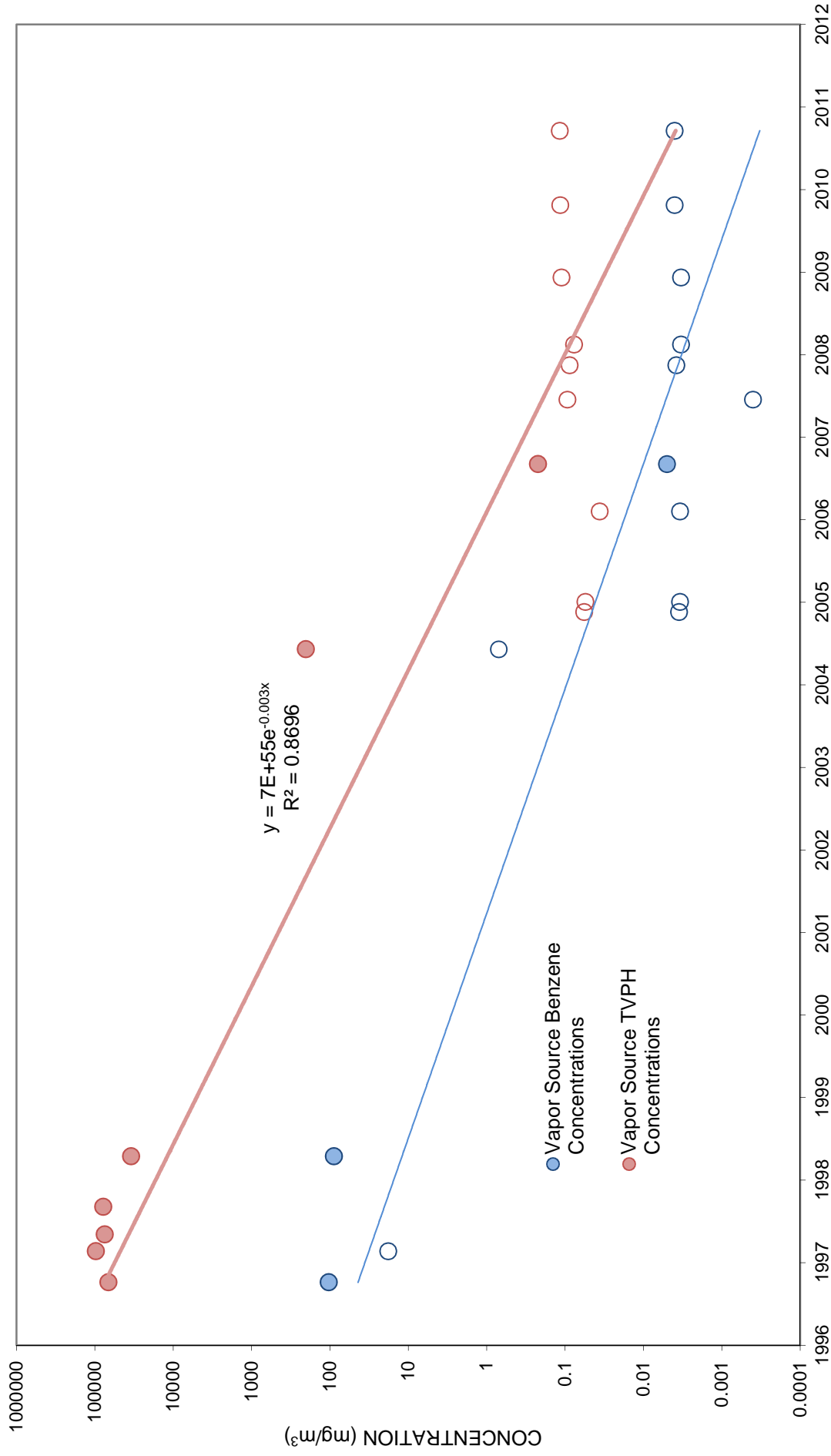
SECOND 2011 SEMIANNUAL MONITORING PERIOD

CHEVRON CINCINNATI FACILITY

HOOVEN, OHIO

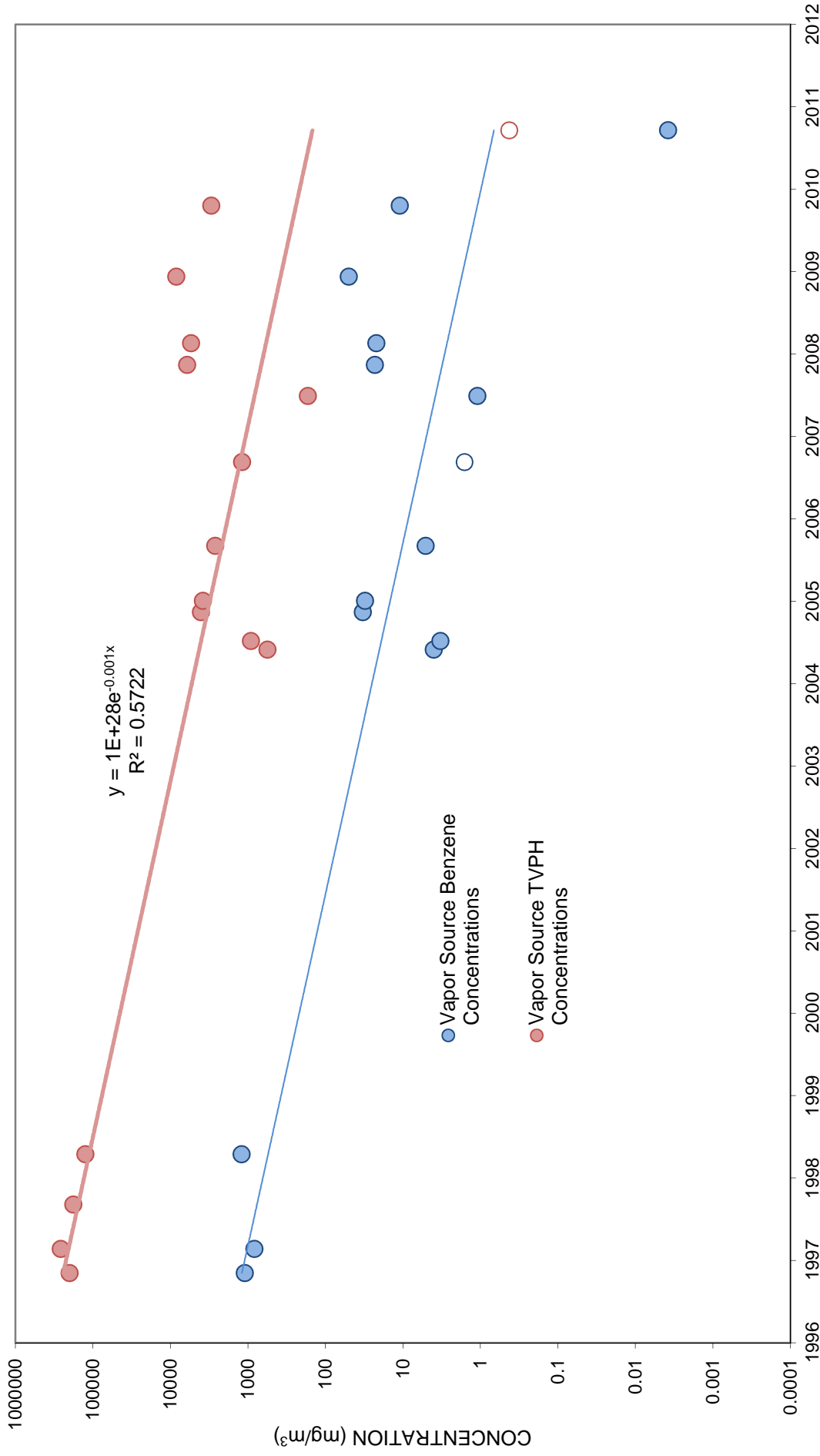
Drawn By: BR	Checked By: JP	Scale: 1" = 1000'	Date: 4/11/12	File: 201204_QI_TPH Trends.mxd
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**FIGURE 3-2. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-93
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



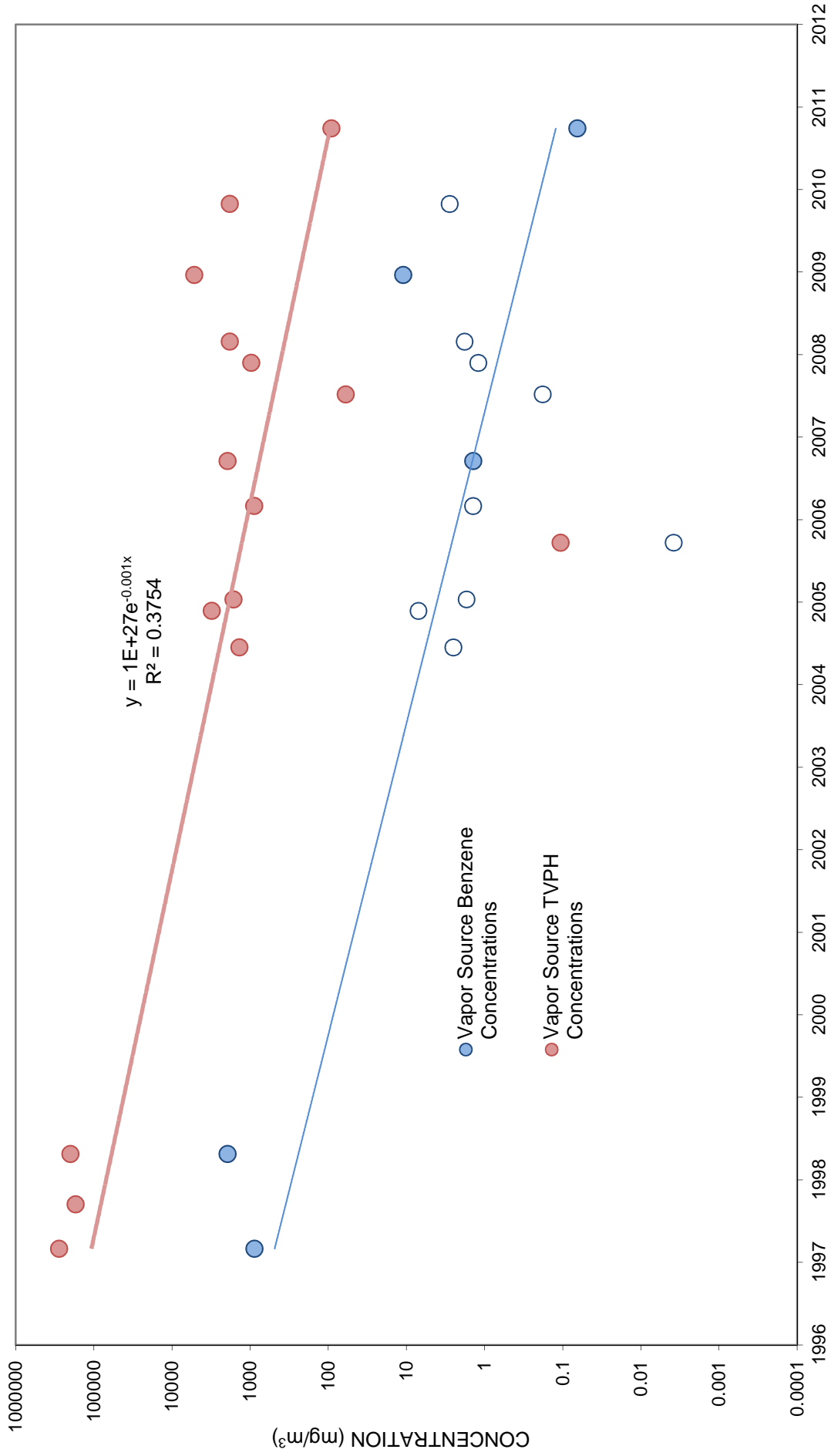
EXPLANATION
OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

**FIGURE 3-3. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-96
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



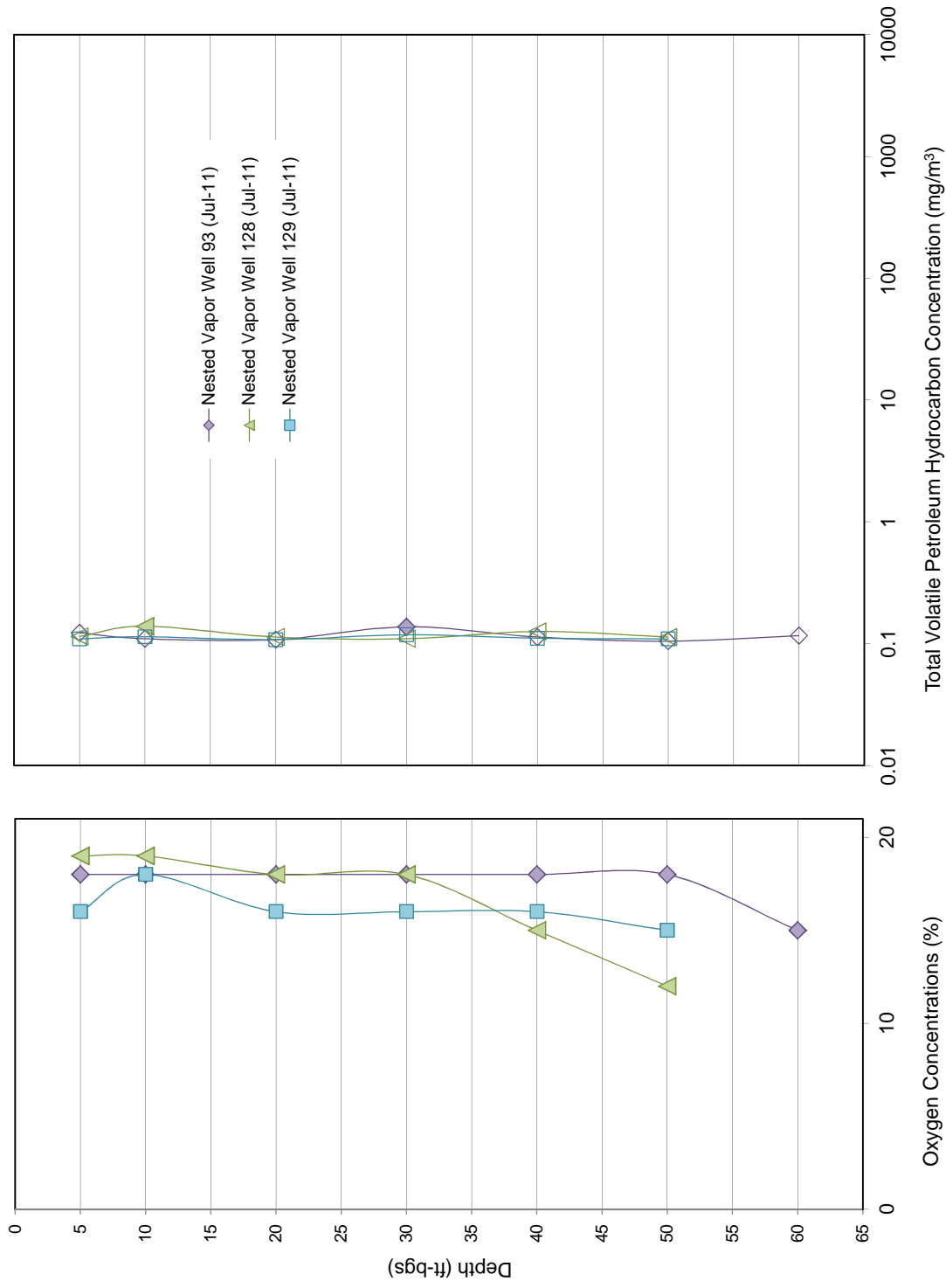
EXPLANATION
OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

**FIGURE 3-4. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-99
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



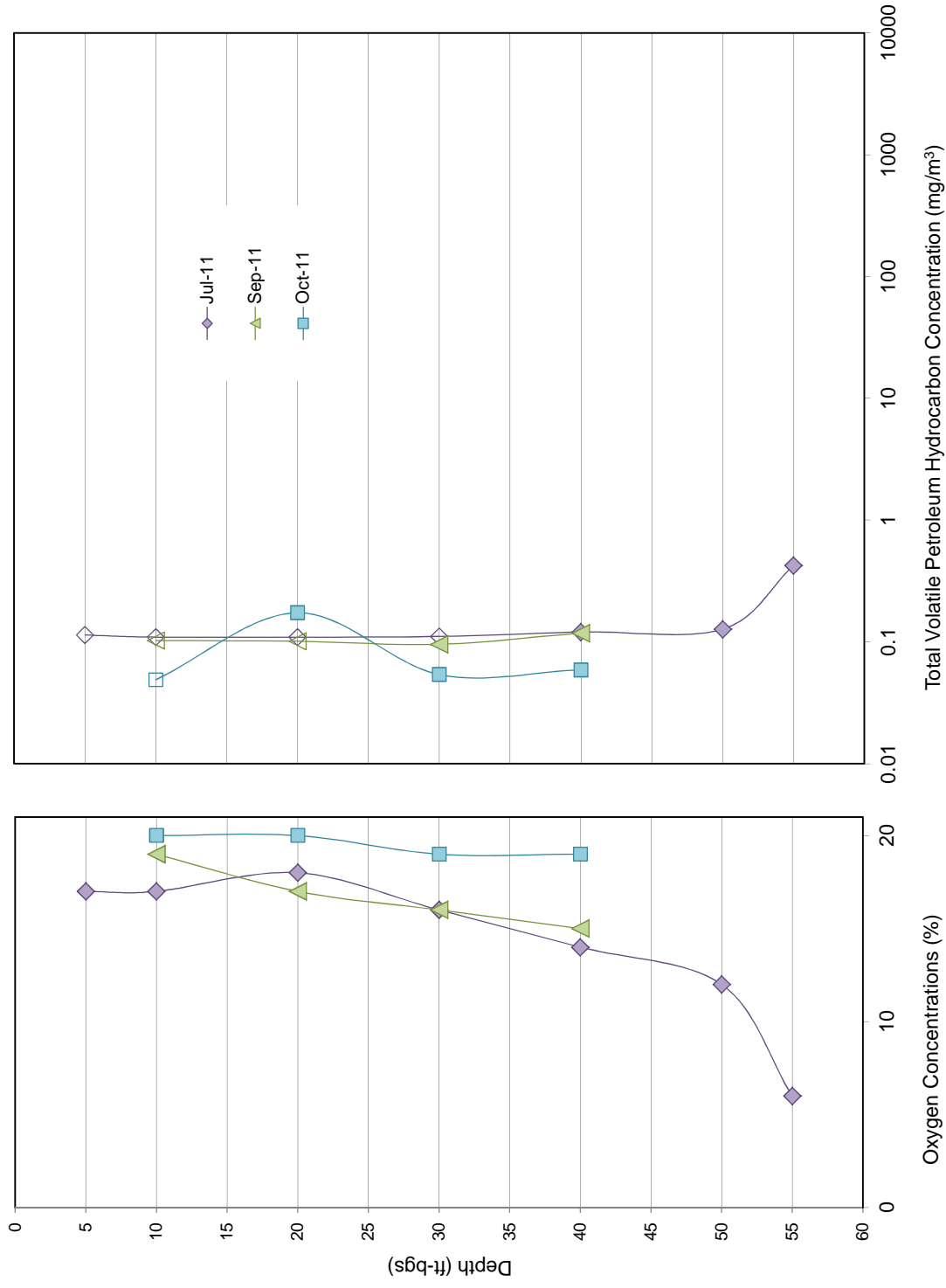
EXPLANATION
OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

FIGURE 3-5. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-93, VW-128, AND VW-129
 SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



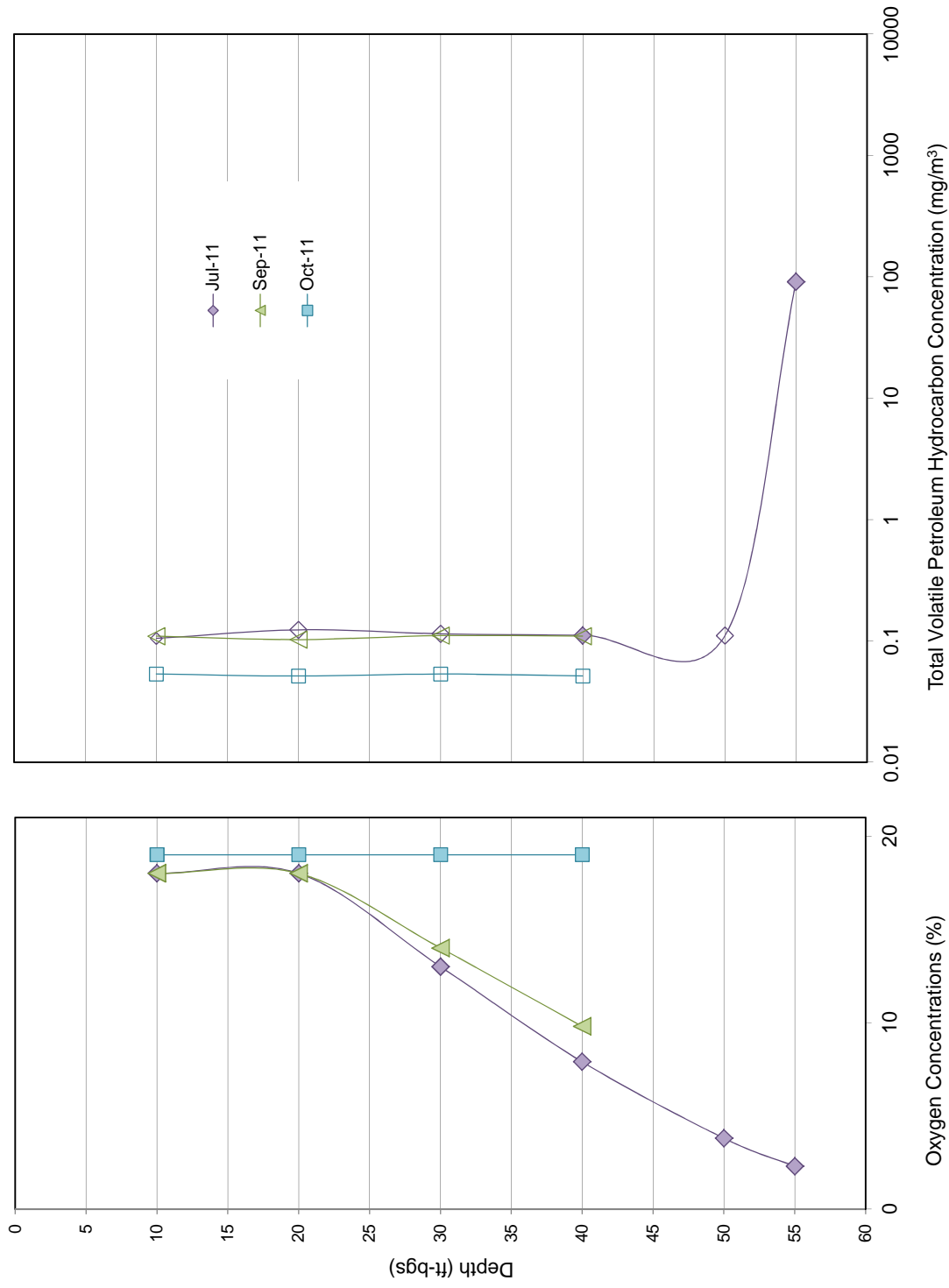
NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

FIGURE 3-6. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-96
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



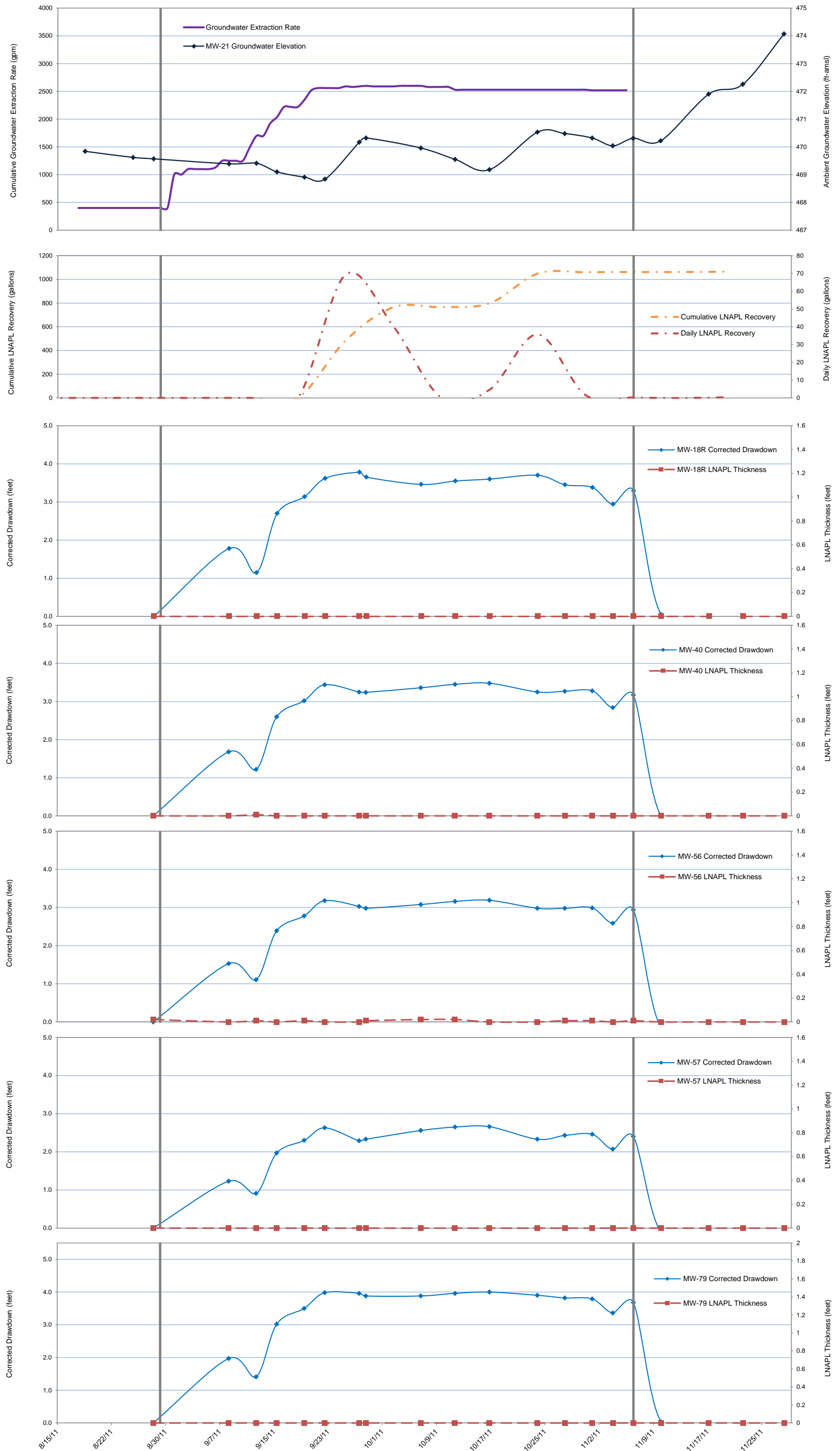
NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

FIGURE 3-7. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-99
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO

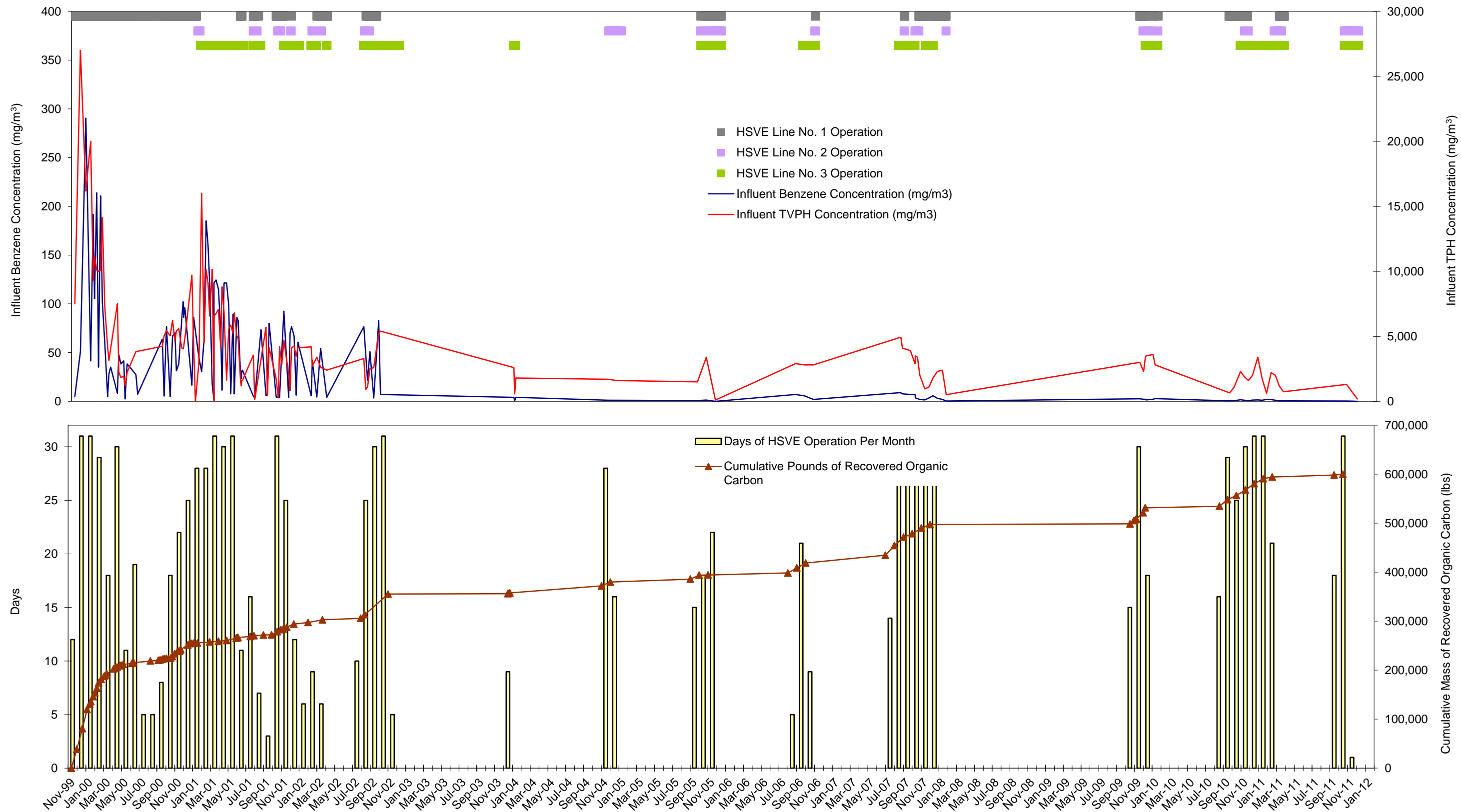


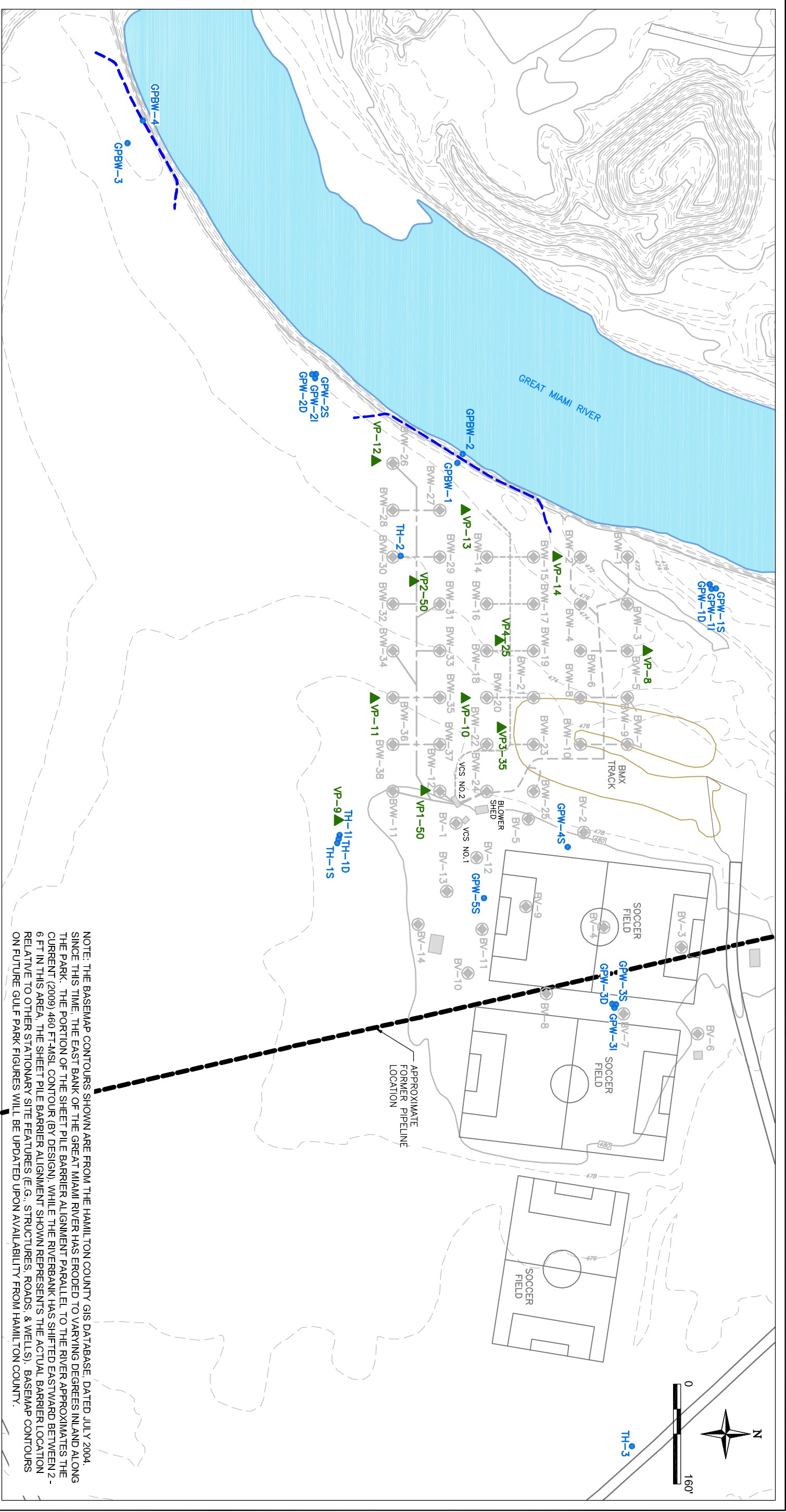
NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

**FIGURE 4-1. LNAPL RECOVERY, DRAWDOWN, AND FLUID LEVEL SUMMARY (2011 HIGH-GRADE EVENT)
SECOND 2010 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



**FIGURE 4-2. HSVE OPERATION, INFLUENT CONCENTRATION, AND CUMULATIVE POUNDS OF RECOVERED ORGANIC CARBON
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**





NOTE: THE BASEMAP CONTOURS SHOWN ARE FROM THE HAMILTON COUNTY GIS DATABASE, DATED JULY 2004. SINCE THIS TIME, THE EAST BANK OF THE GREAT MIAMI RIVER HAS ERODED TO VARYING DEGREES INLAND ALONG THE PARK. THE PORTION OF THE SHEET PILE BARRIER ALIGNMENT PARALLEL TO THE RIVER APPROXIMATES THE CURRENT (2009) 460 FT-MSL CONTOUR (BY DESIGN), WHILE THE RIVERBANK HAS SHIFTED EASTWARD BETWEEN 2-6 FT IN THIS AREA. THE SHEET PILE BARRIER ALIGNMENT SHOWN REPRESENTS THE ACTUAL BARRIER LOCATION RELATIVE TO OTHER STATIONARY SITE FEATURES (E.G., STRUCTURES, ROADS, & WELLS). BASEMAP CONTOURS ON FUTURE GULF PARK FIGURES WILL BE UPDATED UPON AVAILABILITY FROM HAMILTON COUNTY.

EXPLANATION

- GPW-2D GROUNDWATER MONITORING WELL AND DESIGNATION
- ▲ VP2-25 SOIL VAPOR MONITORING POINT AND DESIGNATION
- BWM-26 BIOVENT WELL AND DESIGNATION
- EXPANDED BIOVENTING SYSTEM PIPE RUN #1
- EXPANDED BIOVENTING SYSTEM PIPE RUN #2
- EXPANDED BIOVENTING SYSTEM PIPE RUN #3

- SHEET PILE BARRIER WALL
- 460 GENERAL TOPOGRAPHIC CONTOUR (FT-AMSL, INTERVAL 2 FEET, DASHED WHERE INFERRED)
- BUILDING, TANK OR OTHER STRUCTURE
- ROAD
- VCS VALVE CONTROL SHED
- FT AMSL FEET ABOVE MEAN SEA LEVEL


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	GULF PARK LAYOUT	
SECOND 2011 SEMIANNUAL MONITORING PERIOD		
CHEVRON CINCINNATI FACILITY		
HOOVEN, OHIO		
Drawn By: REP	Checked By: MM	Scale: 1"=160'
Date: 11/4/11	File: 500GP_LAYOUT201204	

FIGURE 5-2. HYDROGRAPHS AND TRIGGER LEVELS FOR WELLS TH-2 AND GPW-5S (2006-2011)
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 GULF PARK, CLEVELS, OHIO

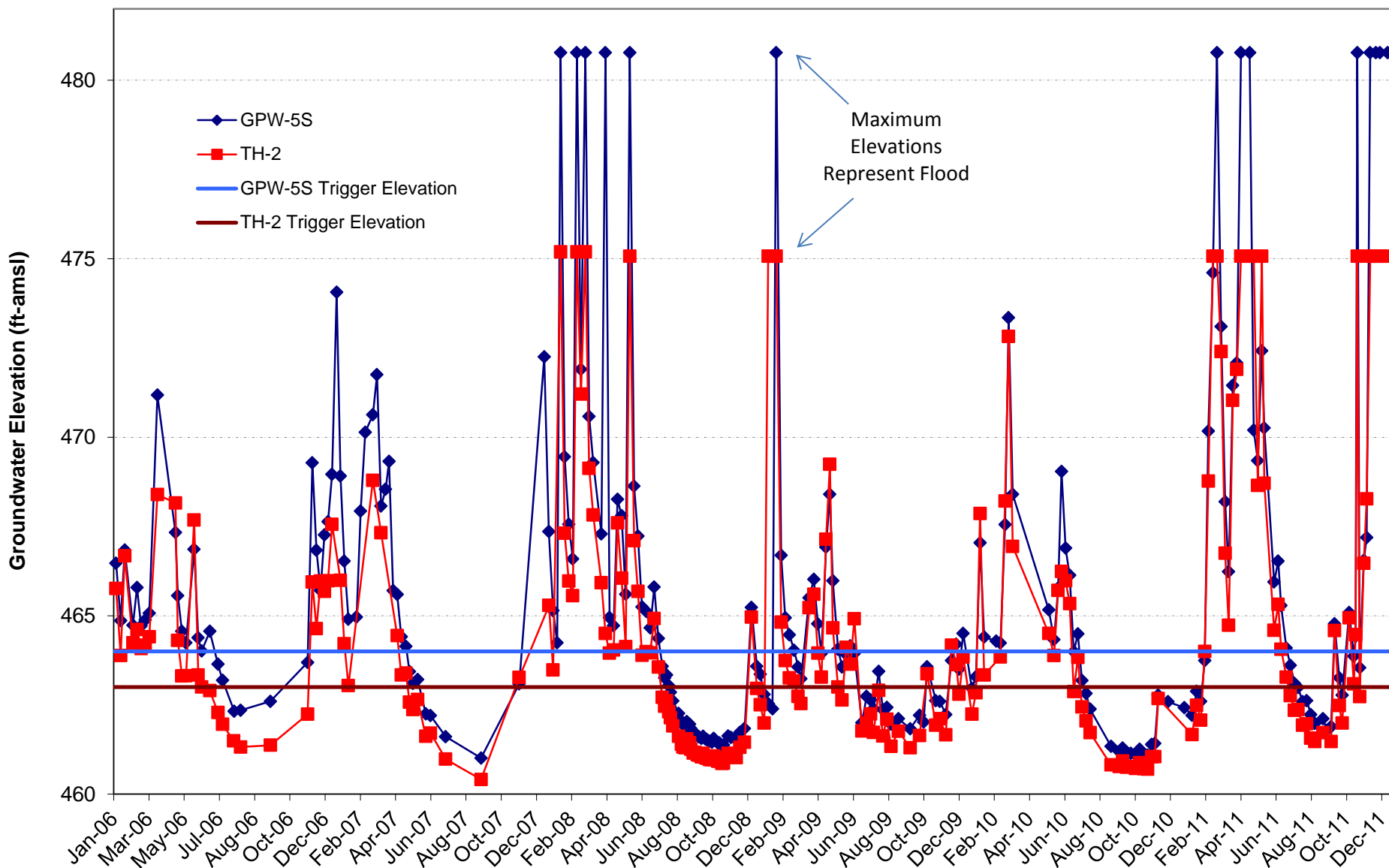
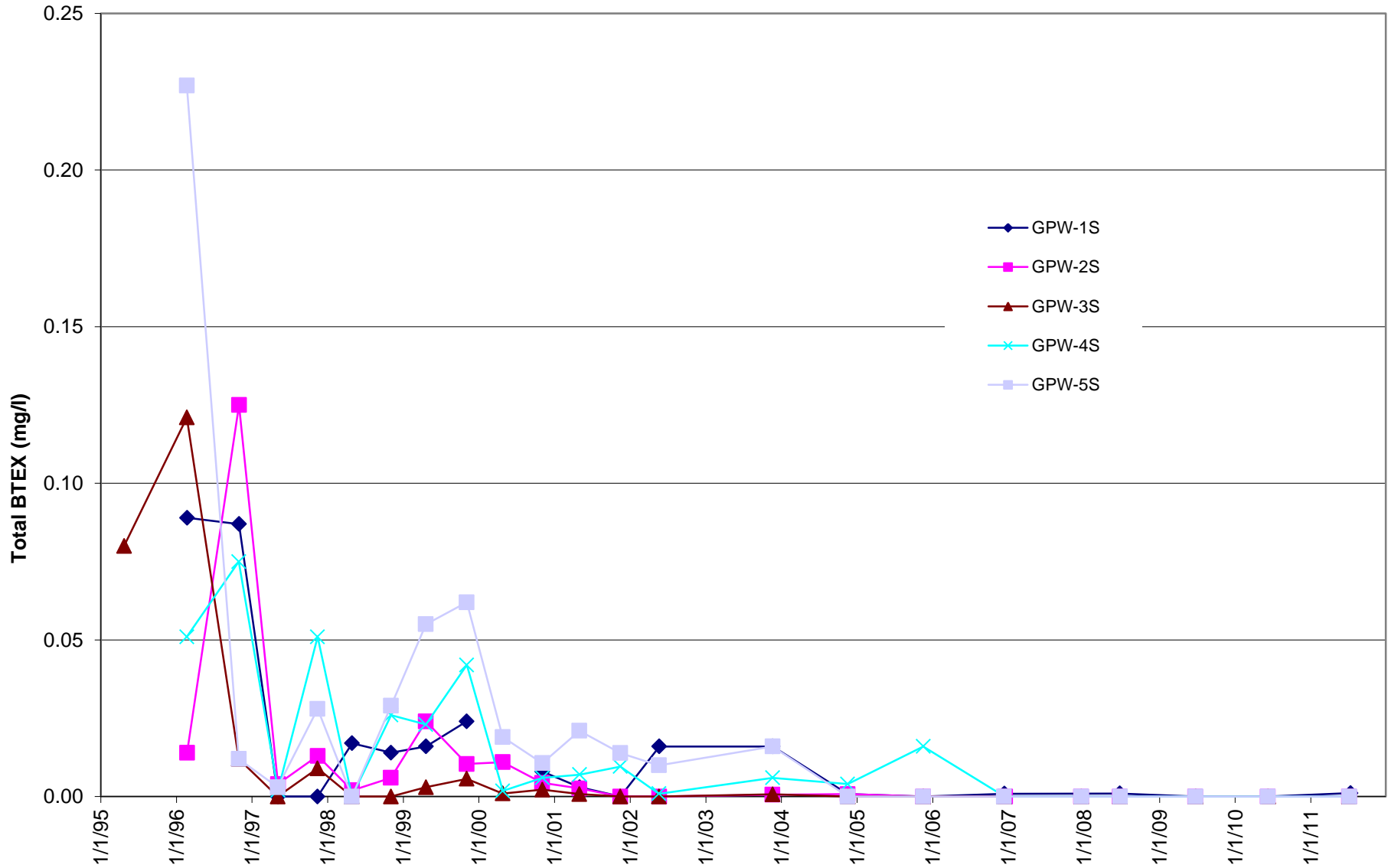


FIGURE 5-3. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELLS GPW-1S, GPW-2S, GPW-3S, GPW-4S, GPW-5S
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



**FIGURE 5-4. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELL TH-1S
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**

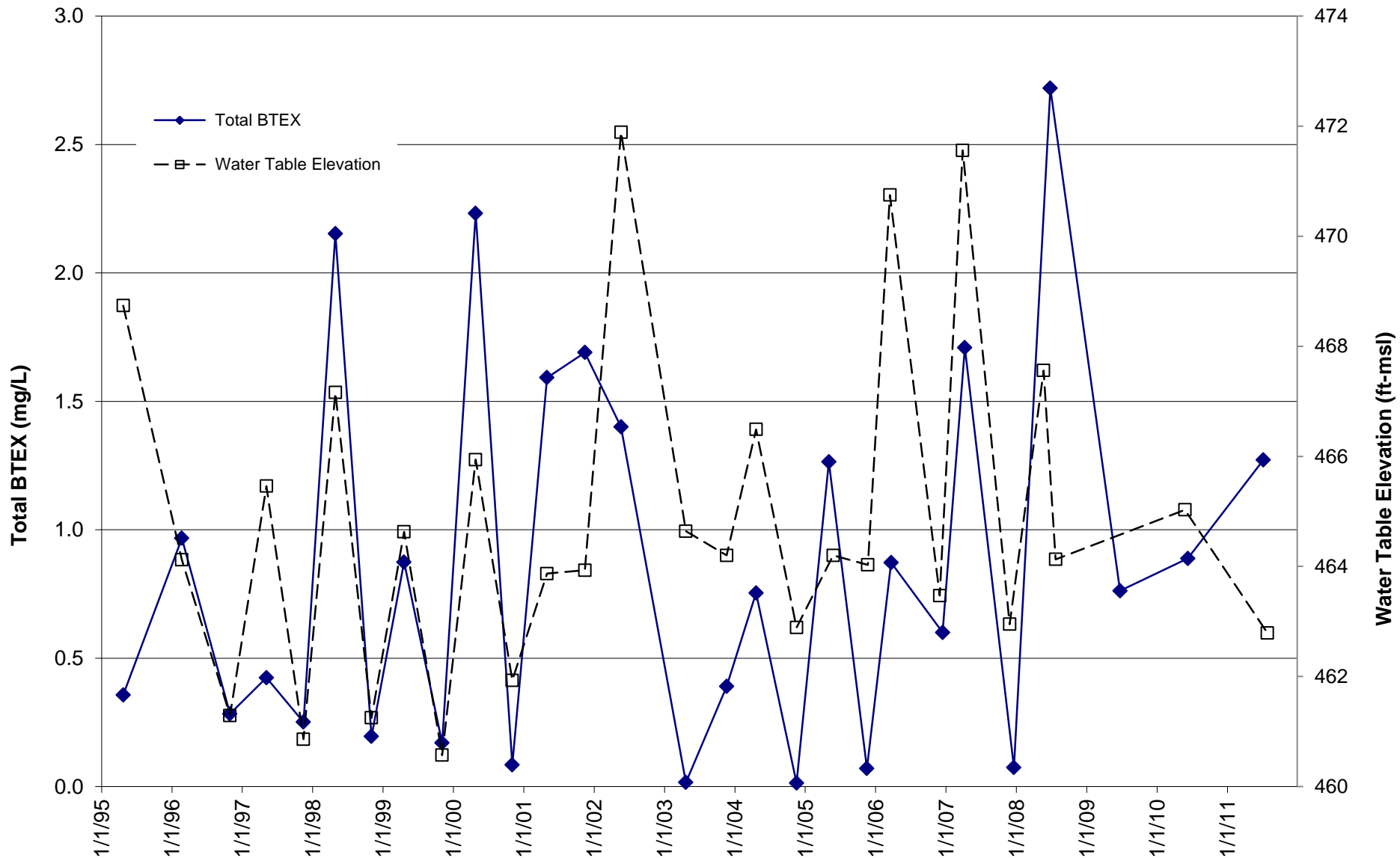
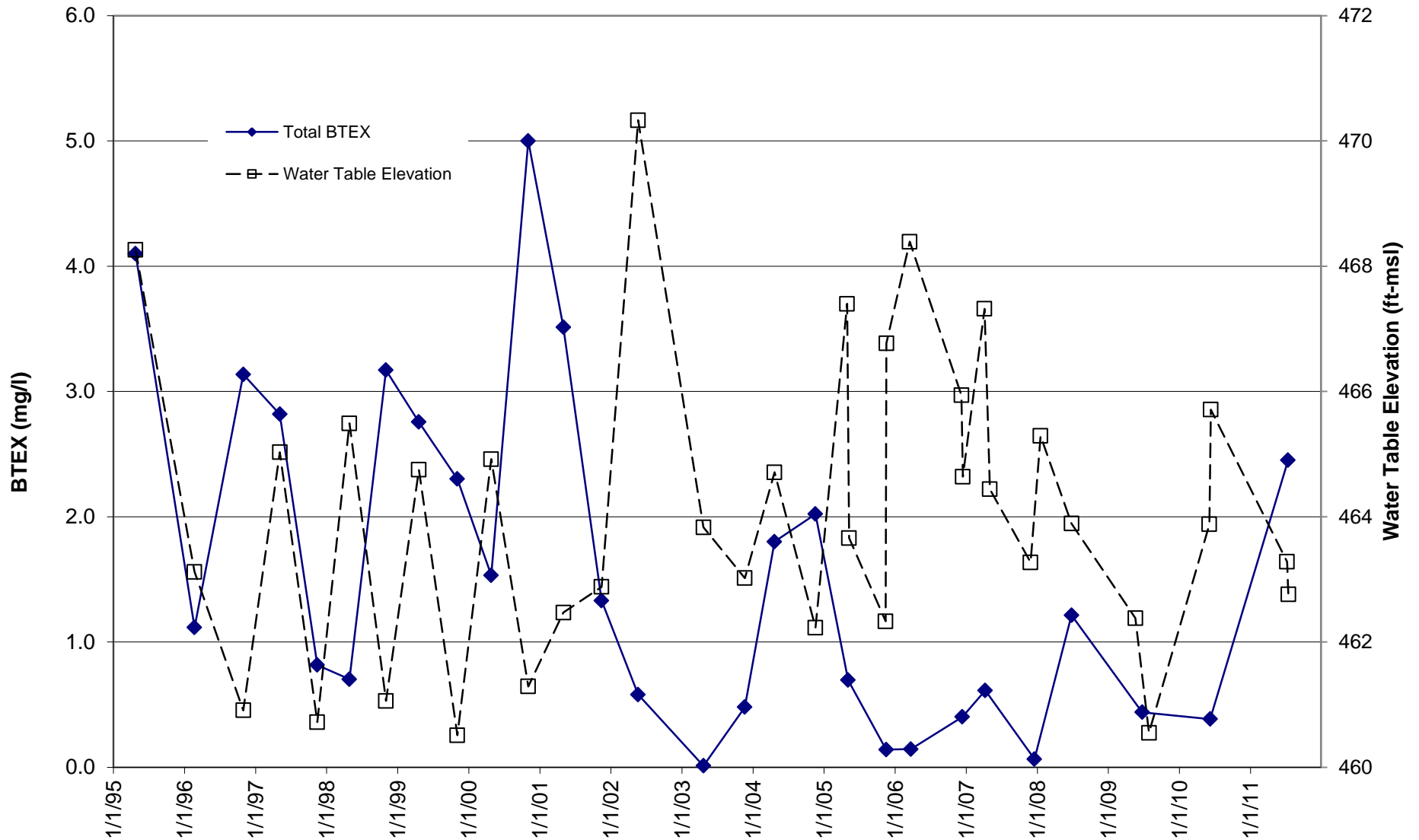
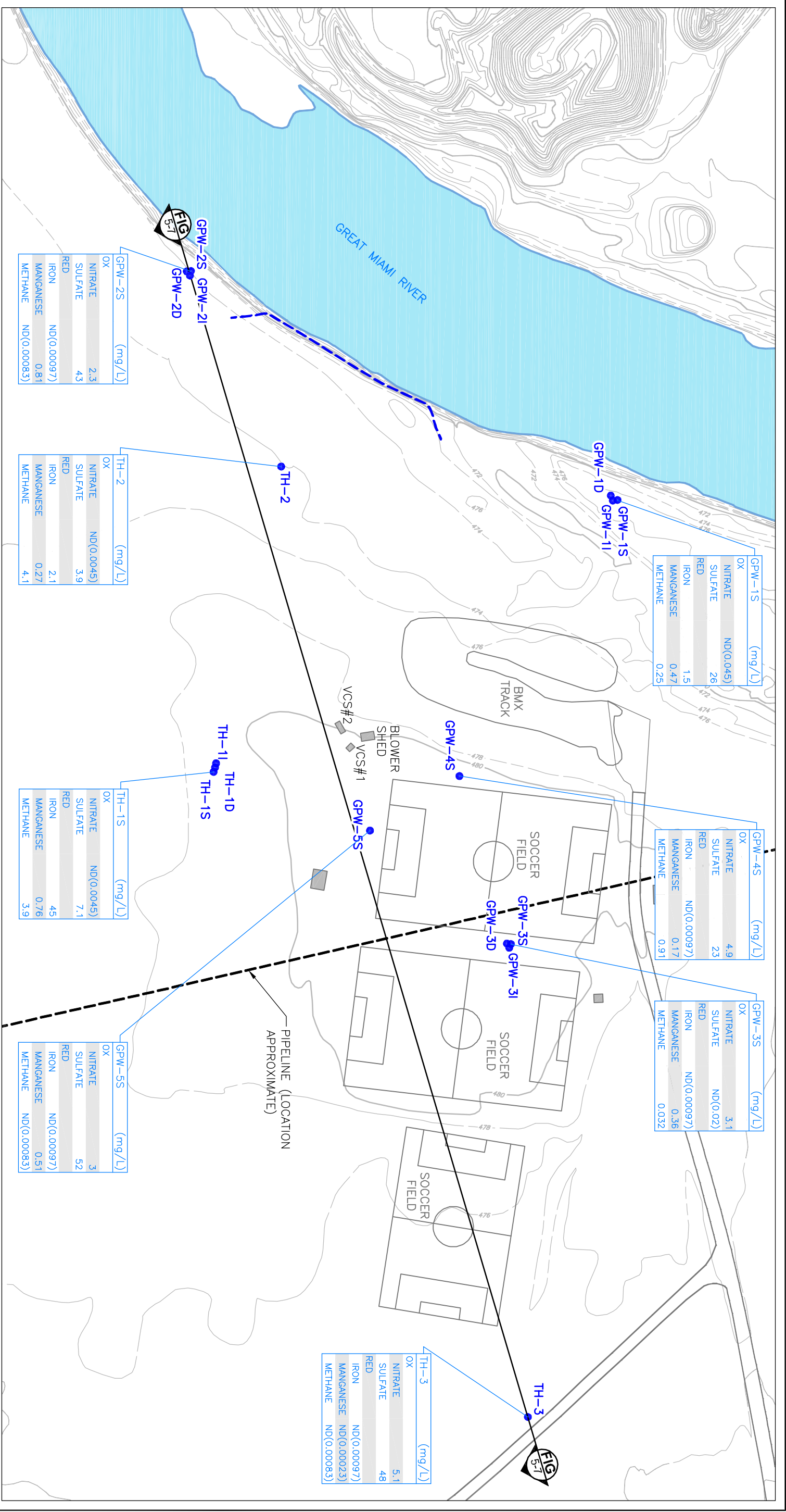


FIGURE 5-5. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELL TH-2
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 GULF PARK, CLEVELS, OHIO





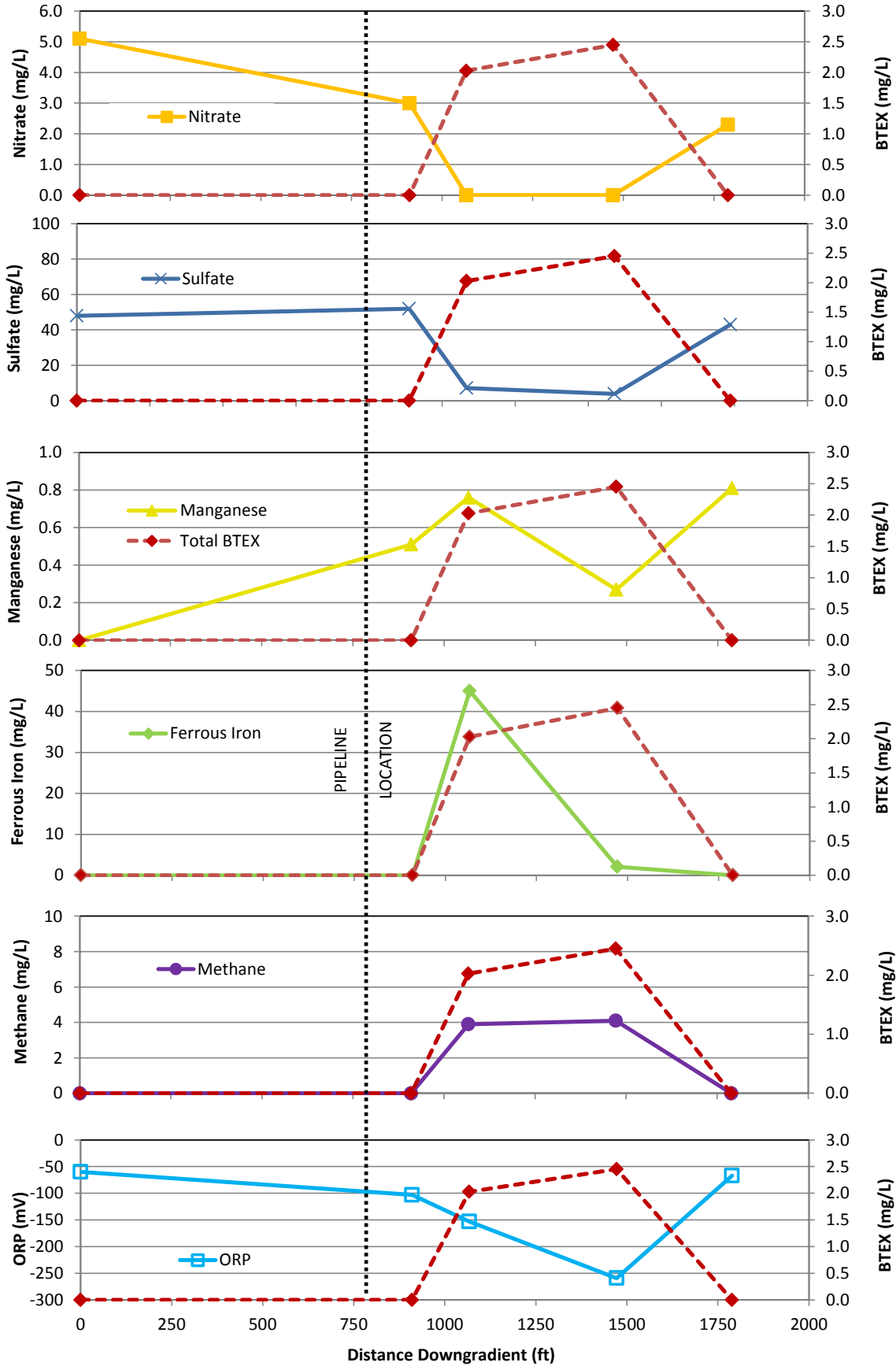
EXPLANATION

- GPW-2S SHALLOW GROUNDWATER MONITORING WELL AND DESIGNATION
- STRUCTURE
- ROAD
- SHEET PILE BARRIER WALL
- GENERAL TOPOGRAPHIC CONTOUR (FT AMSL, INTERVAL 2', DASHED WHERE INFERRED)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- mg/L MILLIGRAMS PER LITER
- VCS VALVE CONTROL SHED

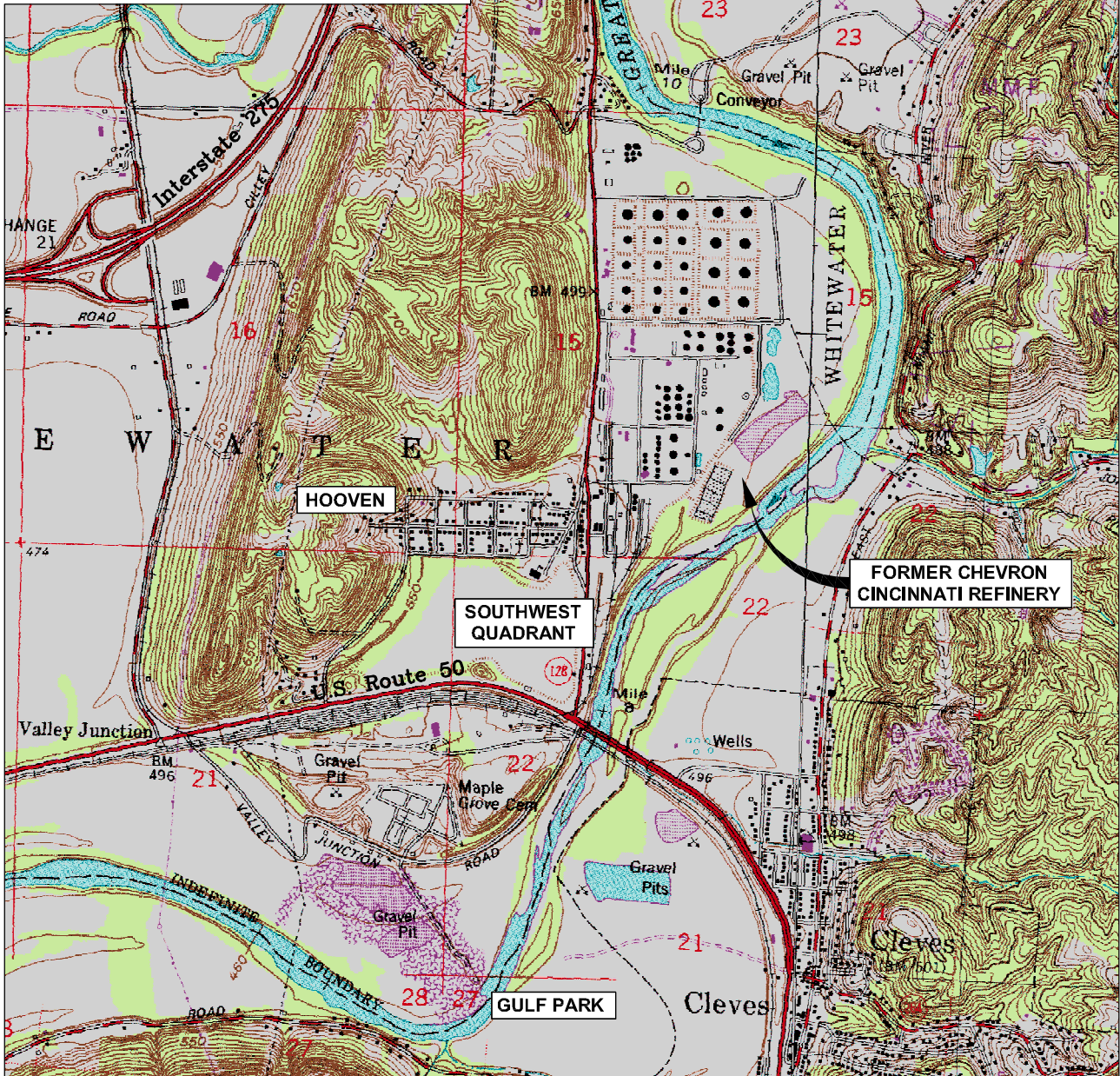
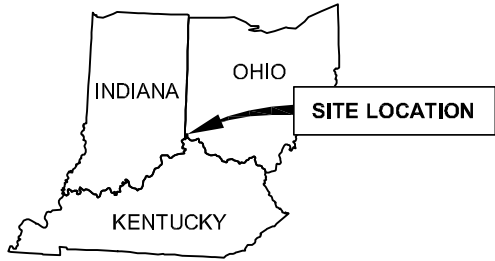


<p>Trihydro CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.trihydro.com (P) 307/745,7474 (F) 307/745,7729</p>	<p>FIGURE 5-6 SUMMARY OF GROUNDWATER OXIDATION AND REDUCTION SPECIES (JULY 2011)</p>	
	<p>SECOND 2011 SEMIANNUAL MONITORING PERIOD CHEVRON CINCINNATI FACILITY HOOVEN, OHIO</p>	
<p>Drawn By: REP Checked By: JP Scale: 1" = 150' Date: 4/15/2012 File: 500GP_OXRED201104</p>		

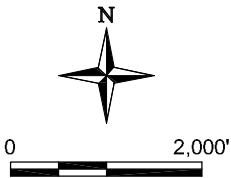
FIGURE 5-7. GULF PARK TOTAL BTEX AND NATURAL ATTENUATION INDICATOR CONCENTRATION VS. DISTANCE
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



US EPA ARCHIVE DOCUMENT



Basemap: U.S.G.S 7.5' Quadrangles, Hooven and Addyston, Ohio, 1996

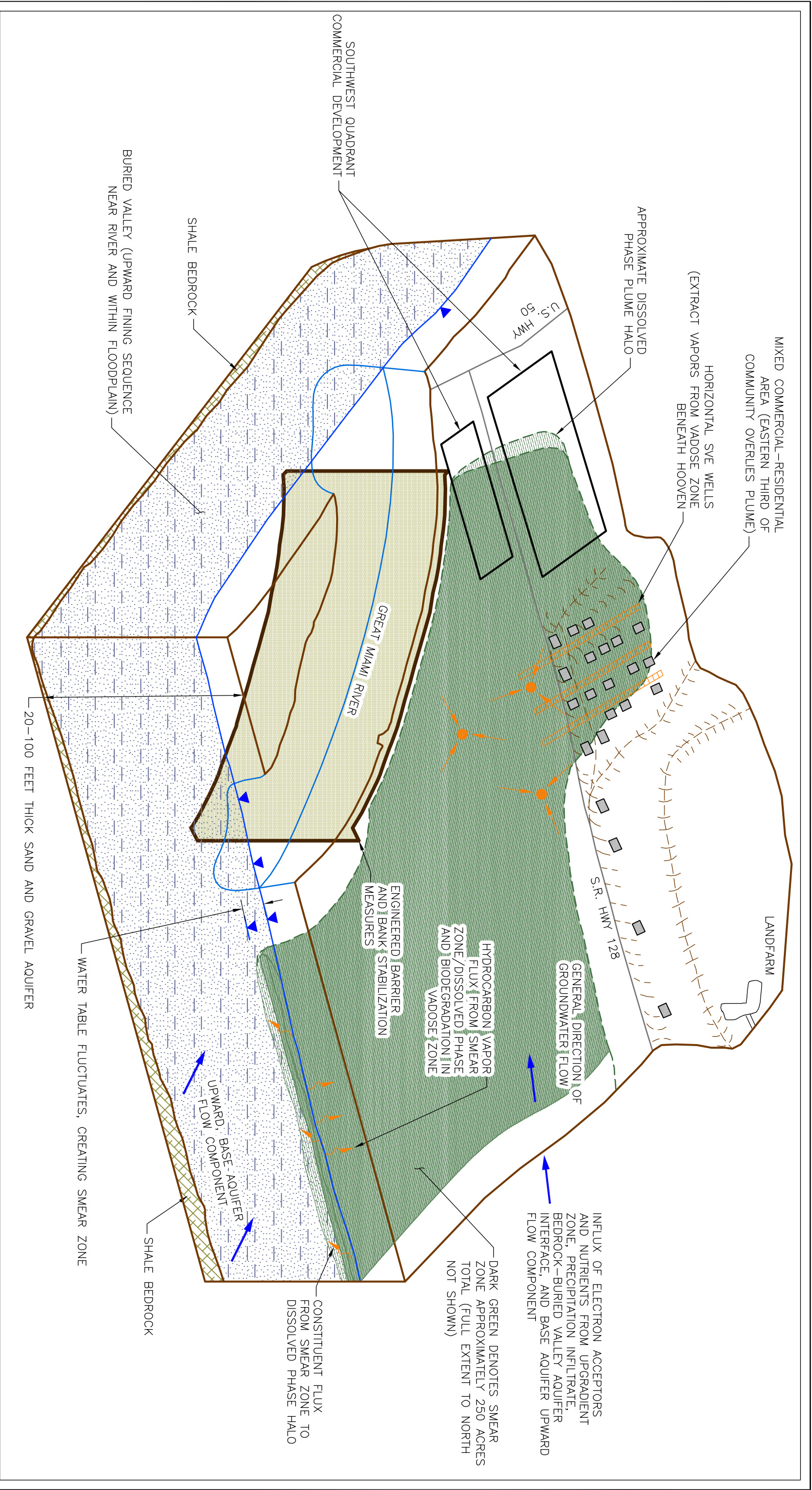


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FIGURE 1-1

SITE LOCATION MAP

SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO



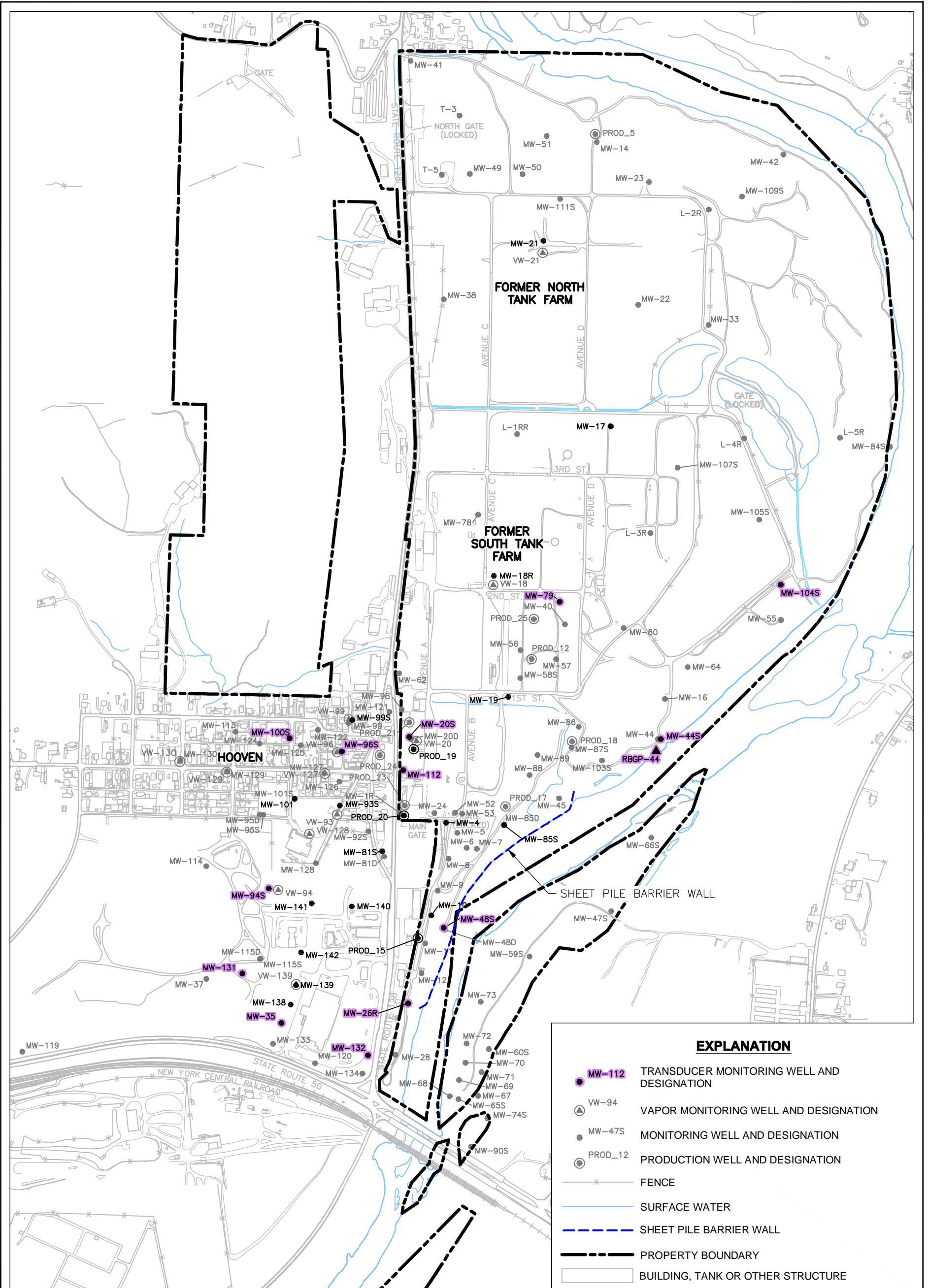
Source: Provided by Chevron Cincinnati.

EXPLANATION

- HIGH-GRADE PUMPING TARGETED AREAS WITH HIGHEST RESIDUAL LNAPL SATURATION.
- WATER LEVEL
- DISSOLVED PHASE PLUME EXTENT
- SMEAR ZONE EXTENT



<p>Tribhydro CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.tribhydro.com (P) 307/745.7474 (F) 307/745.7729</p>	FIGURE 1-2	
	<p>GROUNDWATER CONCEPTUAL SITE MODEL</p> <p>SECOND 2011 SEMIANNUAL MONITORING PERIOD</p> <p>CHEVRON CINCINNATI FACILITY</p> <p>HOOVEN, OHIO</p>	
Drawn By: REP	Checked By: JP	Scale: NONE
Date: 11/19/2010	File: 500GWCNCMODEL-201201	



0 650'

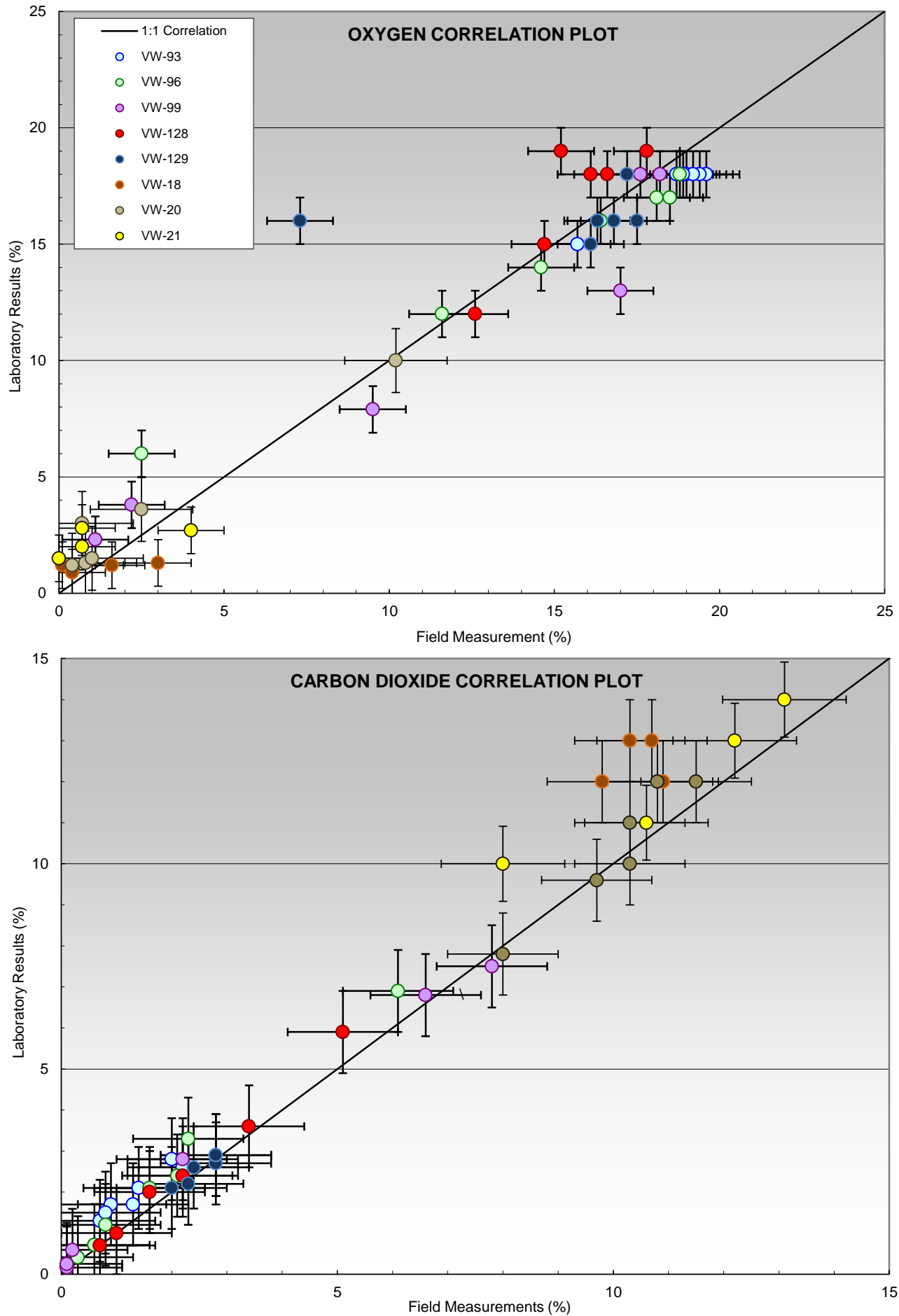
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FIGURE 2-1

TRANSDUCER MONITORING WELLS

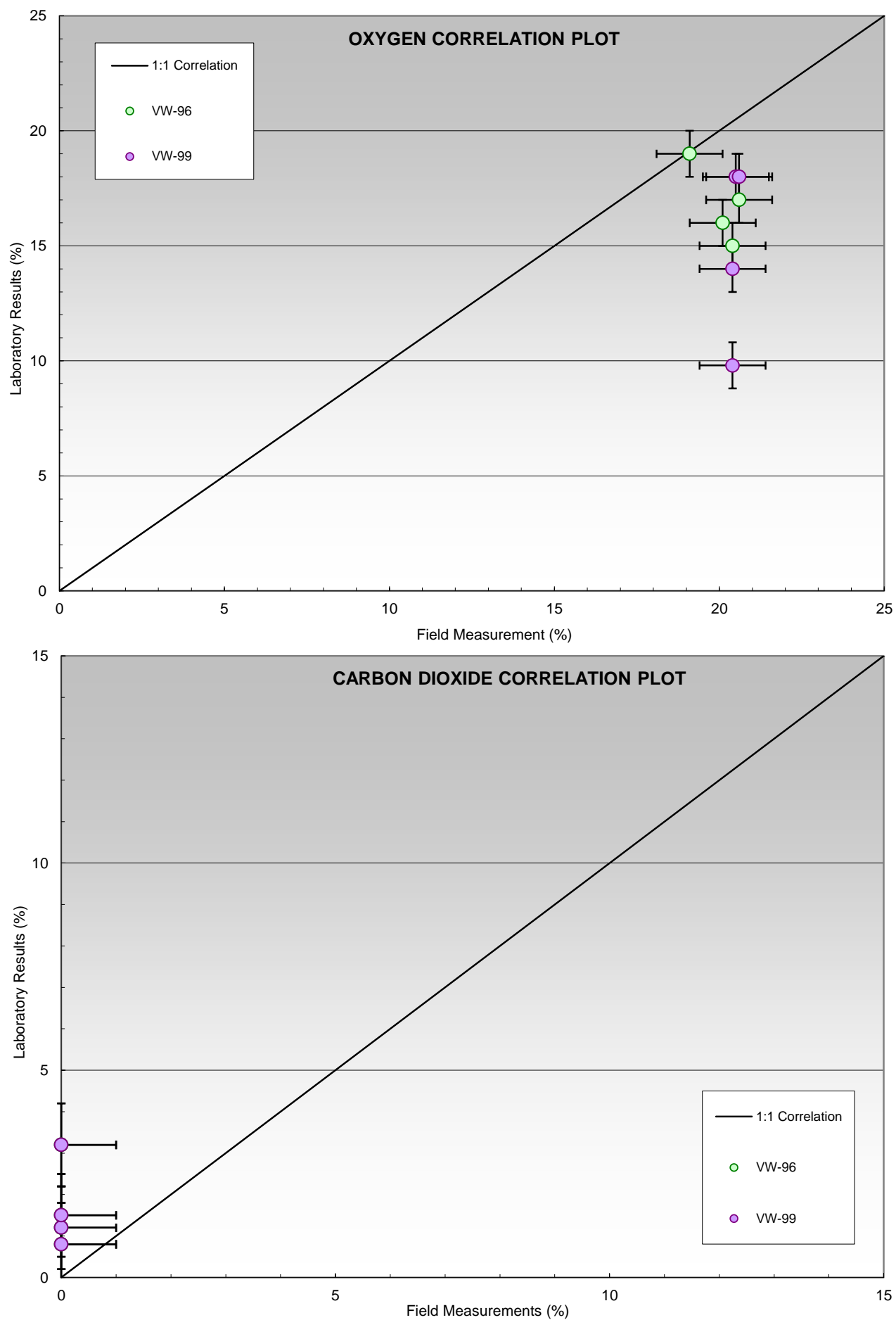
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

FIGURE 2-10. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, JULY 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



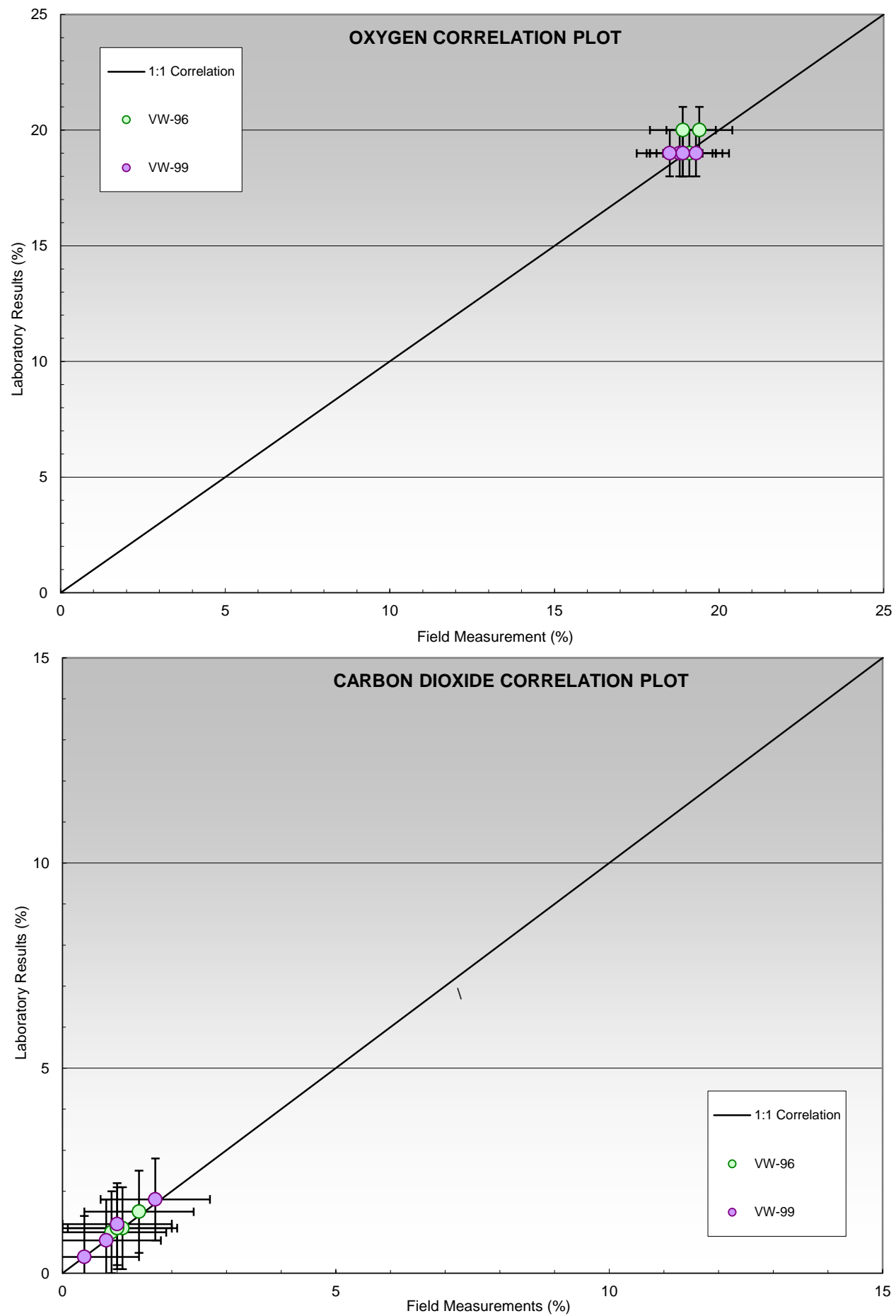
US EPA ARCHIVE DOCUMENT

**FIGURE 2-11. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, SEPTEMBER 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**

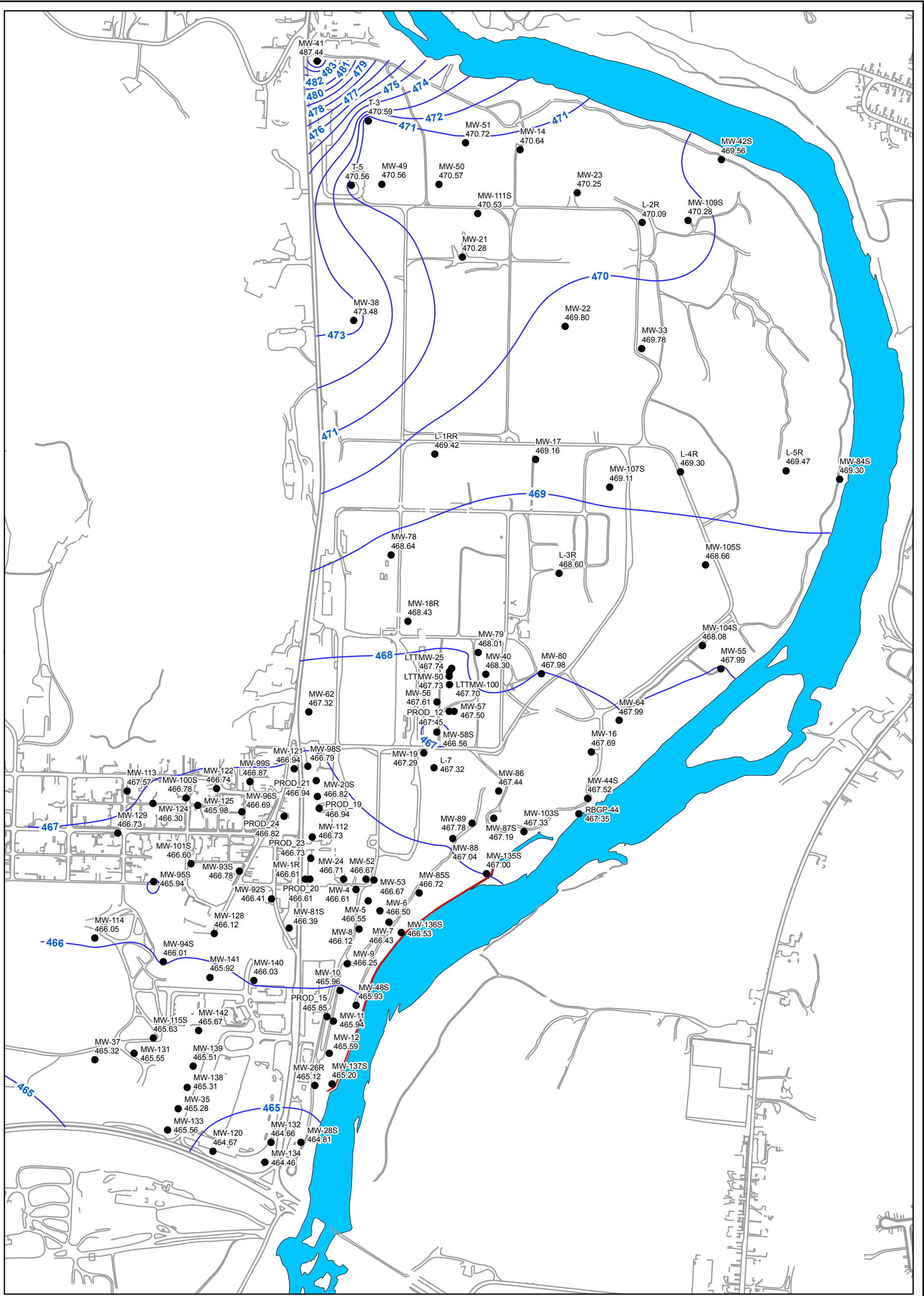


US EPA ARCHIVE DOCUMENT

FIGURE 2-12. SOIL VAPOR OXYGEN AND CARBON DIOXIDE CORRELATION PLOTS, OCTOBER 2011
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



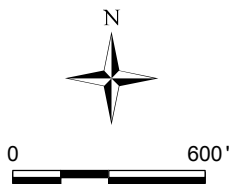
US EPA ARCHIVE DOCUMENT



EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 foot
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.

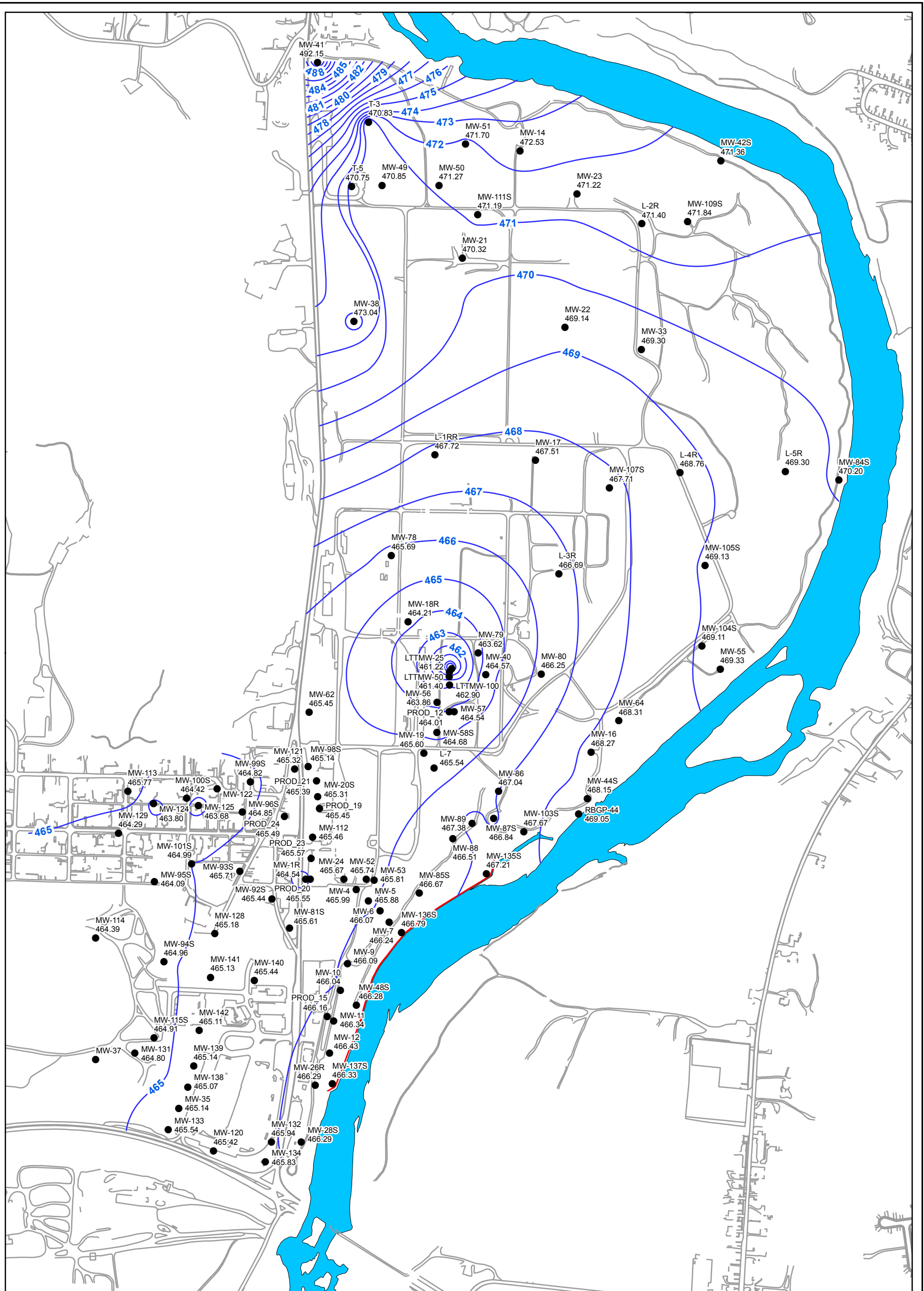


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FIGURE 2-2

**POTENTIOMETRIC SURFACE MAP
 JULY 28, 2011**

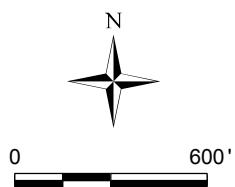
**SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY
 HOOVEN, OHIO**




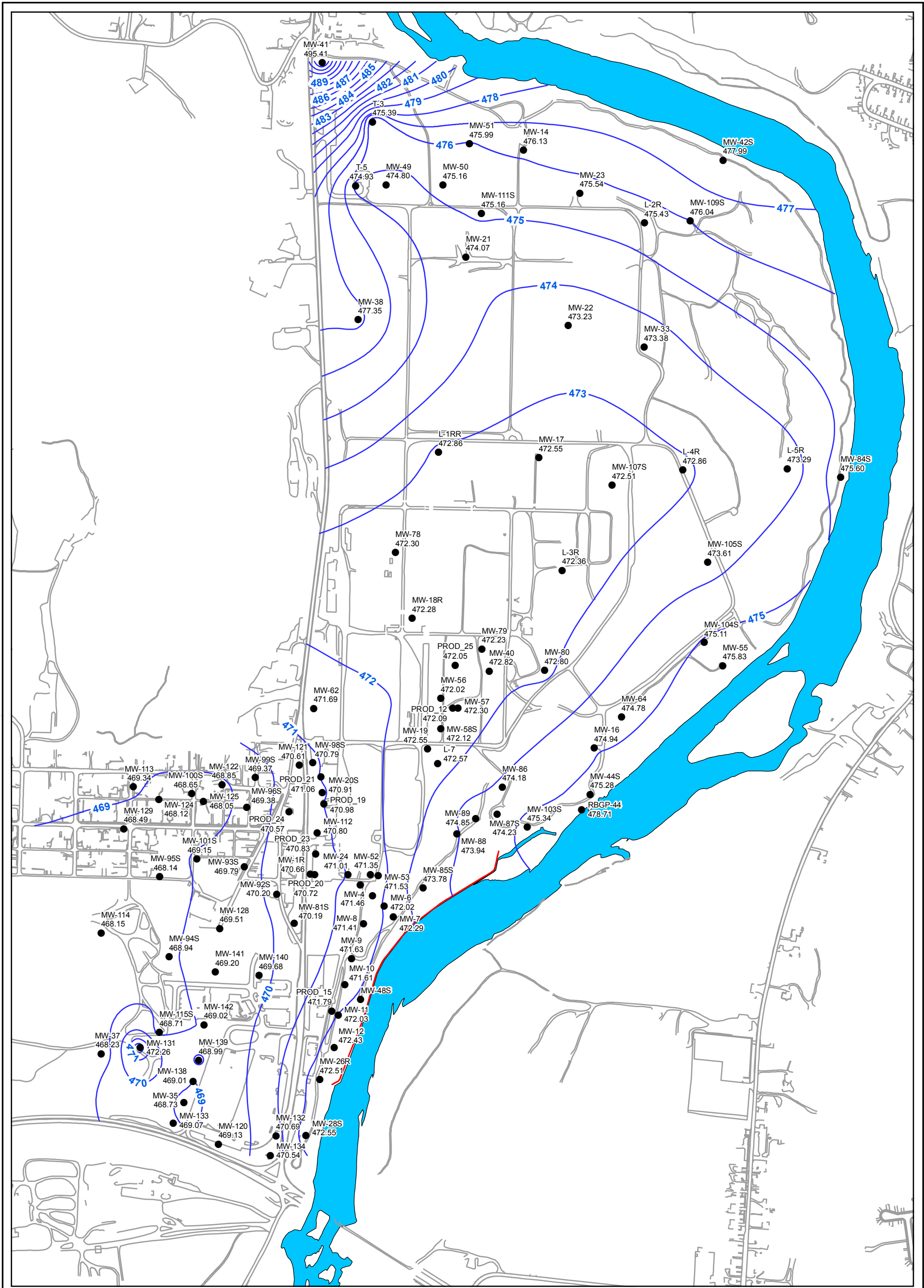
EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 feet
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.



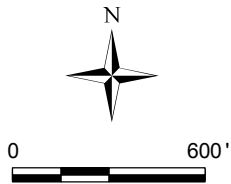
 <p>1252 Commerce Drive Laramie, WY 82070 www.trihydro.com (P) 307/745.7474 (F) 307/745.7729</p>	<p>FIGURE 2-3</p> <p>POTENTIOMETRIC SURFACE MAP SEPTEMBER 29, 2011</p> <p>SECOND 2011 SEMI-ANNUAL MONITORING PERIOD CHEVRON CINCINNATI FACILITY HOOVEN, OHIO</p>			
	Drawn By: BR	Checked By: PM	Scale: 1" = 600'	Date: 9/25/12



EXPLANATION

— EQUIPOTENTIAL CONTOUR LINE
 Elevation In Feet Above Mean Sea Level
 Contour Interval is 1.0 feet
 (Line dashed where approximate)

NOTE: RBGP-44 (RIVER ELEVATION) WAS NOT USED FOR CONTOURING.

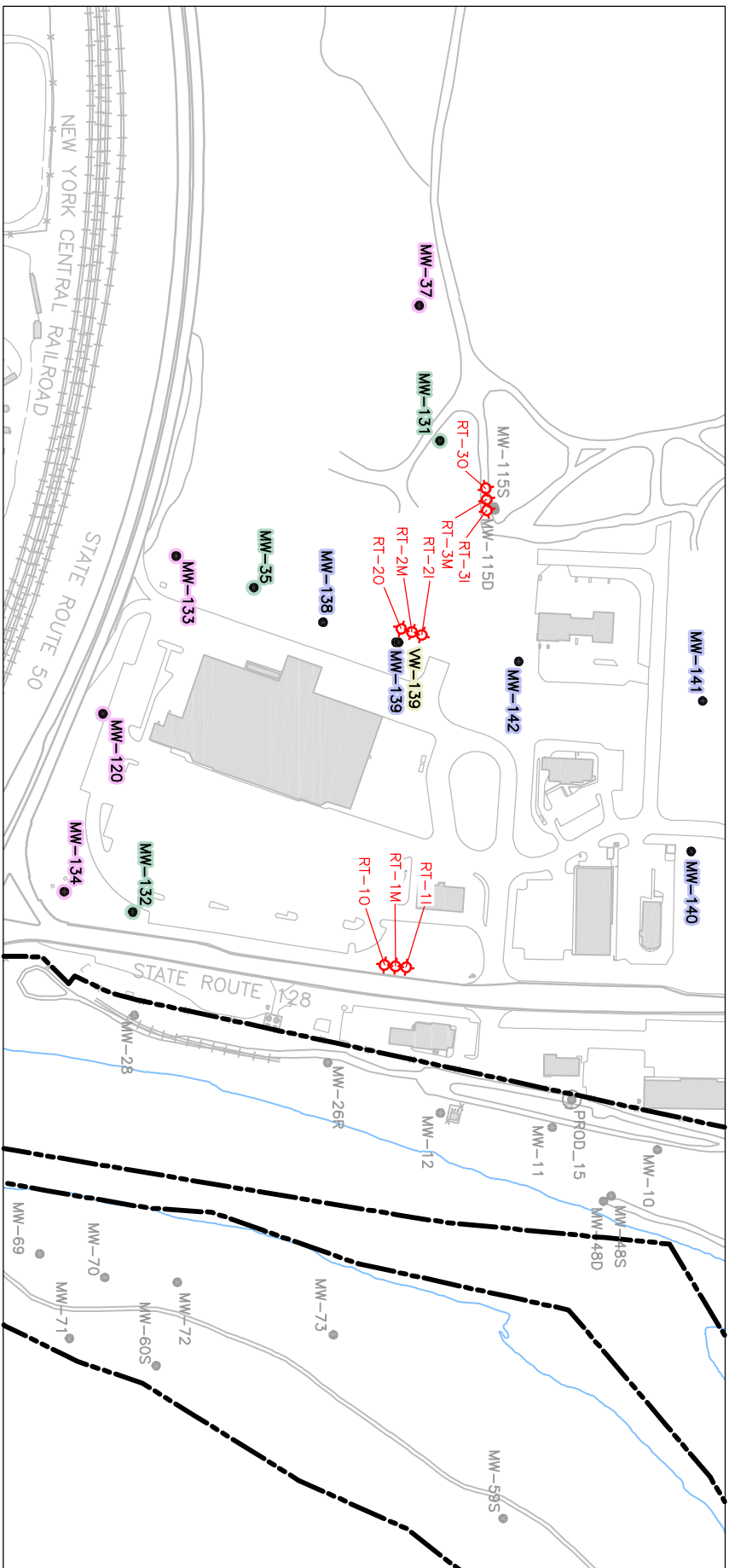


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FIGURE 2-4

**POTENTIOMETRIC SURFACE MAP
 NOVEMBER 29, 2011**

**SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY
 HOOVEN, OHIO**



EXPLANATION

RT-20
RT-2M
RT-2S
RT-21

MW-138

MW-35

MW-37

VW-139

MW-47S

PROD_12

PERMANENT ROST TRANSECT AND DESIGNATION
(I-INNER, M-MIDDLE, O-OUTER)

MONITORING WELL AND DESIGNATION
(INSTALLED MARCH 2009)

SENTINEL MONITORING WELL AND DESIGNATION

POINT OF COMPLIANCE MONITORING WELL
AND DESIGNATION

NESTED VAPOR WELL AND DESIGNATION

MONITORING WELL AND DESIGNATION

PRODUCTION WELL AND DESIGNATION

SURFACE WATER

PROPERTY BOUNDARY

BUILDING, TANK OR OTHER STRUCTURE



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**SENTINEL, POINT OF COMPLIANCE, AND ROST
MONITORING NETWORK**

**SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO**

FIGURE 2-5

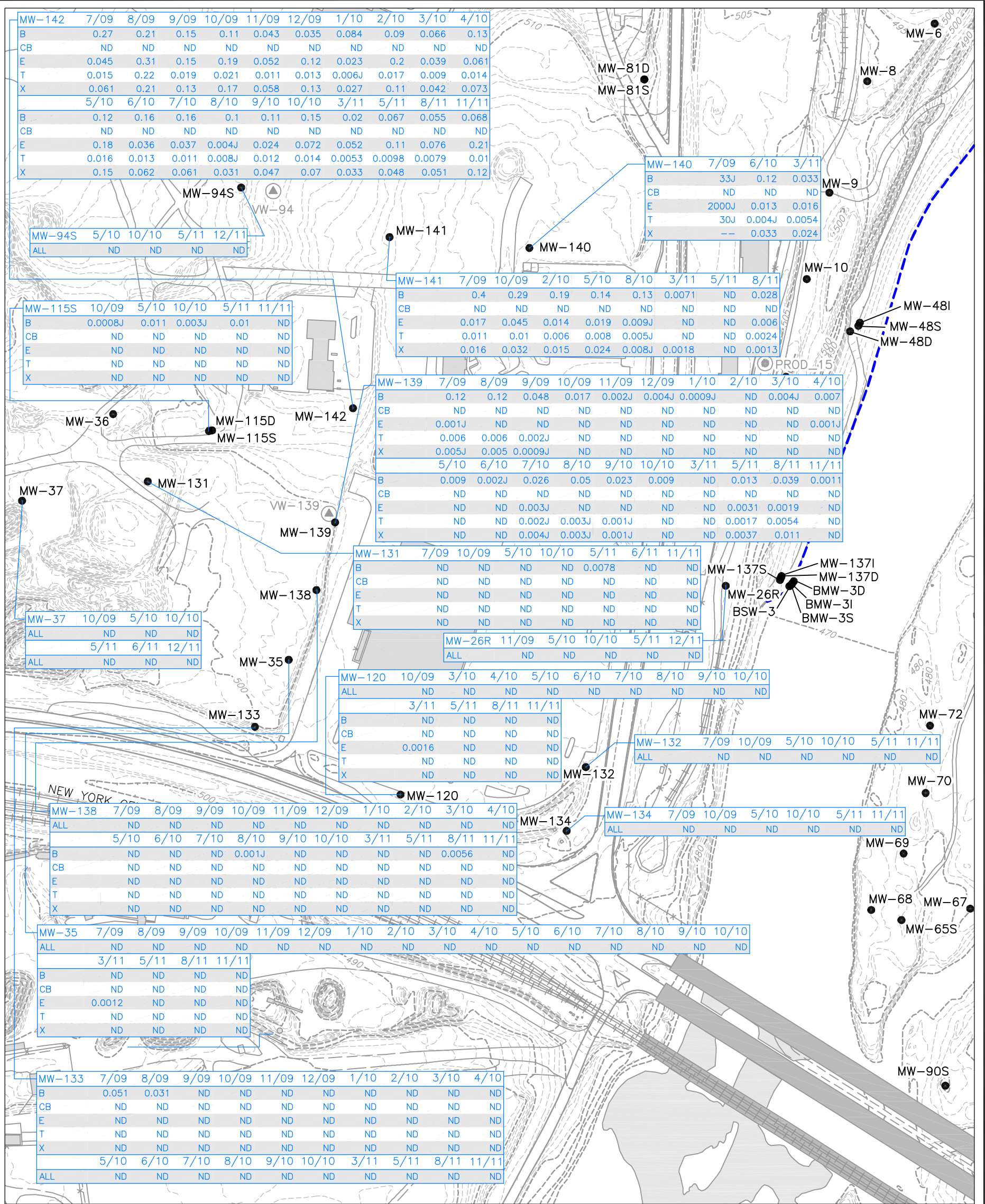
Drawn By: REP

Checked By: JP

Scale: 1"=300'

Date: 11/19/2010

File: 500ROST-T-RANSECTS201201



EXPLANATION

CONSTITUENT TABLE EXPLANATION

- BSW-3D BARRIER MONITORING WELL AND DESIGNATION
- MW-27 MONITORING WELL AND DESIGNATION
- ▲ VW-94 NESTED SOIL VAPOR MONITORING WELL AND DESIGNATION
- PROD_15 PRODUCTION WELL AND DESIGNATION
- SHEET PILE BARRIER WALL
- x — FENCE
- ▭ BUILDING, TANK OR OTHER STRUCTURE
- - - - - GROUND SURFACE CONTOURS (INTERVAL= 5')

WELL DESIGNATION	→	MW-133	3/10	←	SAMPLE DATE
Benzene	→	B	0.5		
Chlorobenzene	→	CB	0.8		
Ethylbenzene	→	E	0.8		
Toluene	→	T	0.7		
Xylenes, Total	→	X	0.8		

NOTES:

1. ALL VALUES ARE IN MILLIGRAMS PER LITER (mg/L)
2. J = ESTIMATED CONCENTRATION
3. -- = NOT MEASURED

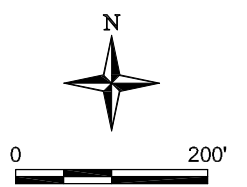
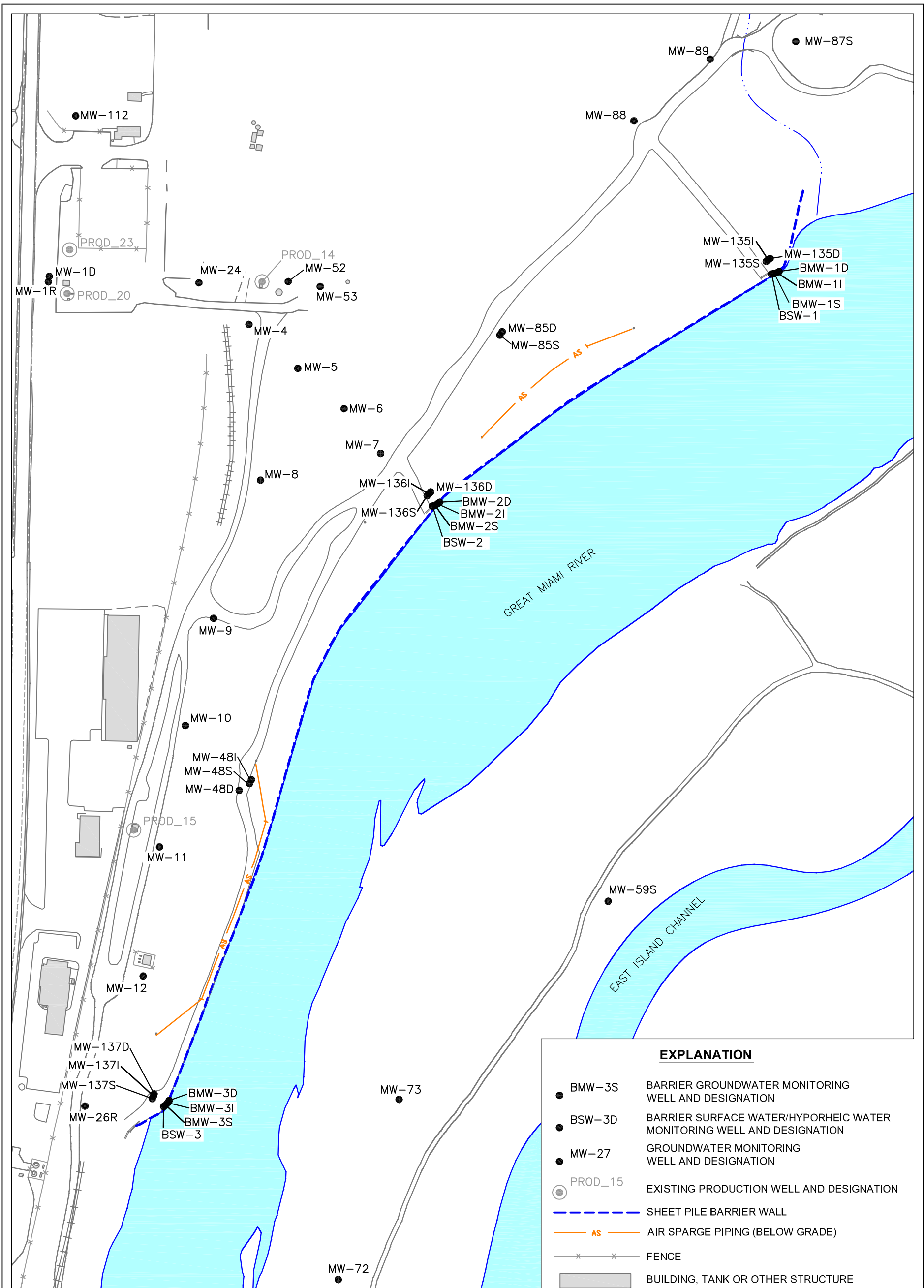


FIGURE 2-6
SOUTHWEST QUAD DISSOLVED PHASE
RESULTS SUMMARY
(JULY 2009 THROUGH DECEMBER 2011)
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO



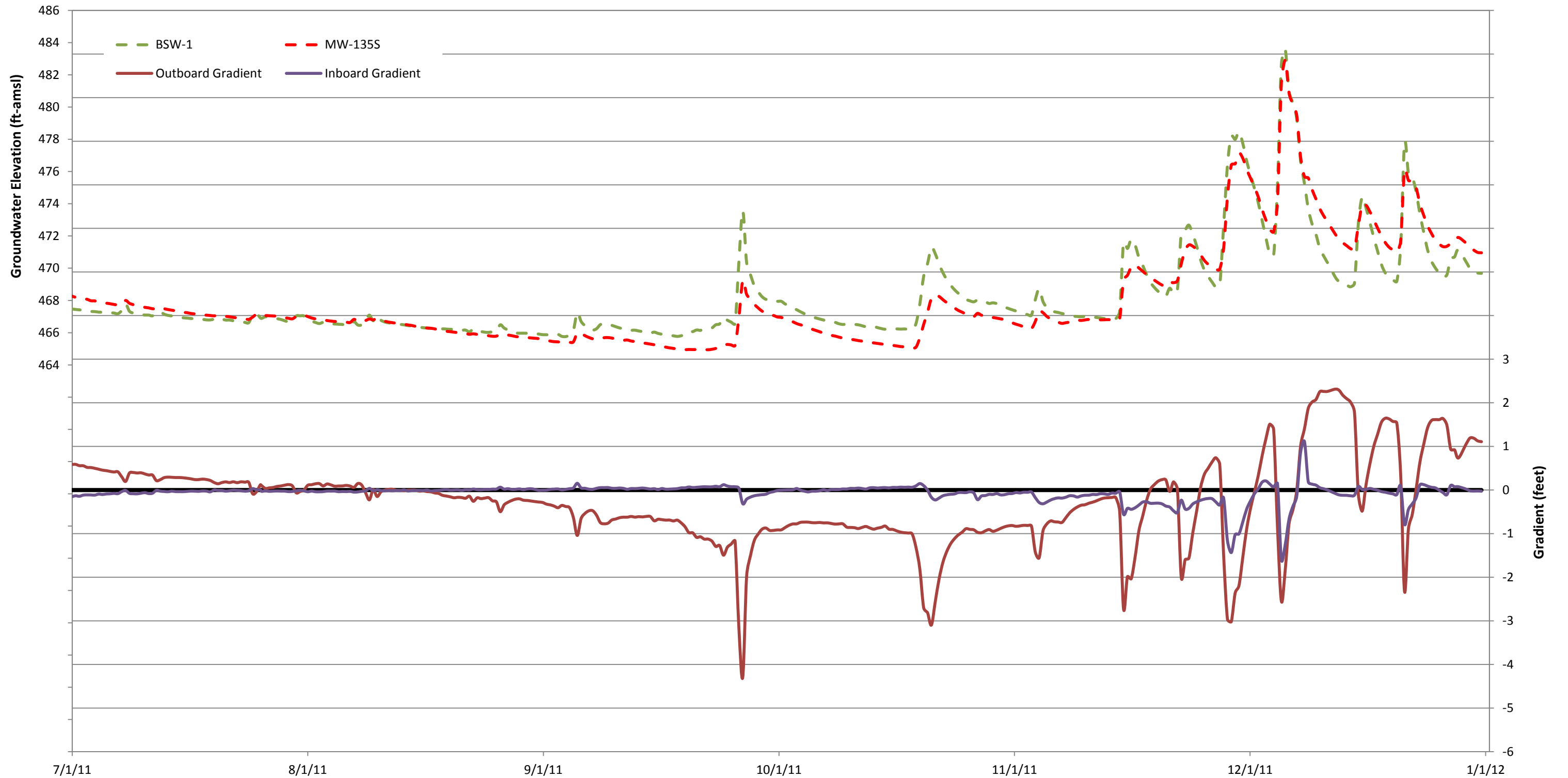
EXPLANATION	
● BMW-3S	BARRIER GROUNDWATER MONITORING WELL AND DESIGNATION
● BSW-3D	BARRIER SURFACE WATER/HYPORHEIC WATER MONITORING WELL AND DESIGNATION
● MW-27	GROUNDWATER MONITORING WELL AND DESIGNATION
○ PROD_15	EXISTING PRODUCTION WELL AND DESIGNATION
---	SHEET PILE BARRIER WALL
AS	AIR SPARGE PIPING (BELOW GRADE)
x-x	FENCE
■	BUILDING, TANK OR OTHER STRUCTURE



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FIGURE 2-7
BARRIER PERFORMANCE AIR SPARGE AND MONITORING WELL NETWORK
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY
HOOVEN, OHIO

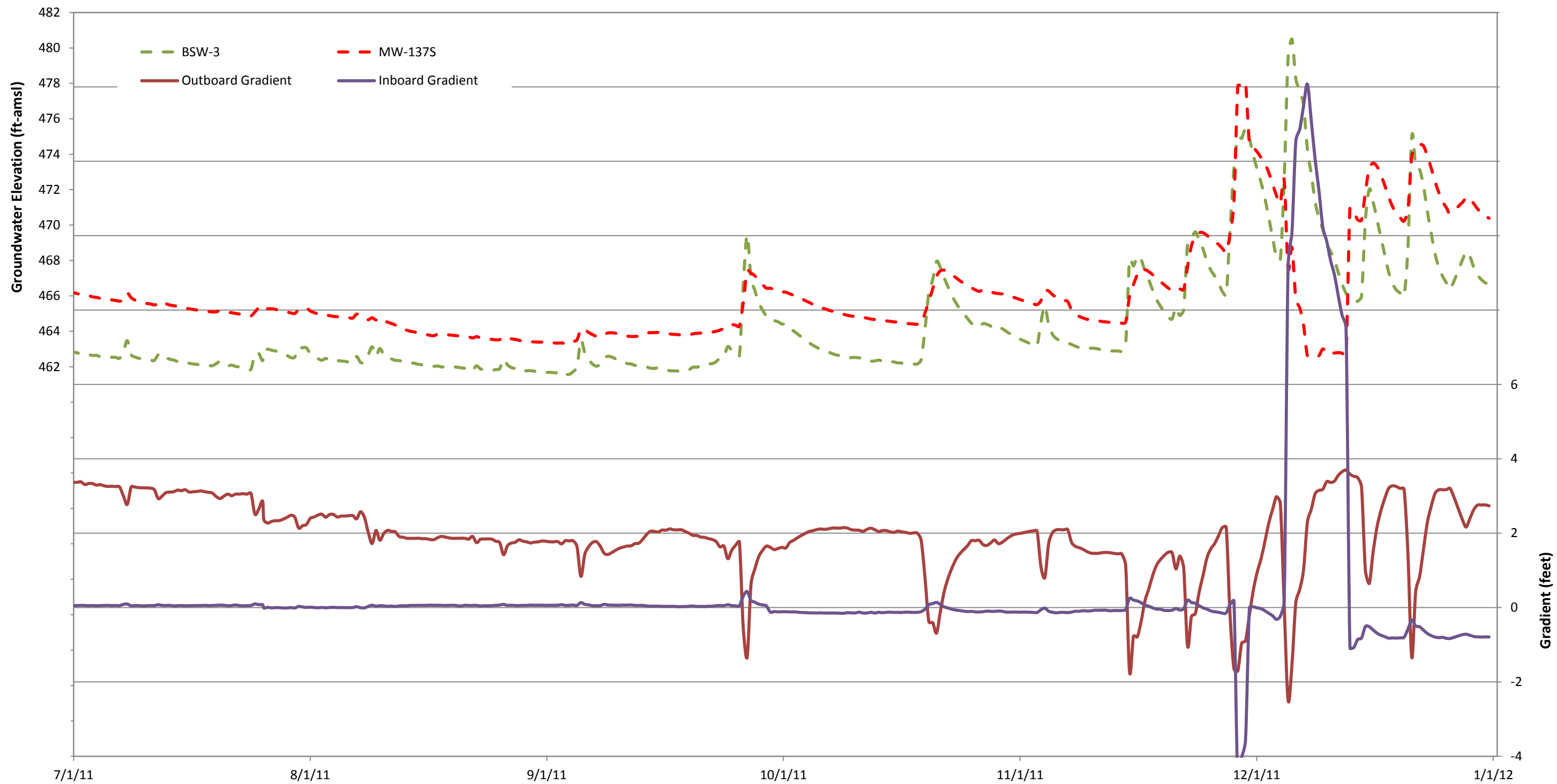
FIGURE 2-8. BARRIER WALL NORTH TRANSECT VERTICAL GRADIENTS
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



EXPLANATION

Outboard Gradient - Groundwater elevation at BMW-1D minus the surface water elevation at BSW-1.
 Inboard Gradient - Groundwater elevation at MW-135D minus the groundwater elevation at MW-135S.
 Upward vertical gradient shown as positive values, downward vertical gradient shown as negative values.

FIGURE 2-9. BARRIER WALL SOUTH TRANSECT VERTICAL GRADIENTS
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



EXPLANATION

Outboard Gradient - Groundwater elevation at BMW-3D minus the surface water elevation at BSW-3.
 Inboard Gradient - Groundwater elevation at MW-137D minus the groundwater elevation at MW-137S.
 Upward vertical gradient shown as positive values, downward vertical gradient shown as negative values

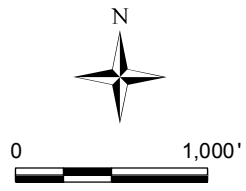
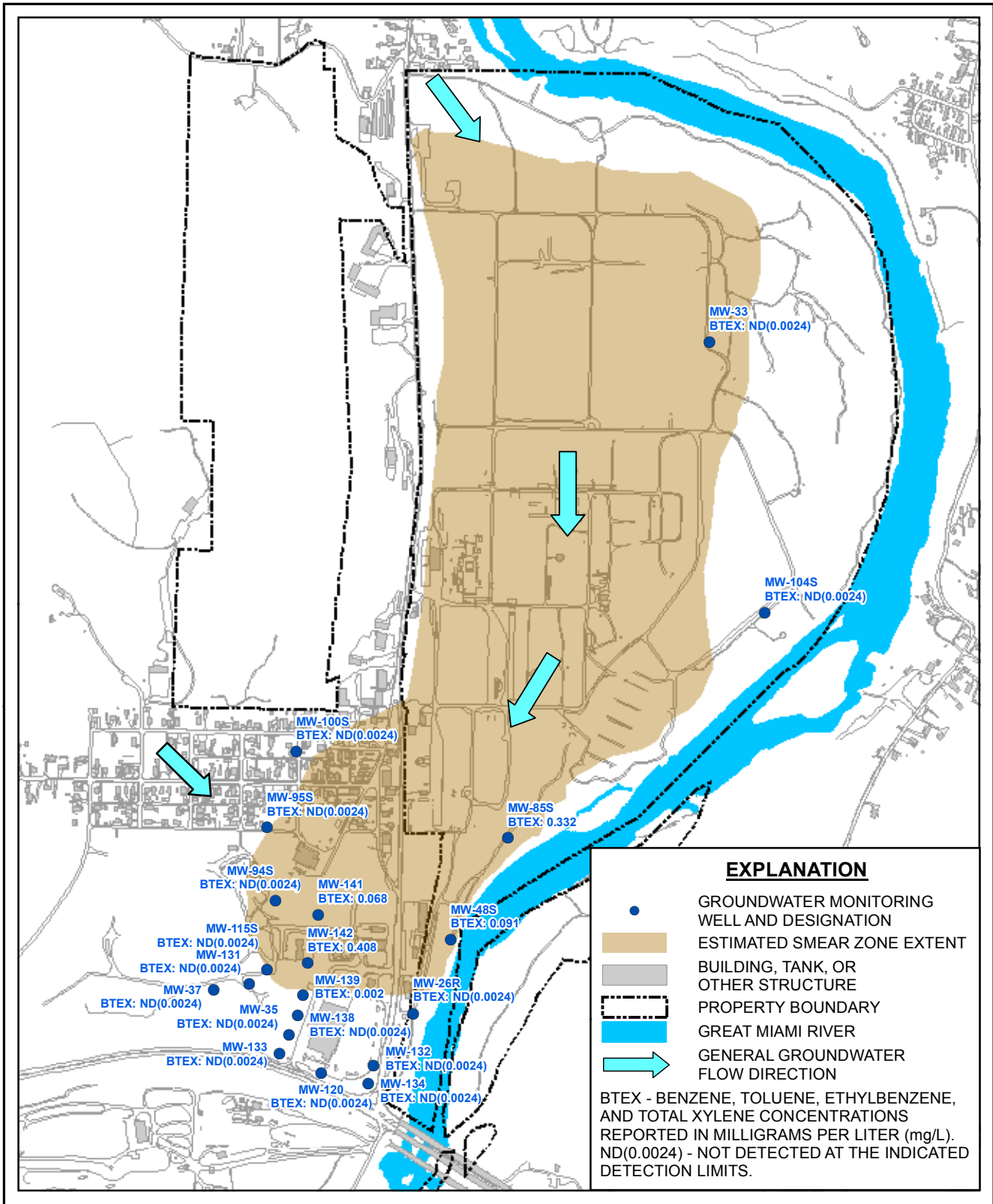


FIGURE 3-1

DISSOLVED PHASE CONSTITUENT CONCENTRATIONS

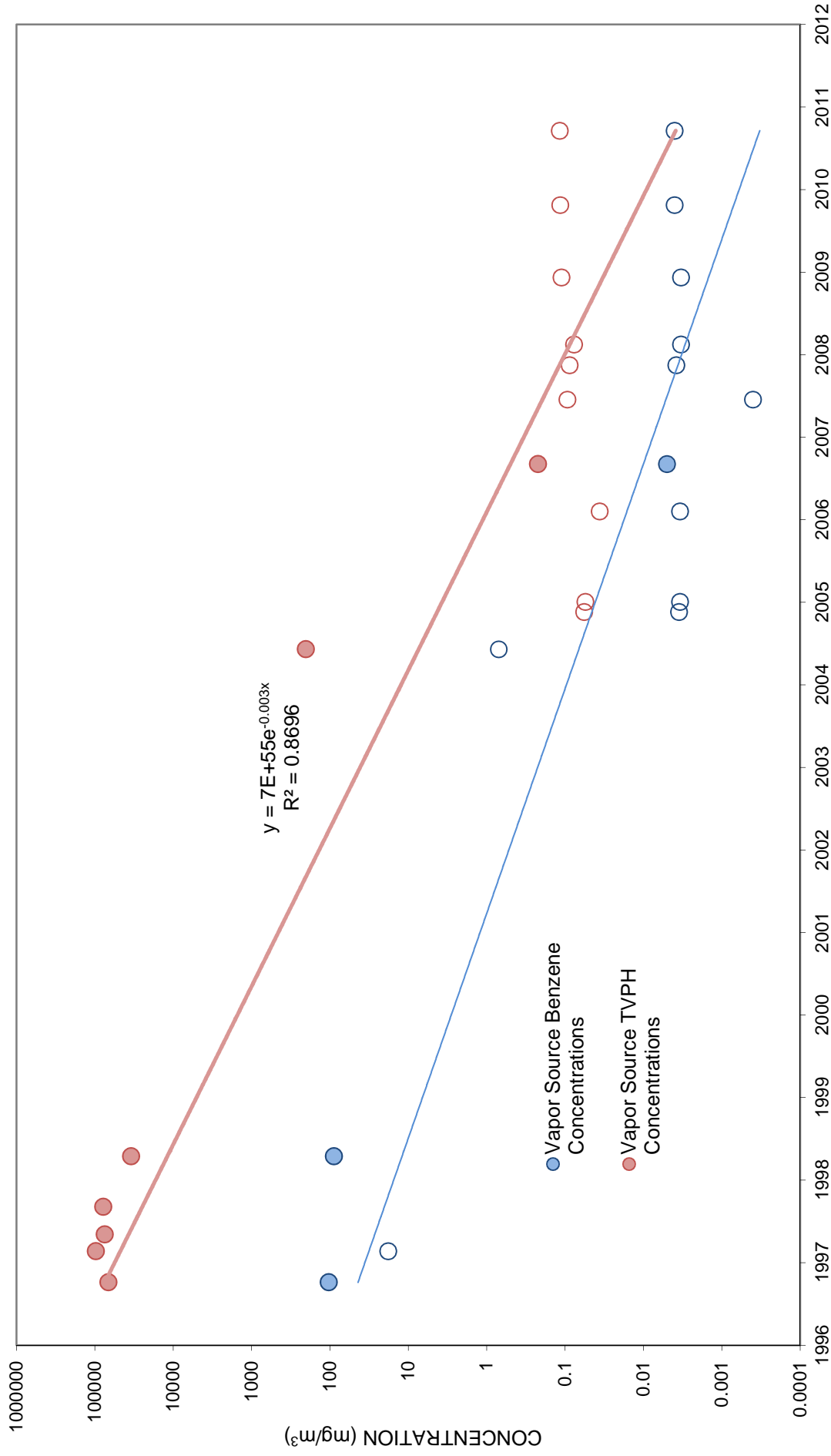
SECOND 2011 SEMIANNUAL MONITORING PERIOD

CHEVRON CINCINNATI FACILITY

HOOVEN, OHIO

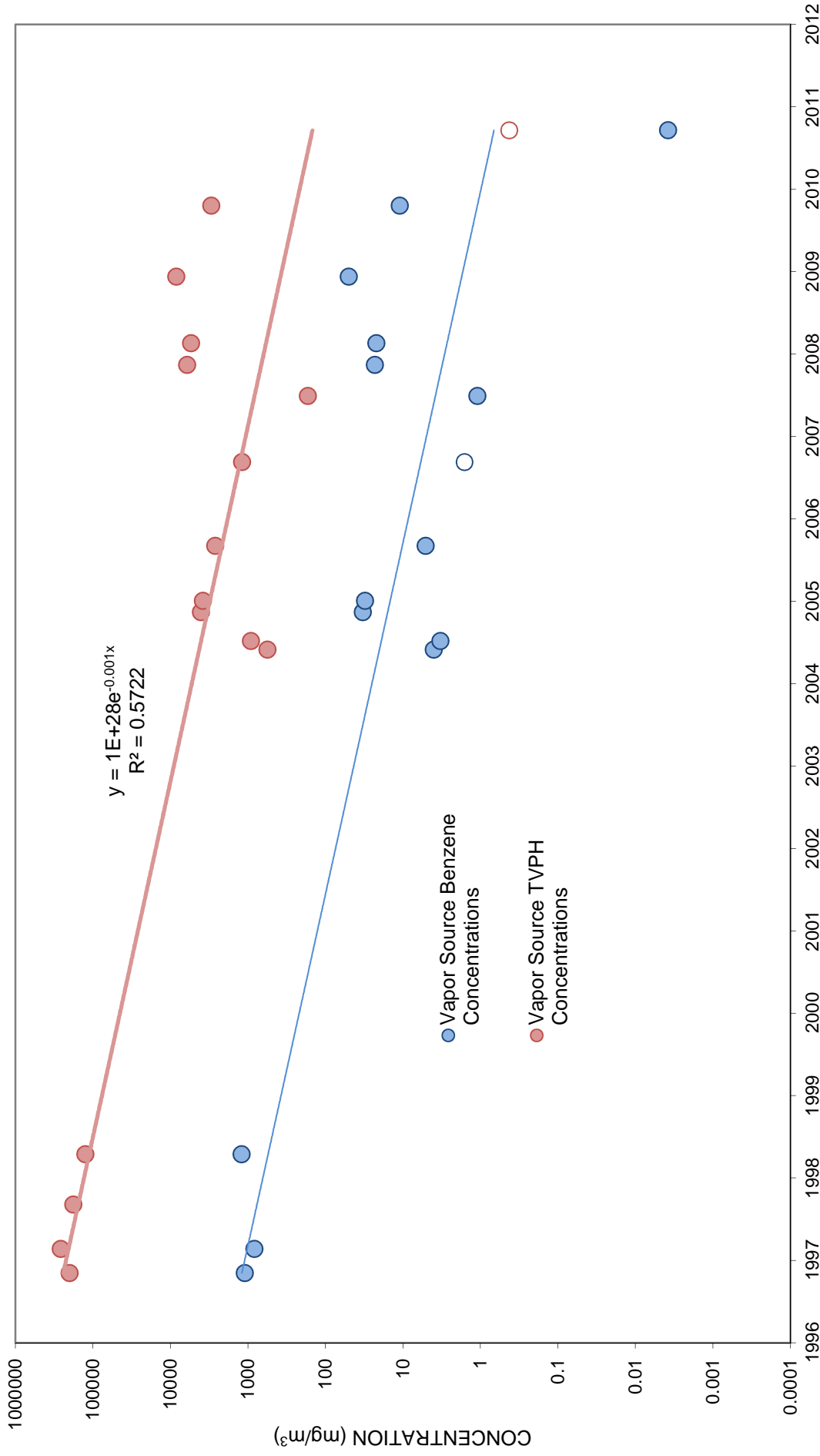
Drawn By: BR	Checked By: JP	Scale: 1" = 1000'	Date: 4/11/12	File: 201204_QI_TPH Trends.mxd
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**FIGURE 3-2. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-93
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



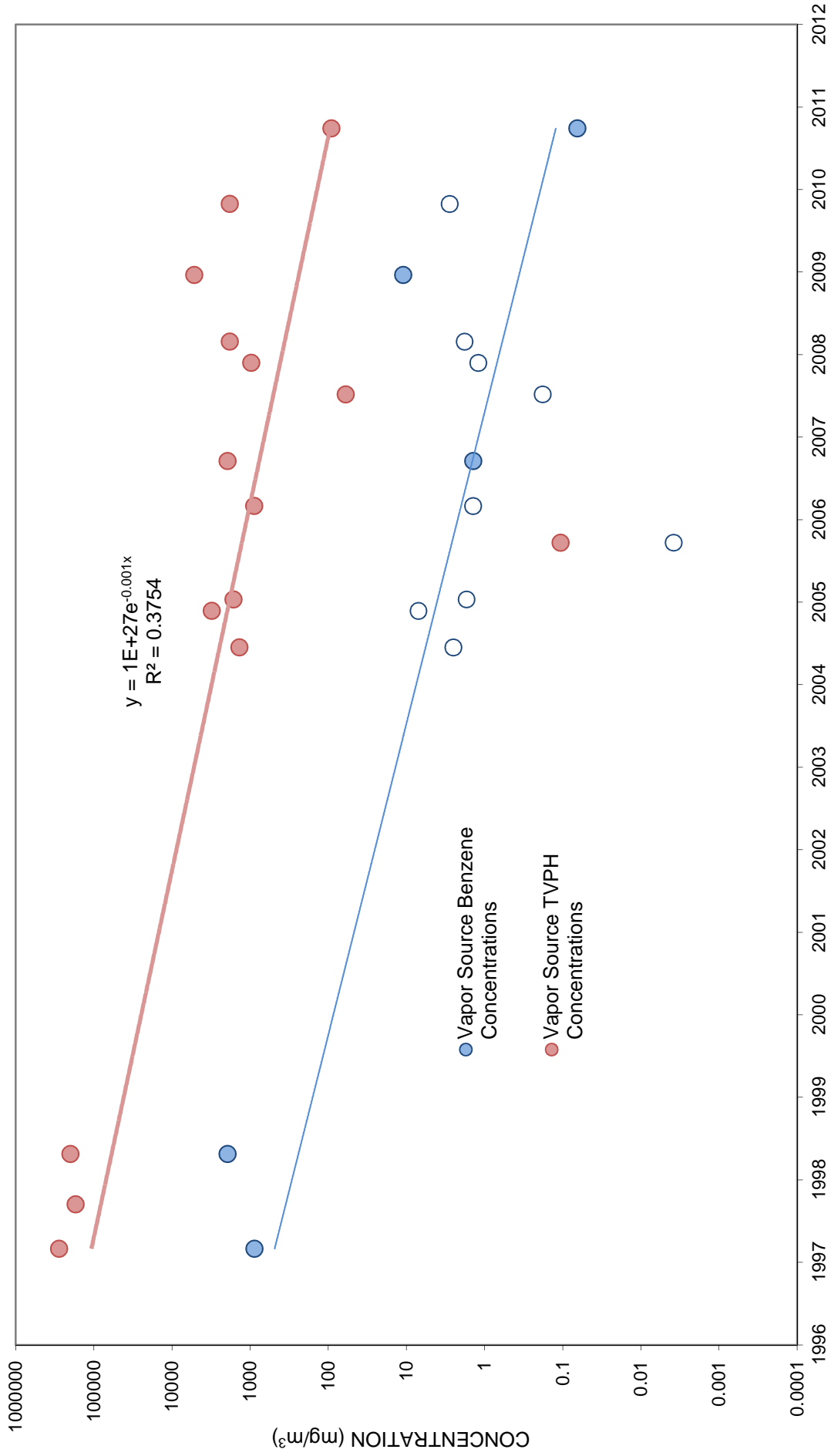
EXPLANATION
OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

**FIGURE 3-3. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-96
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



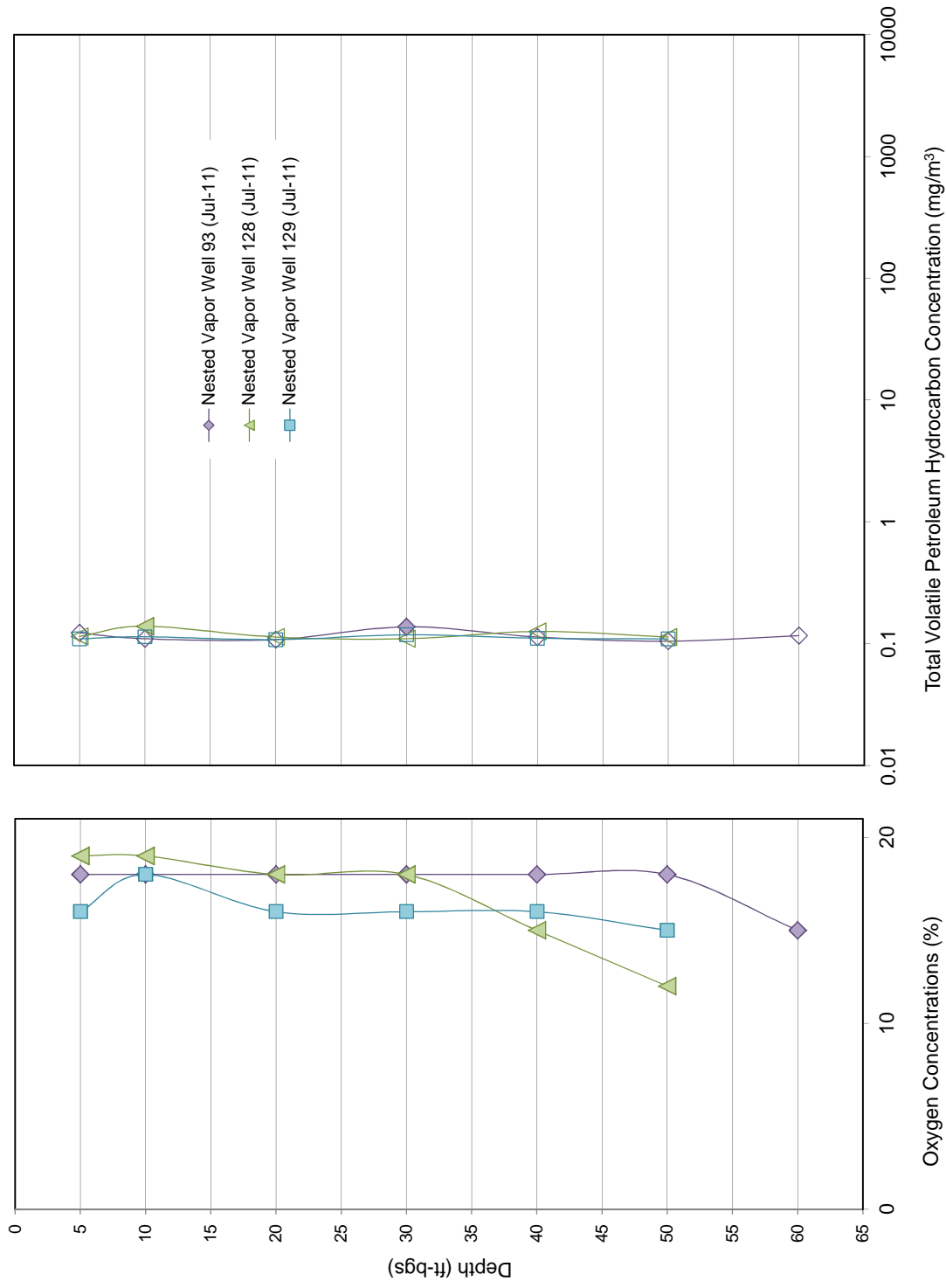
EXPLANATION
 OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

**FIGURE 3-4. VAPOR SOURCE CONCENTRATIONS, NESTED VAPOR MONITORING WELL VW-99
SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**



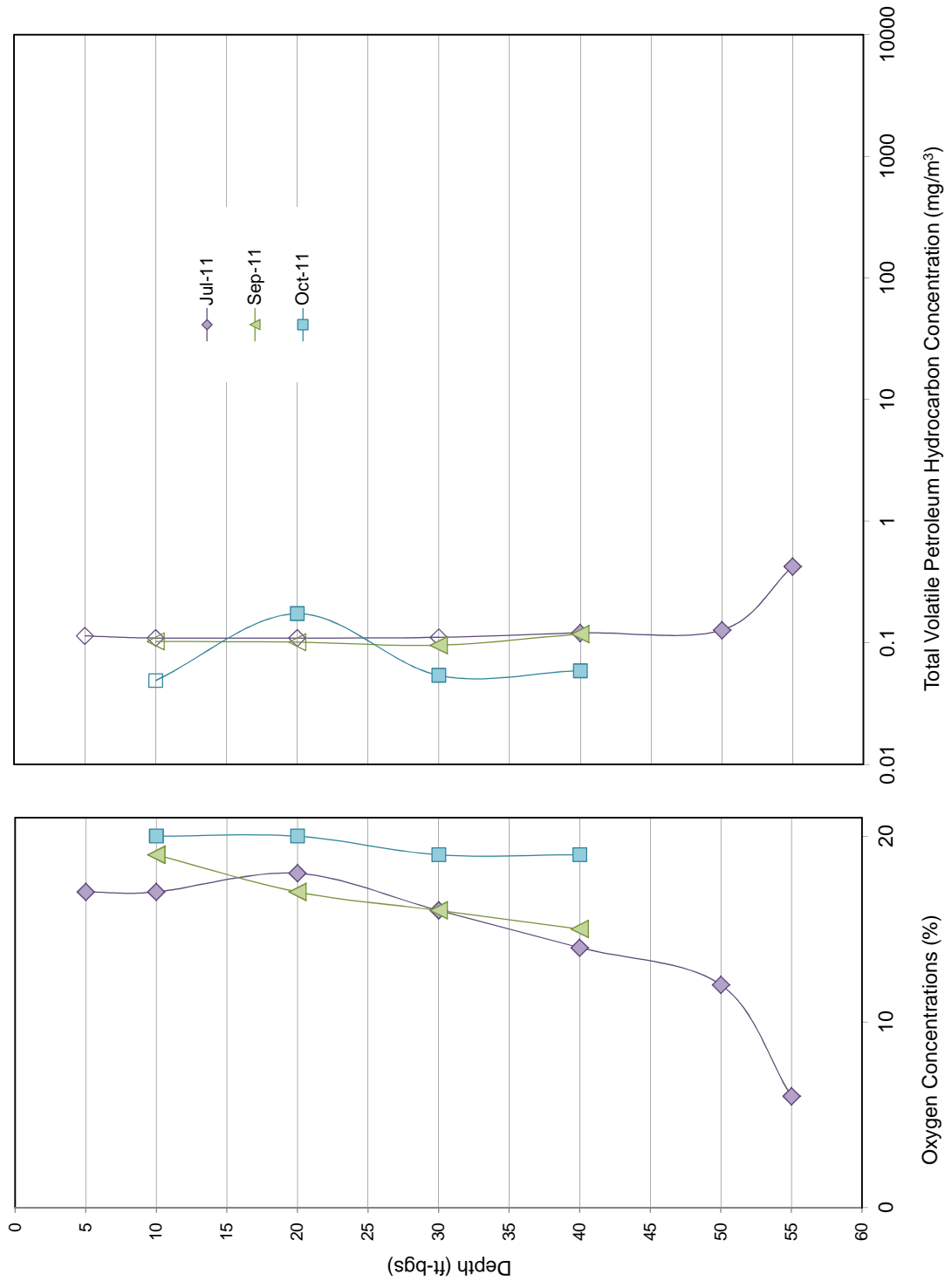
EXPLANATION
OPEN SYMBOL DESIGNATES A NON-DETECT VALUE

FIGURE 3-5. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-93, VW-128, AND VW-129
 SECOND 2011 SEMI-ANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



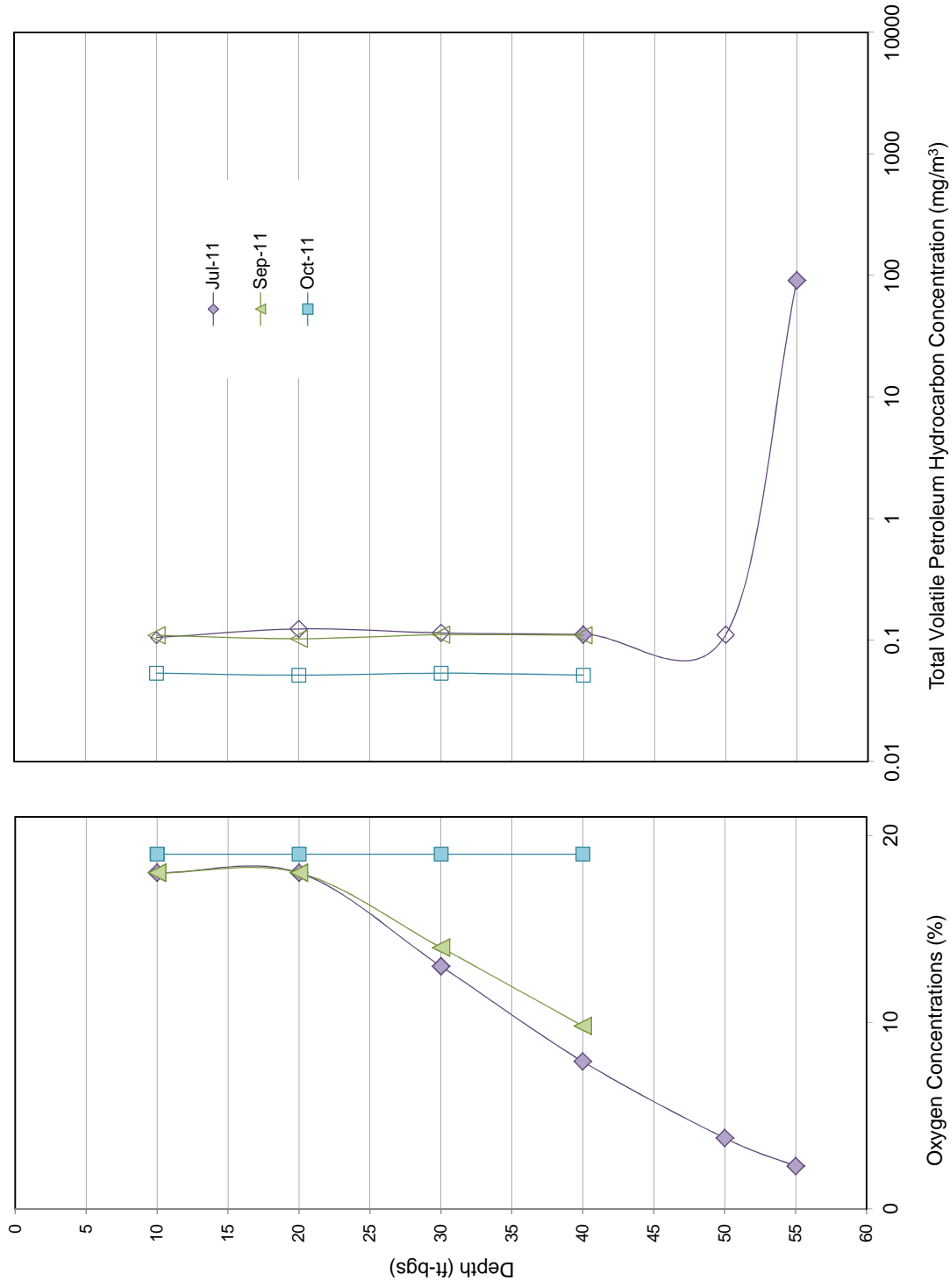
NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

FIGURE 3-6. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-96
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

FIGURE 3-7. TVPH AND FIXED GAS PROFILES, NESTED VAPOR MONITORING WELL VW-99
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



NOTE:
 - Open symbols indicate concentration reported below the laboratory detection limit

**FIGURE 4-1. LNAPL RECOVERY, DRAWDOWN, AND FLUID LEVEL SUMMARY (2011 HIGH-GRADE EVENT)
SECOND 2010 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**

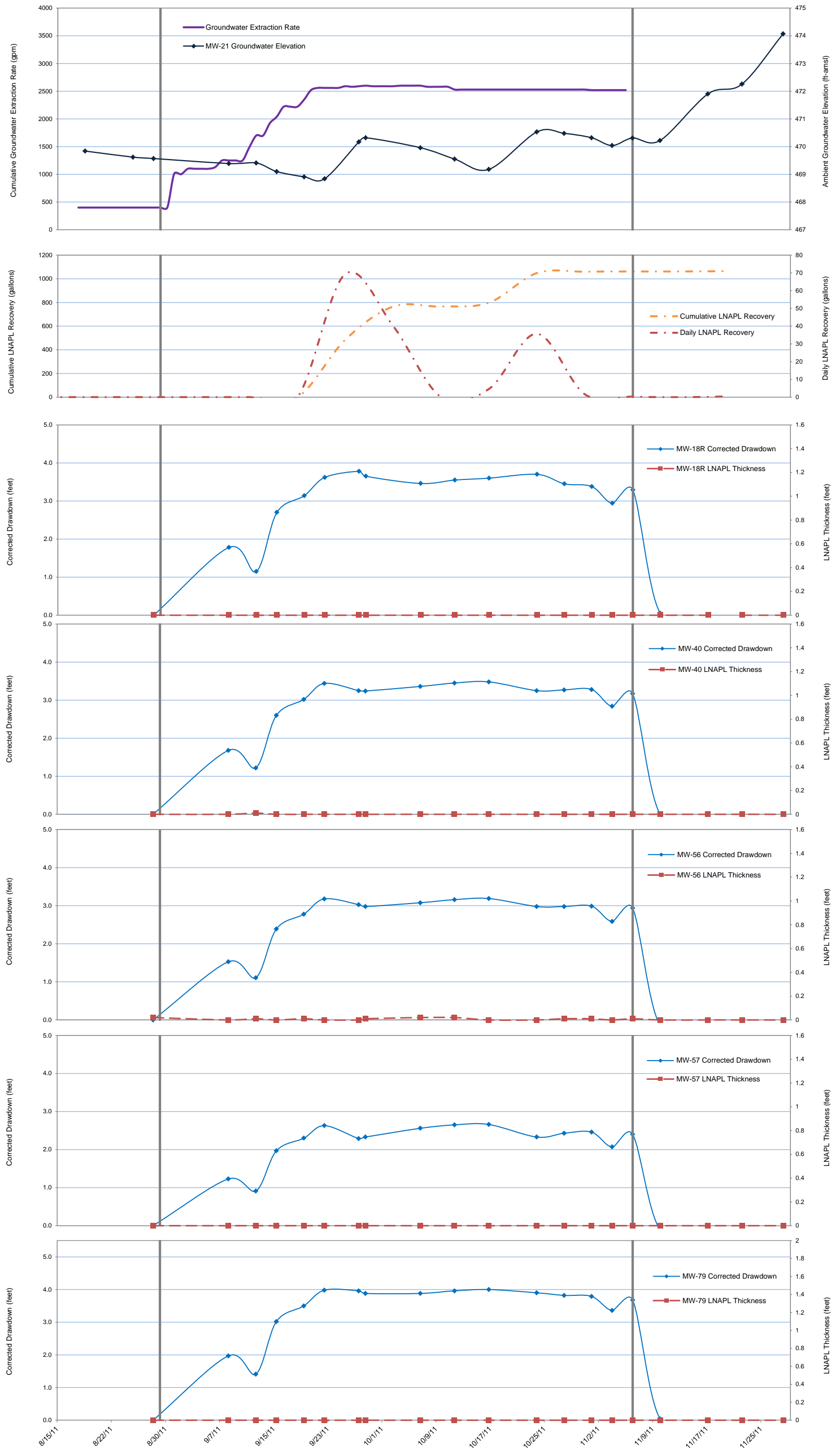
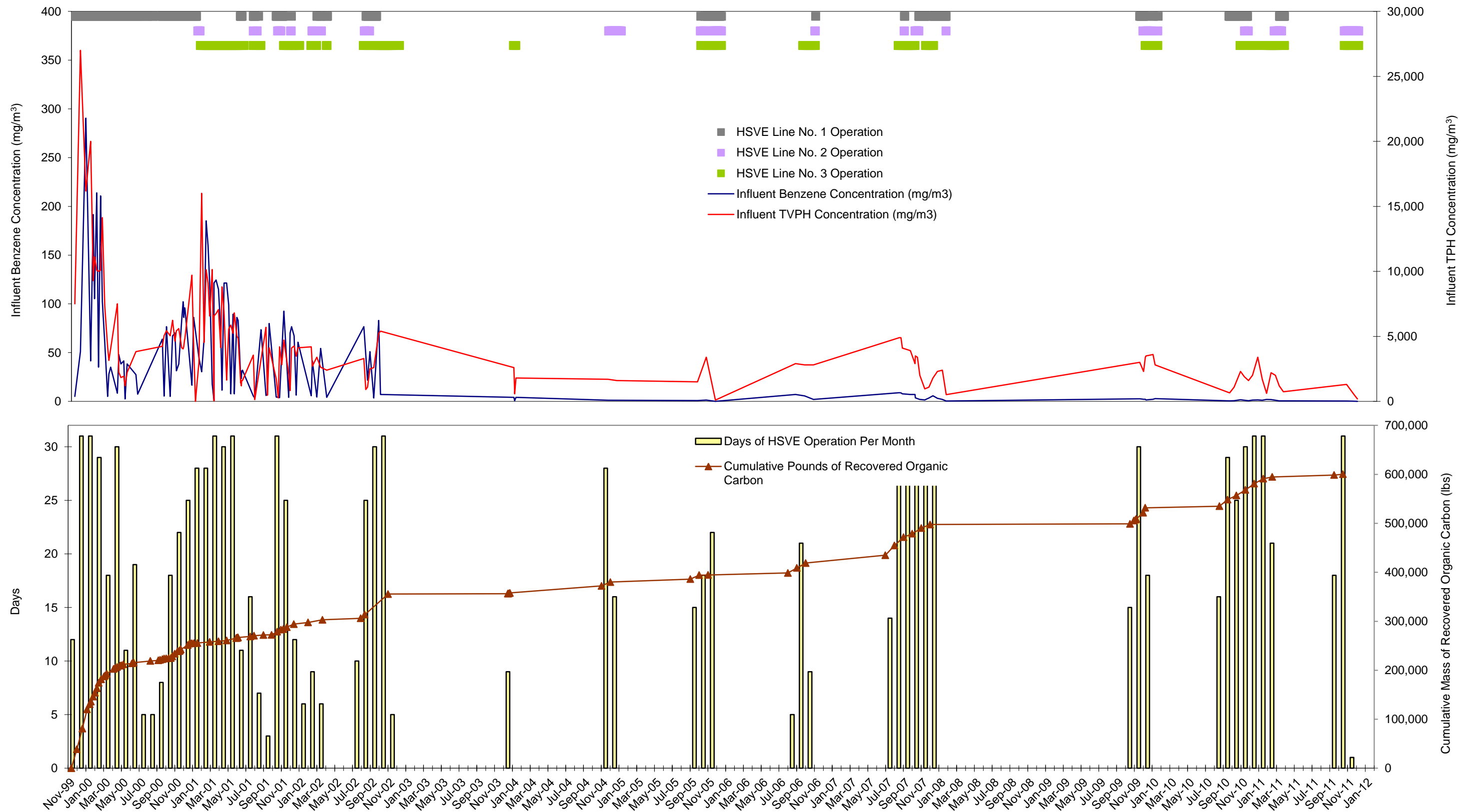
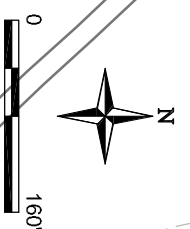
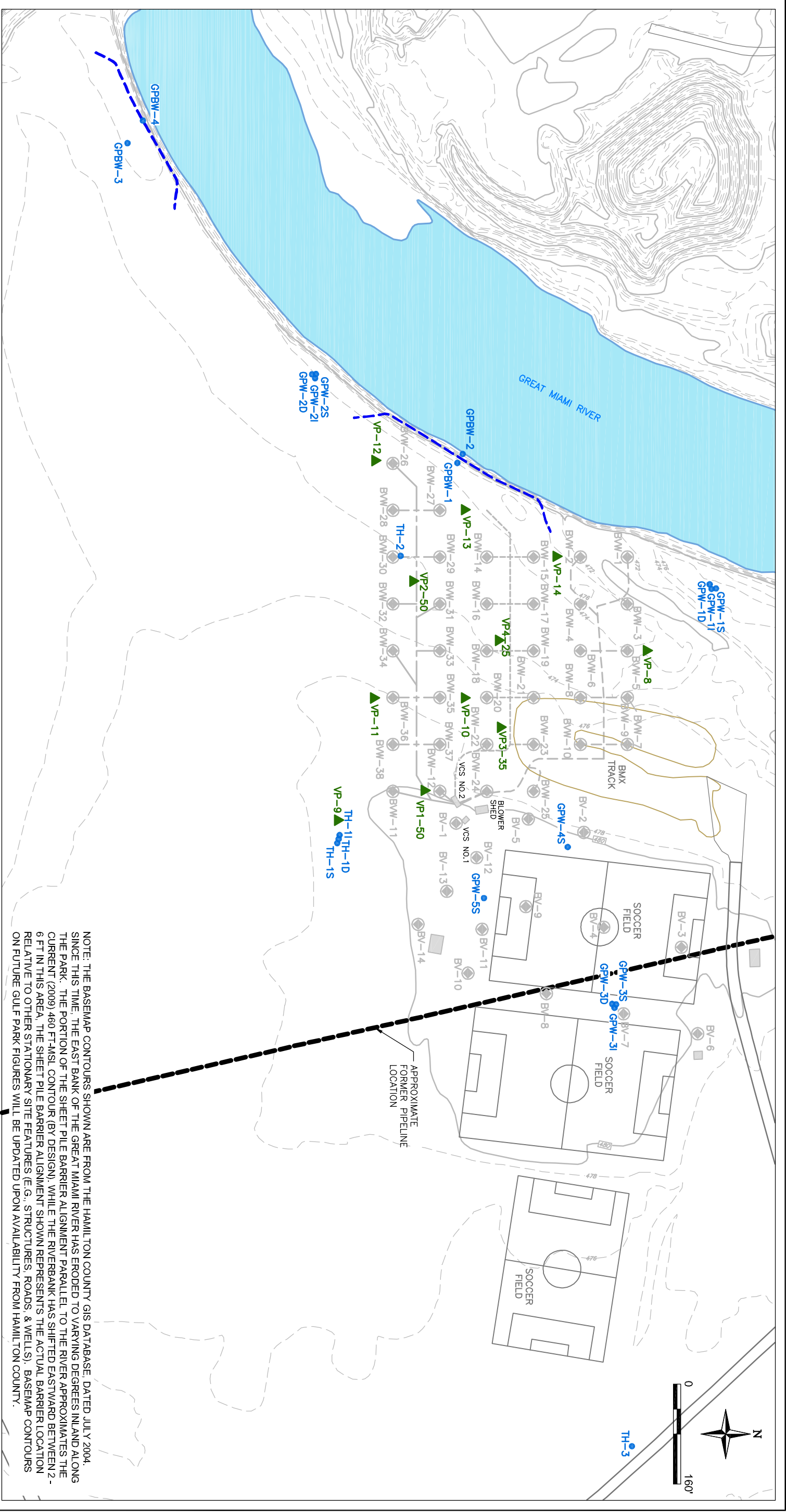


FIGURE 4-2. HSVE OPERATION, INFLUENT CONCENTRATION, AND CUMULATIVE POUNDS OF RECOVERED ORGANIC CARBON
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO





EXPLANATION

- GPW-2D GROUNDWATER MONITORING WELL AND DESIGNATION
- ▲ VP2-25 SOIL VAPOR MONITORING POINT AND DESIGNATION
- ⊙ BWM-26 BIOVENT WELL AND DESIGNATION
- EXPANDED BIOVENTING SYSTEM PIPE RUN #1
- EXPANDED BIOVENTING SYSTEM PIPE RUN #2
- EXPANDED BIOVENTING SYSTEM PIPE RUN #3
- SHEET PILE BARRIER WALL
- 480' GENERAL TOPOGRAPHIC CONTOUR (FT-AMSL, INTERVAL 2 FEET, DASHED WHERE INFERRED)
- BUILDING, TANK OR OTHER STRUCTURE
- ROAD
- VCS VALVE CONTROL SHED
- FT AMSL FEET ABOVE MEAN SEA LEVEL

NOTE: THE BASEMAP CONTOURS SHOWN ARE FROM THE HAMILTON COUNTY GIS DATABASE, DATED JULY 2004. SINCE THIS TIME, THE EAST BANK OF THE GREAT MIAMI RIVER HAS ERODED TO VARYING DEGREES INLAND ALONG THE PARK. THE PORTION OF THE SHEET PILE BARRIER ALIGNMENT PARALLEL TO THE RIVER APPROXIMATES THE CURRENT (2009) 460 FT-MSL CONTOUR (BY DESIGN), WHILE THE RIVERBANK HAS SHIFTED EASTWARD BETWEEN 2-6 FT IN THIS AREA. THE SHEET PILE BARRIER ALIGNMENT SHOWN REPRESENTS THE ACTUAL BARRIER LOCATION RELATIVE TO OTHER STATIONARY SITE FEATURES (E.G., STRUCTURES, ROADS, & WELLS). BASEMAP CONTOURS ON FUTURE GULF PARK FIGURES WILL BE UPDATED UPON AVAILABILITY FROM HAMILTON COUNTY.

<p>Trihydro CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.trihydro.com (P) 307/745.7474 (F) 307/745.7729</p>	FIGURE 5-1	
	GULF PARK LAYOUT	
SECOND 2011 SEMIANNUAL MONITORING PERIOD		
CHEVRON CINCINNATI FACILITY		
HOOVEN, OHIO		
Drawn By: REP	Checked By: MM	Scale: 1"=160'
Date: 11/4/11	File: 500GP_LAYOUT201204	

FIGURE 5-2. HYDROGRAPHS AND TRIGGER LEVELS FOR WELLS TH-2 AND GPW-5S (2006-2011)
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 GULF PARK, CLEVES, OHIO

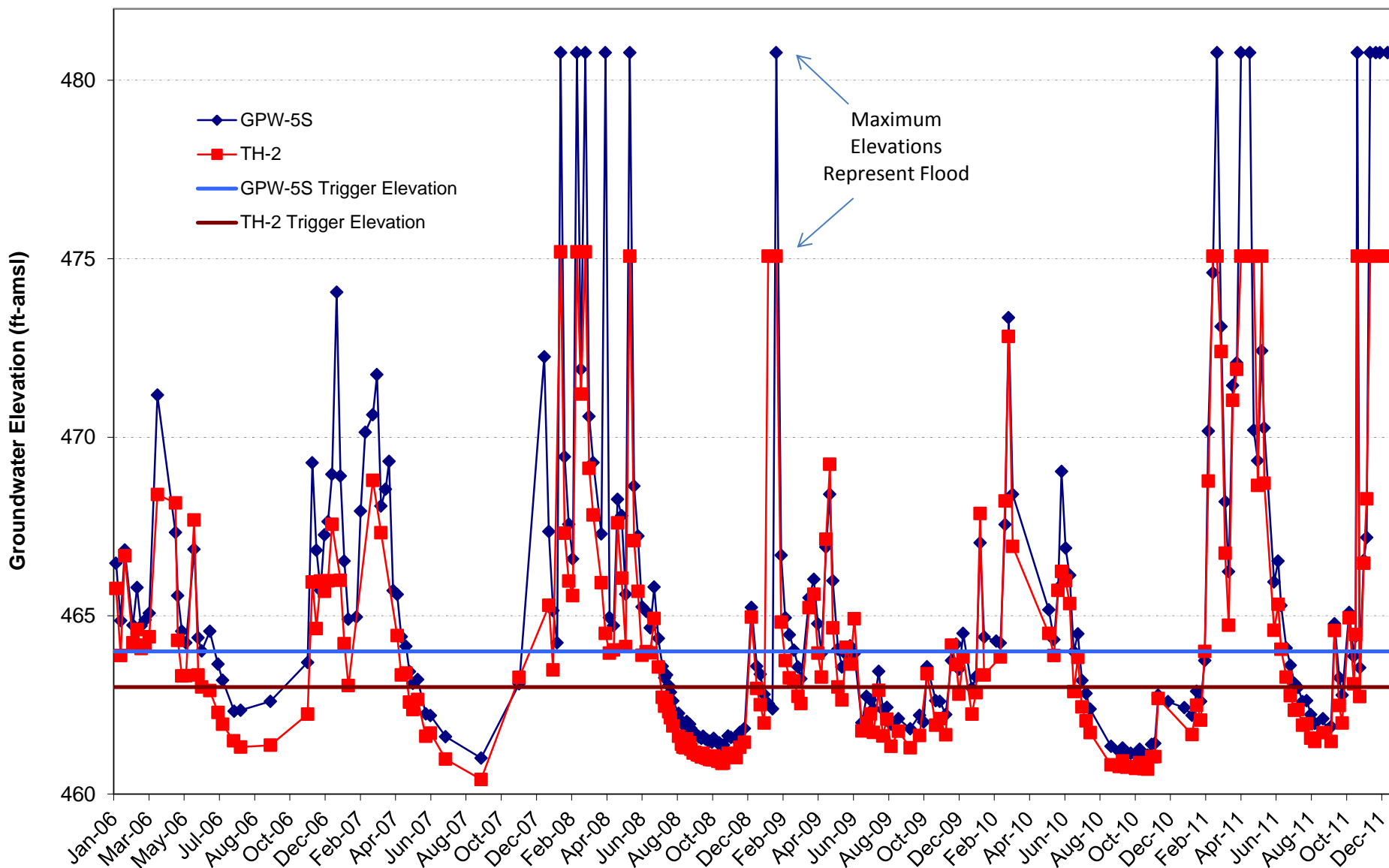
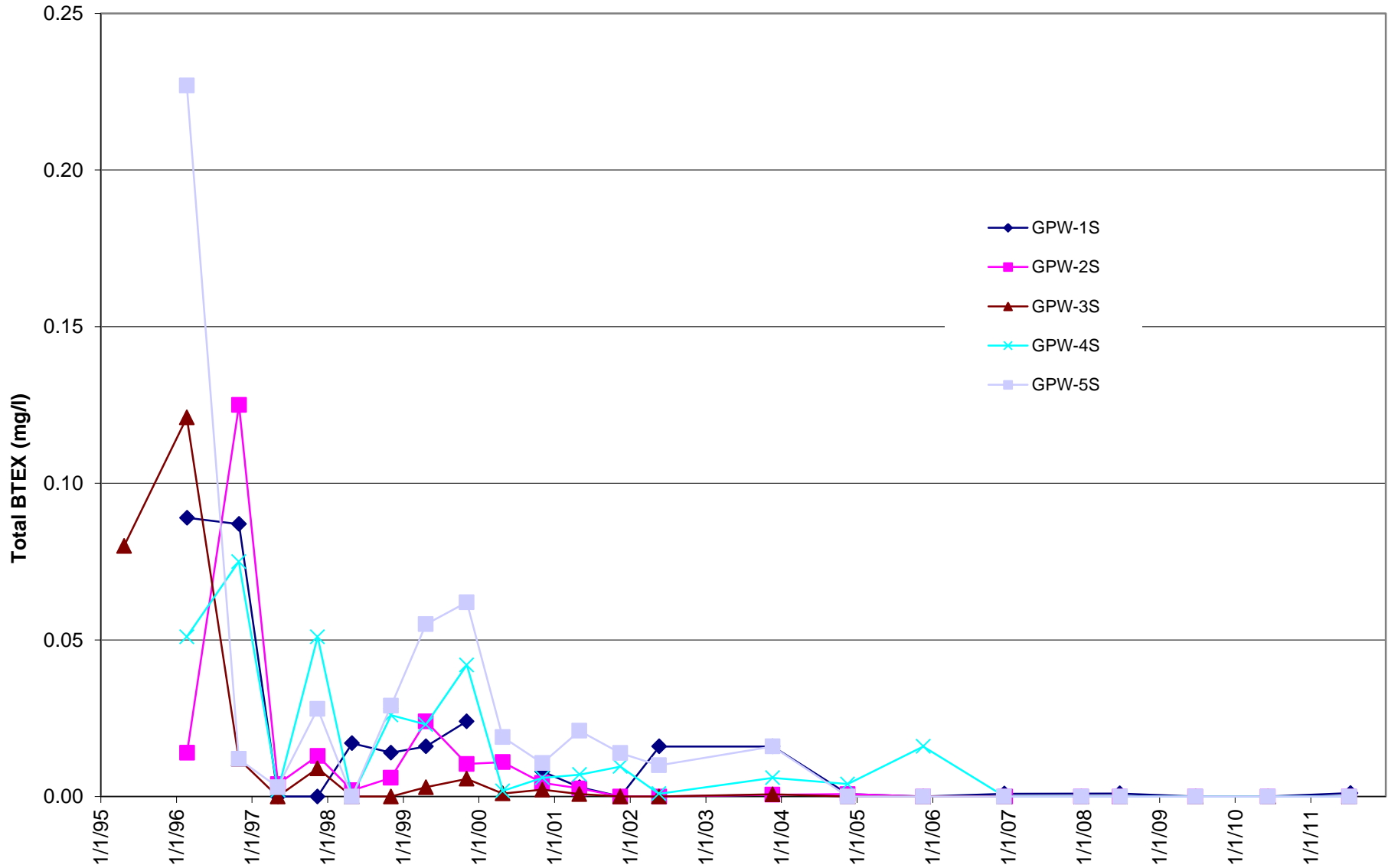


FIGURE 5-3. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELLS GPW-1S, GPW-2S, GPW-3S, GPW-4S, GPW-5S
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



**FIGURE 5-4. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELL TH-1S
SECOND 2011 SEMIANNUAL MONITORING PERIOD
CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO**

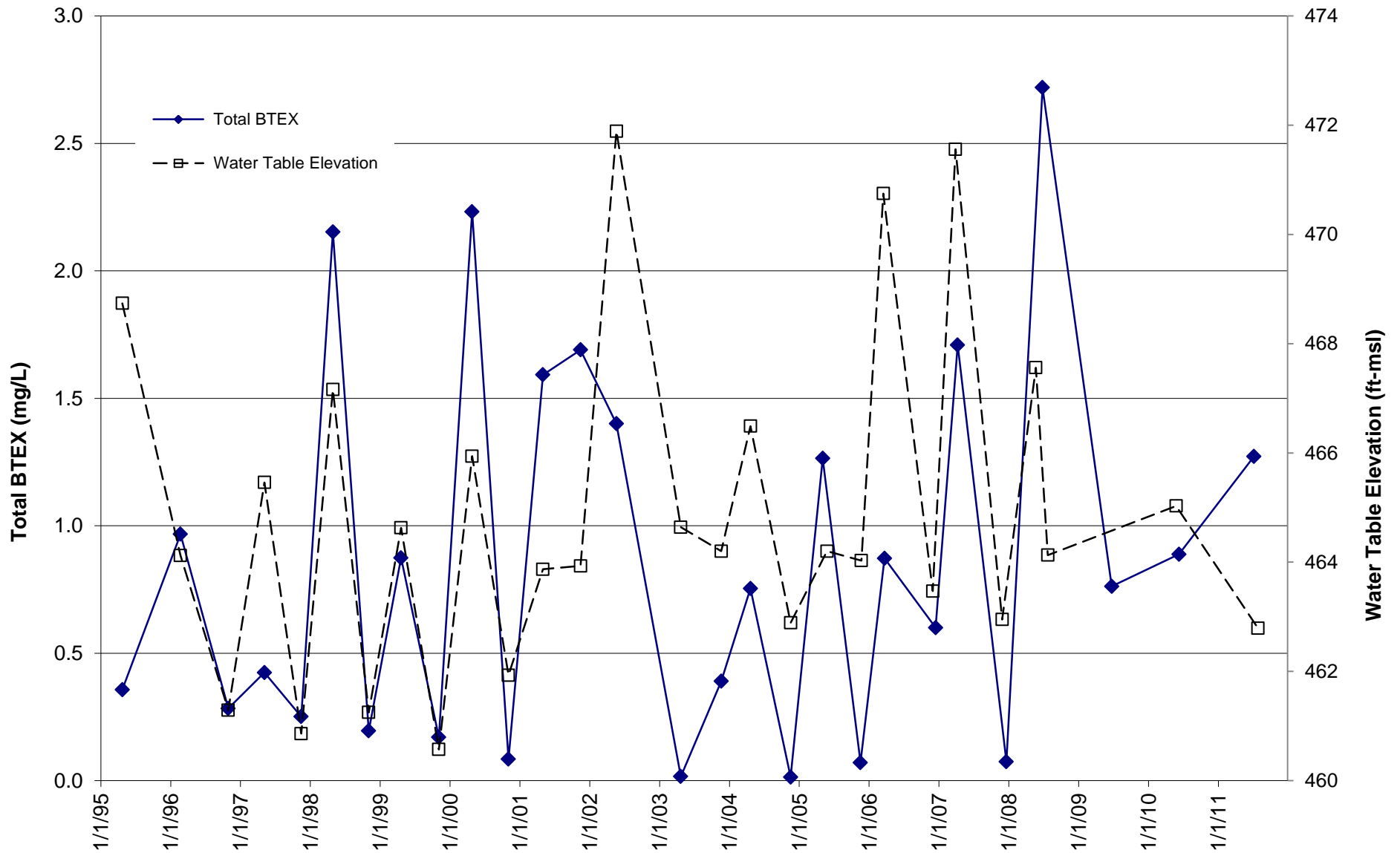
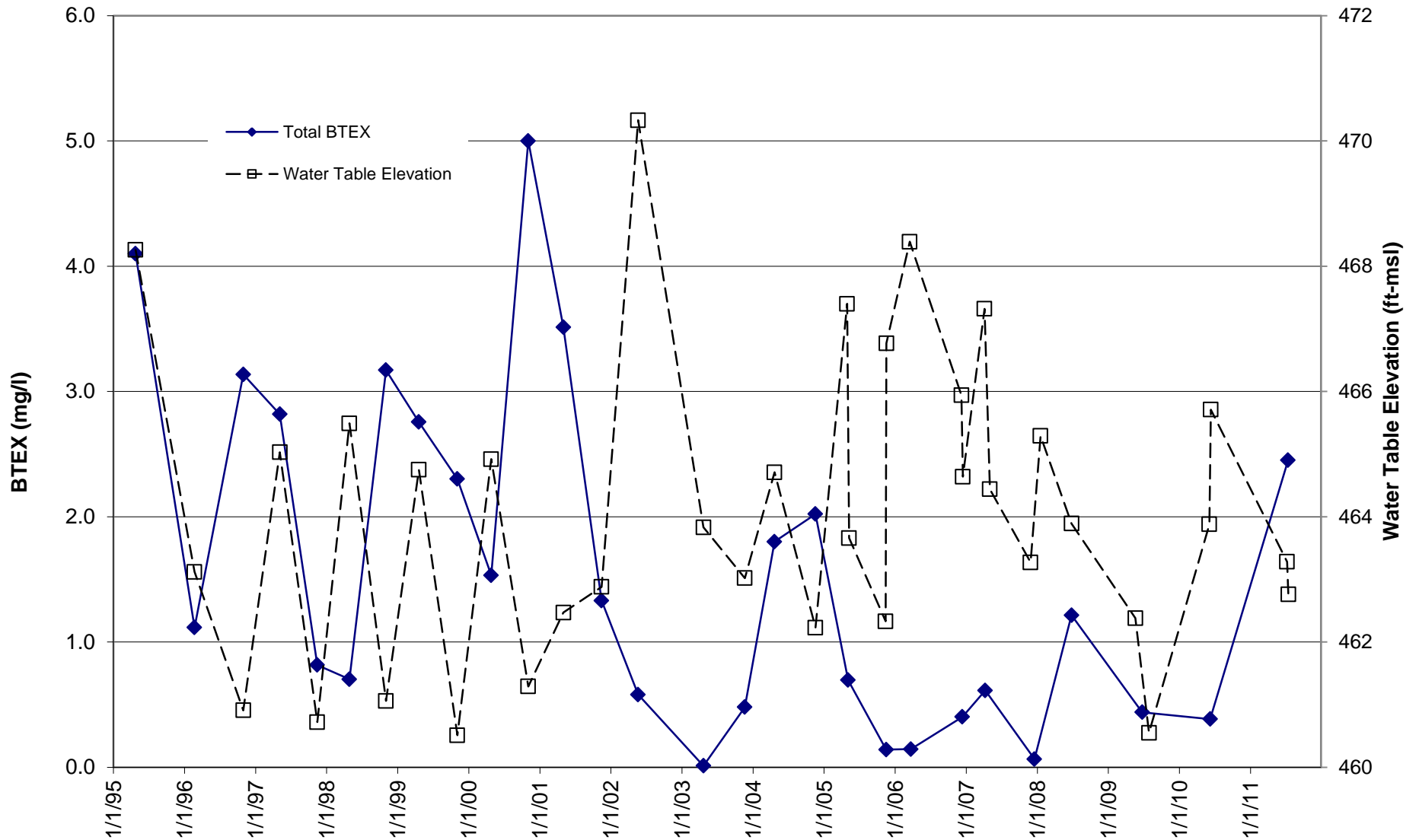
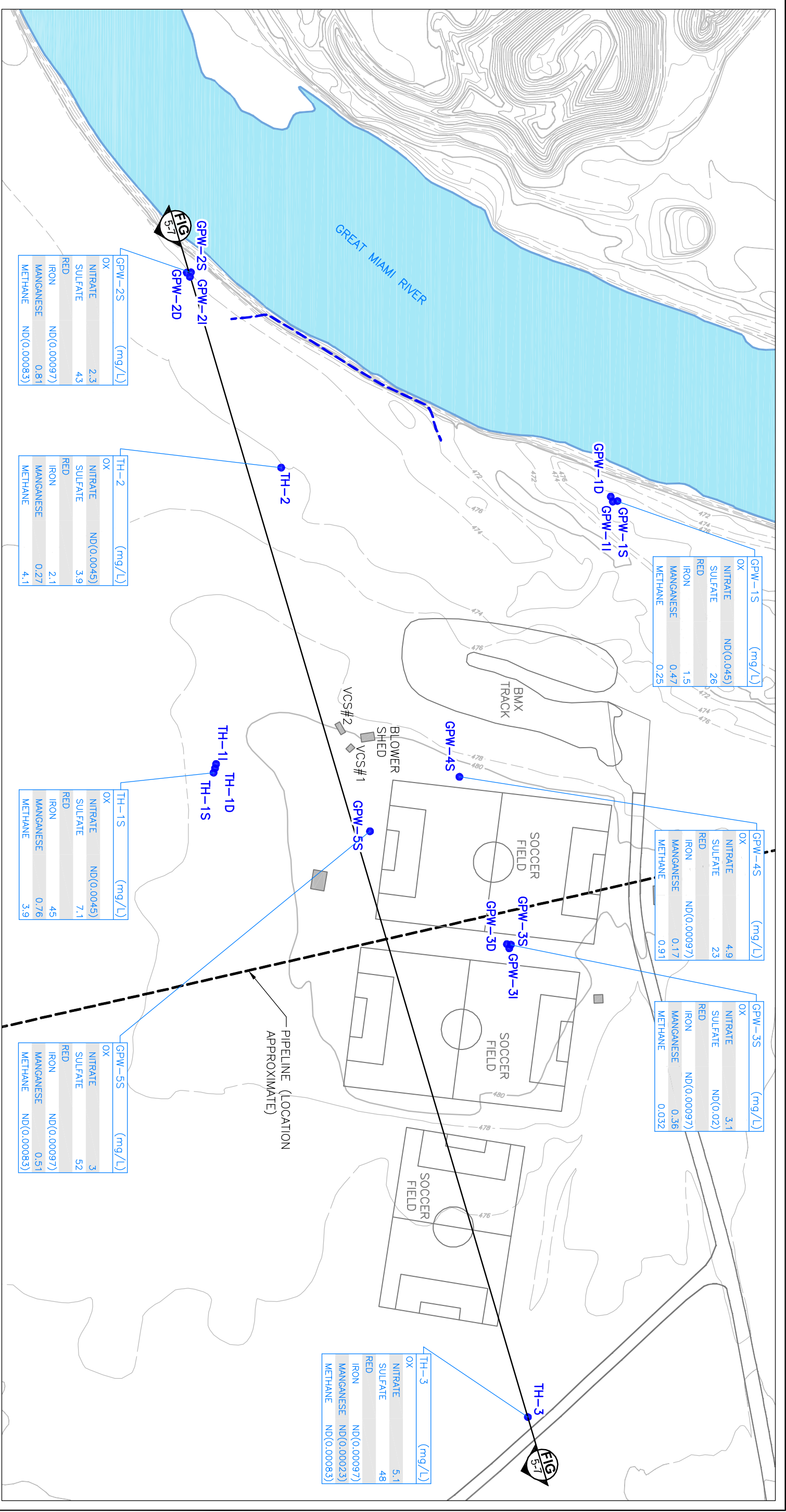


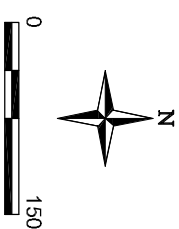
FIGURE 5-5. TOTAL BTEX CONCENTRATION VERSUS TIME FOR MONITORING WELL TH-2
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 GULF PARK, CLEVELS, OHIO





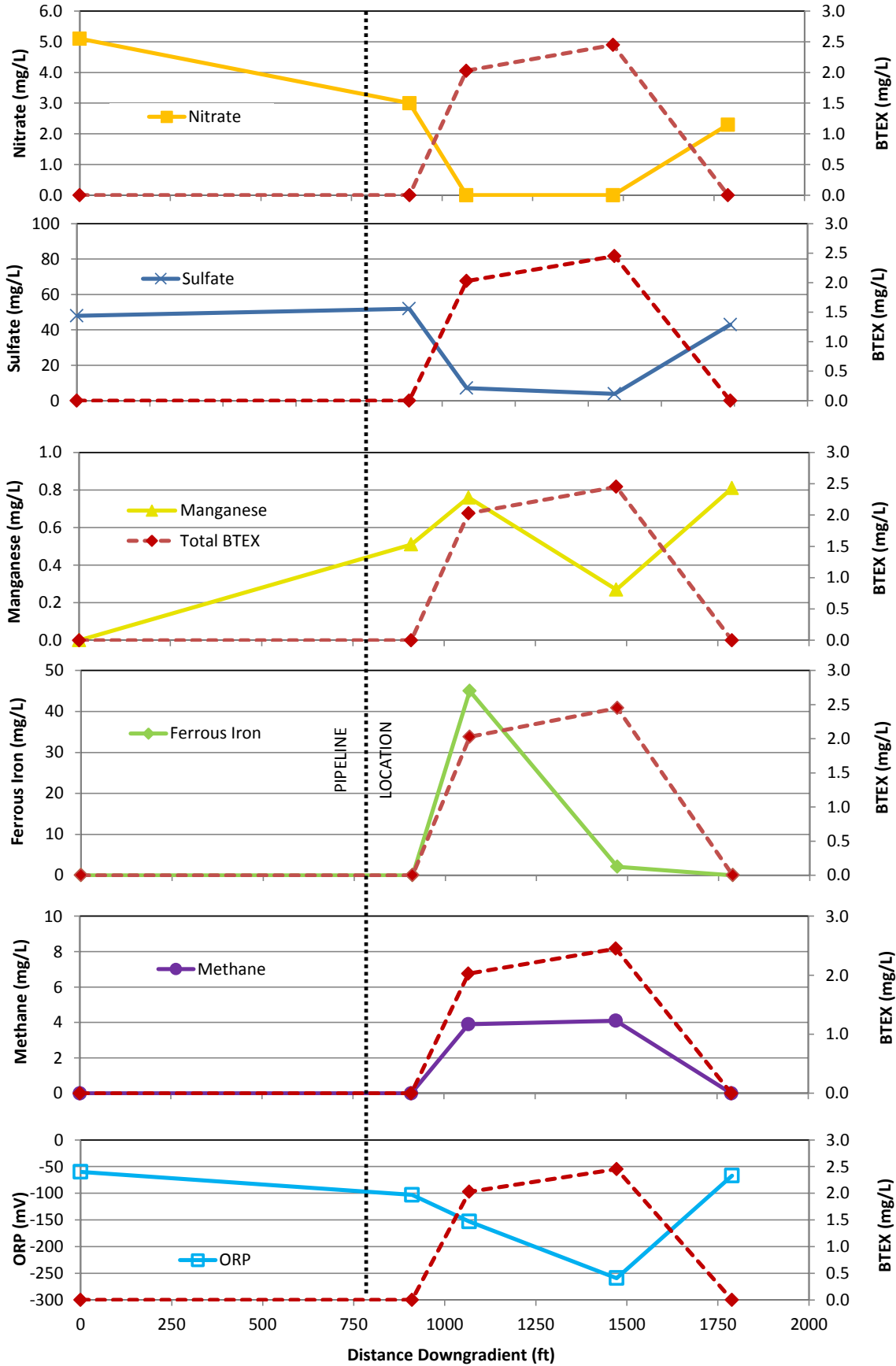
EXPLANATION

- GPW-2S SHALLOW GROUNDWATER MONITORING WELL AND DESIGNATION
- STRUCTURE
- ROAD
- SHEET PILE BARRIER WALL
- GENERAL TOPOGRAPHIC CONTOUR (FT AMSL, INTERVAL 2', DASHED WHERE INFERRED)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- mg/L MILLIGRAMS PER LITER
- VCS VALVE CONTROL SHED



<p>Trihydro CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.trihydro.com (P) 307/745,7474 (F) 307/745,7729</p>	<p>FIGURE 5-6 SUMMARY OF GROUNDWATER OXIDATION AND REDUCTION SPECIES (JULY 2011)</p>	
	<p>SECOND 2011 SEMI-ANNUAL MONITORING PERIOD CHEVRON CINCINNATI FACILITY HOOVEN, OHIO</p>	
<p>Drawn By: REP Checked By: JP Scale: 1" = 150' Date: 4/15/2012 File: 500GP_OXRED201104</p>		

FIGURE 5-7. GULF PARK TOTAL BTEX AND NATURAL ATTENUATION INDICATOR CONCENTRATION VS. DISTANCE
 SECOND 2011 SEMIANNUAL MONITORING PERIOD
 CHEVRON CINCINNATI FACILITY, HOOVEN, OHIO



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