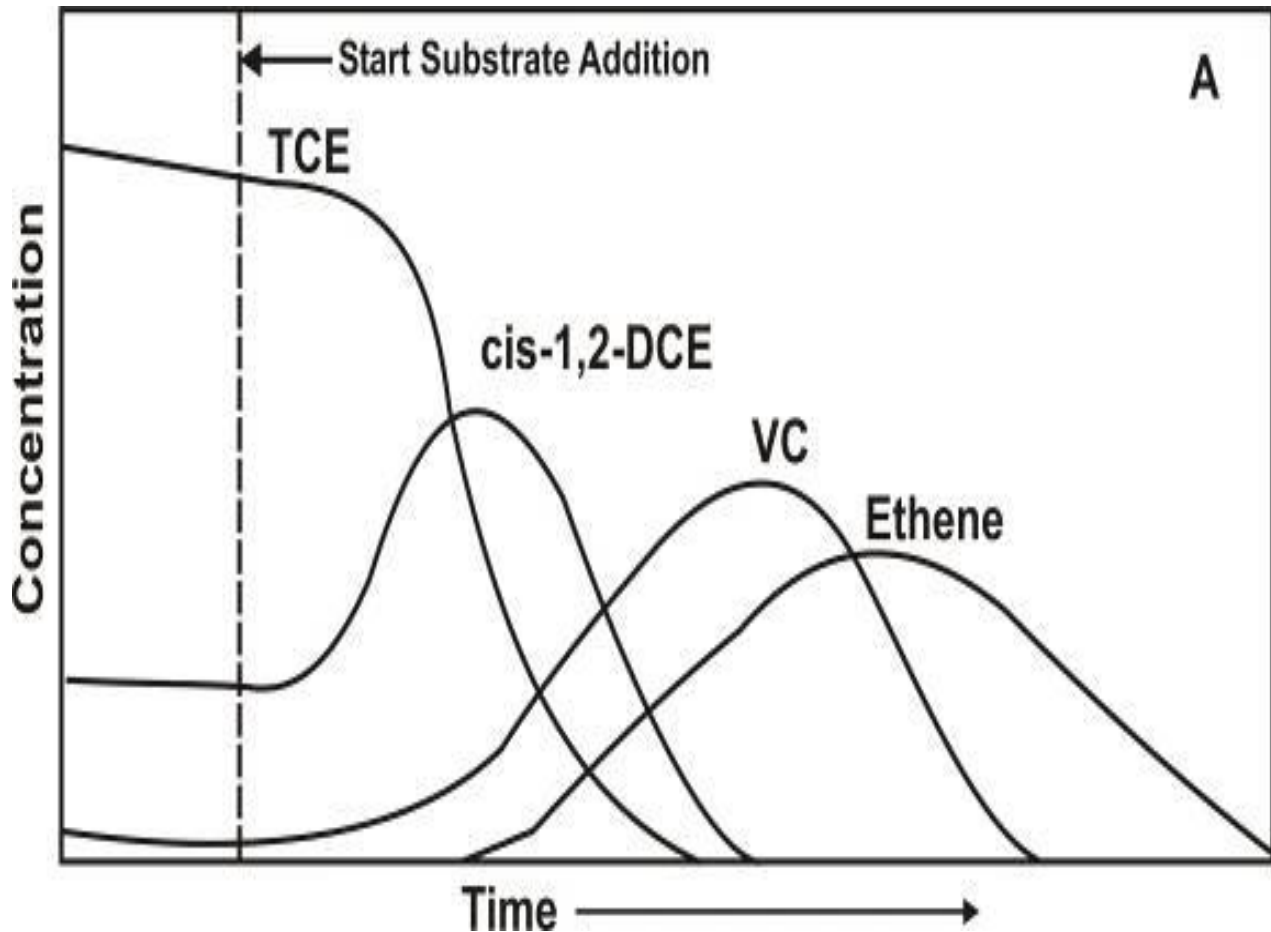


TETRA TECH, INC.

IN-SITU CHEMICAL REDUCTION (ISCR) BARRIER INJECTION LOCATION AND
PCE ISOCONCENTRATIONS IN DEEP GROUNDWATER (MAY 2013)
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
TOWN OF HEMPSTEAD, VILLAGE OF HEWLETT, NASSAU COUNTY, NEW YORK

DWN:	MKB	DES:	NT	PROJECT NO.:	106-4426.0002
CHKD:		APPD:		FIGURE NO.:	4-2
DATE:	09/12/14	REV:	1		

FIGURE 4-3
IDEALIZED CVOC TRENDS AFTER SUBSTRATE INJECTION
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
HEMPSTEAD, NASSAU COUNTY, NEW YORK



Note: While not shown, the concentration trend over time for PCE is similar to the trend for TCE.

Reference: ESTCP, 2006. Protocol for Enhanced *In Situ* Bioremediation Using Emulsified Edible Oil. Prepared by Solutions-IES. Herndon, Virginia. May.

FIGURE 4-4
CHLORINATED VOC TRENDS FOR WELLS IW-01D AND IW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

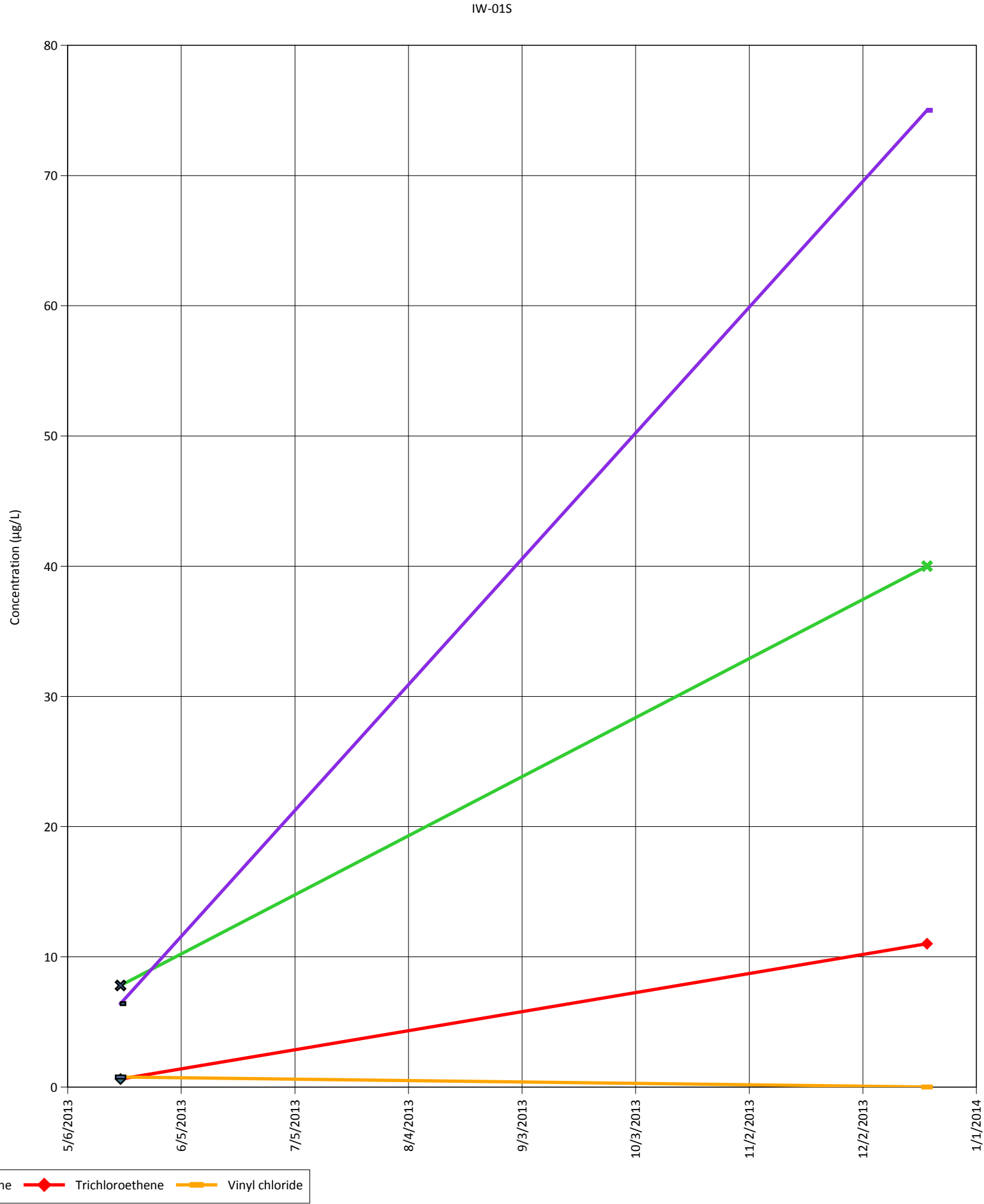
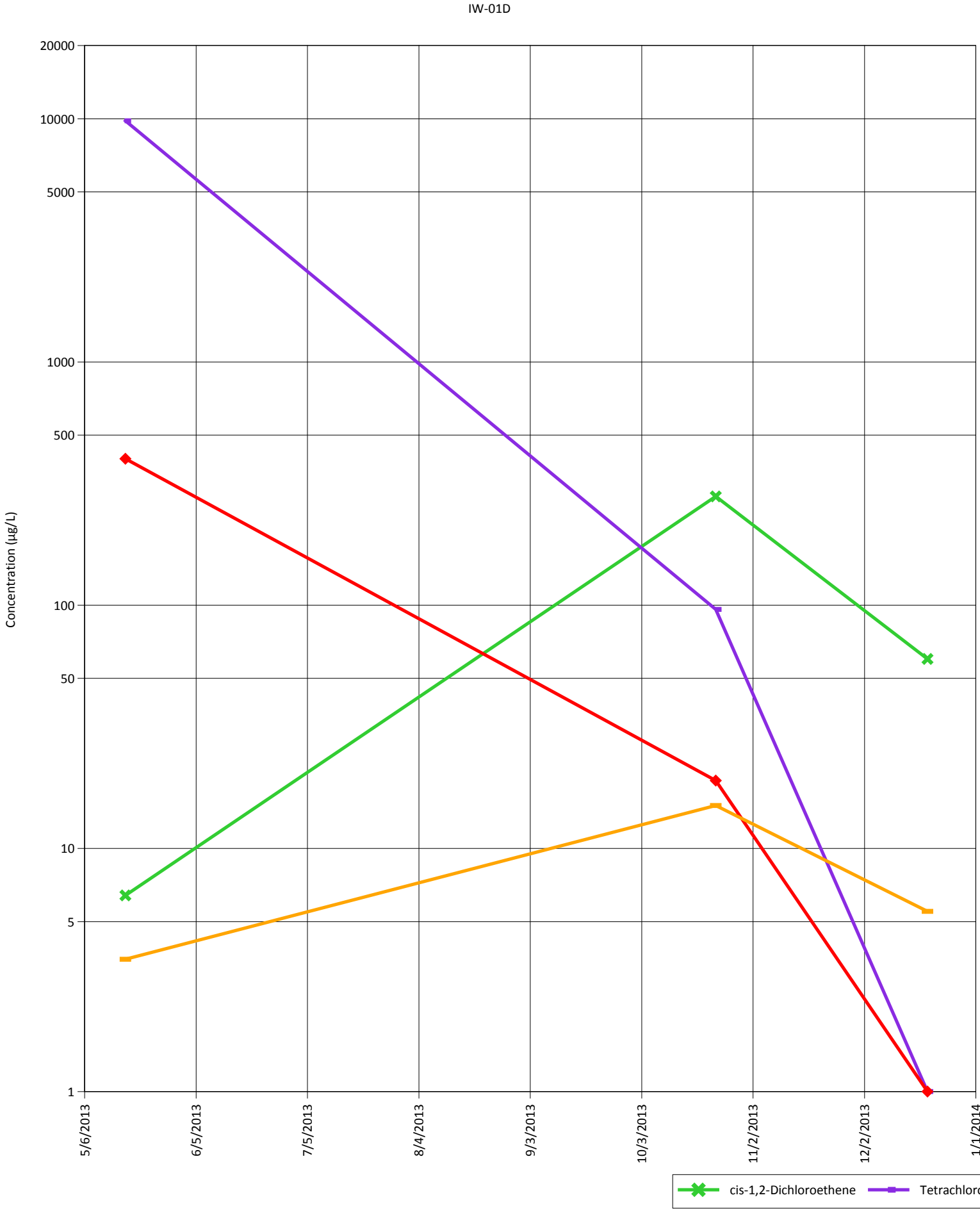


FIGURE 4-5
ORP TRENDS WELL CLUSTER IW-01D/01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

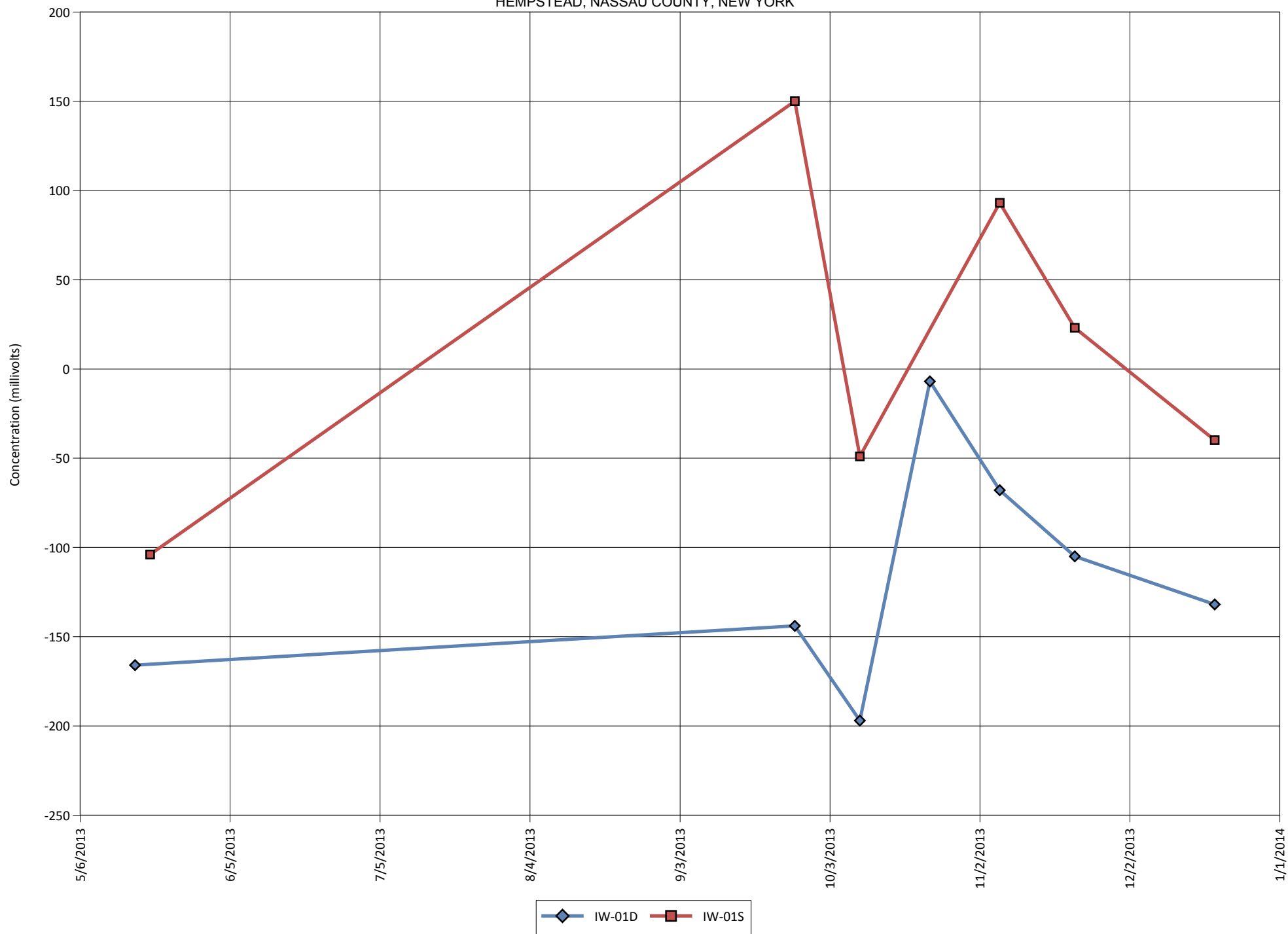


FIGURE 4-6
DO TRENDS WELL CLUSTER IW-01D/01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

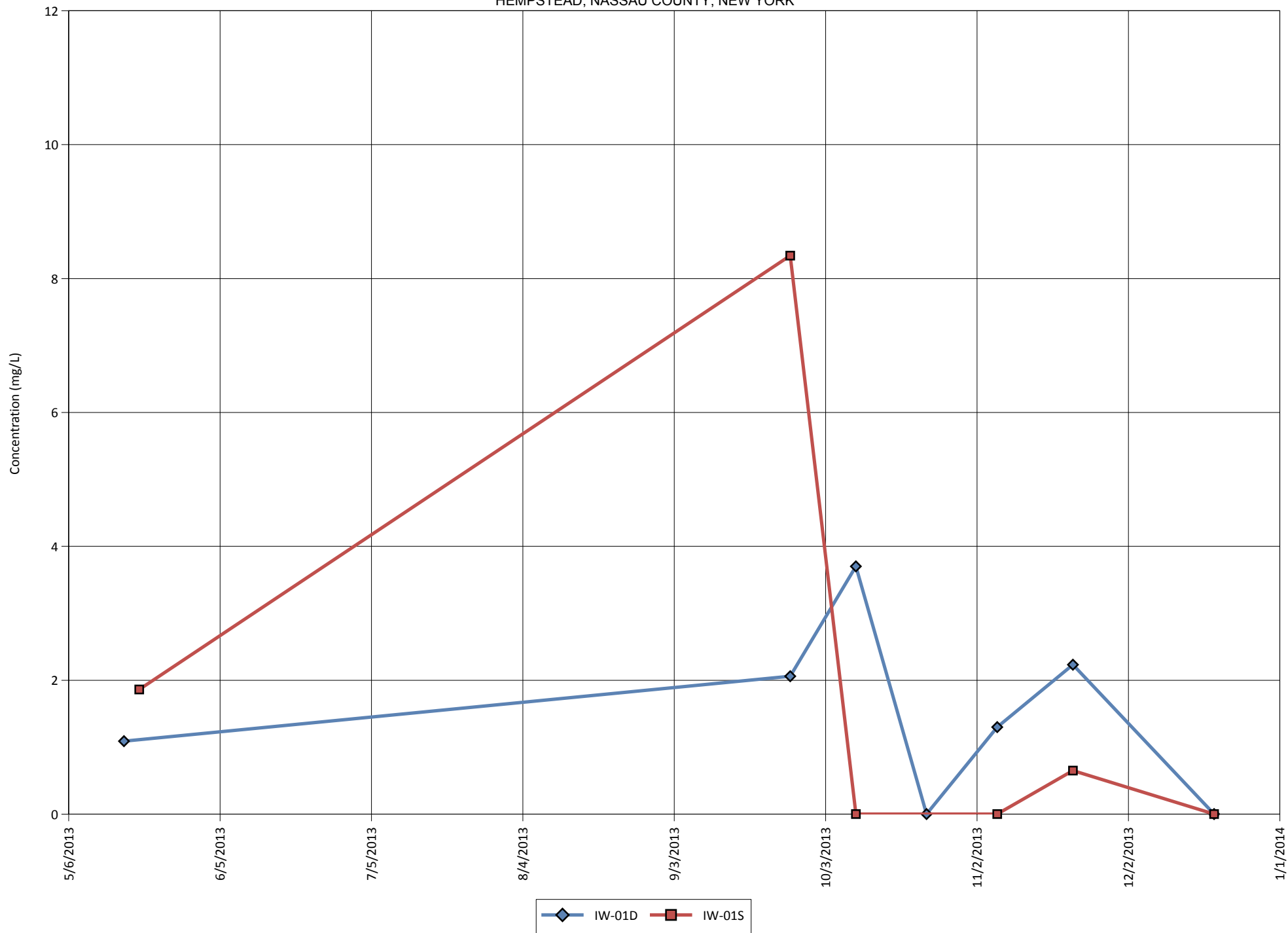
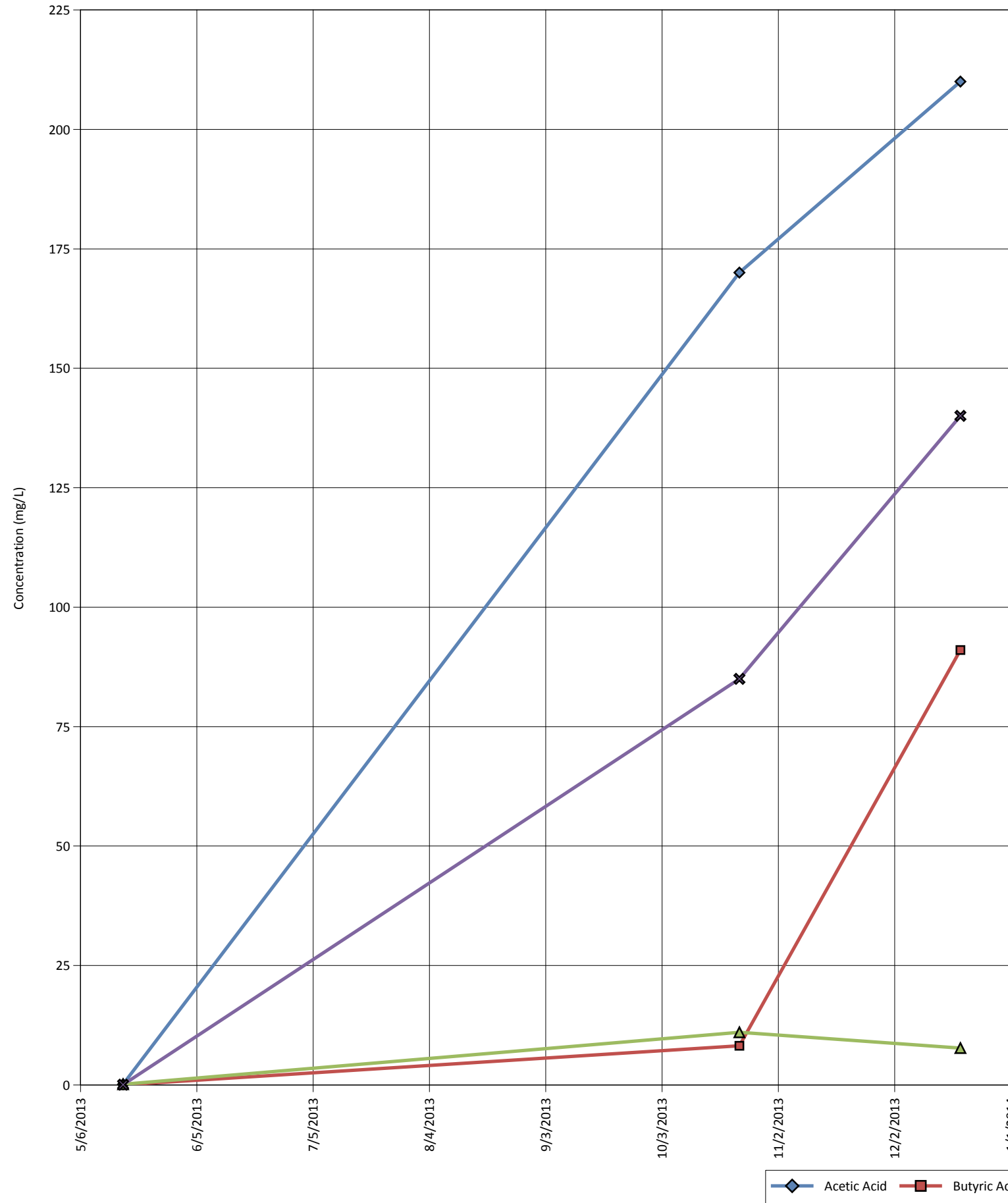


FIGURE 4-7
VFA TRENDS FOR WELLS IW-01D AND IW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

IW-01D



IW-01S

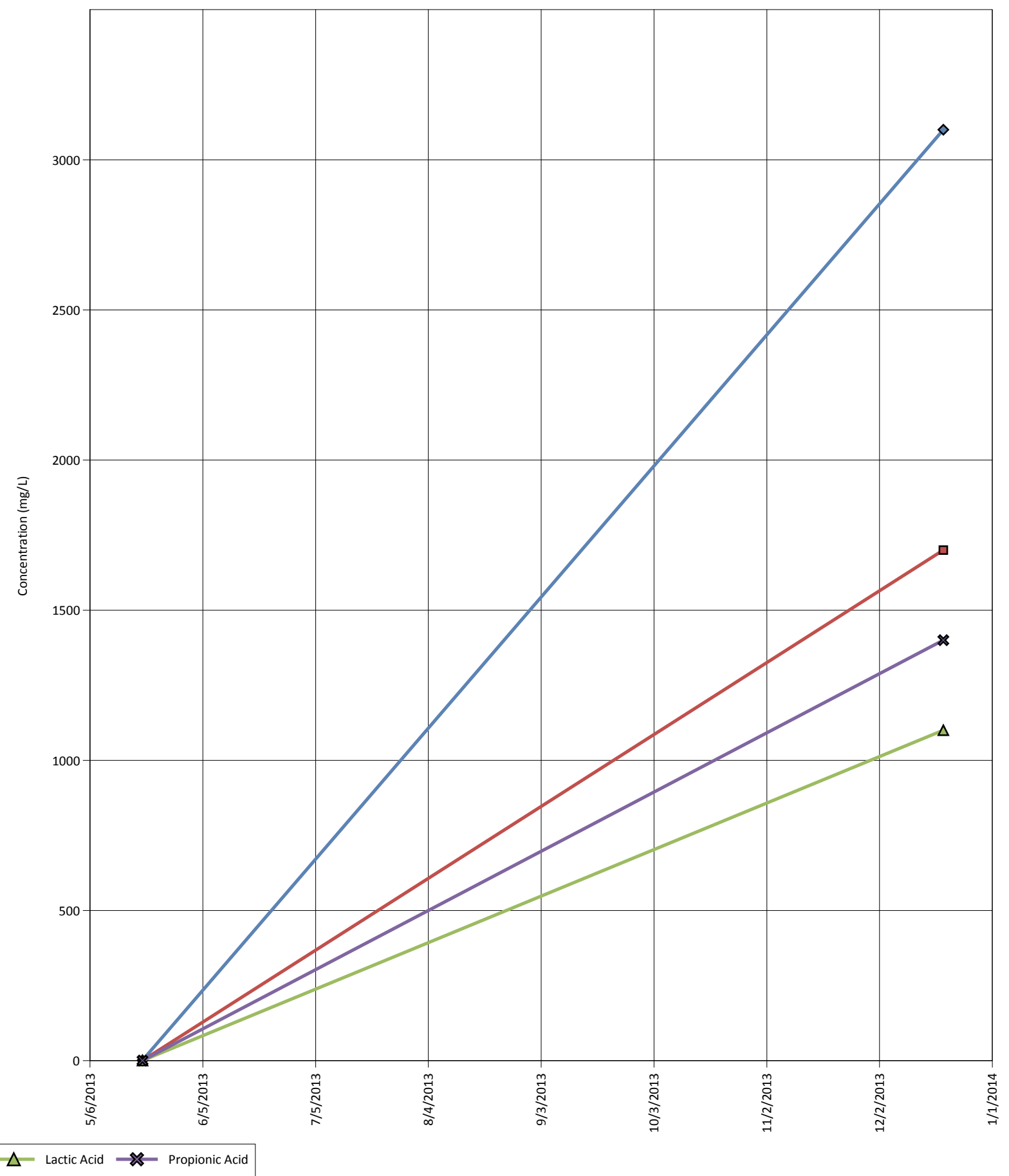


FIGURE 4-8
DISSOLVED GASES TRENDS FOR WELLS IW-01D AND IW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

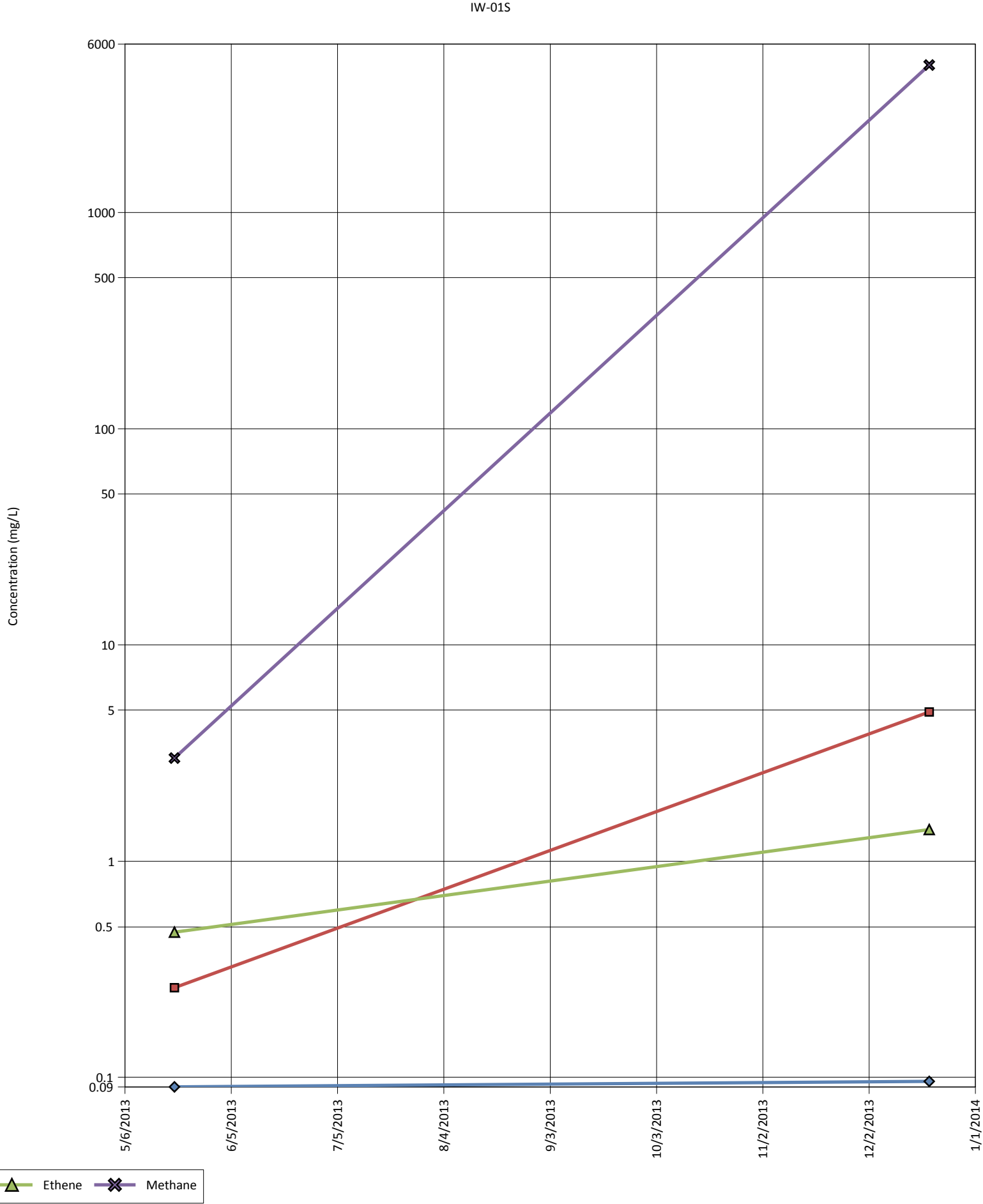
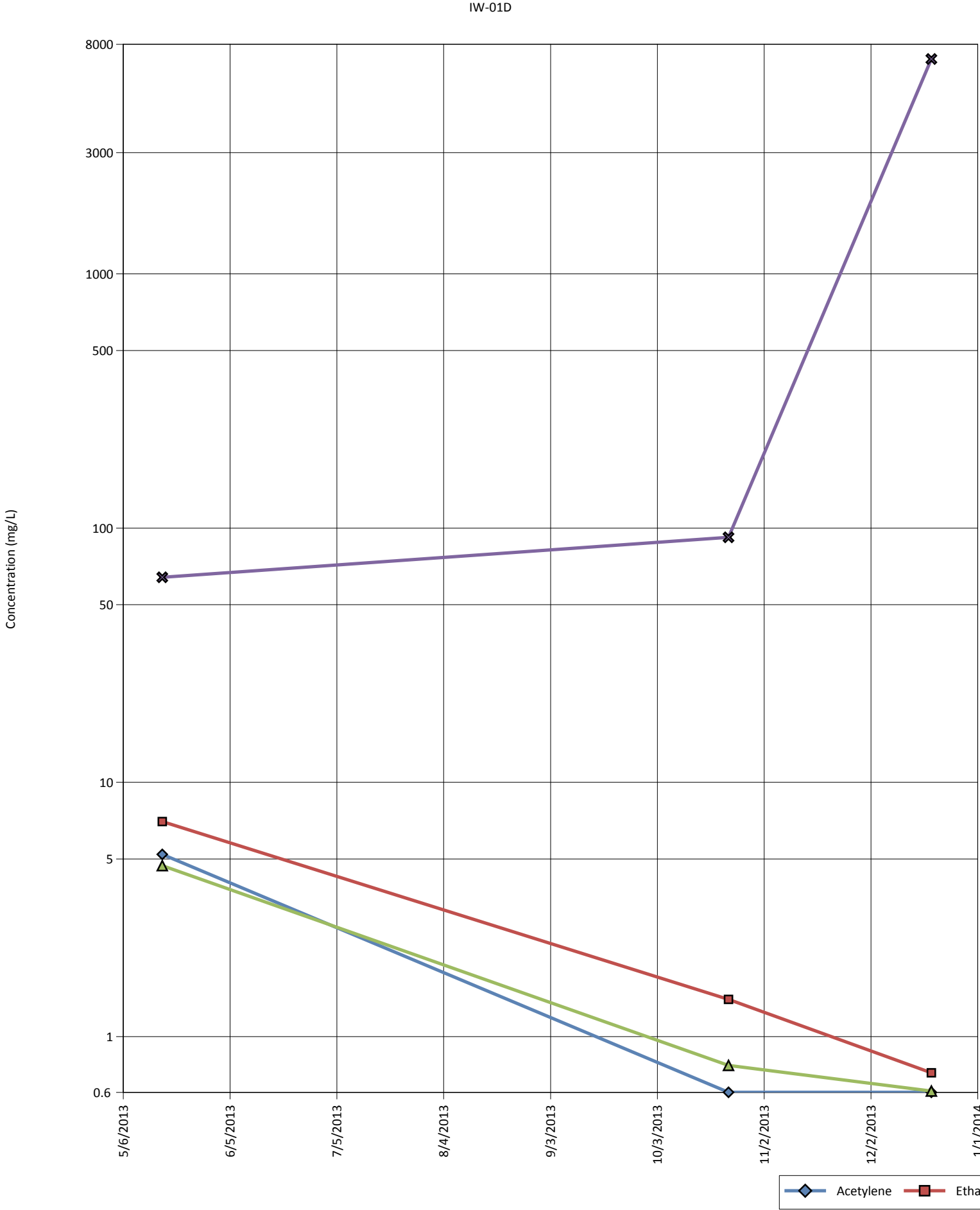
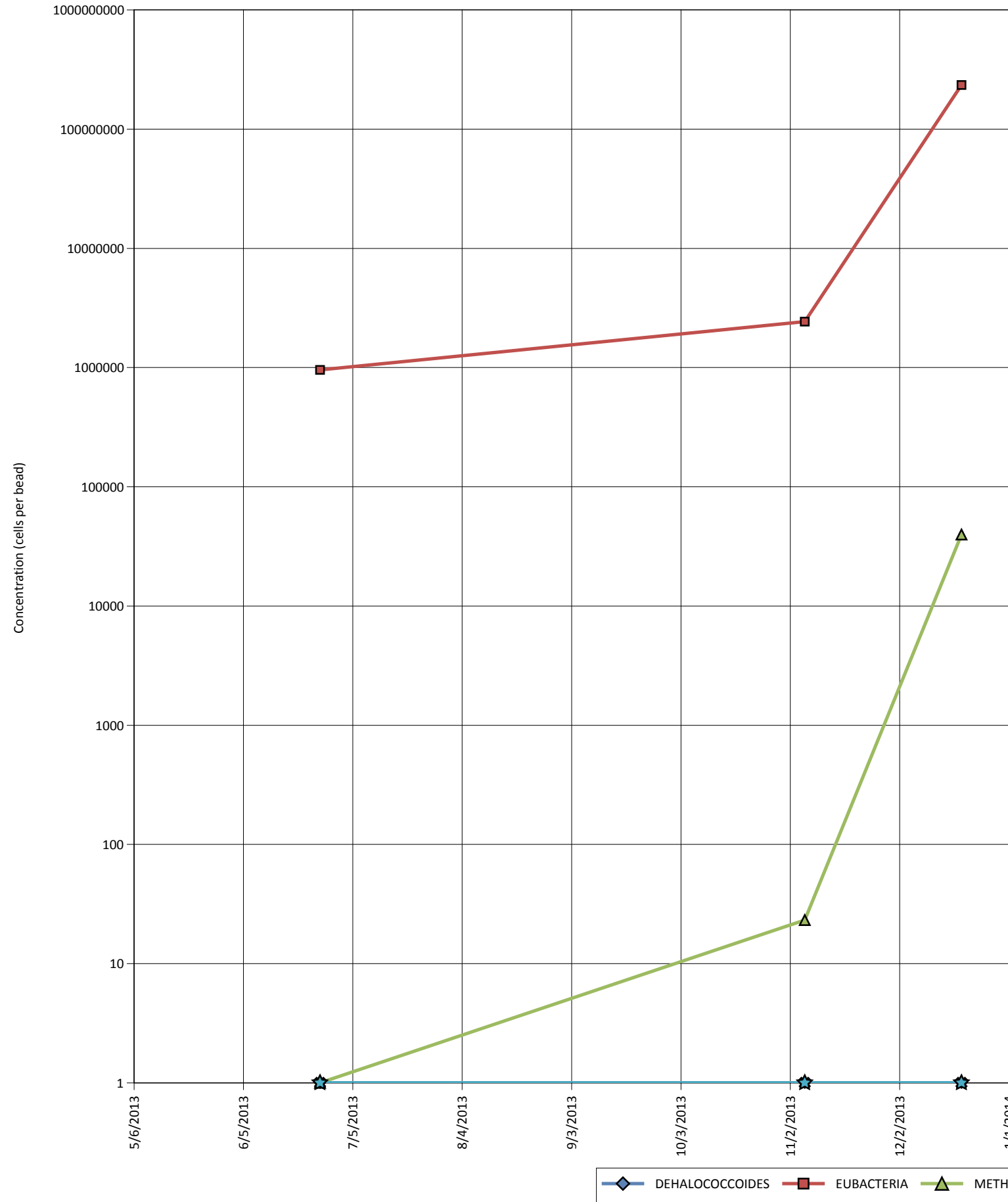


FIGURE 4-9
BIOLOGICAL INDICATOR TRENDS FOR WELLS IW-01D AND IW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

IW-01D



IW-01S

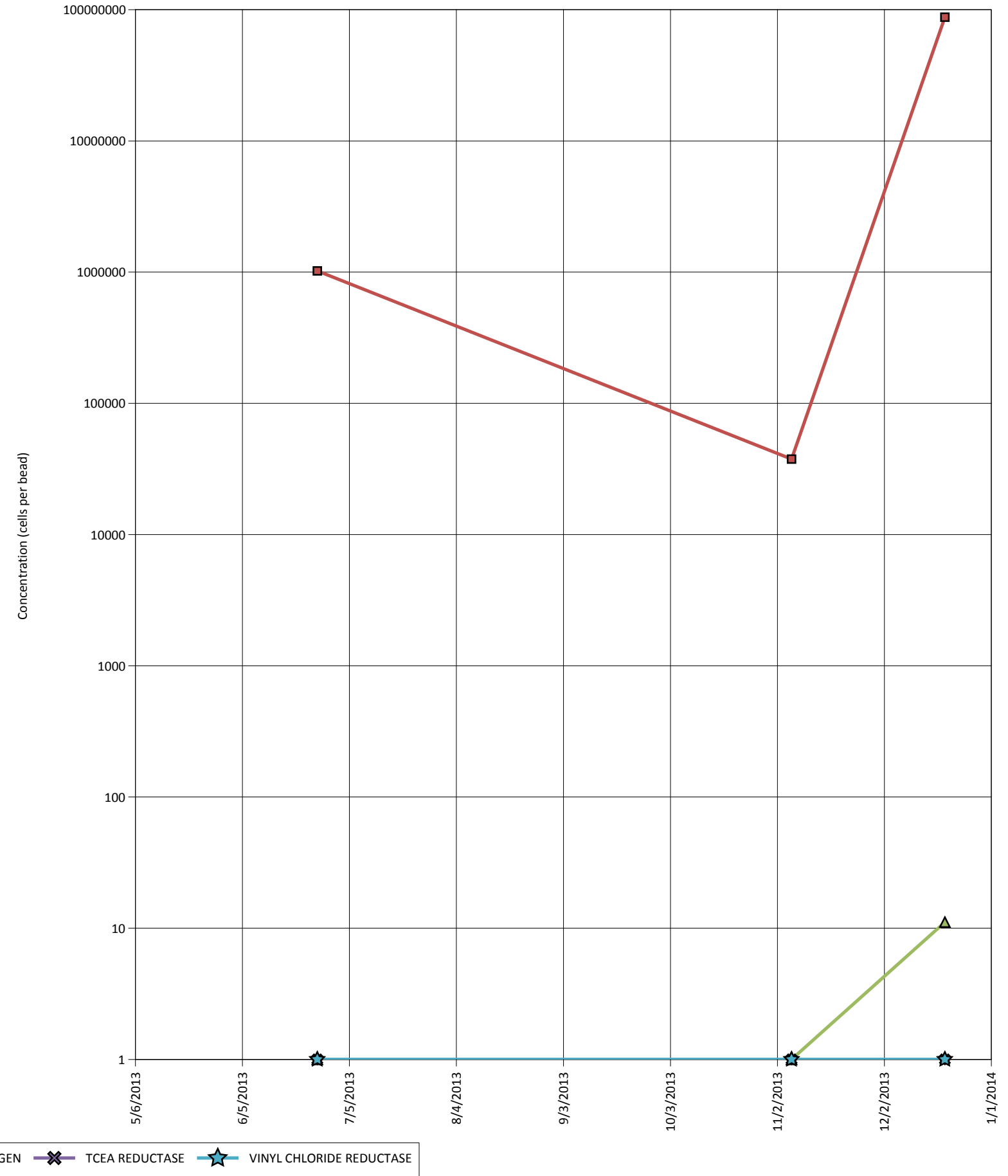
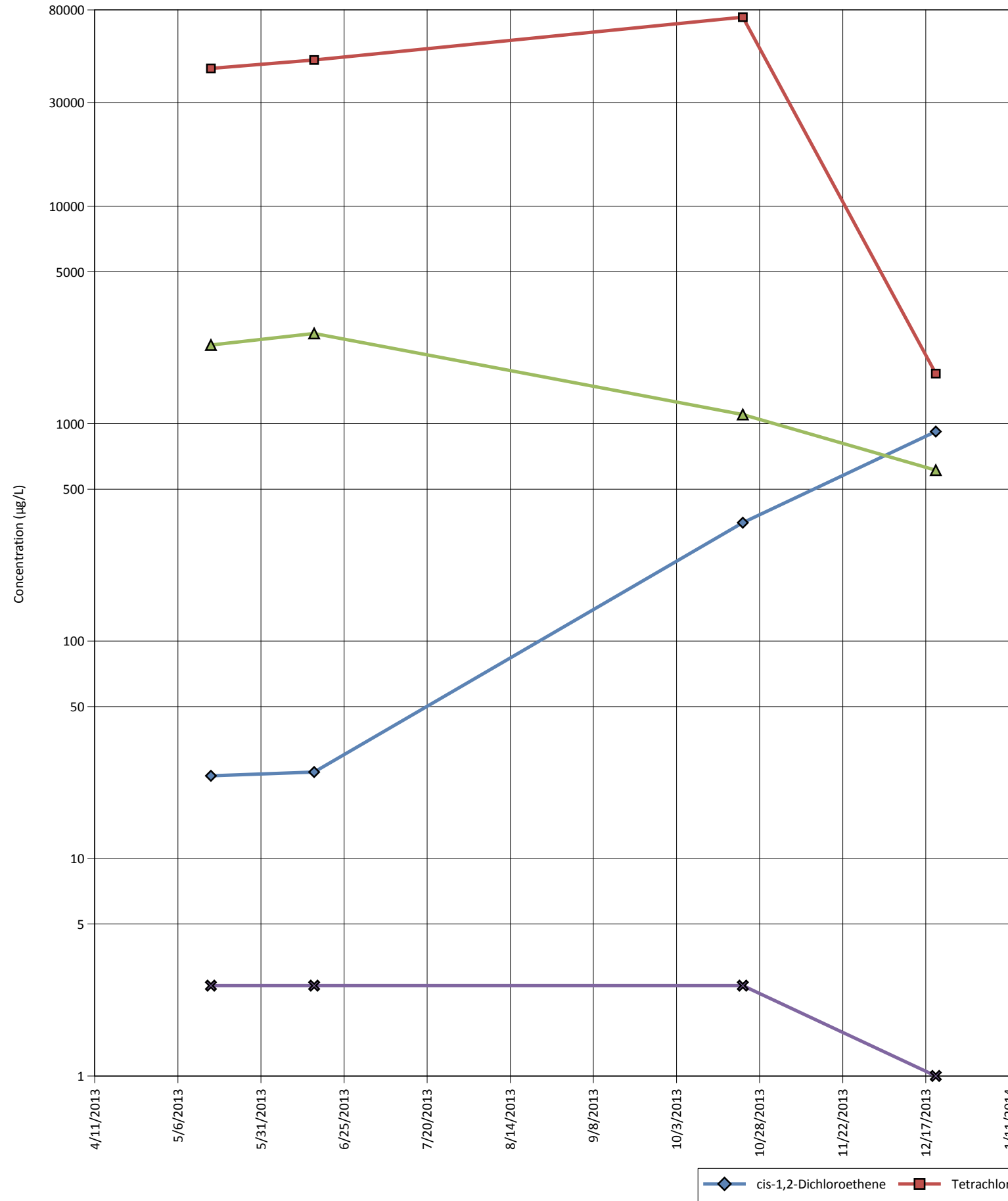


FIGURE 4-10
CHLORINATED VOC TRENDS FOR WELLS TW-01D AND TW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

TW-01D



TW-01S

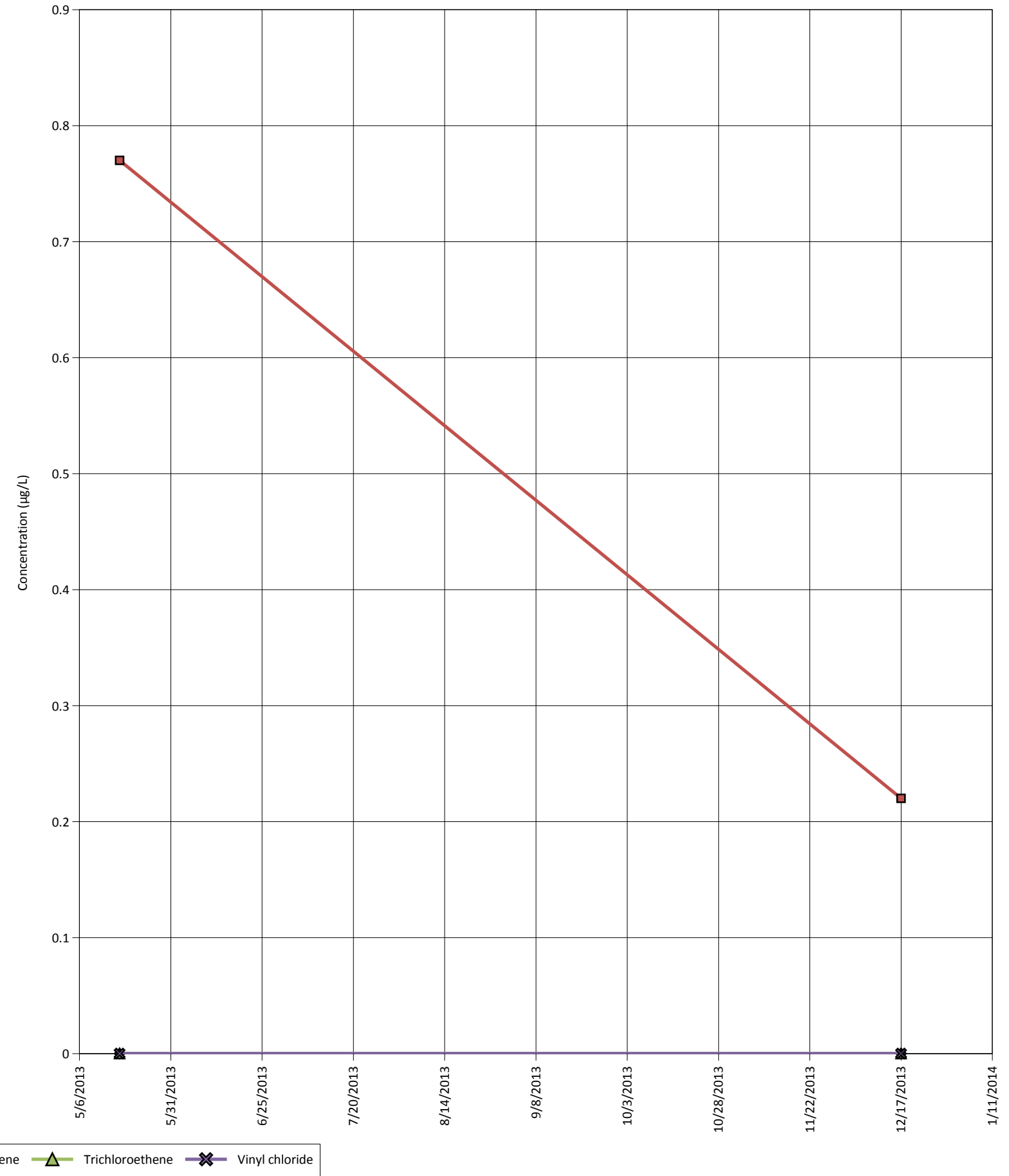


FIGURE 4-11
ORP TRENDS FOR WELLS TW-01D AND TW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

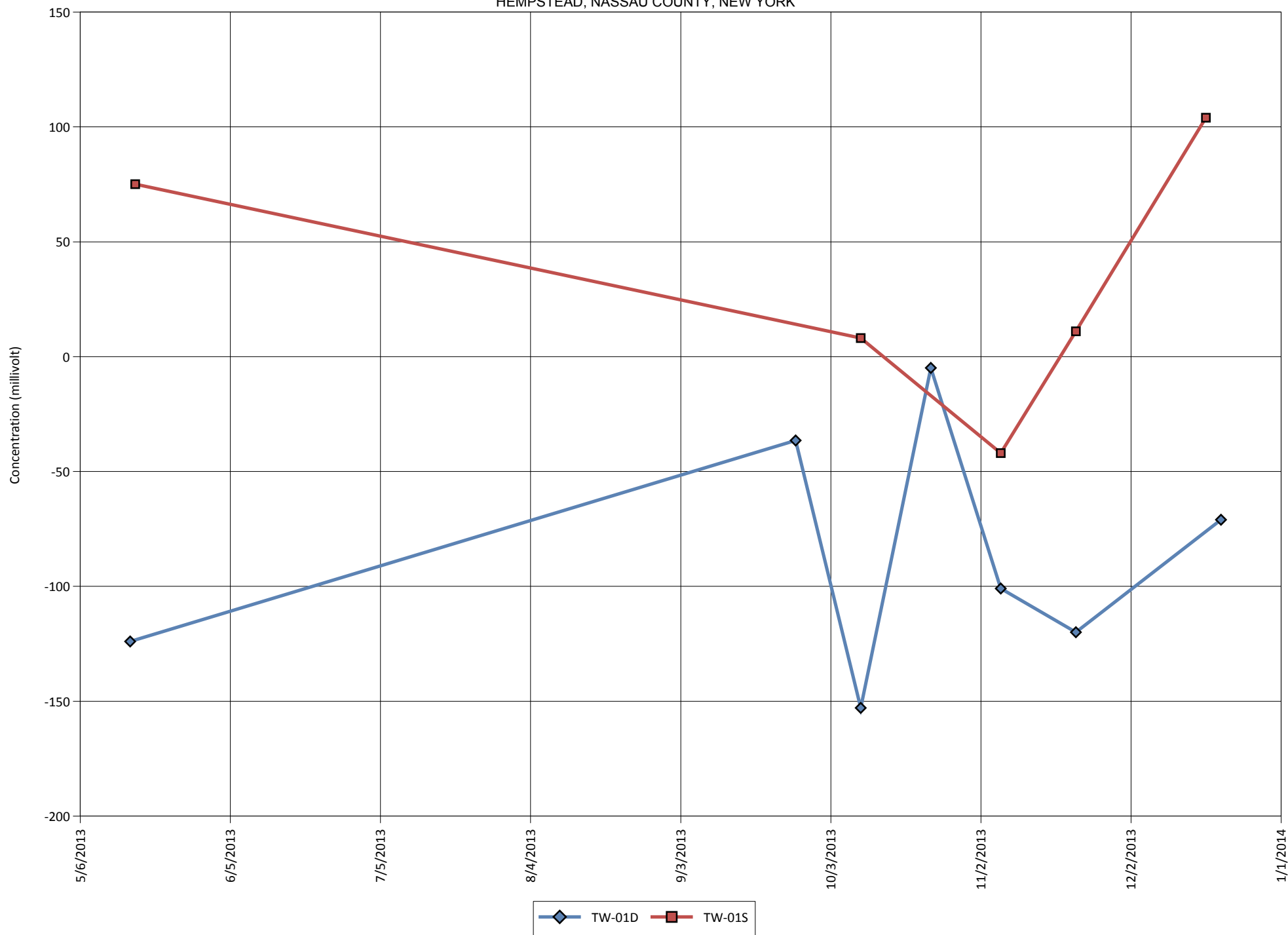


FIGURE 4-12
DISSOLVED OXYGEN TRENDS FOR WELLS TW-01D AND TW-01S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

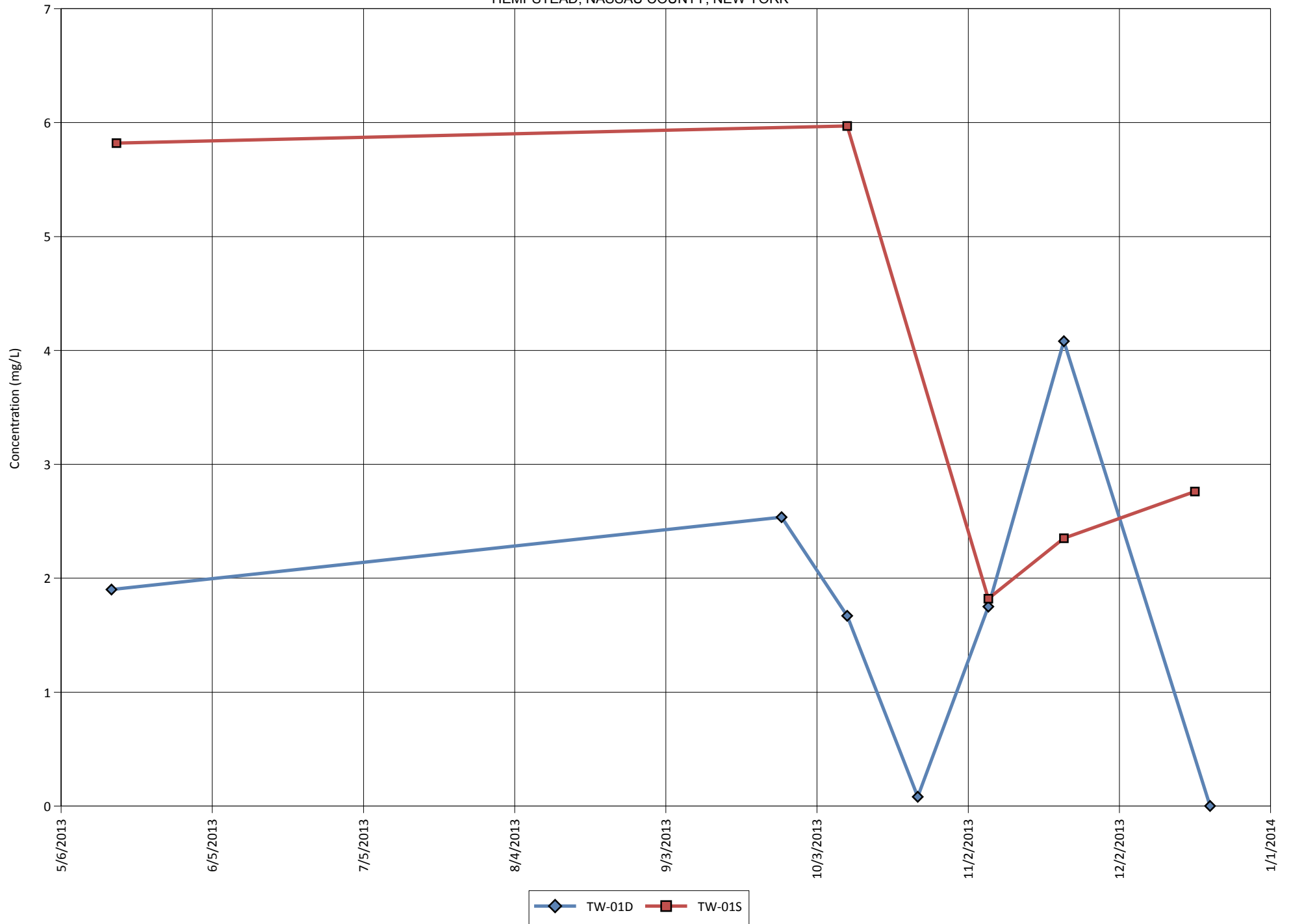


FIGURE 4-13
 ORP TRENDS FOR WELLS TW-02D/S AND MW-27D/S
 PENINSULA BOULEVARD GROUNDWATER PLUME SITE
 IN-SITU REMEDIAL DESIGN
 HEMPSTEAD, NASSAU COUNTY, NEW YORK

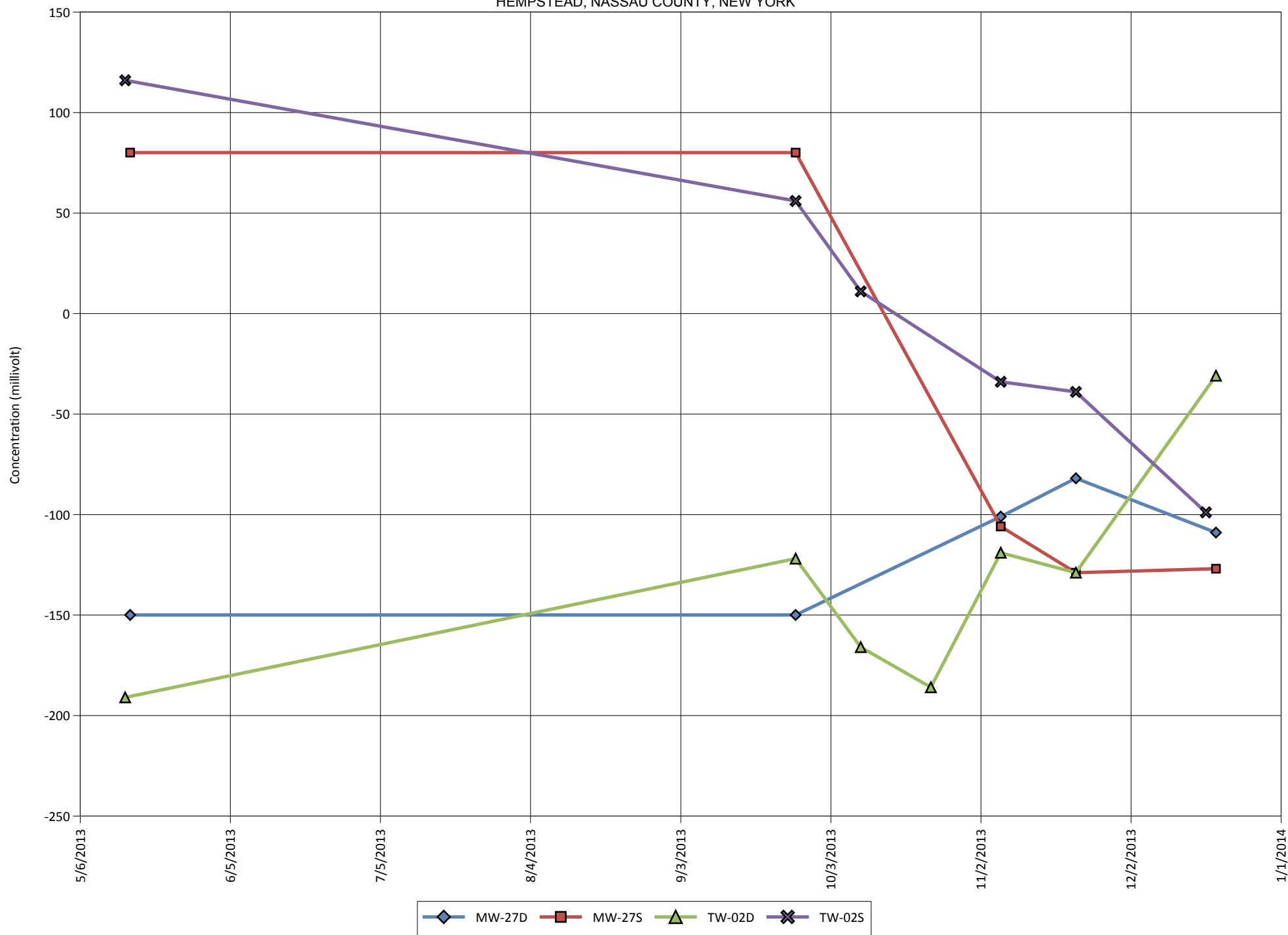


FIGURE 4-14
 DISSOLVED OXYGEN TRENDS FOR WELLS TW-02D/S AND MW-27D/S
 PENINSULA BOULEVARD GROUNDWATER PLUME SITE
 IN-SITU REMEDIAL DESIGN
 HEMPSTEAD, NASSAU COUNTY, NEW YORK

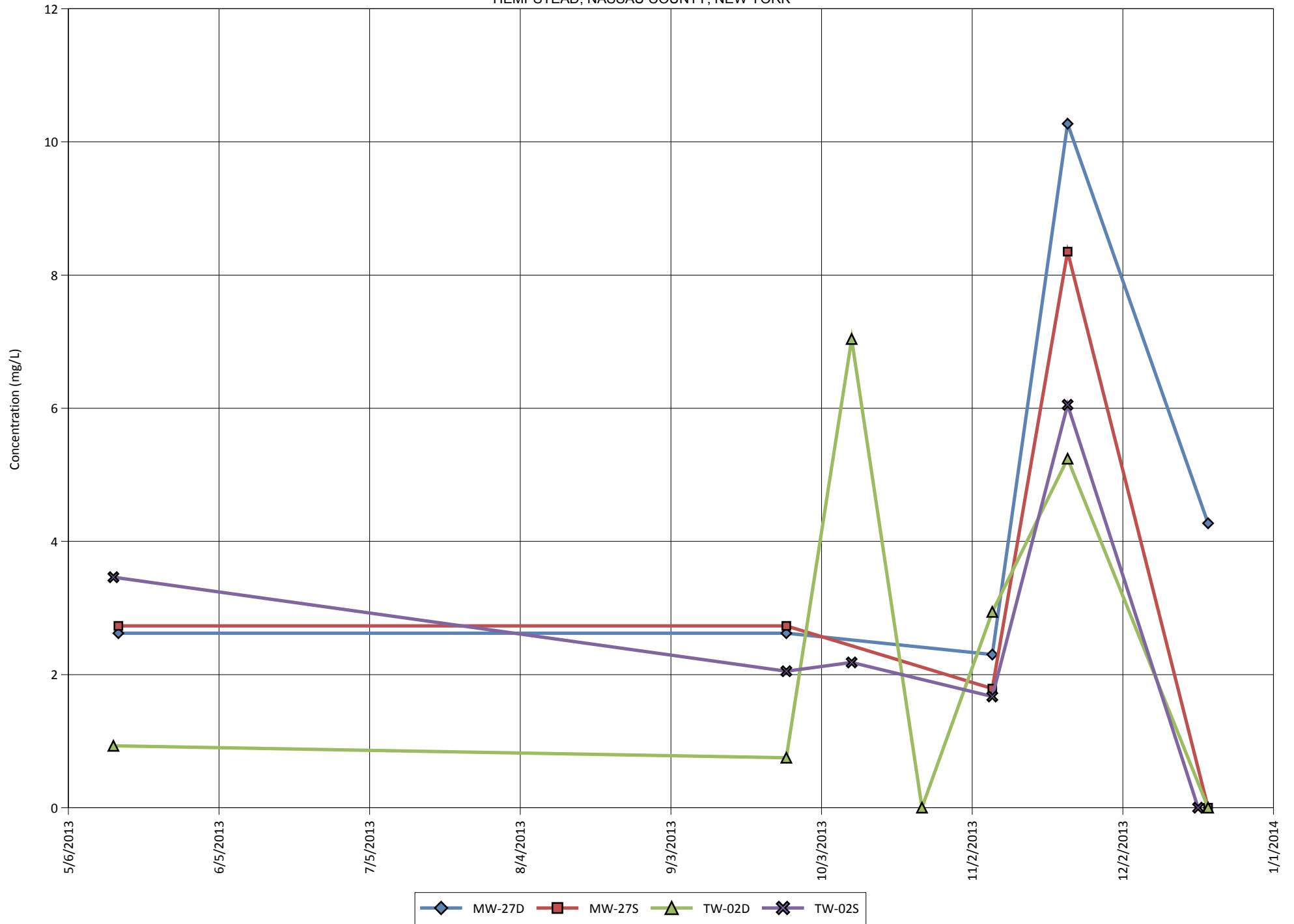
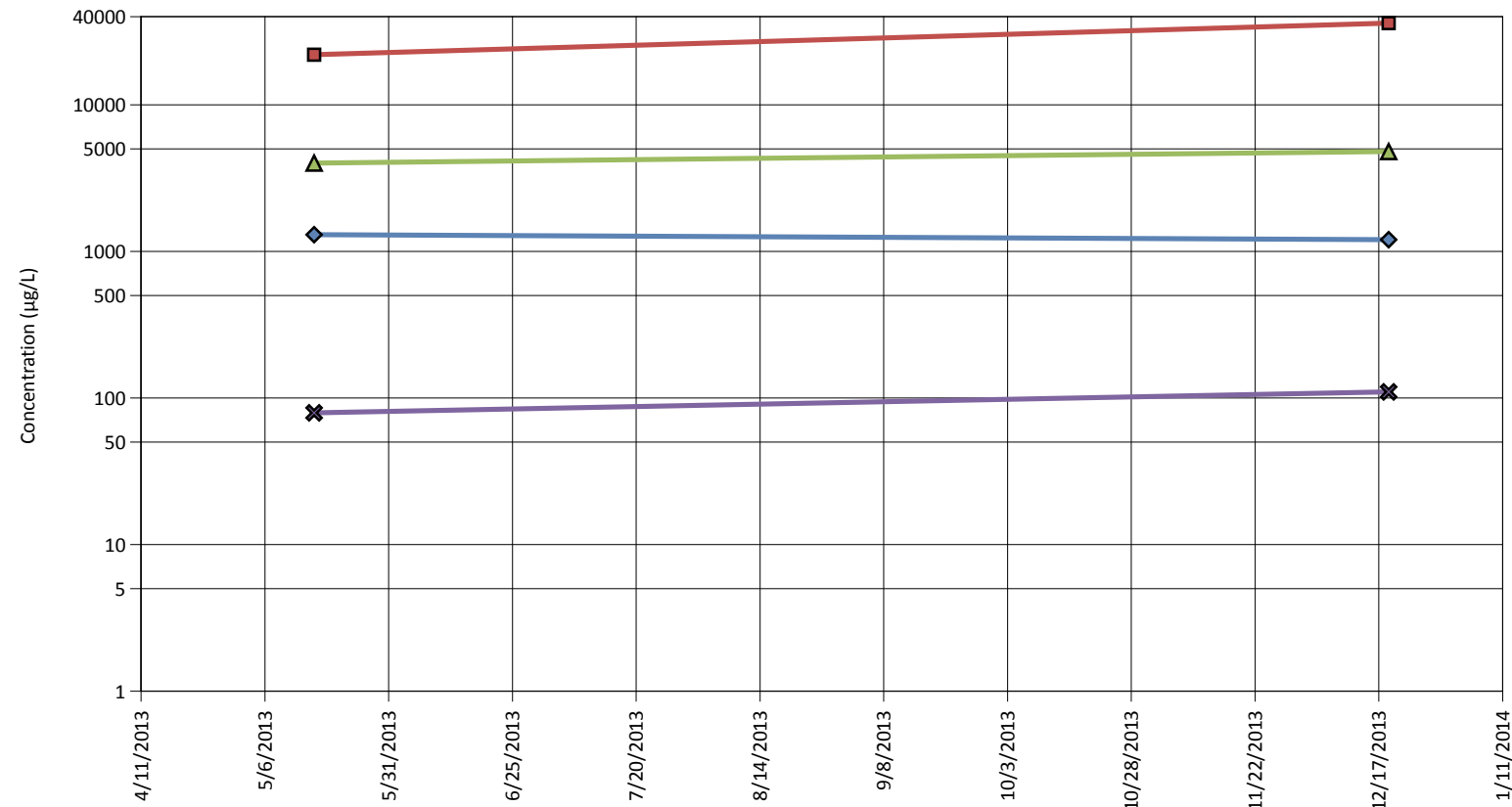
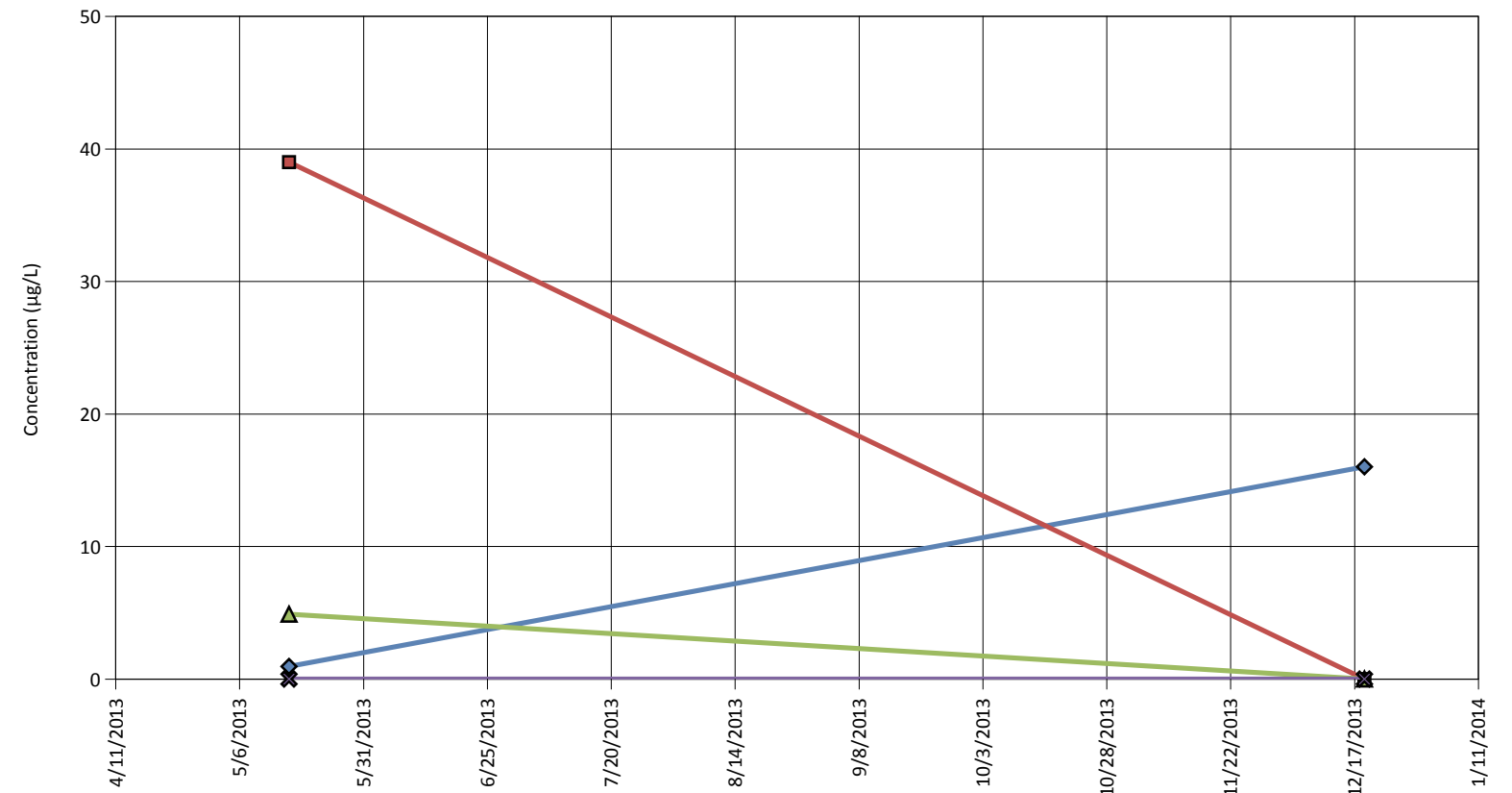


FIGURE 4-15
CHLORINATED VOC TRENDS FOR WELLS TW-02D/S AND MW-27D/S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

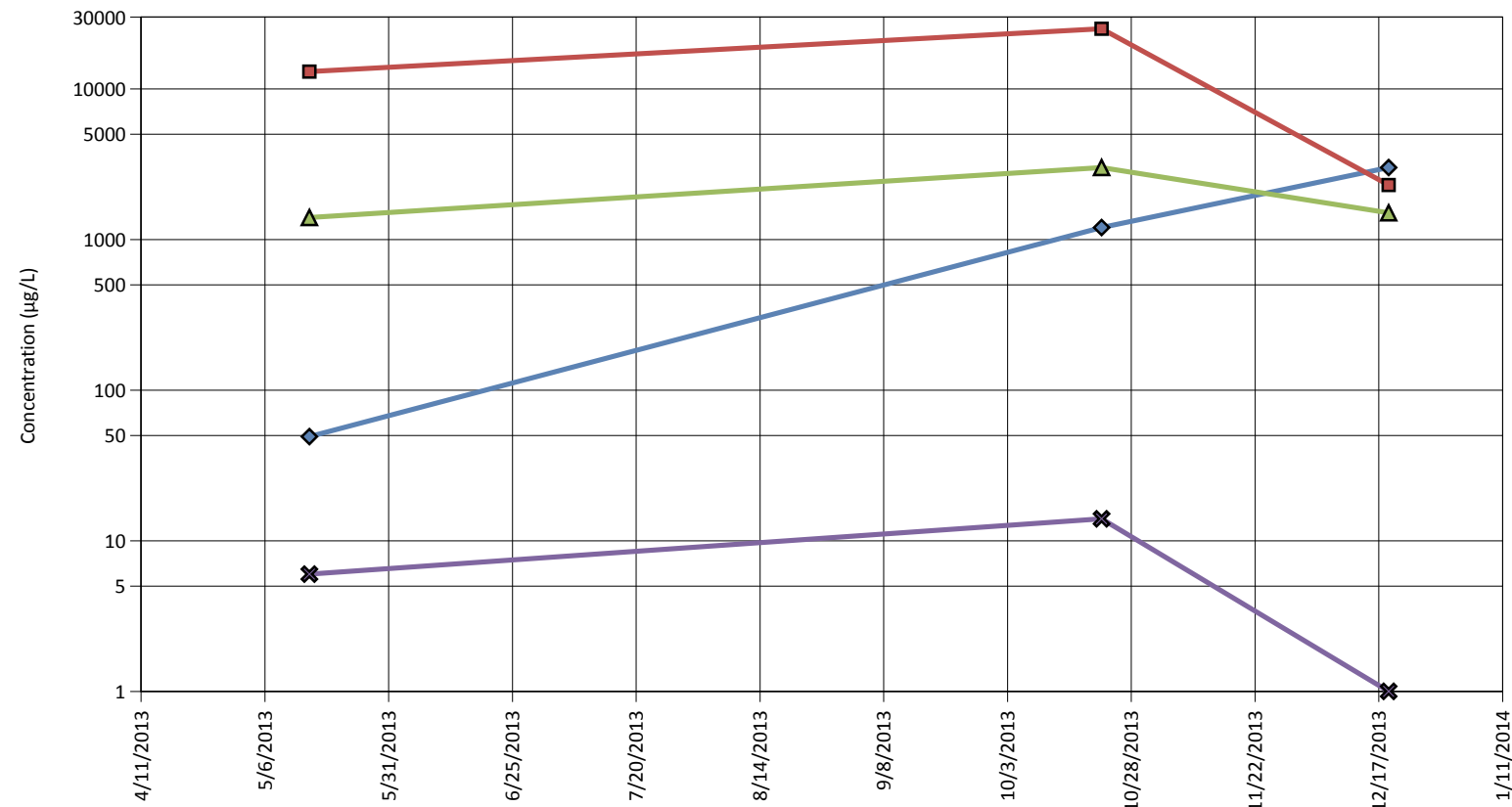
MW-27D



MW-27S



TW-02D



TW-02S

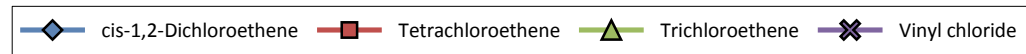
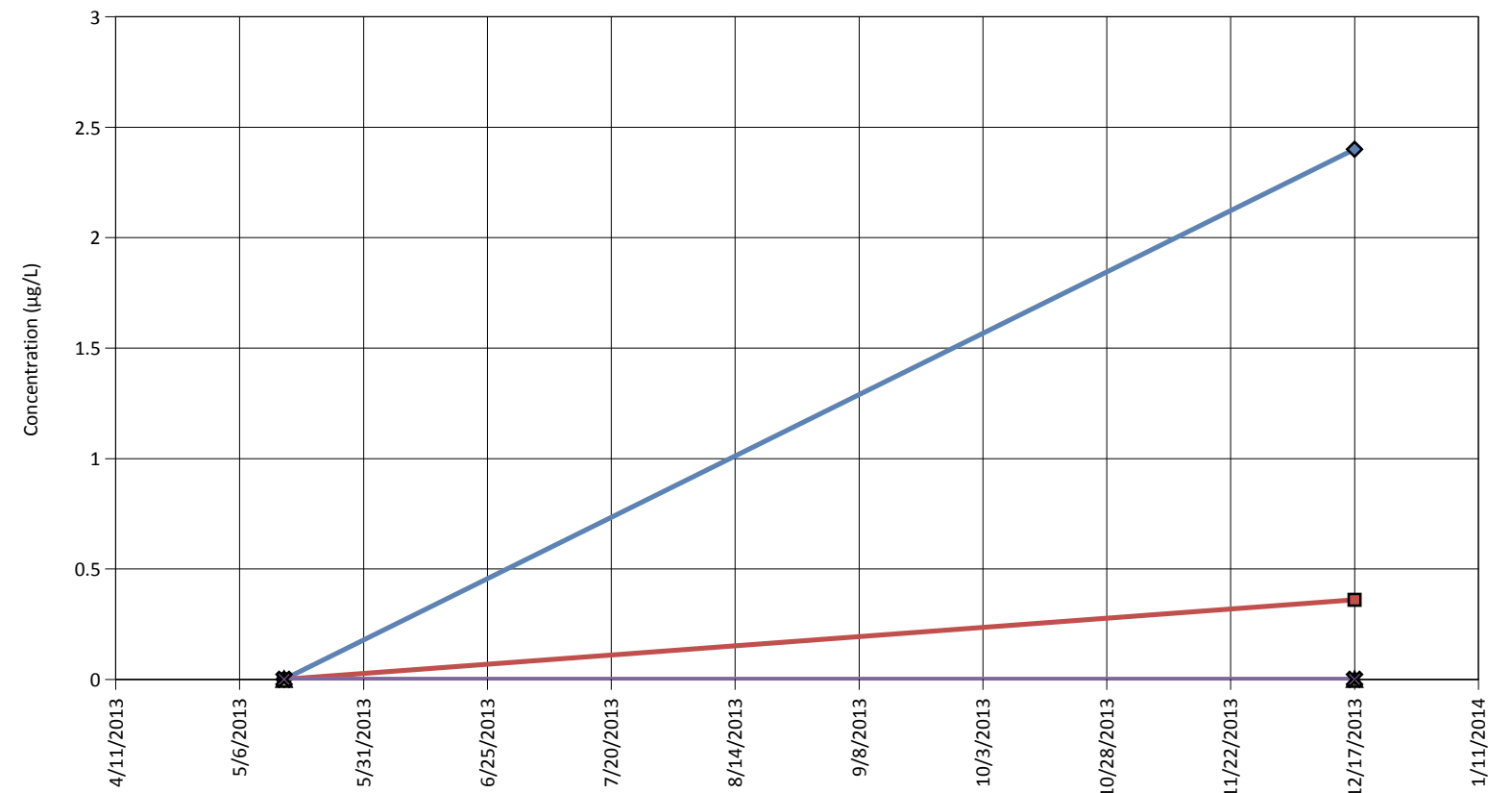


FIGURE 4-16
VFA TRENDS FOR WELLS MW-27D AND MW-27S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

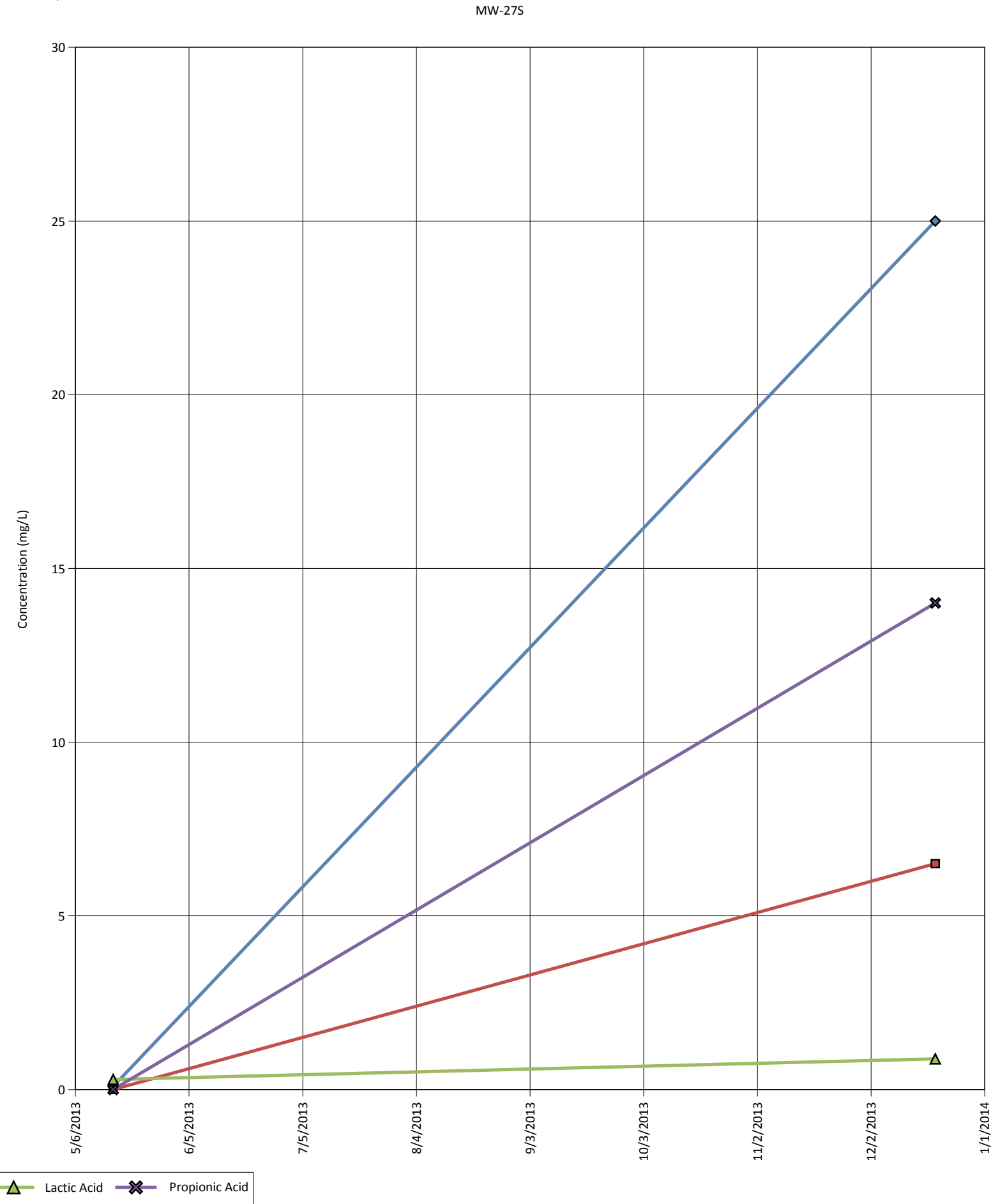
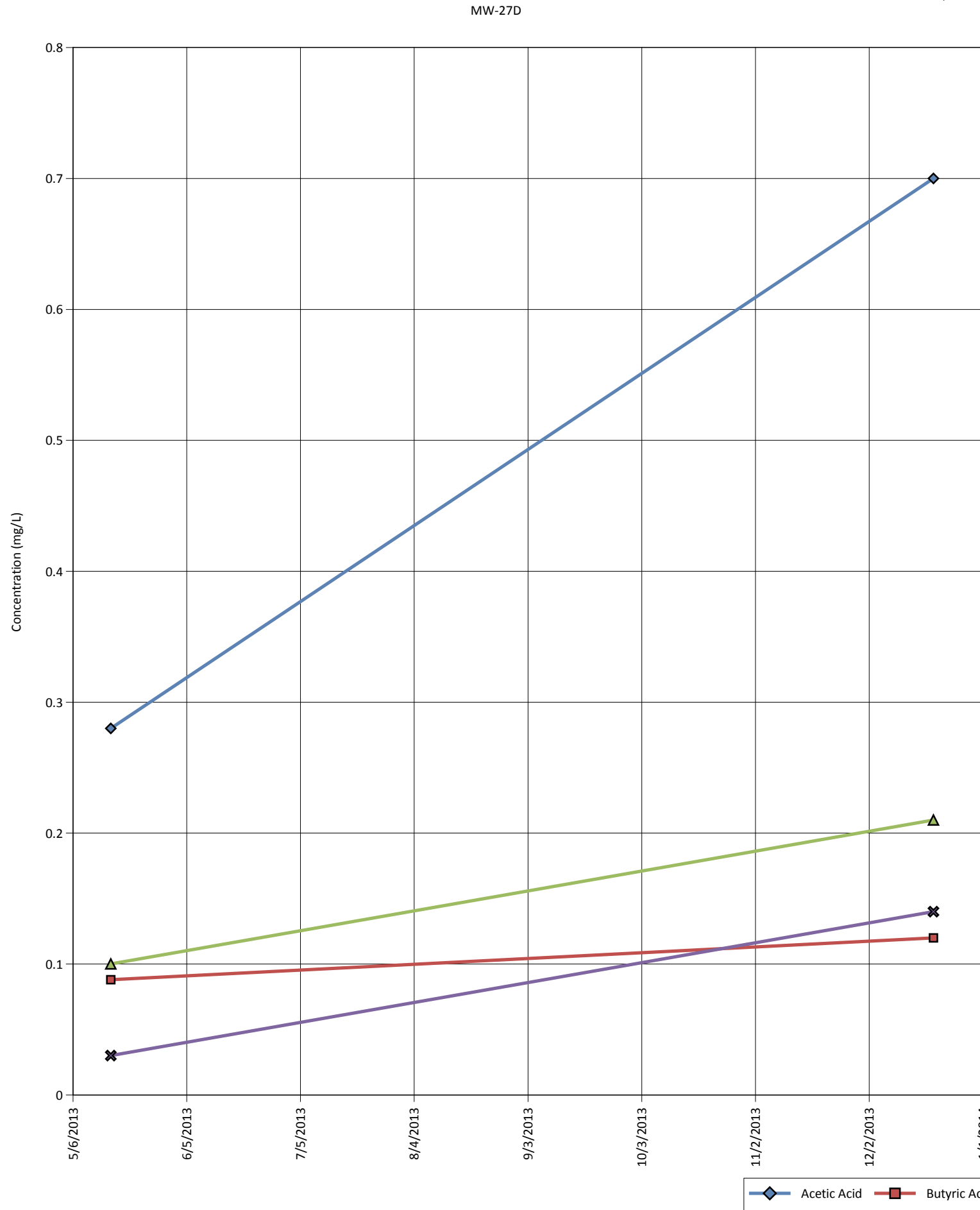


FIGURE 4-17
DISSOLVED GASES TRENDS FOR WELLS MW-27D AND MW-27S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

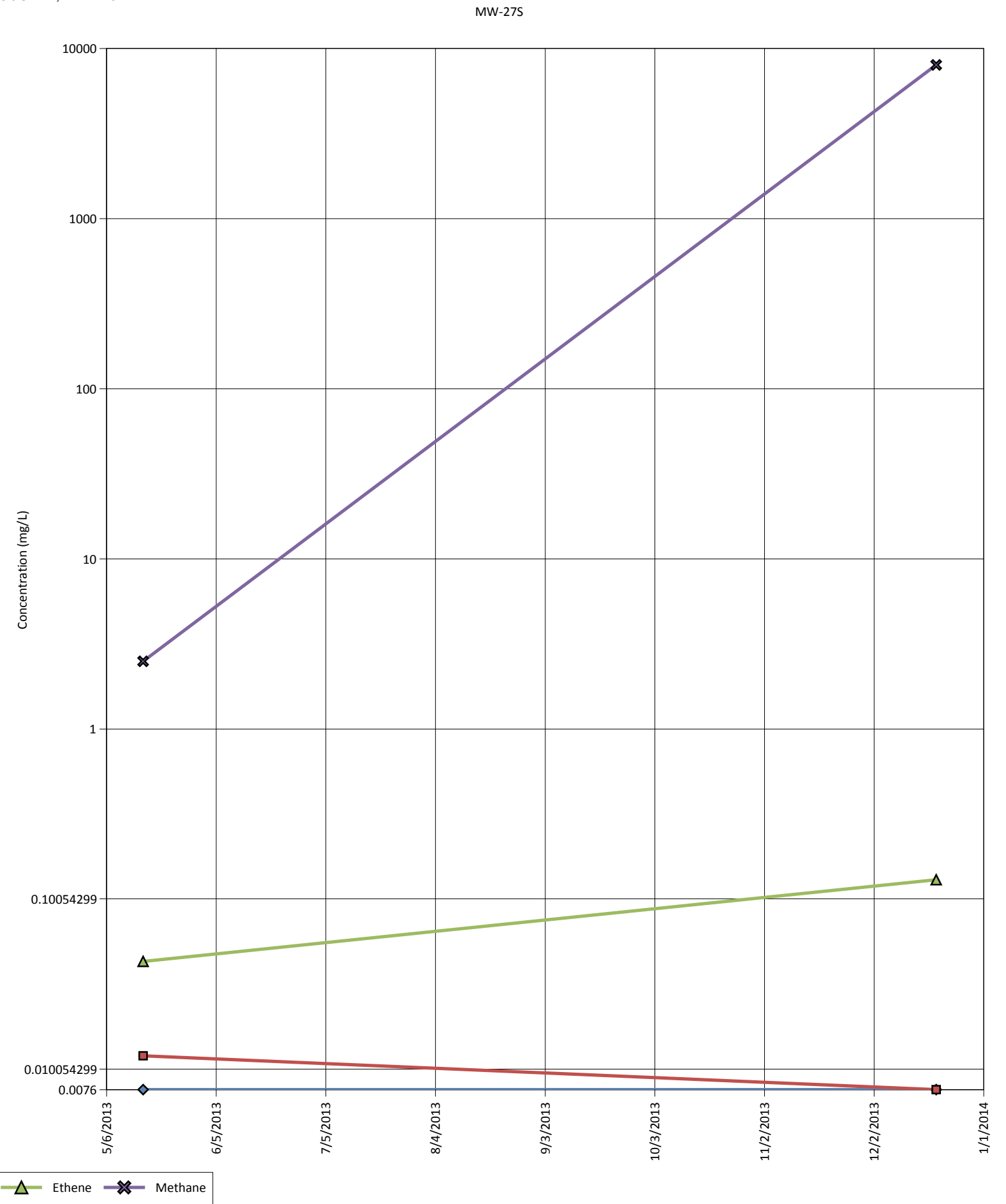
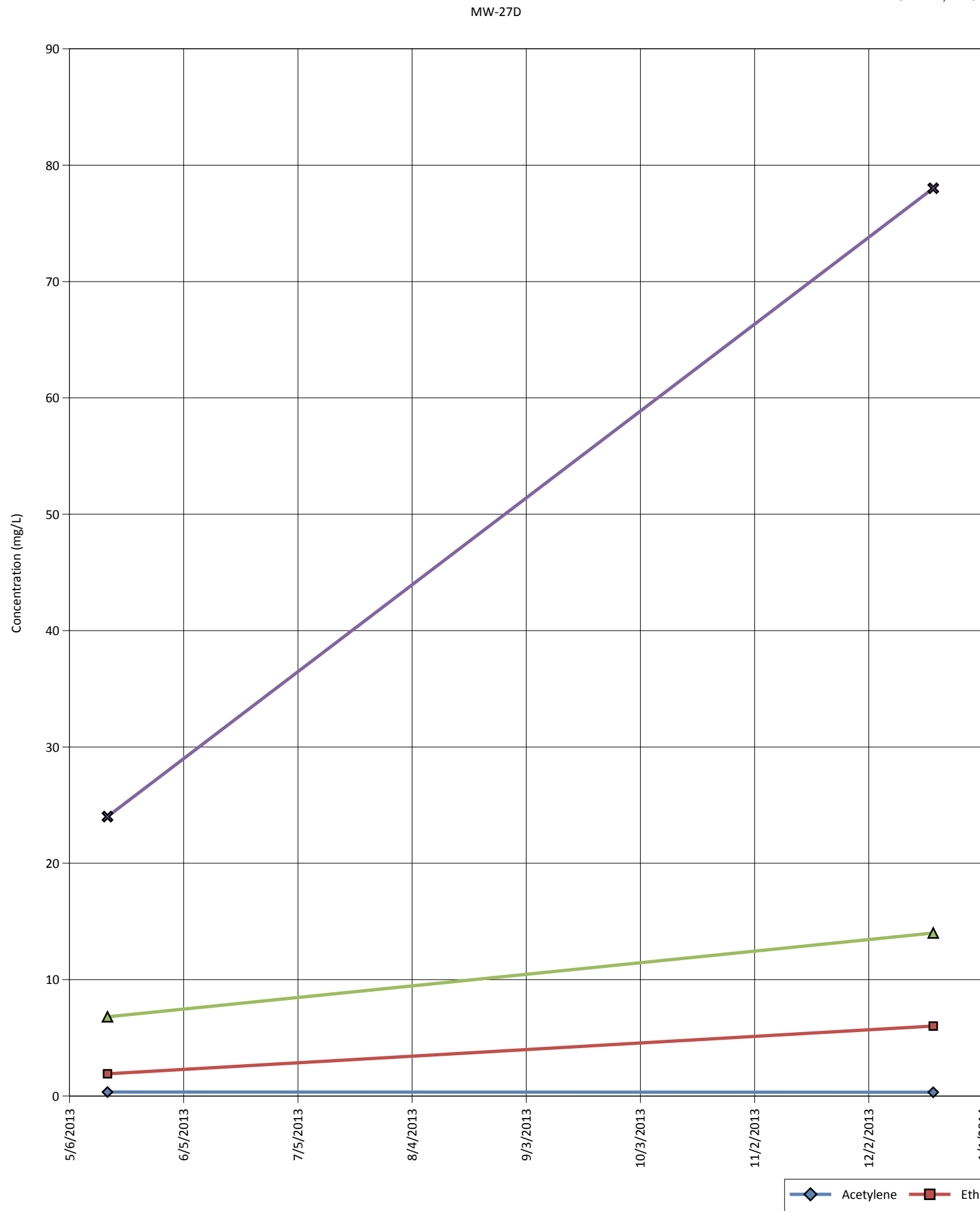


FIGURE 4-18
 ORP TRENDS FOR WELLS OW-01S, TW-03D/S, AND TW-05D
 PENINSULA BOULEVARD GROUNDWATER PLUME SITE
 IN-SITU REMEDIAL DESIGN
 HEMPSTEAD, NASSAU COUNTY, NEW YORK

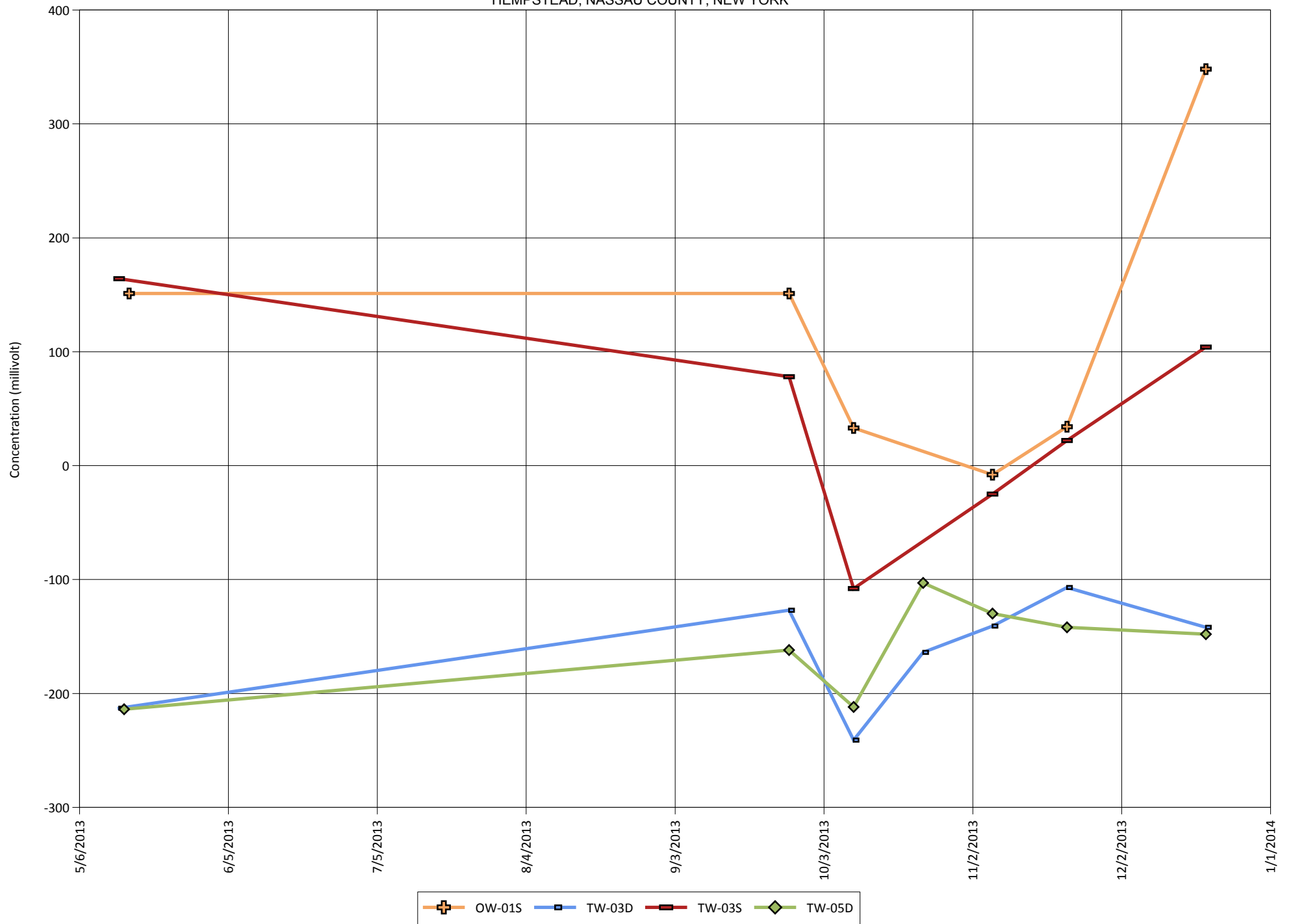


FIGURE 4-19
 DISSOLVED OXYGEN TRENDS FOR WELLS OW-01S, TW-03D/S, AND TW-05D
 PENINSULA BOULEVARD GROUNDWATER PLUME SITE
 IN-SITU REMEDIAL DESIGN
 HEMPSTEAD, NASSAU COUNTY, NEW YORK

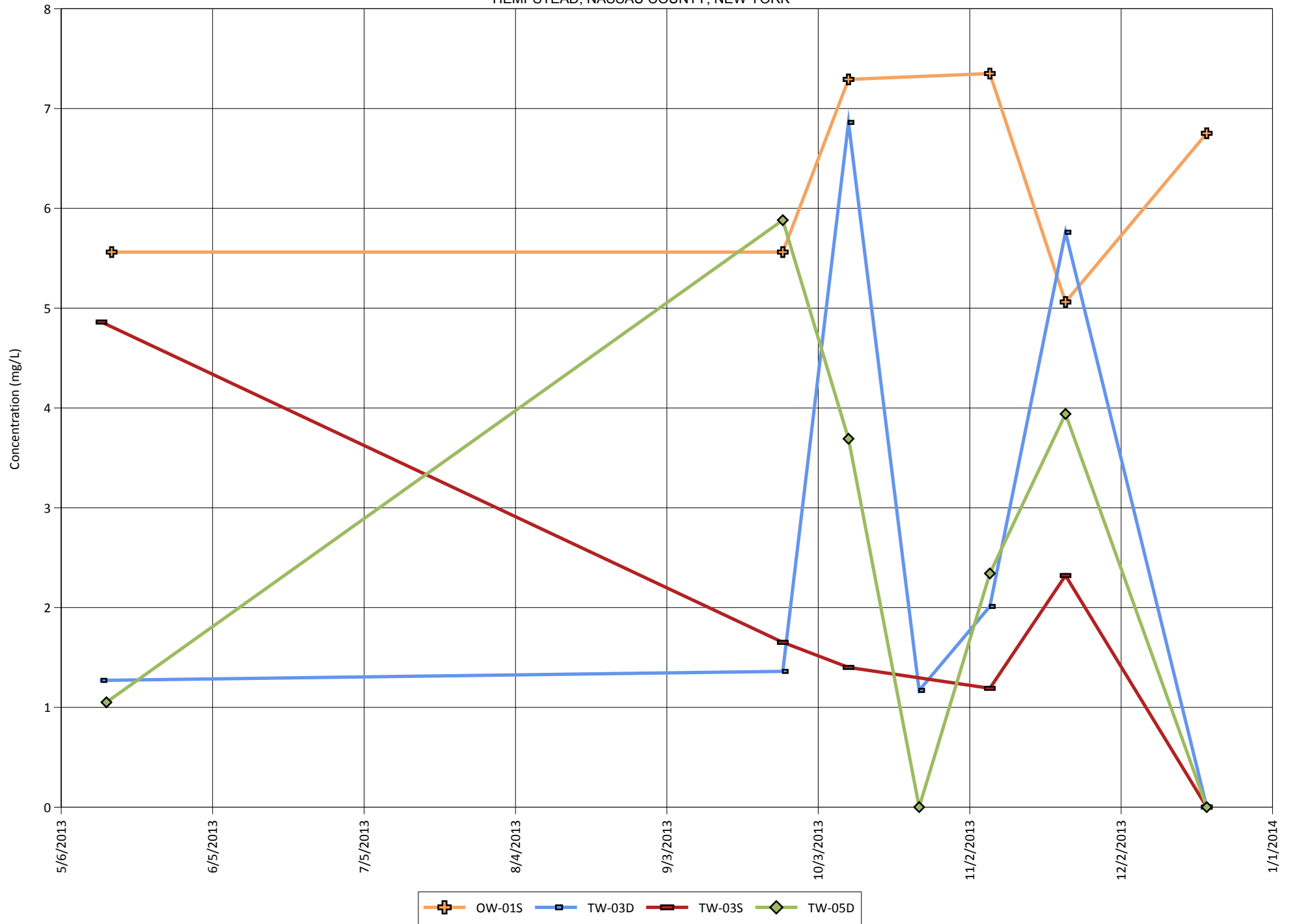
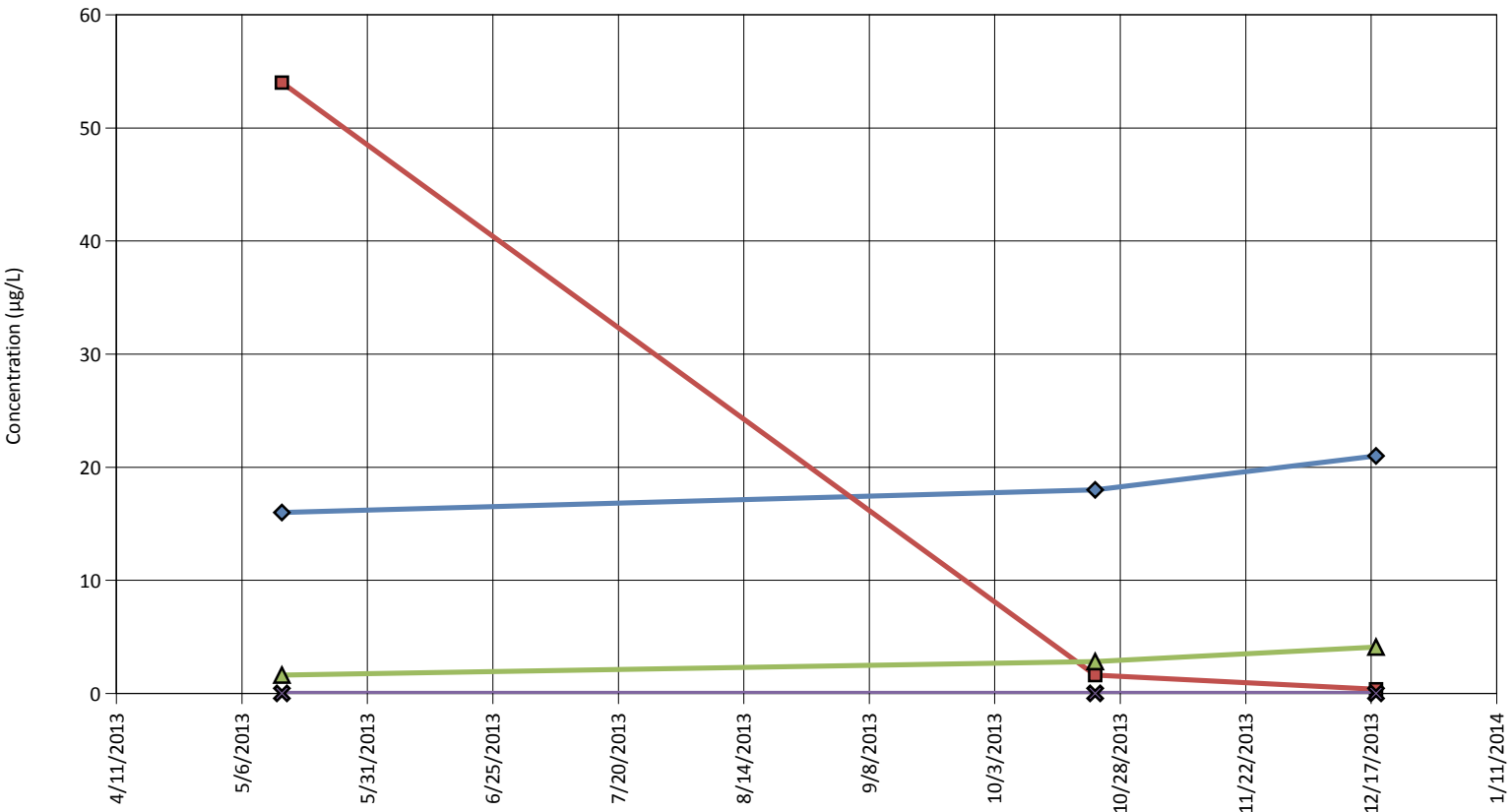
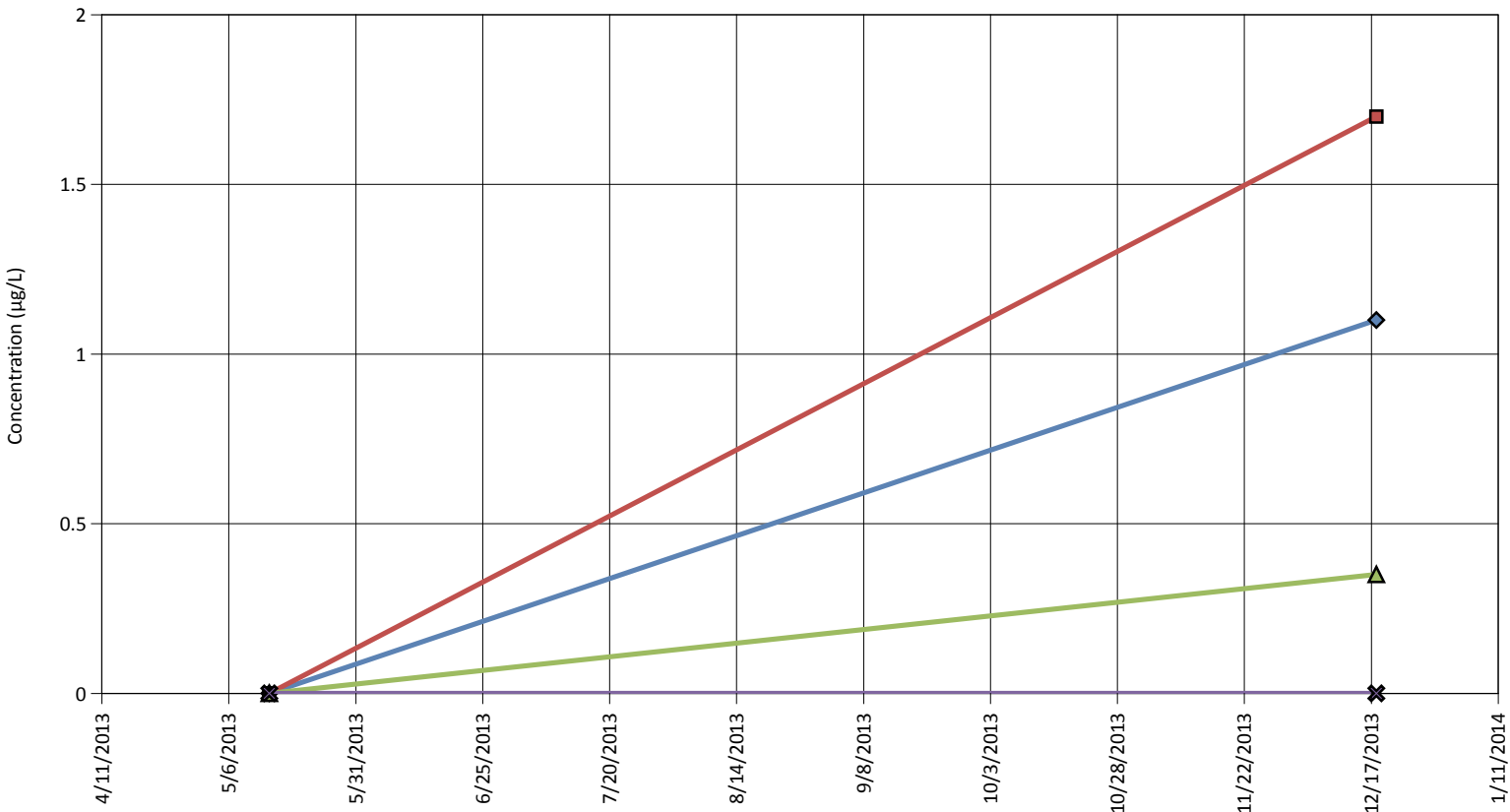


FIGURE 4-20
CHLORINATED VOC TRENDS FOR WELLS TW-03D/S AND TW-05D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

TW-03D



TW-03S



TW-05D

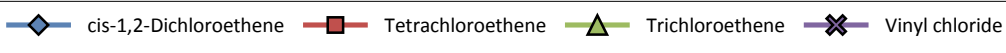
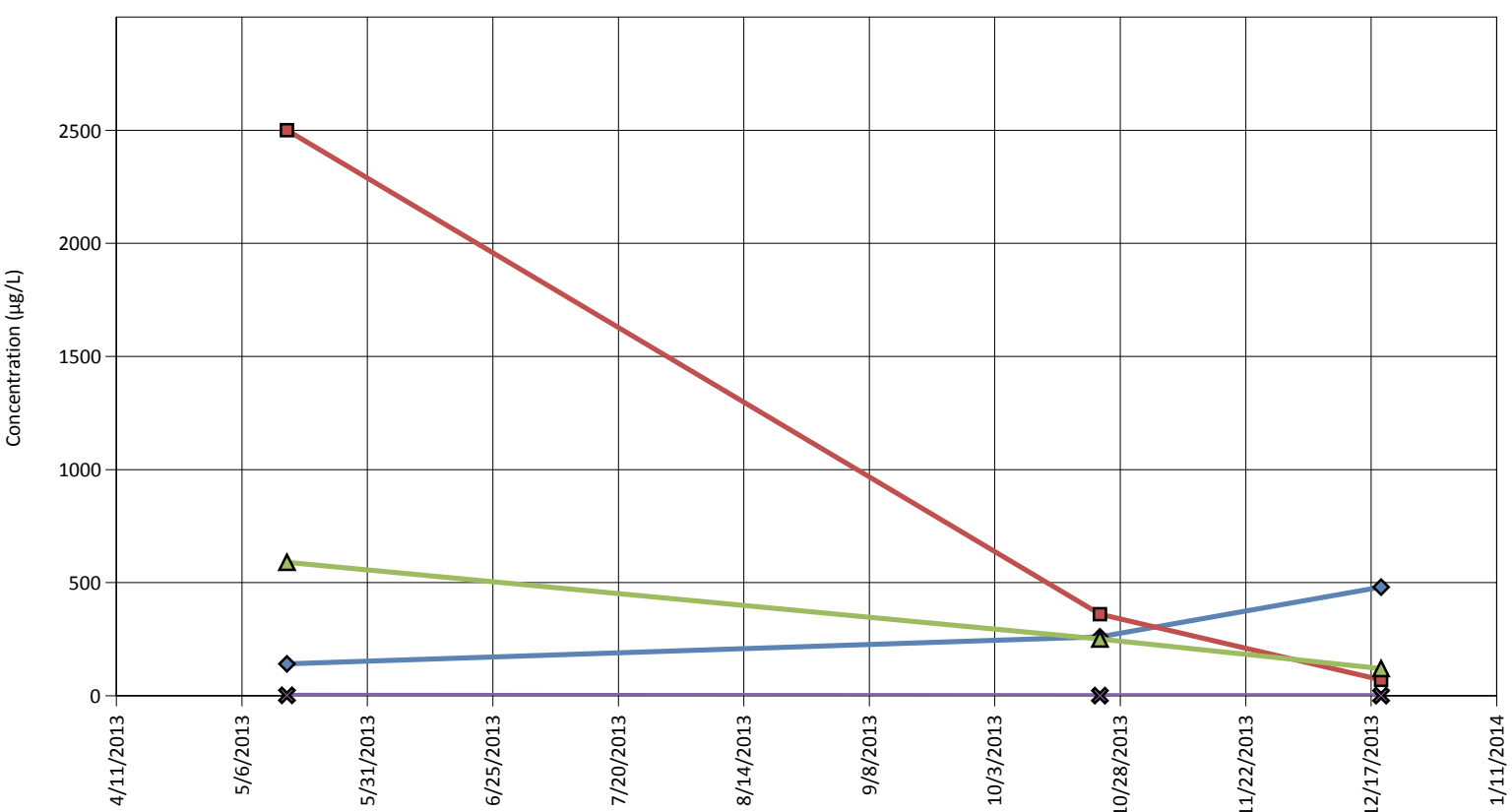
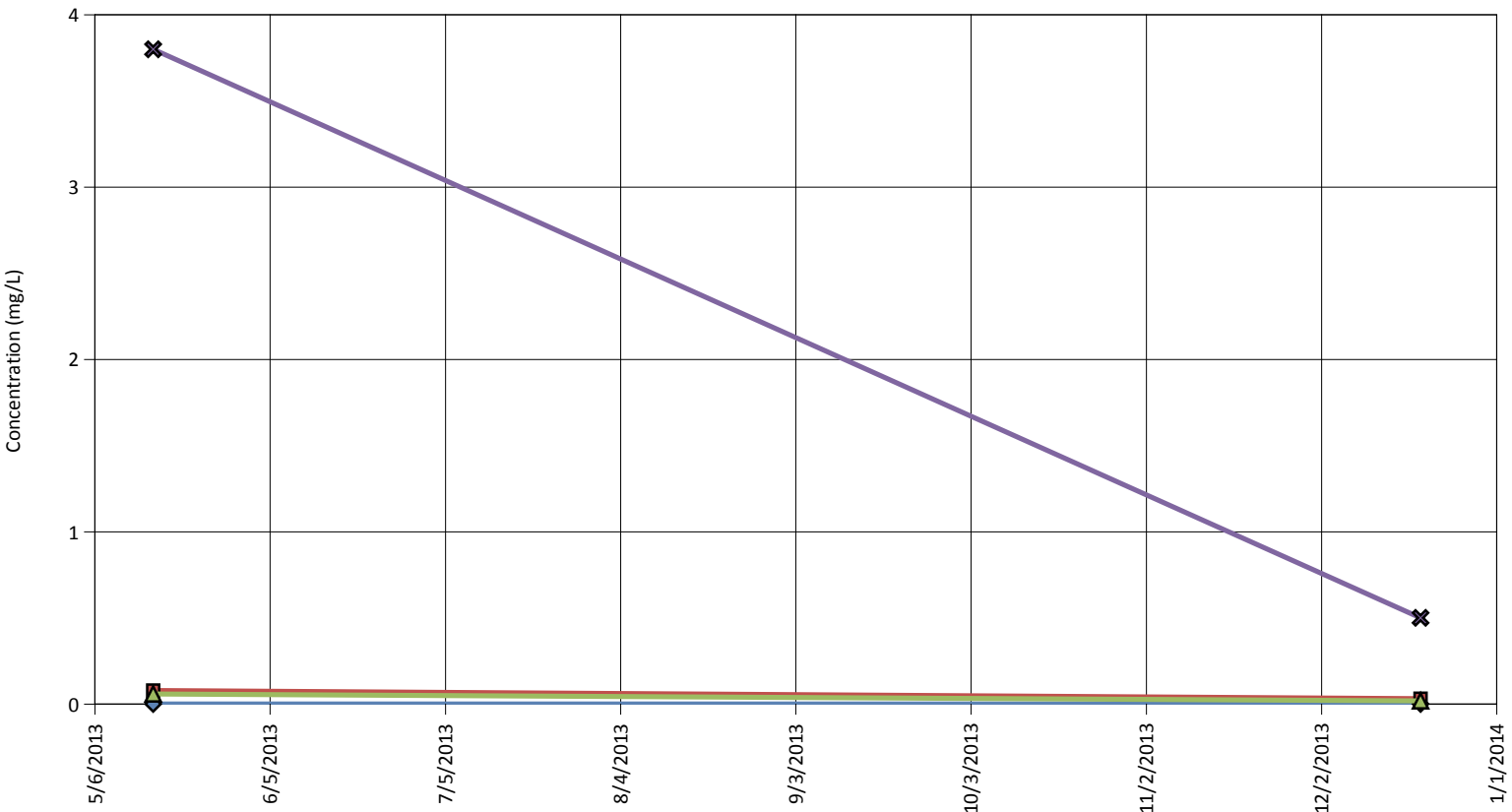
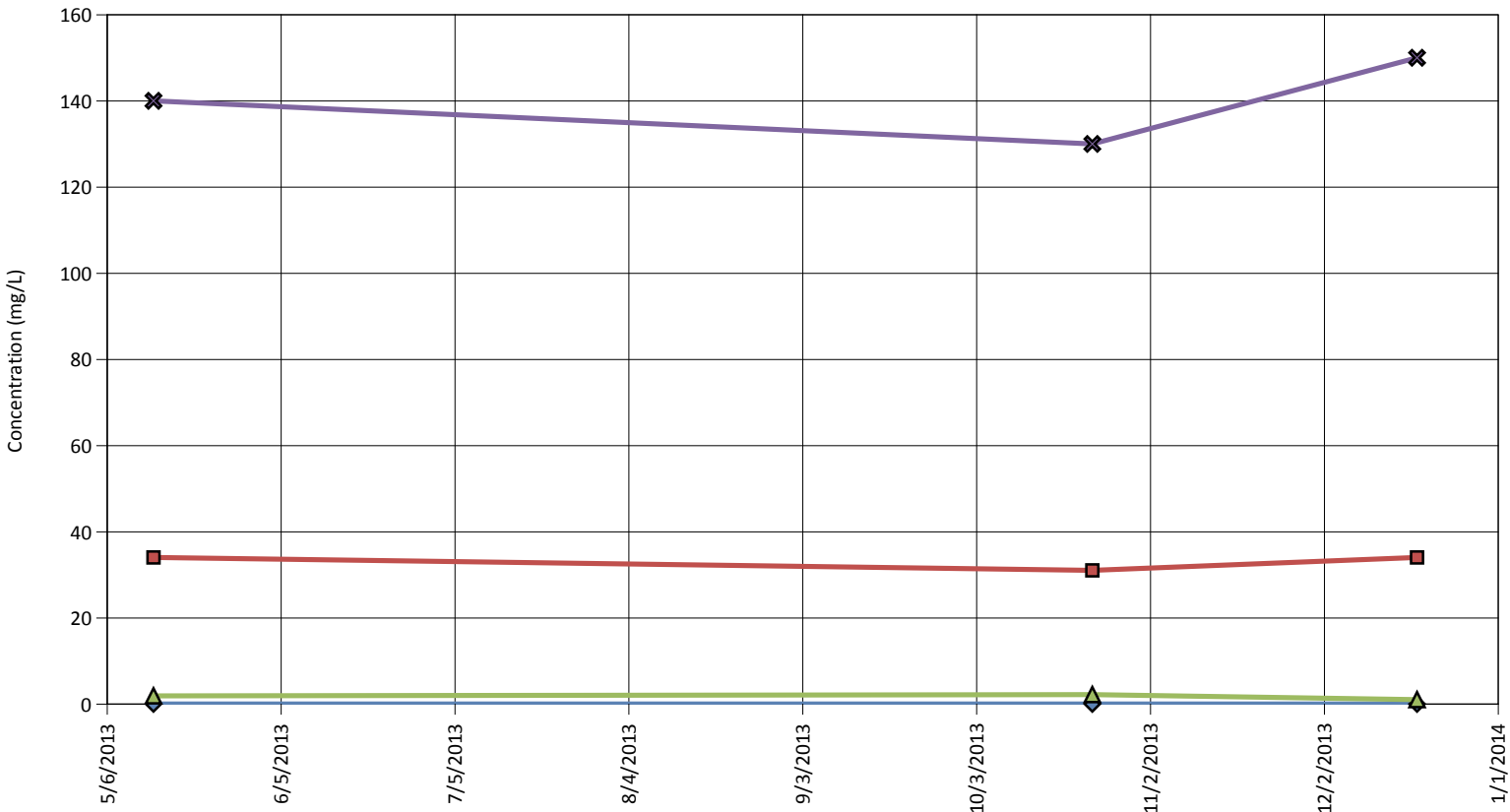


FIGURE 4-21
DISSOLVED GASES TRENDS FOR WELLS OW-01S AND TW-03D/S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

OW-1S



TW-03D



TW-03S

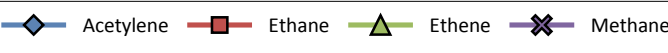
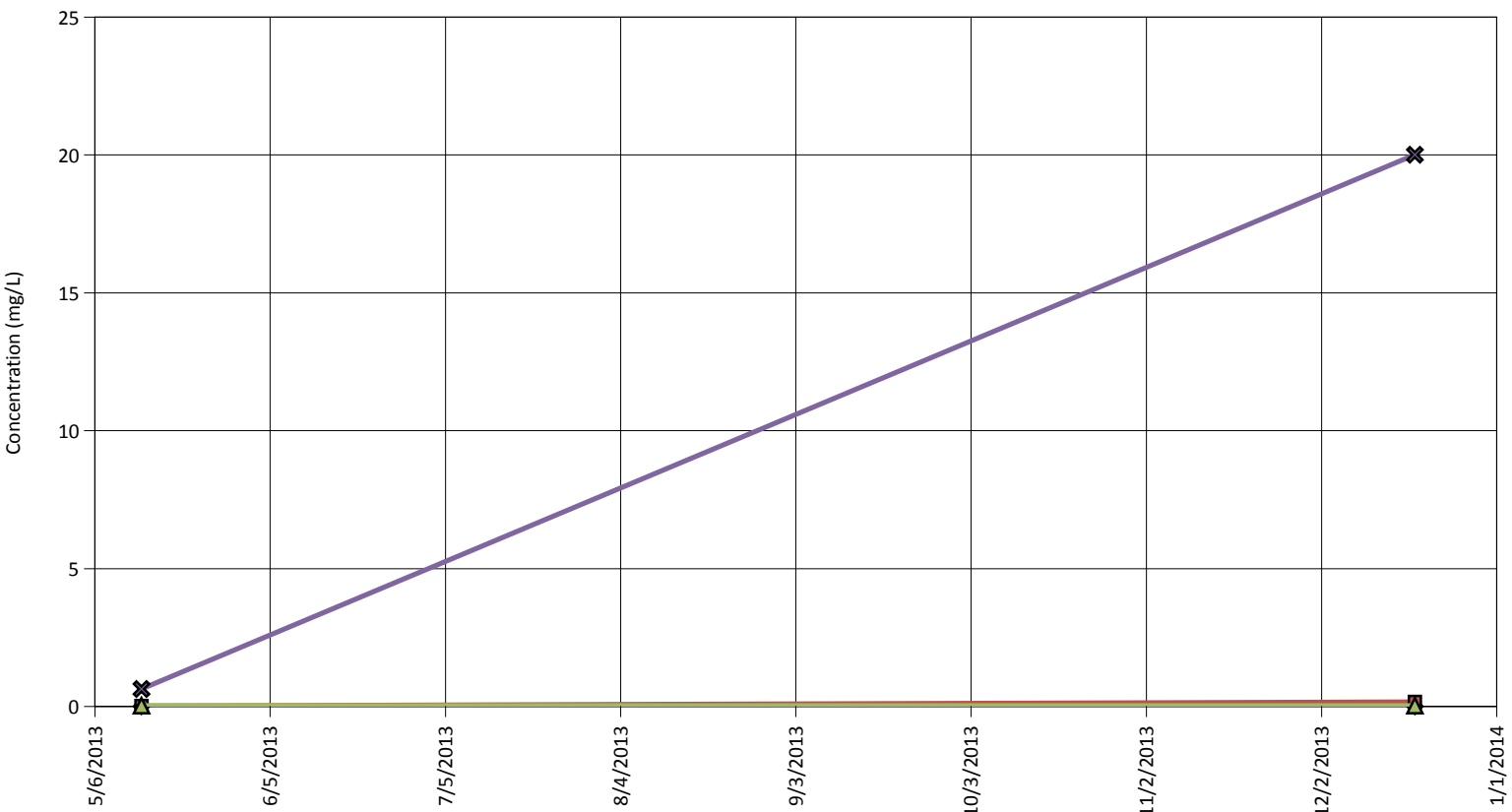
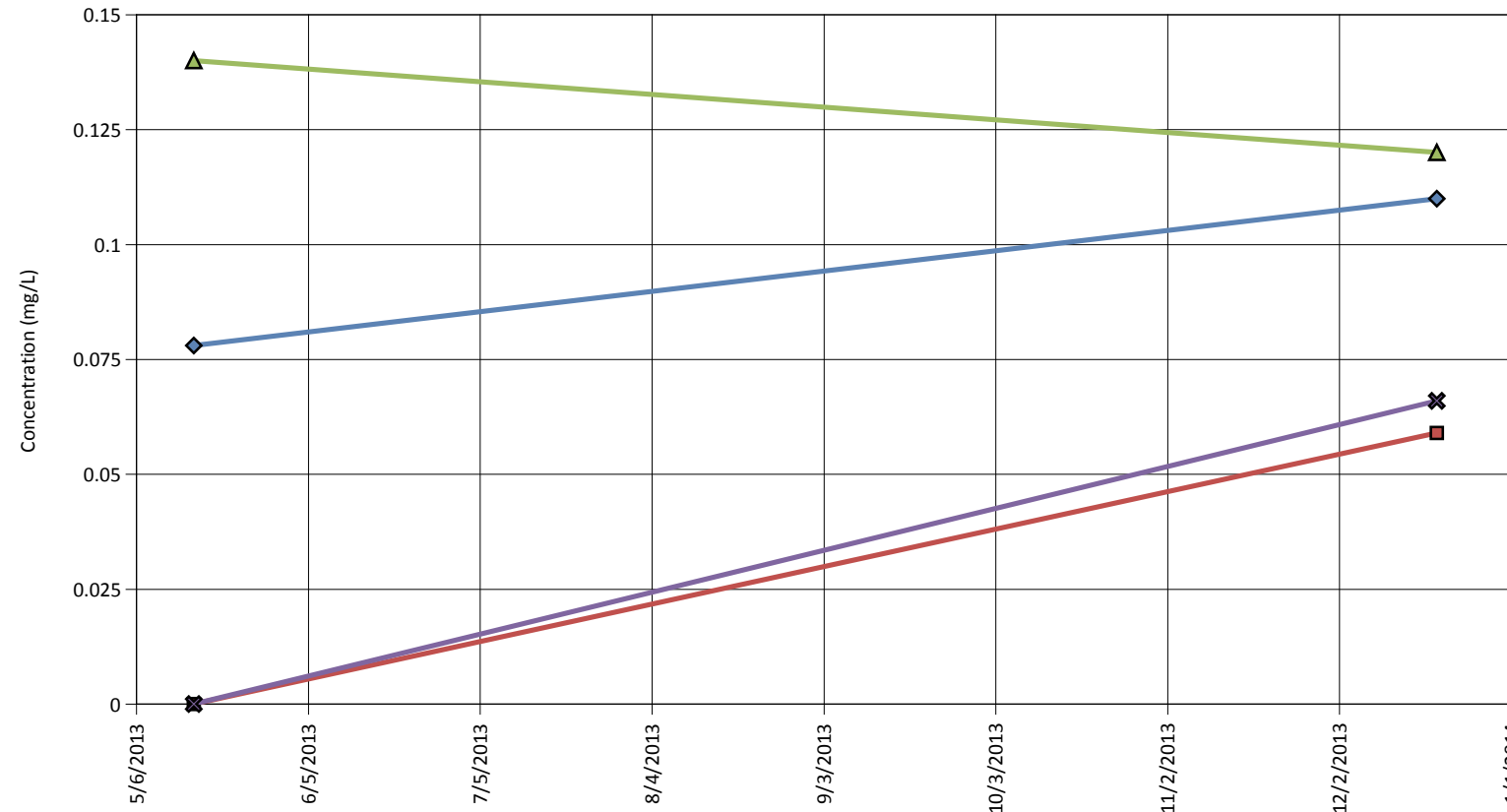
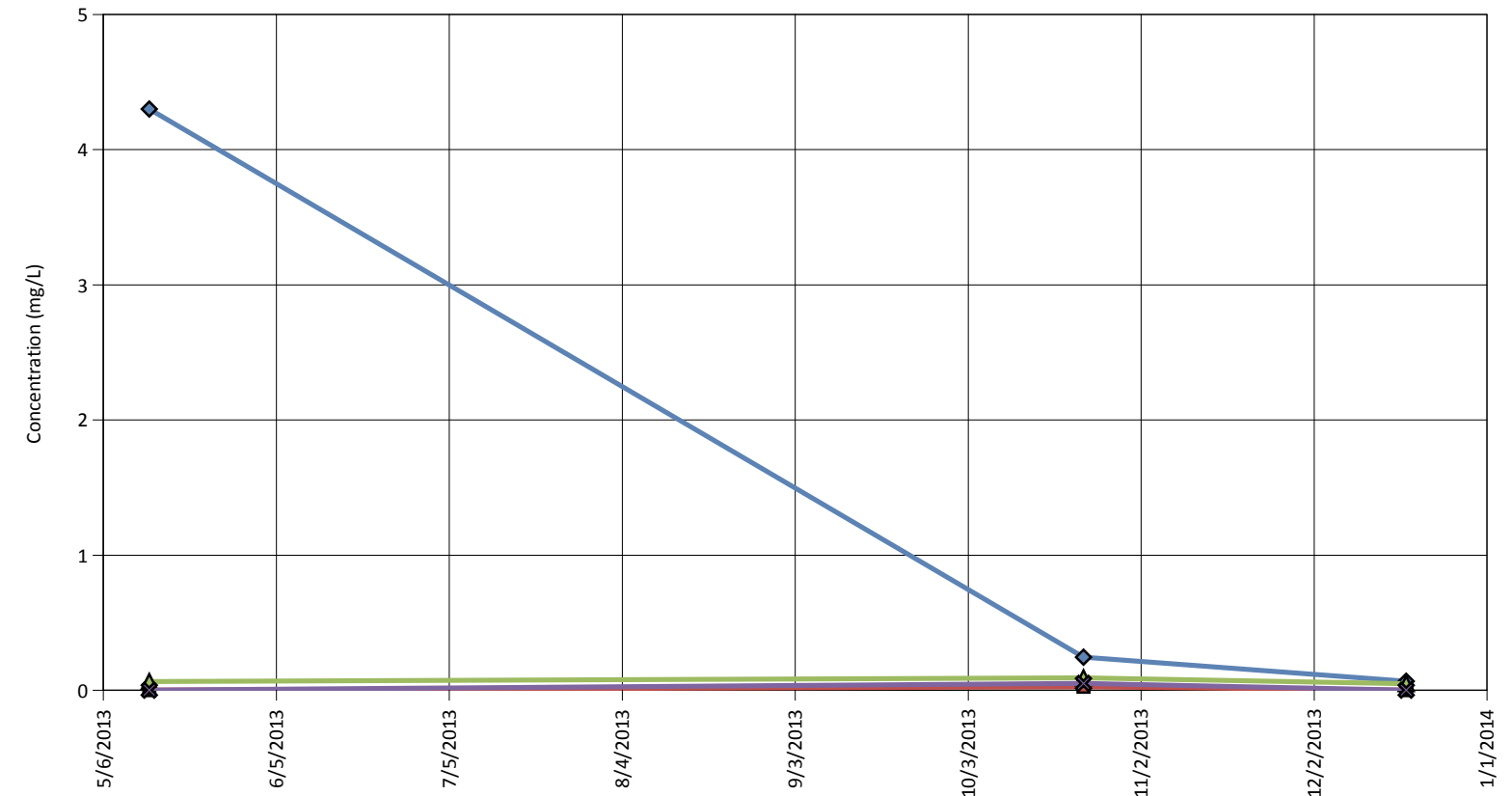


FIGURE 4-22
VFA TRENDS FOR WELLS OW-01S AND TW-03D/S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

OW-1S



TW-03D



TW-03S

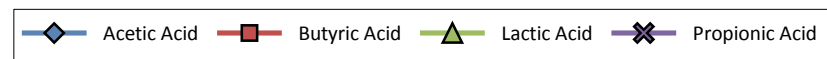
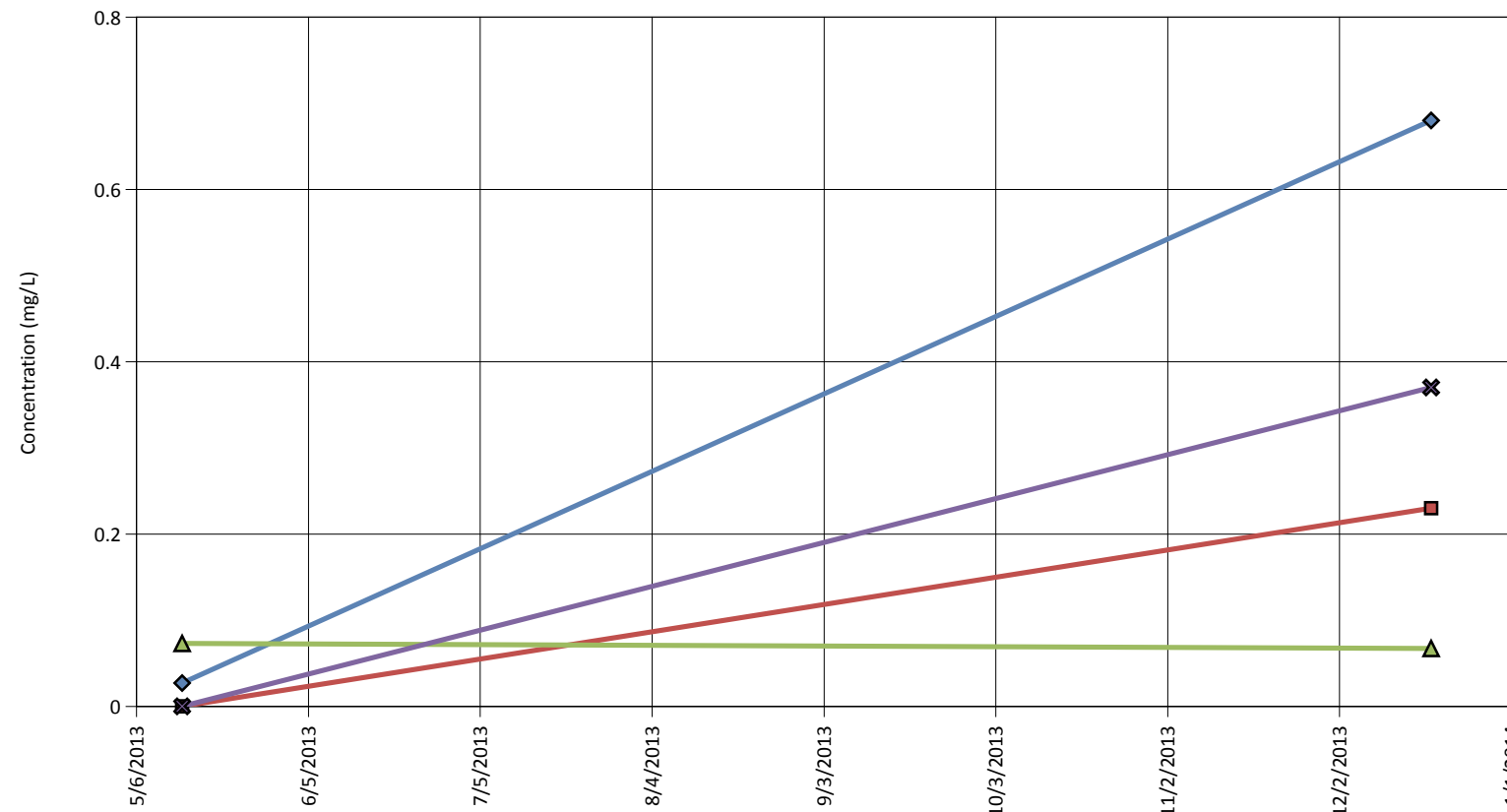


FIGURE 4-23
ORP TRENDS FOR WELLS TW-04D/S AND PW-01D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

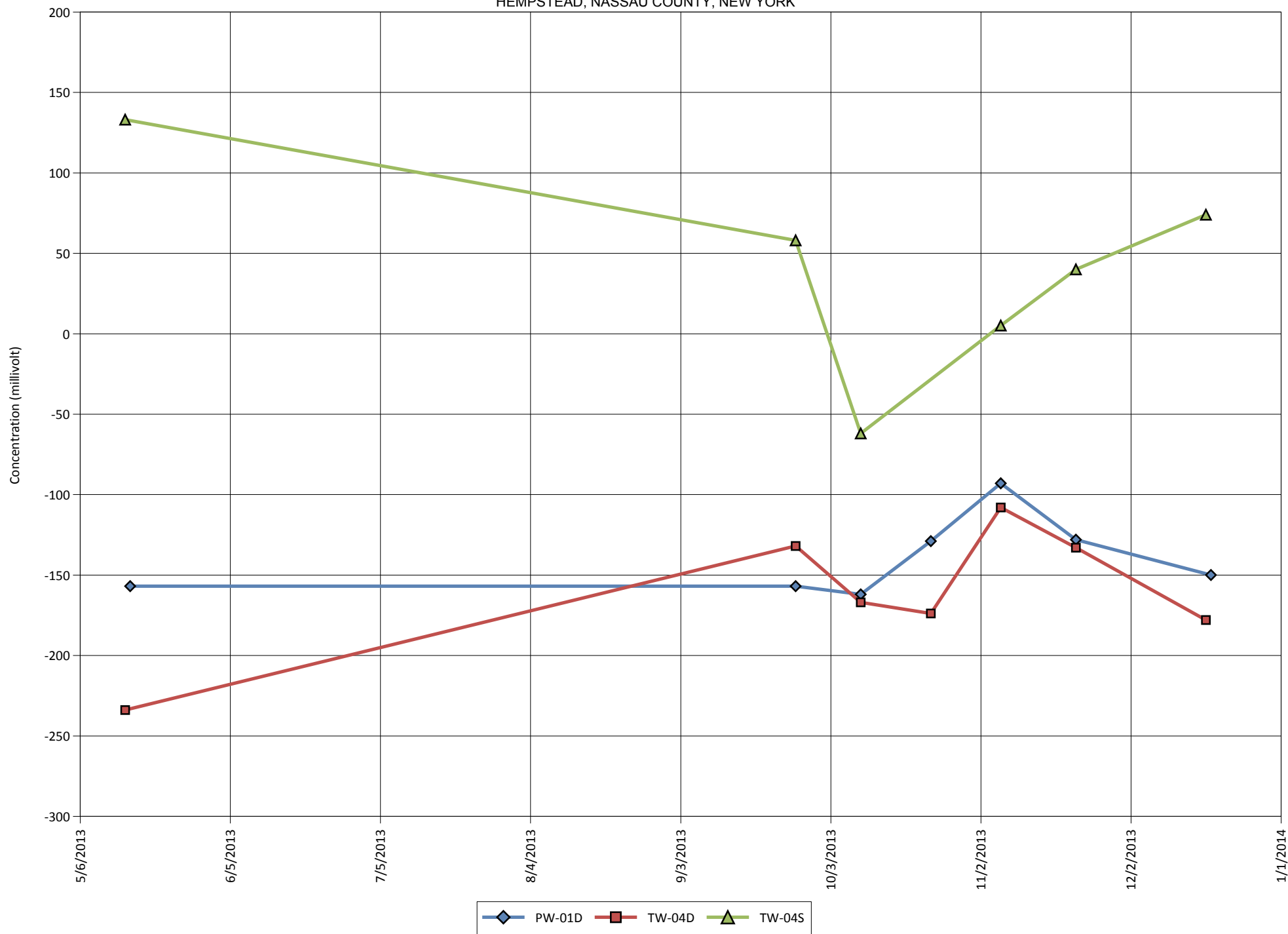


FIGURE 4-24
DISSOLVED OXYGEN TRENDS FOR WELLS TW-04D/S AND PW-01D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

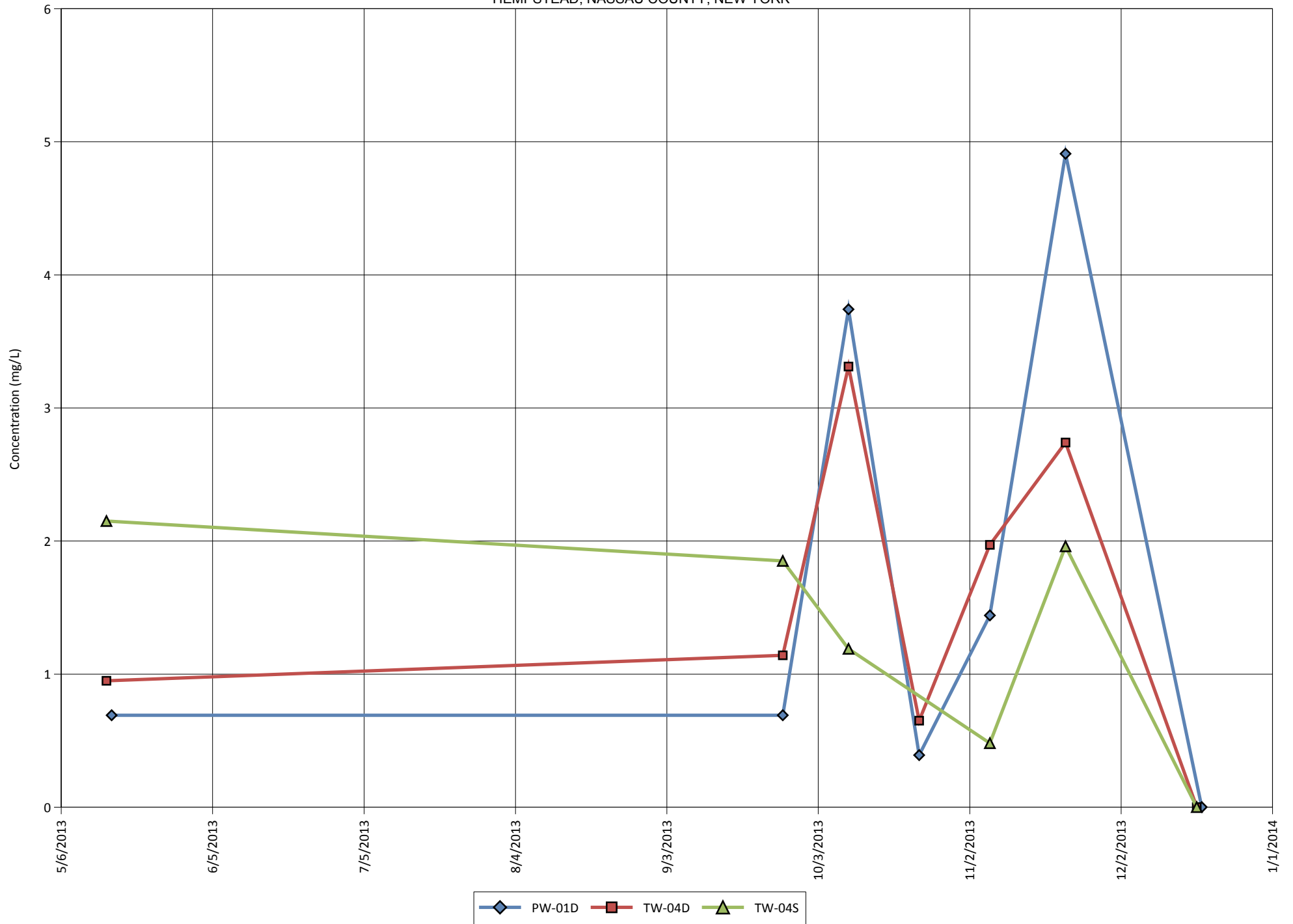
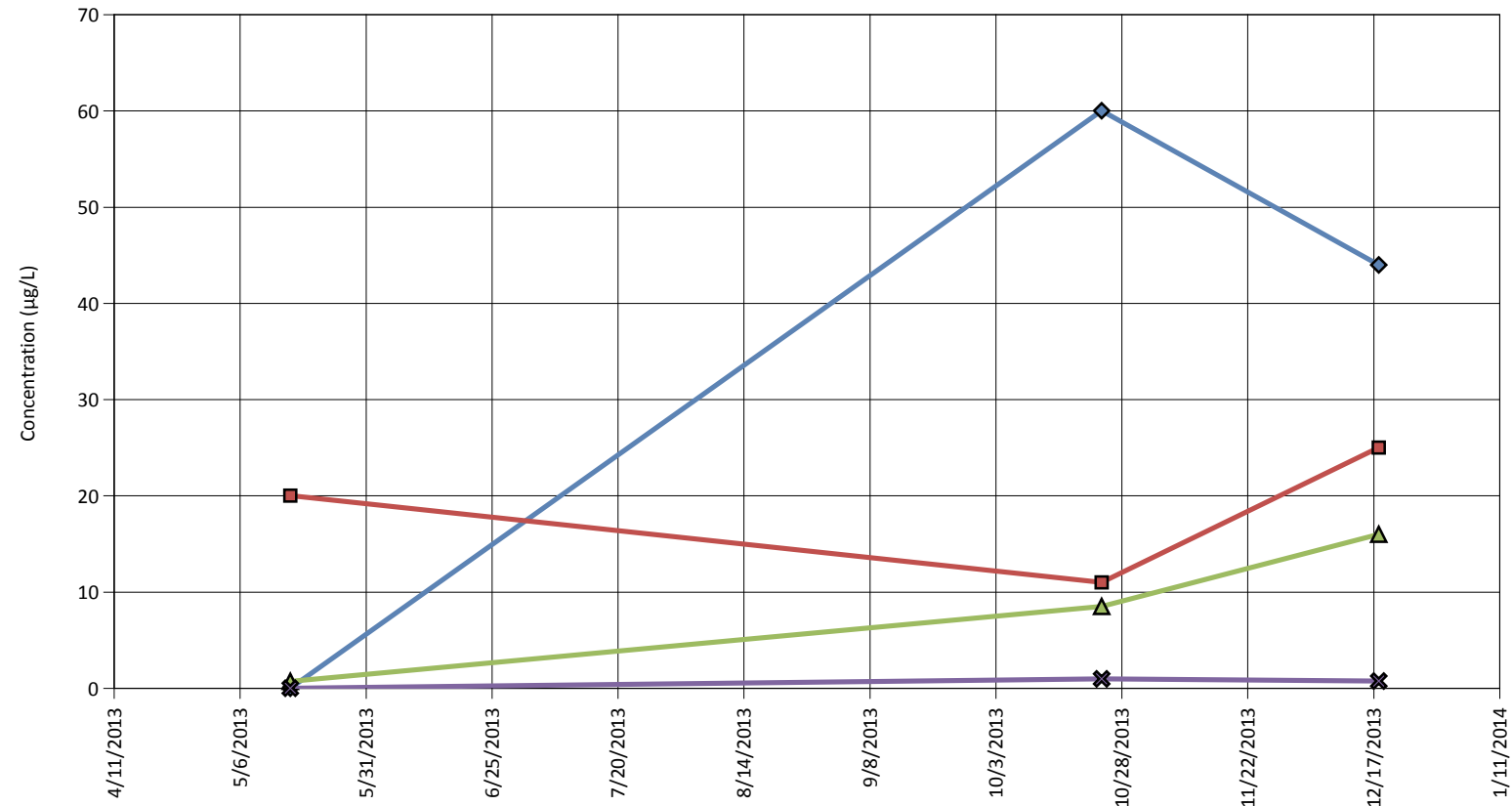
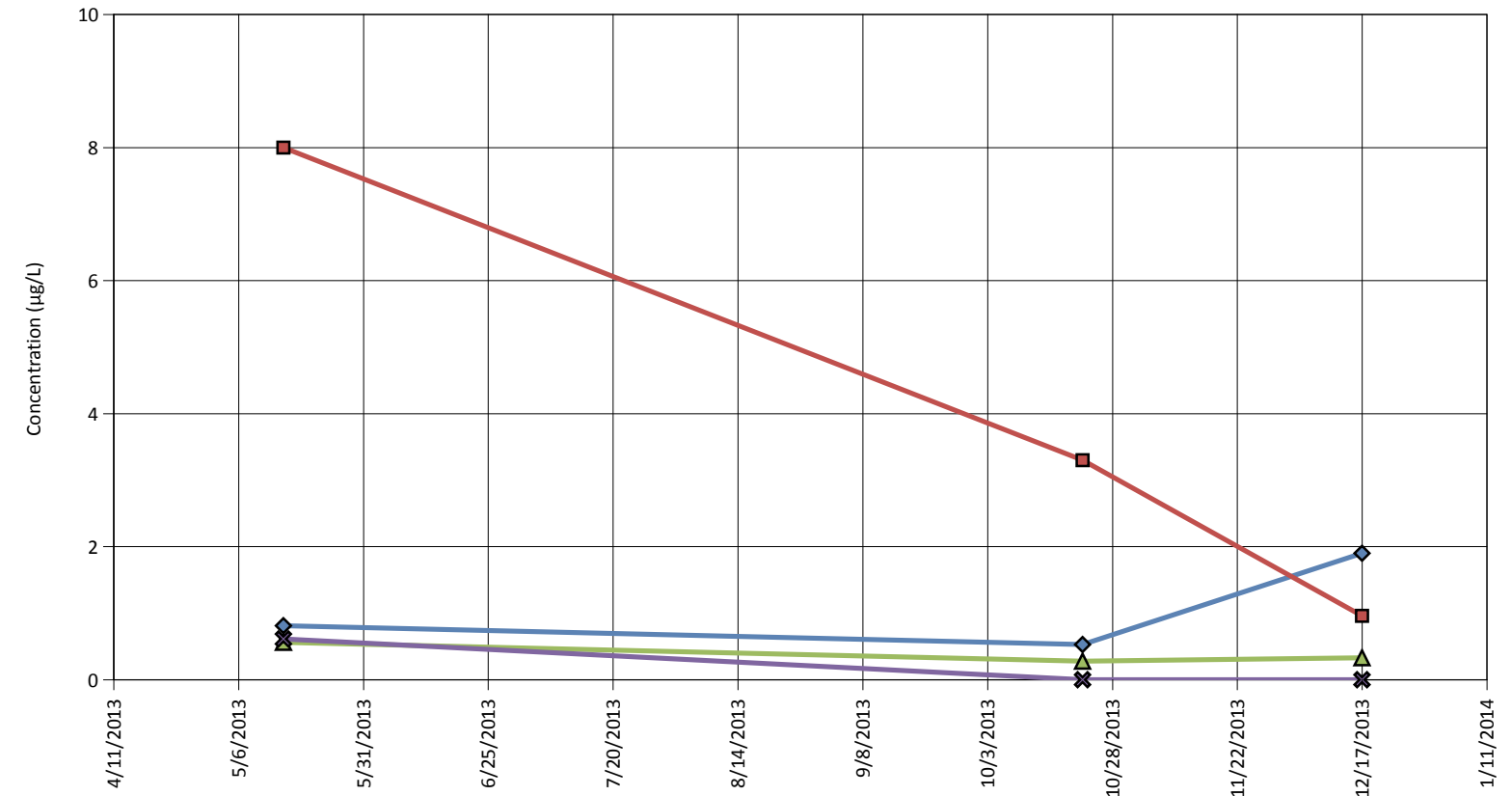


FIGURE 4-25
CHLORINATED VOC TRENDS FOR WELLS TW-04D/S AND PW-01D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

PW-01D



TW-04D



TW-04S

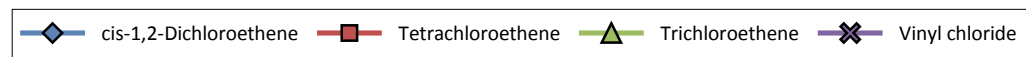
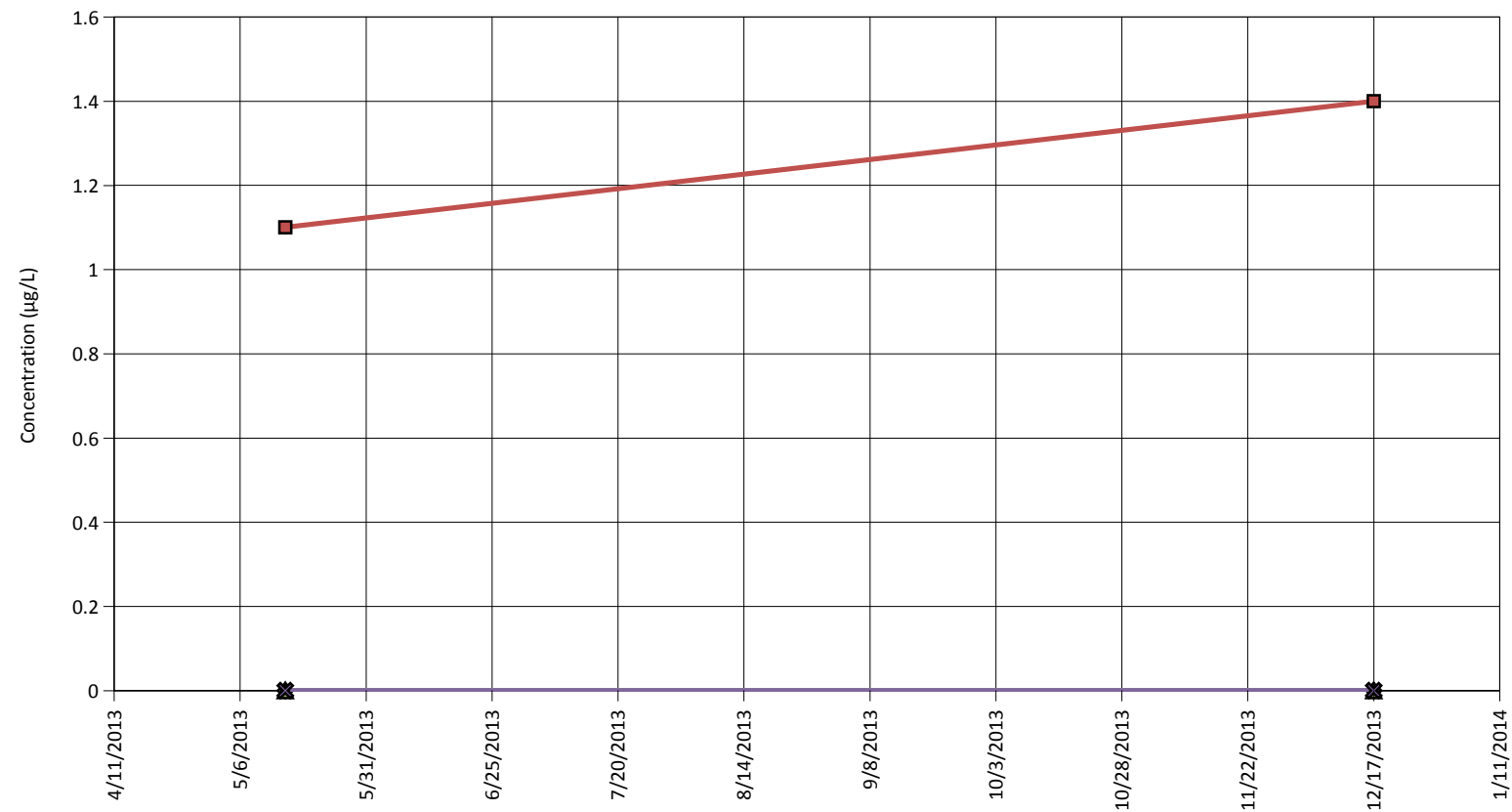


FIGURE 4-26
DISSOLVED GASES TRENDS FOR WELL PW-01D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK
PW-01D

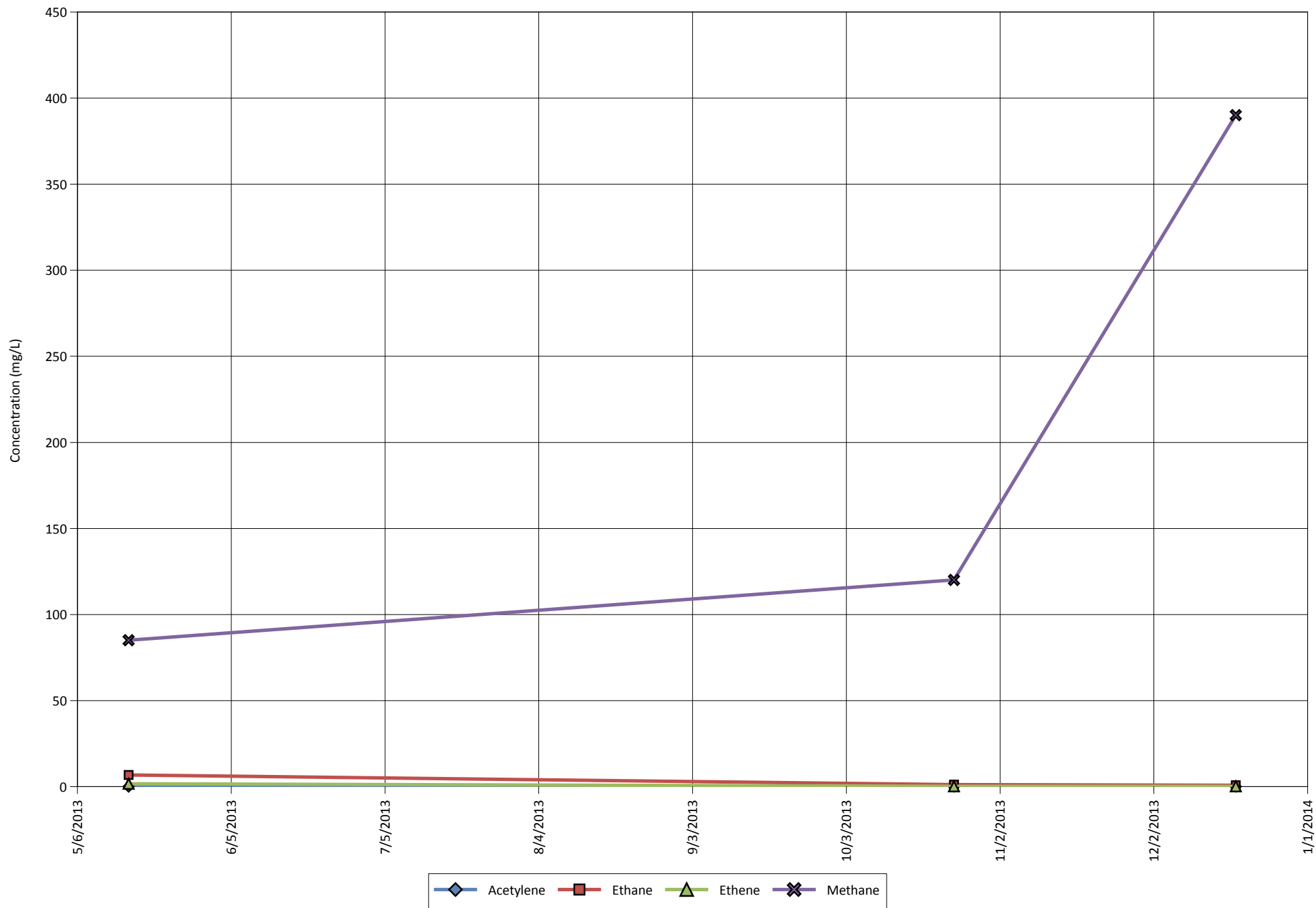


FIGURE 4-27
VFA TRENDS FOR WELL PW-01D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK
PW-01D

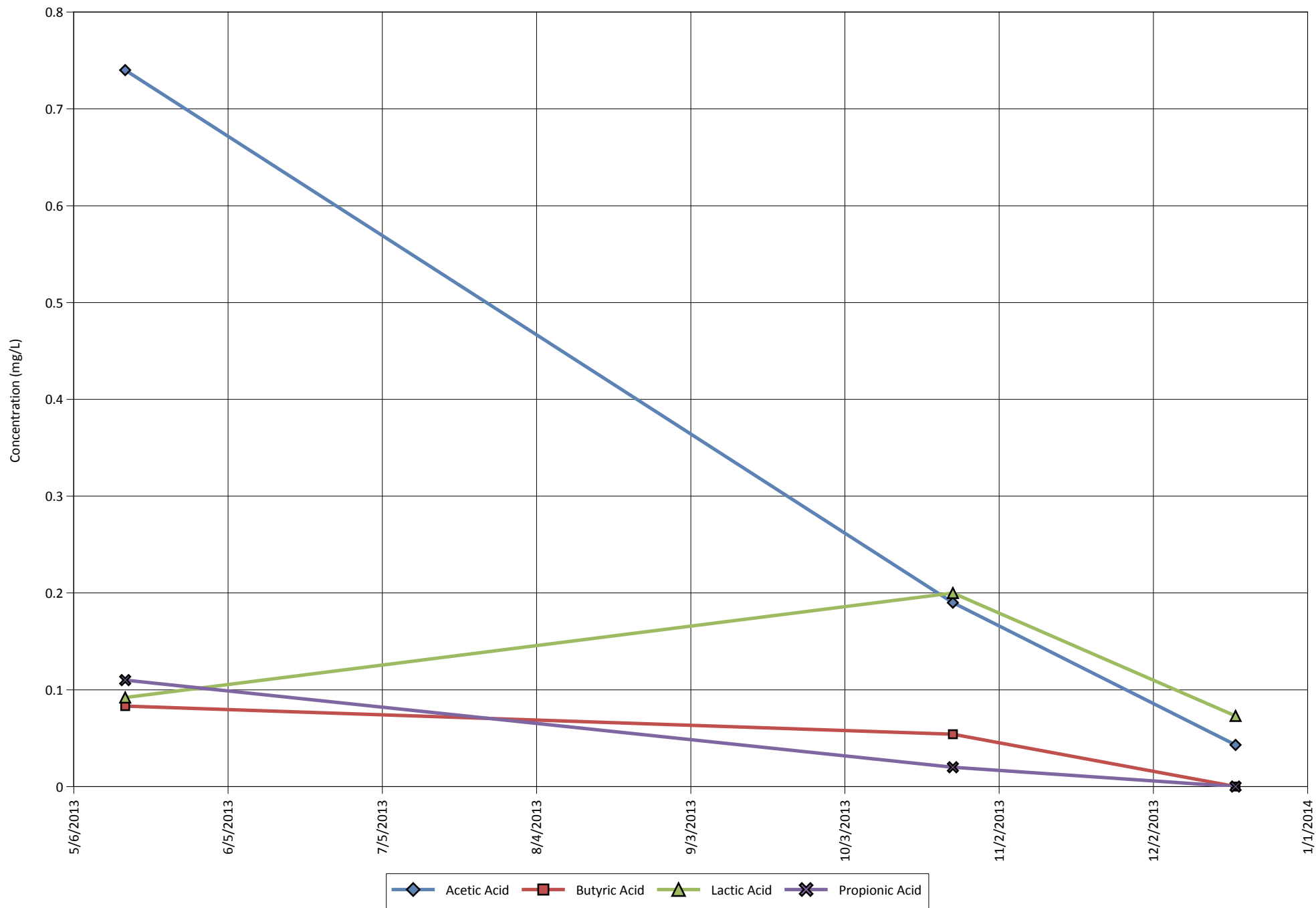


FIGURE 4-28
ORP TRENDS FOR WELLS TW-06D, TW-07D, AND TW-08D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

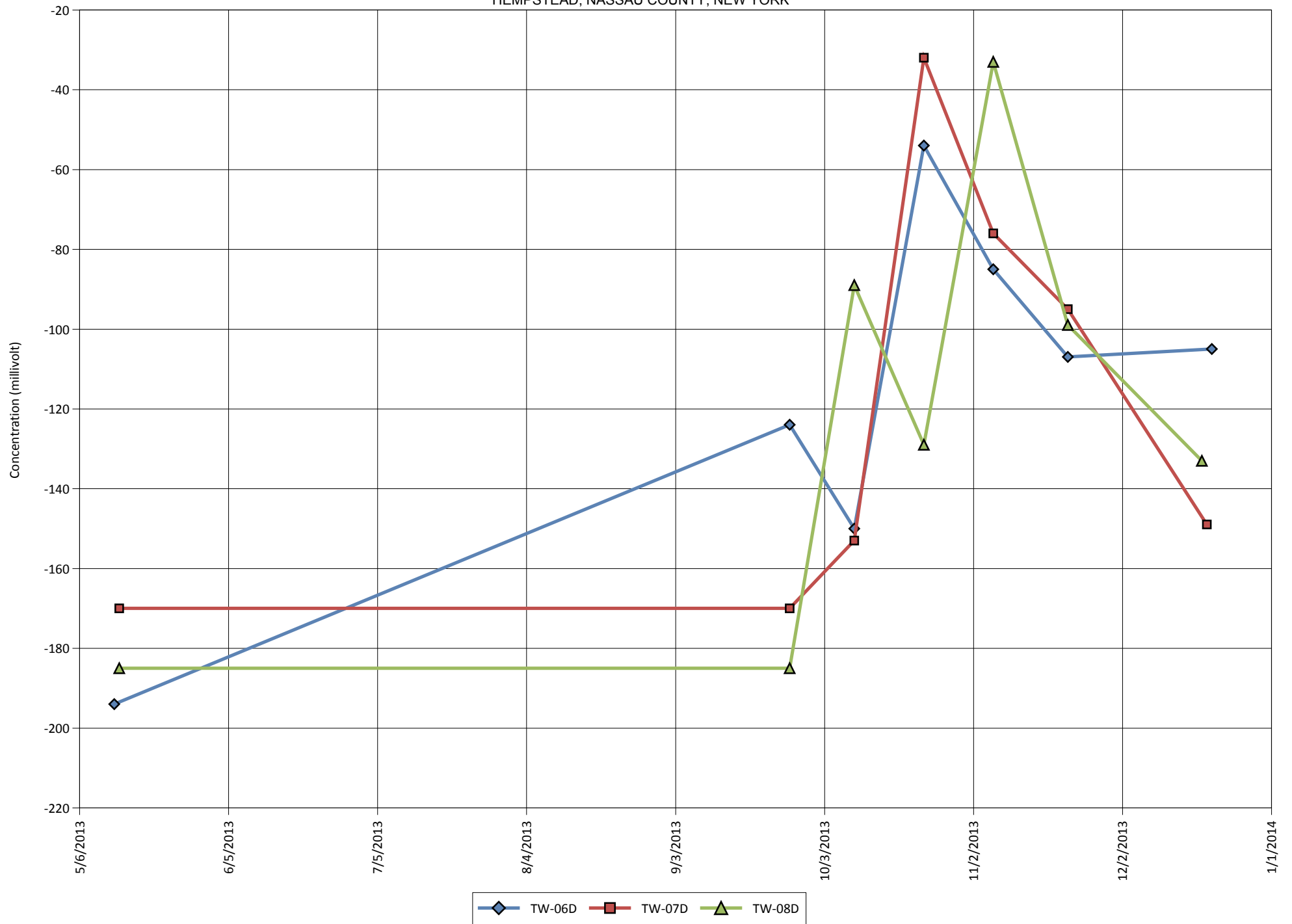


FIGURE 4-29
DISSOLVED OXYGEN TRENDS FOR WELLS TW-06D, TW-07D, AND TW-08D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

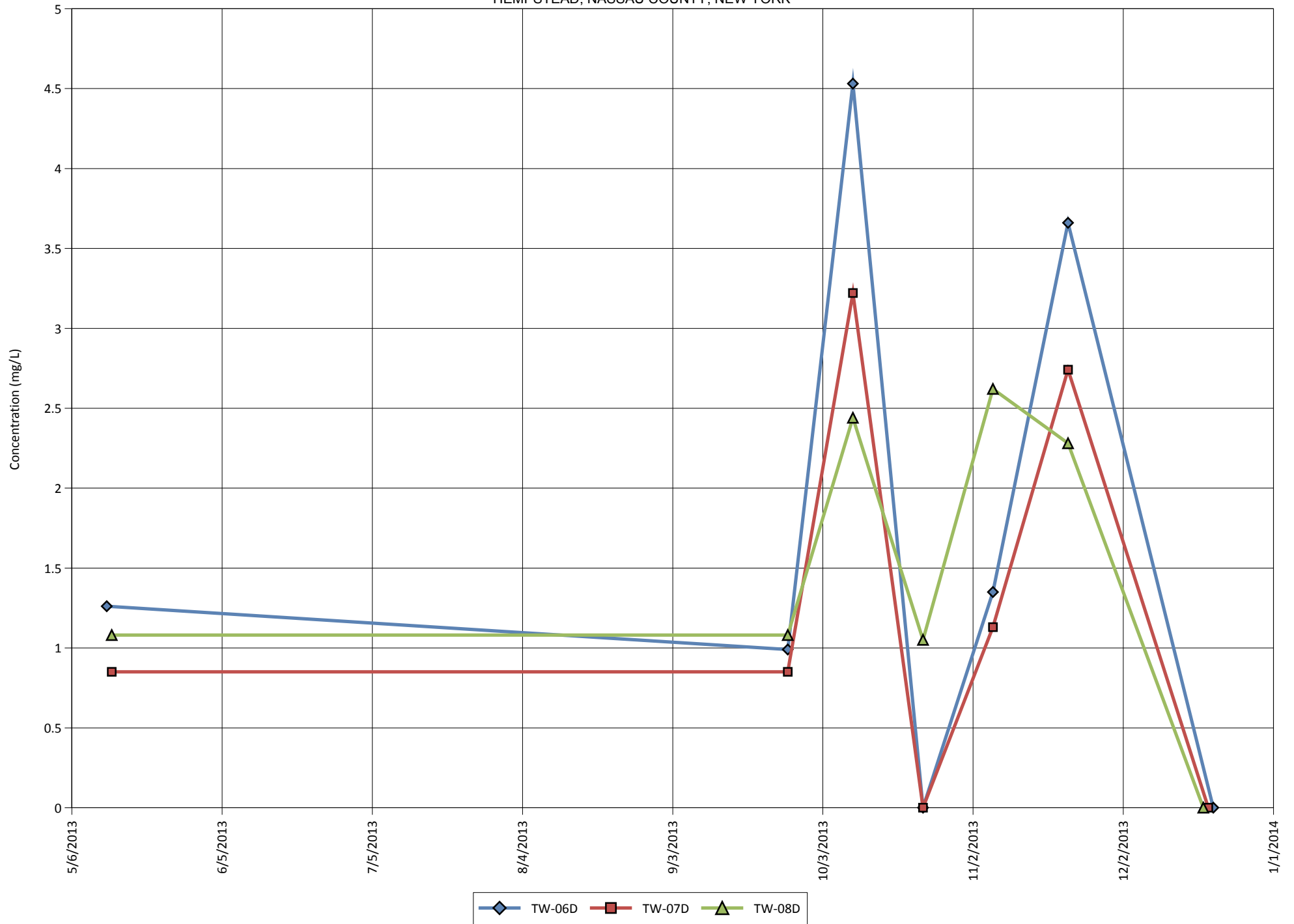


FIGURE 4-30
CHLORINATED VOC TRENDS FOR WELLS TW-06D, TW-07D, AND TW-08D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

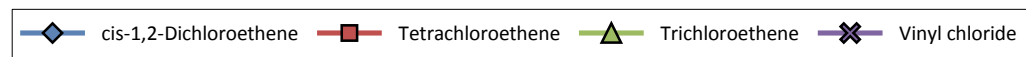
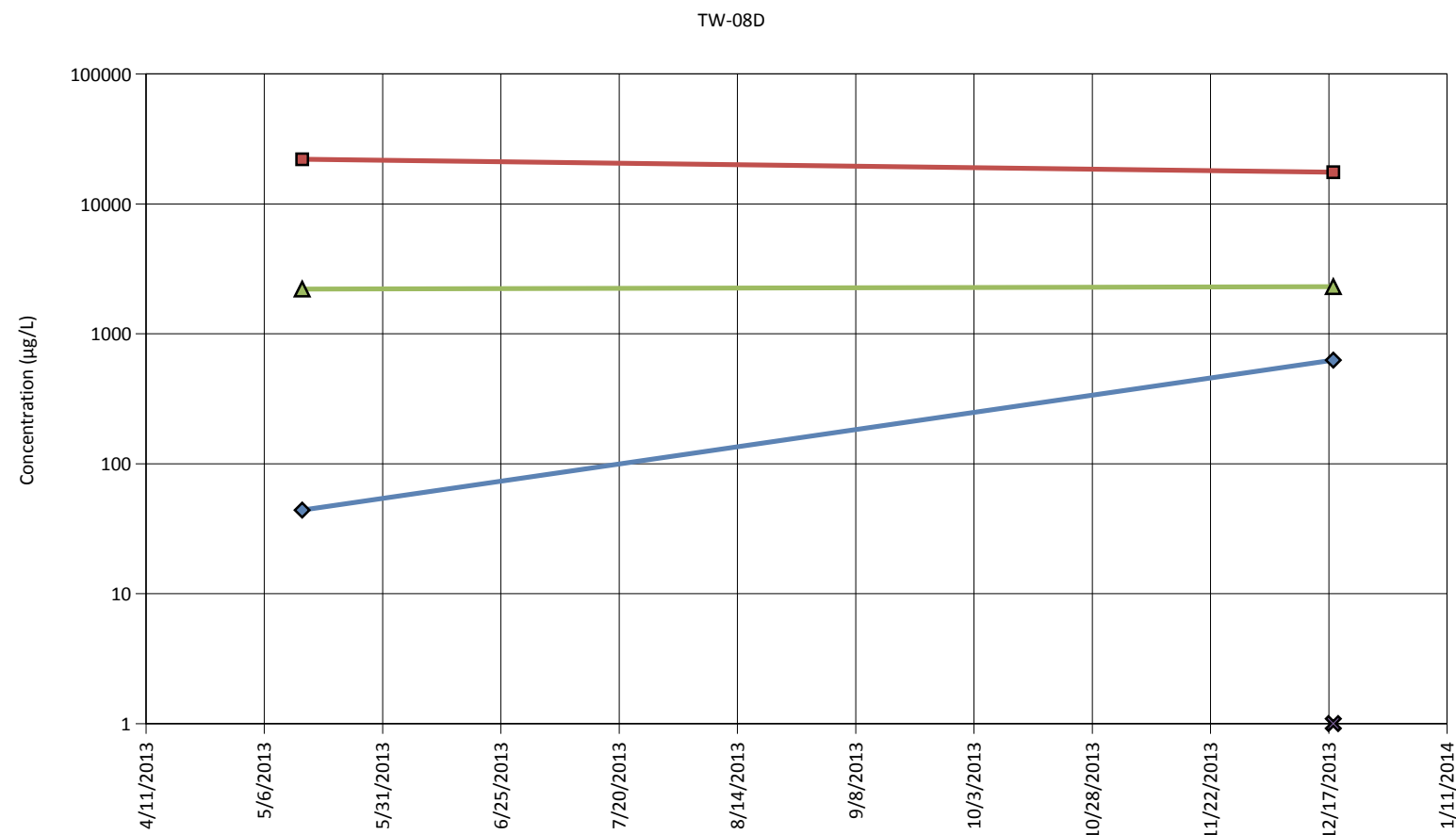
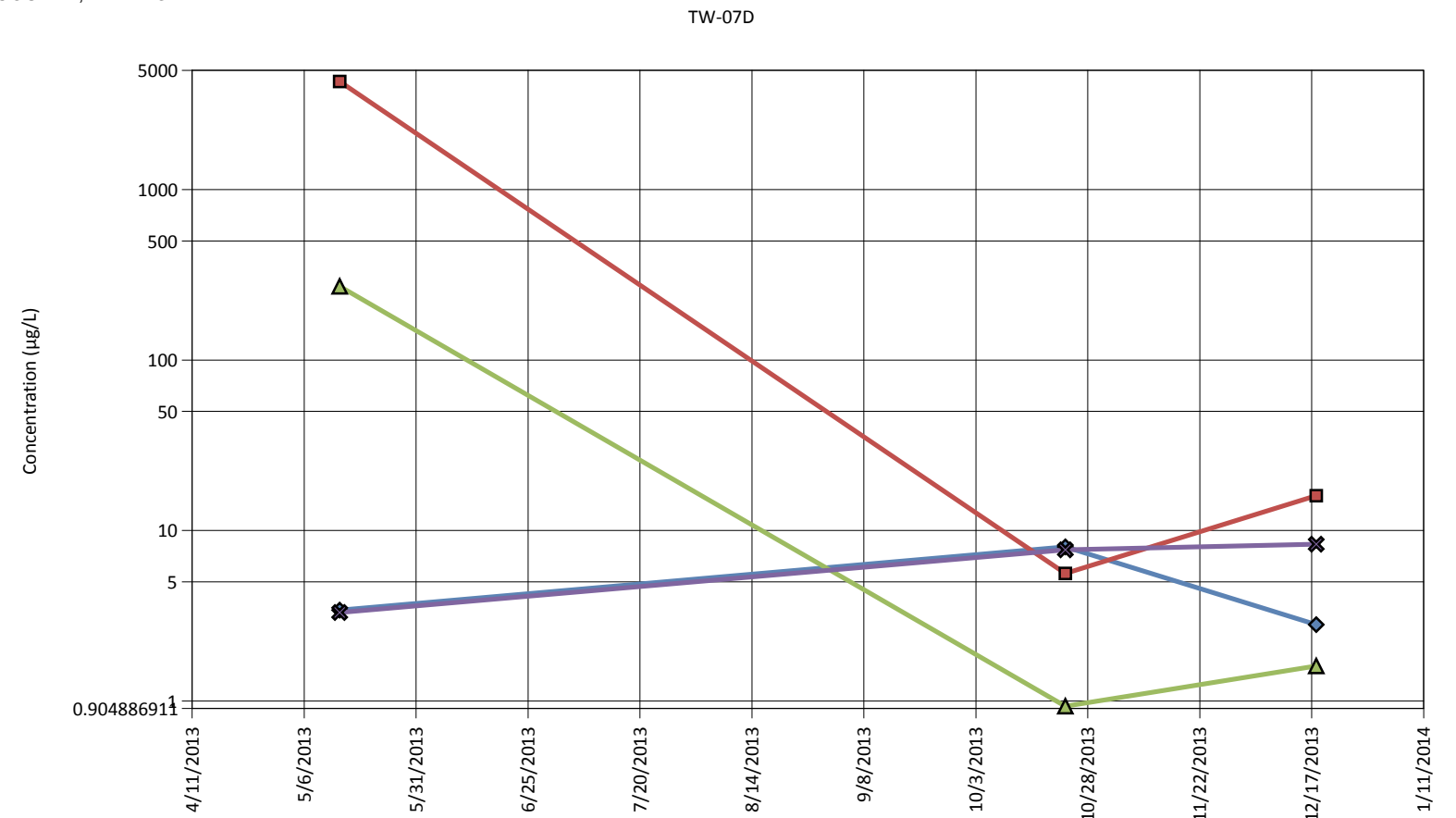
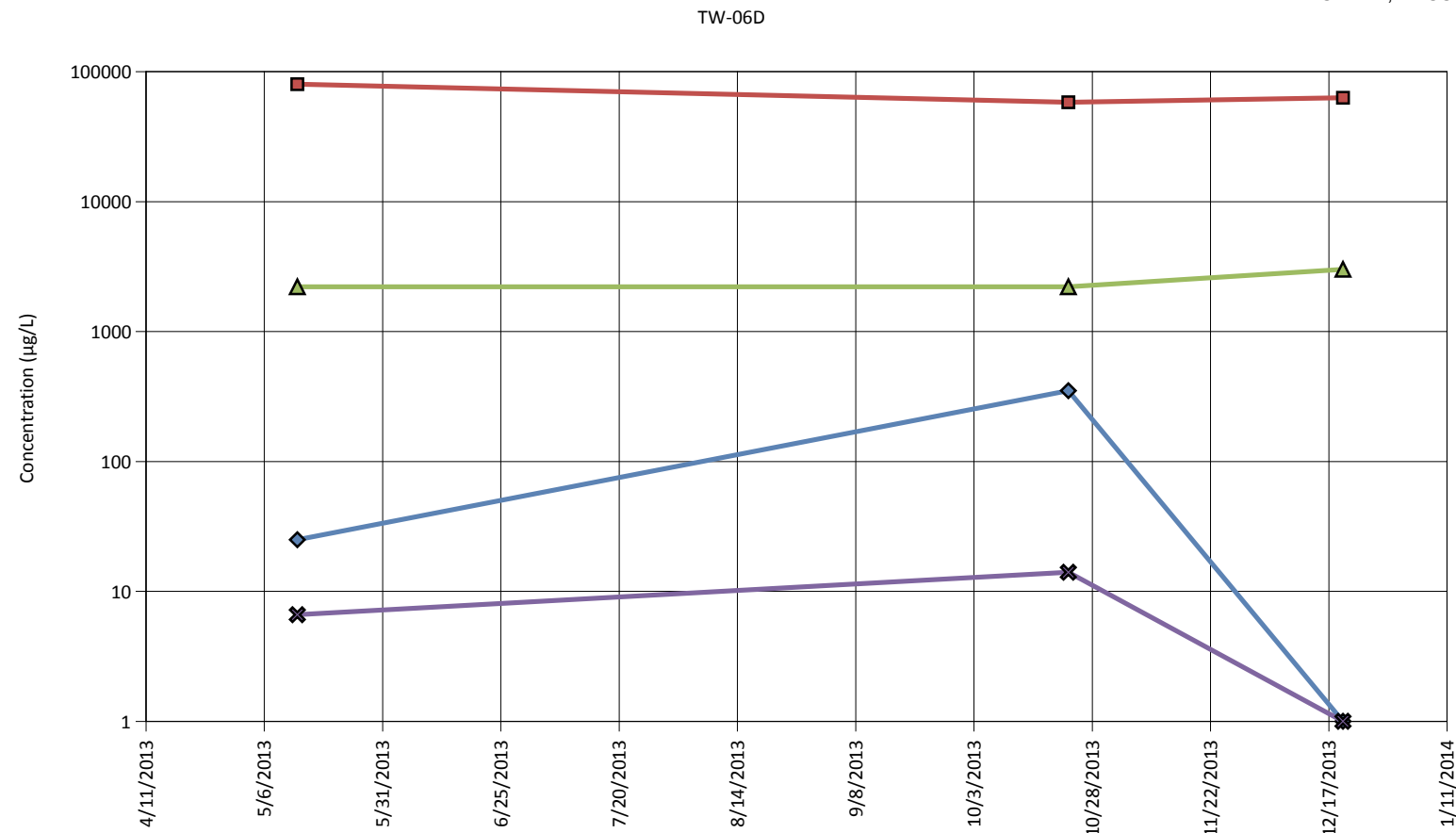
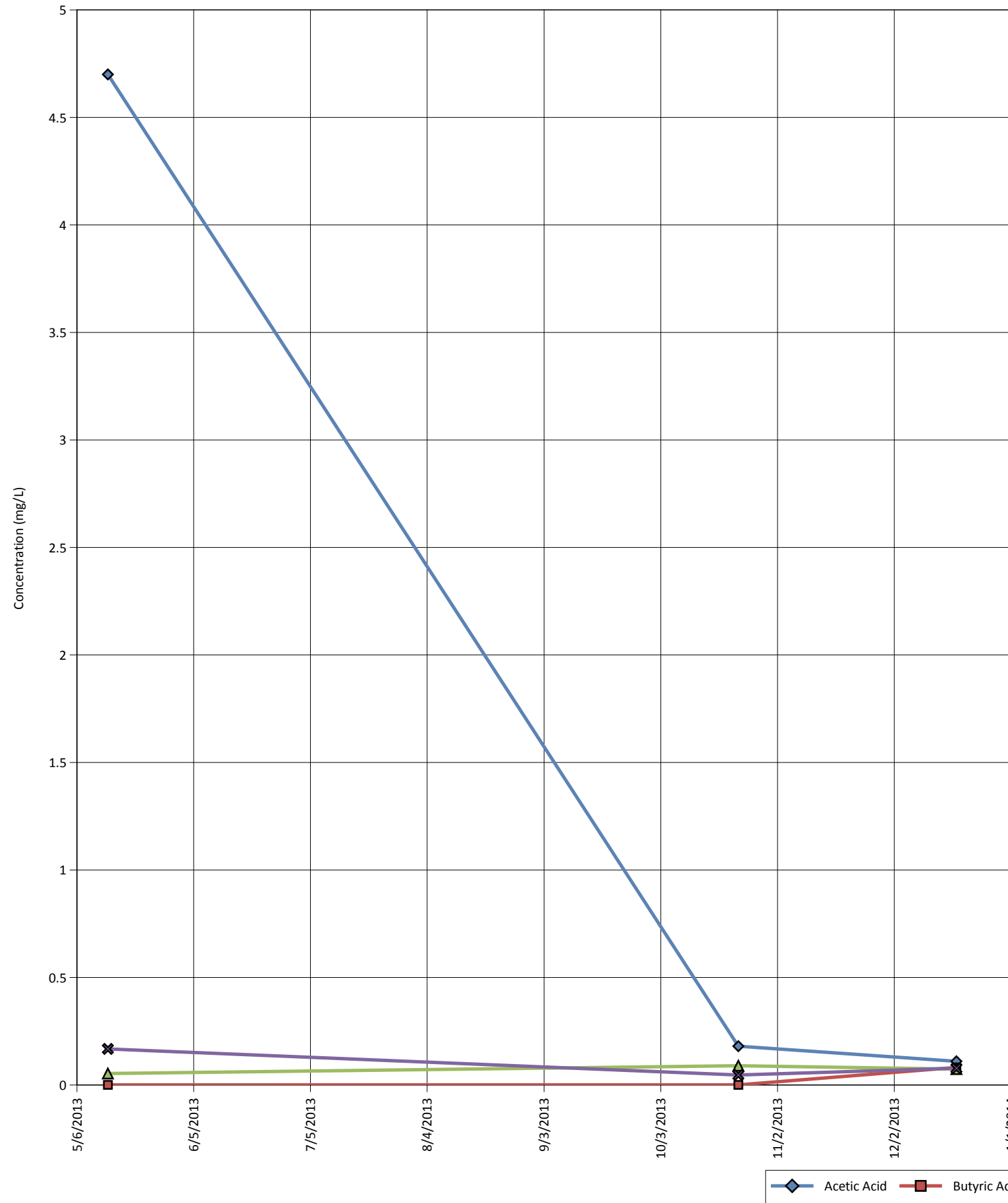


FIGURE 4-31
VFA TRENDS FOR WELLS TW-07D AND TW-08D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

TW-07D



TW-08D

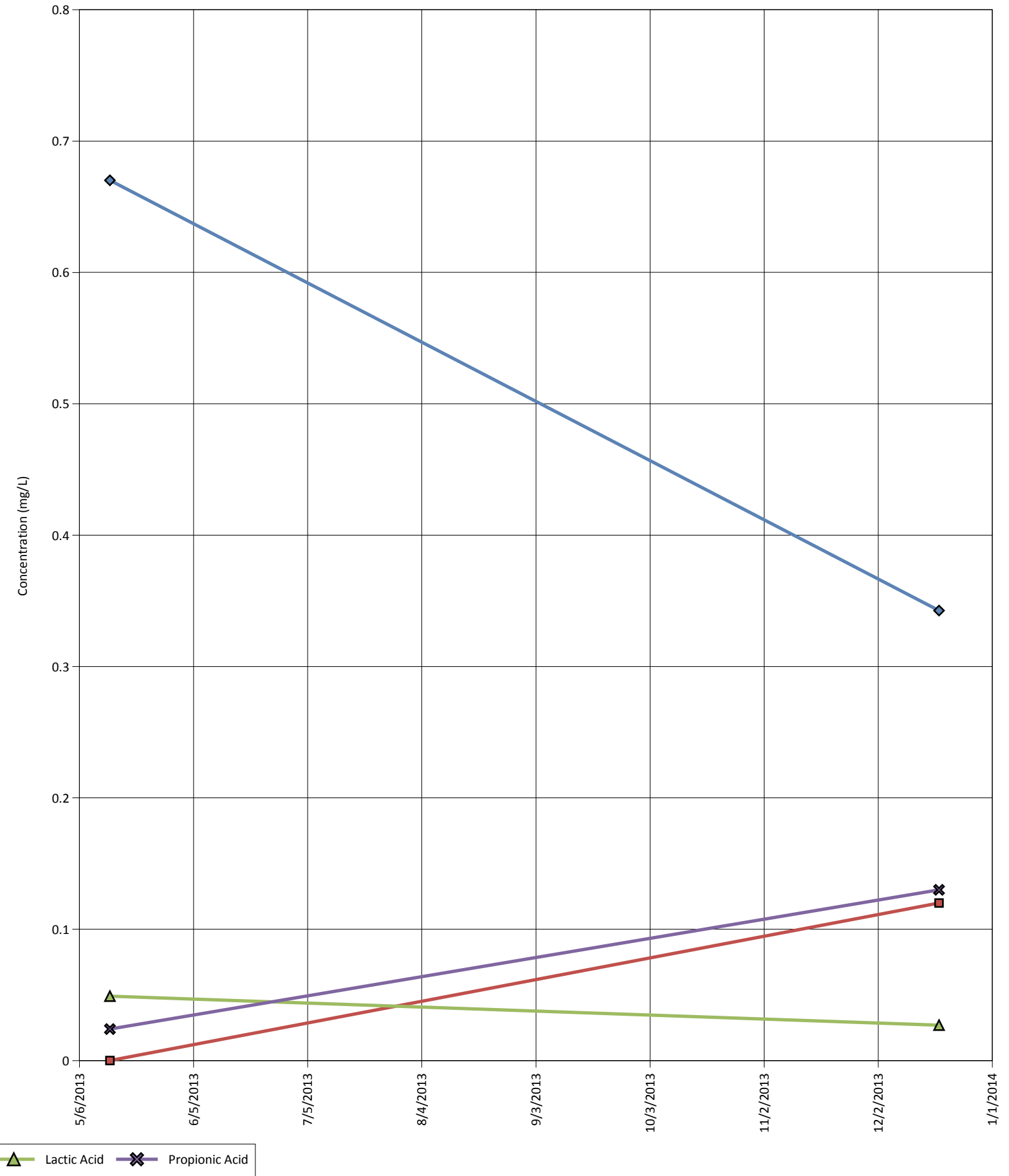
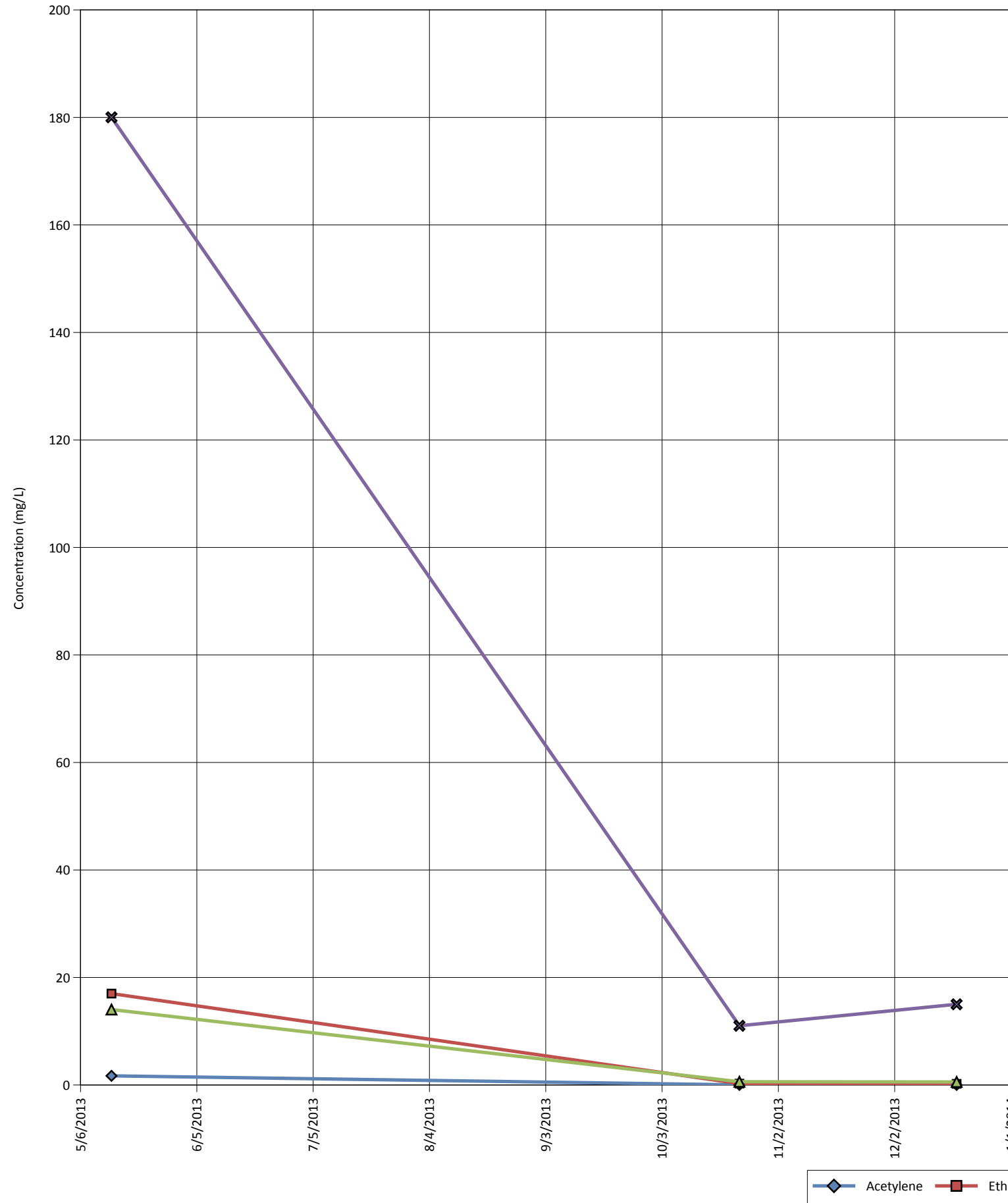


FIGURE 4-32
DISSOLVED GASES TRENDS FOR WELLS TW-07D AND TW-08D
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

TW-07D



TW-08D

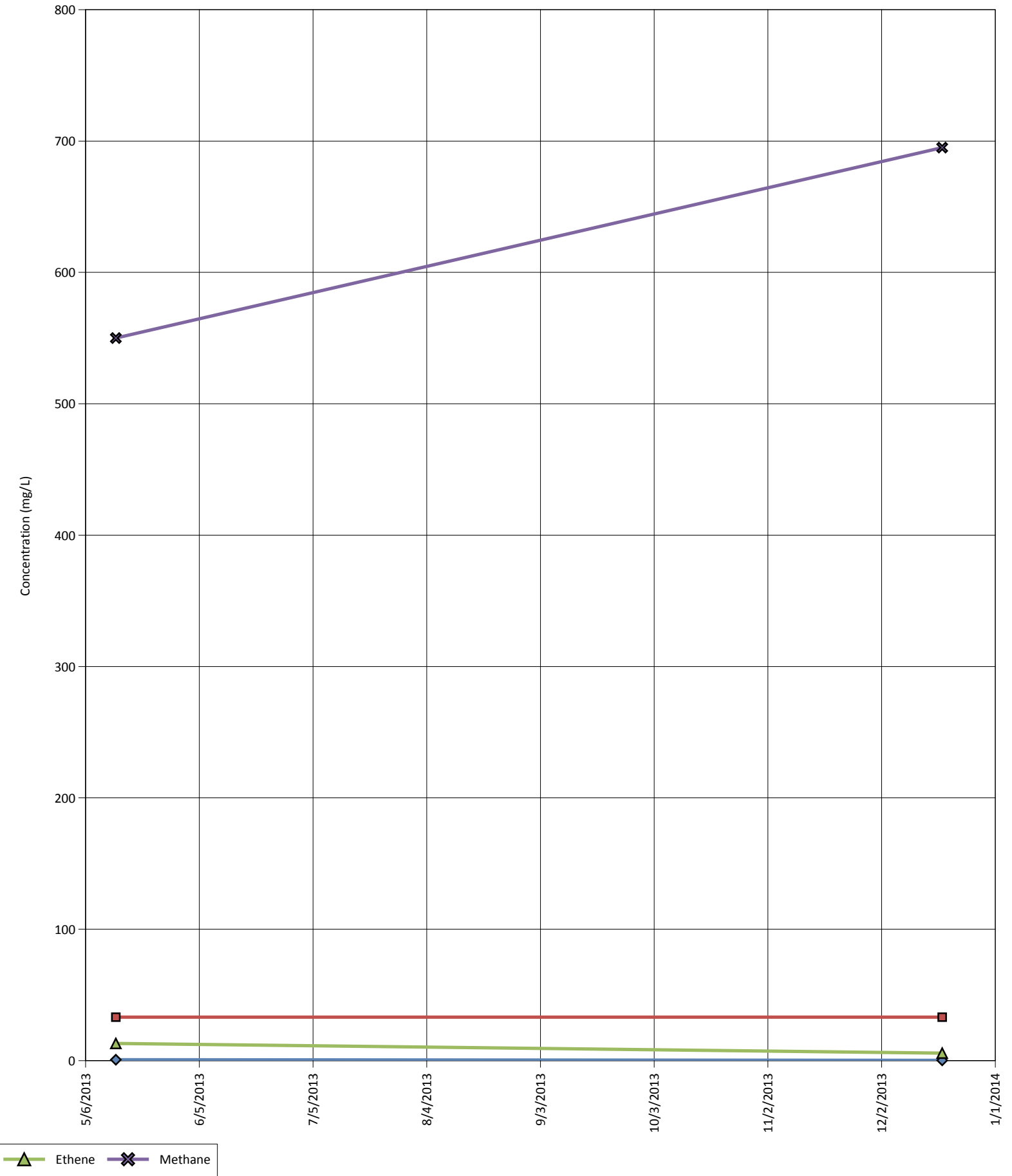


FIGURE 4-33
ORP TRENDS FOR WELLS MW-18D AND MW-18S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

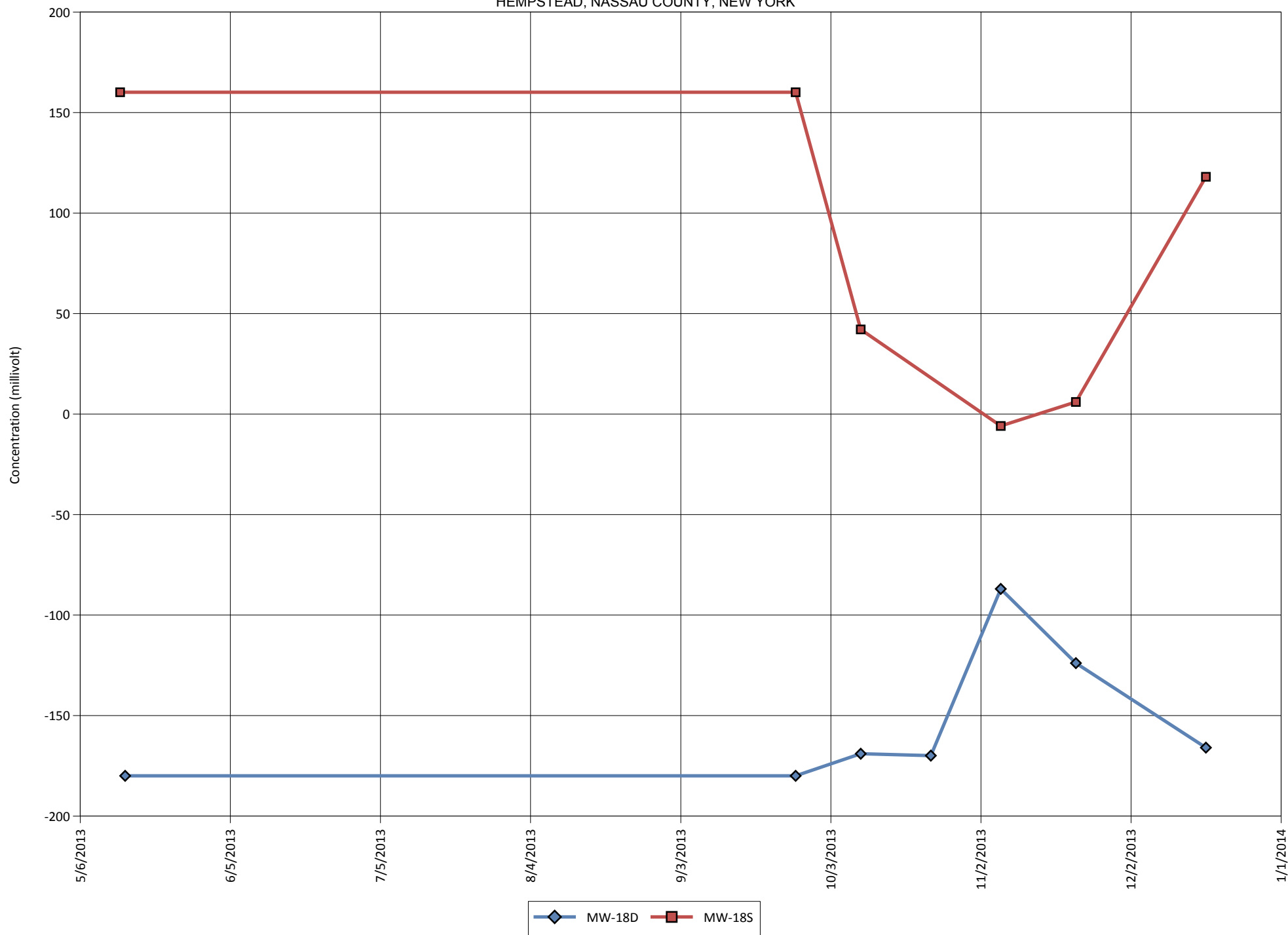


FIGURE 4-34
DISSOLVED OXYGEN TRENDS FOR WELLS MW-18D AND MW-18S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

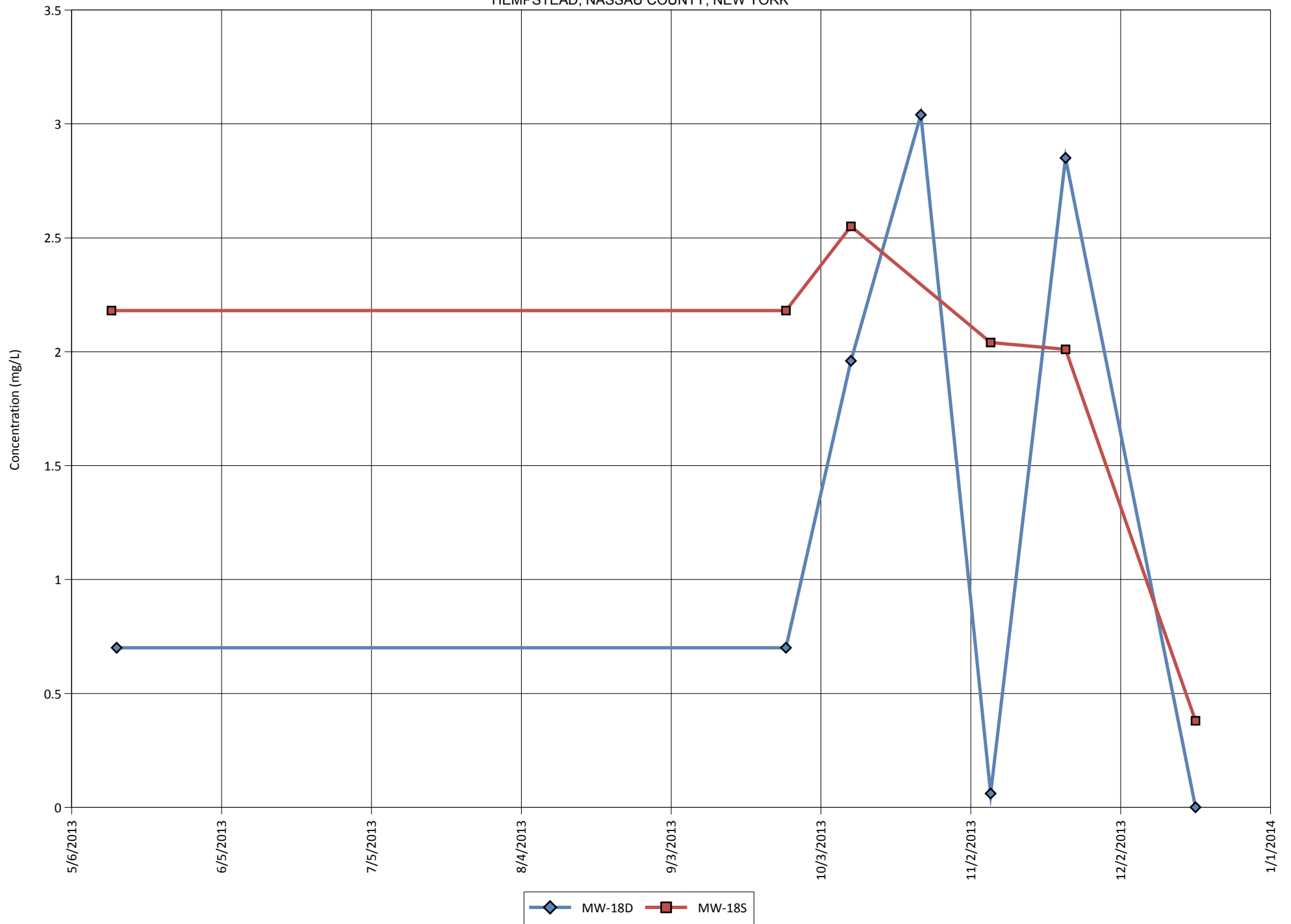


FIGURE 4-35
CHLORINATED VOC TRENDS FOR WELLS MW-18D AND MW-18S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

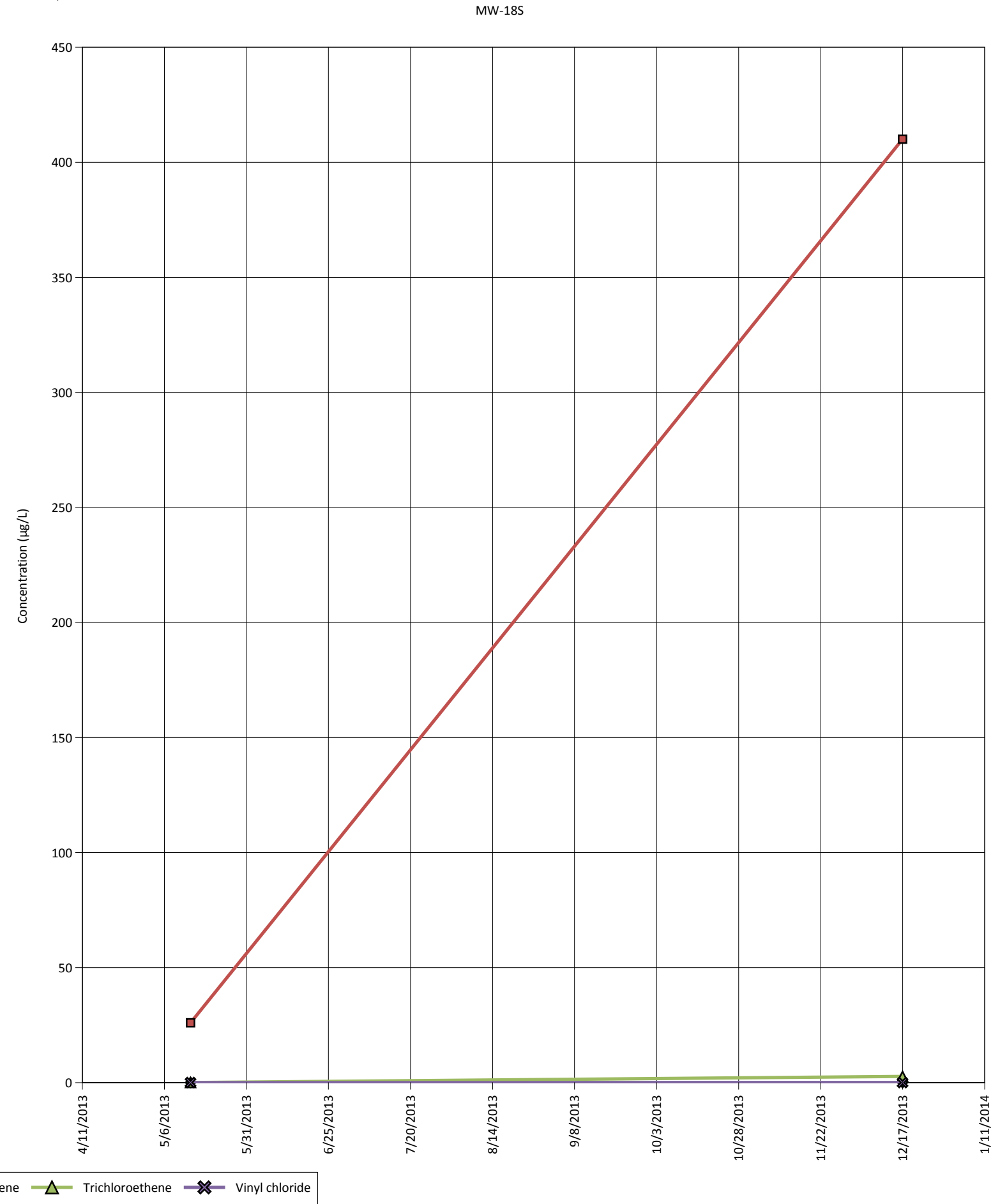
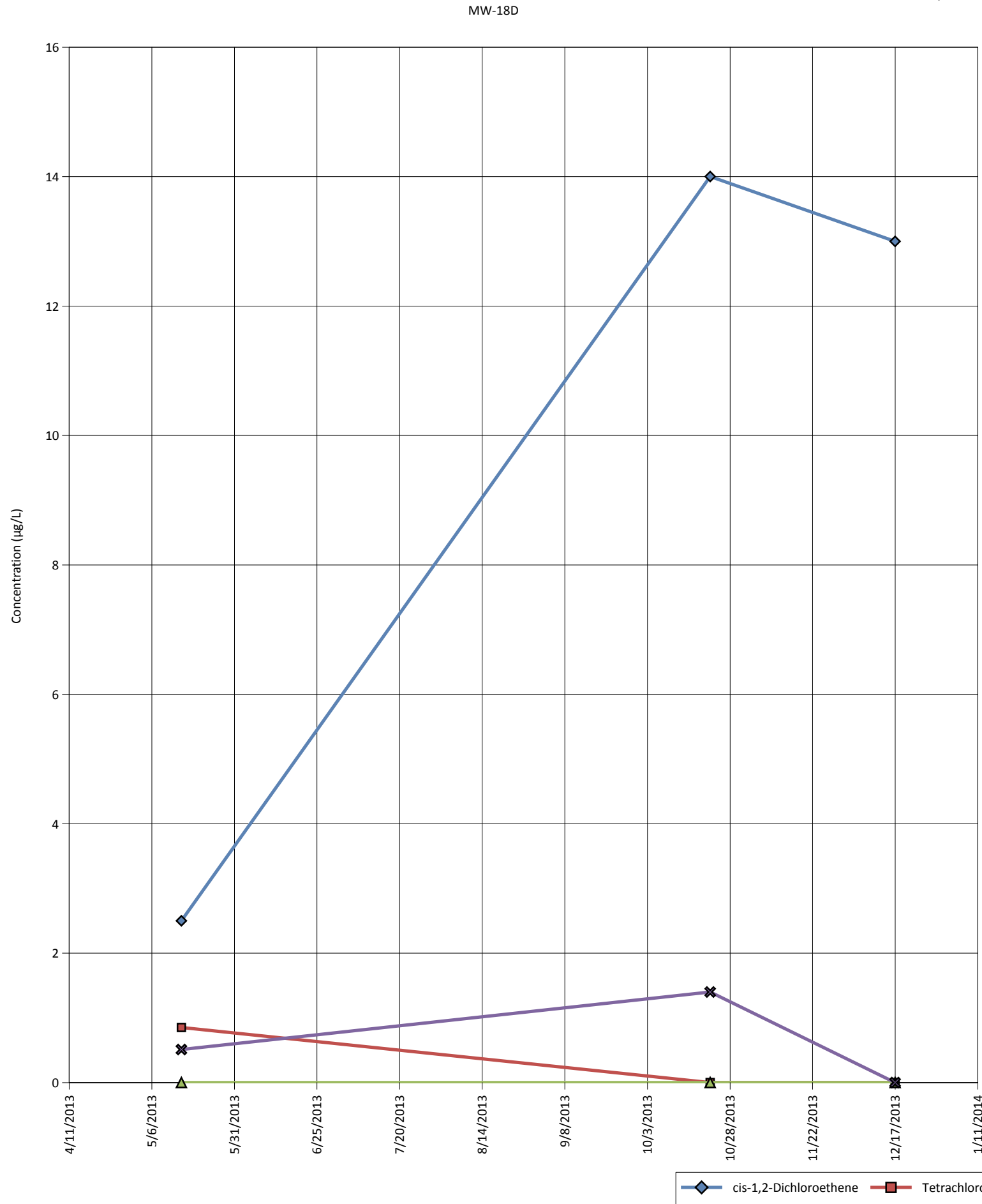


FIGURE 4-36
ORP TRENDS FOR WELLS MW-21D AND MW-21S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

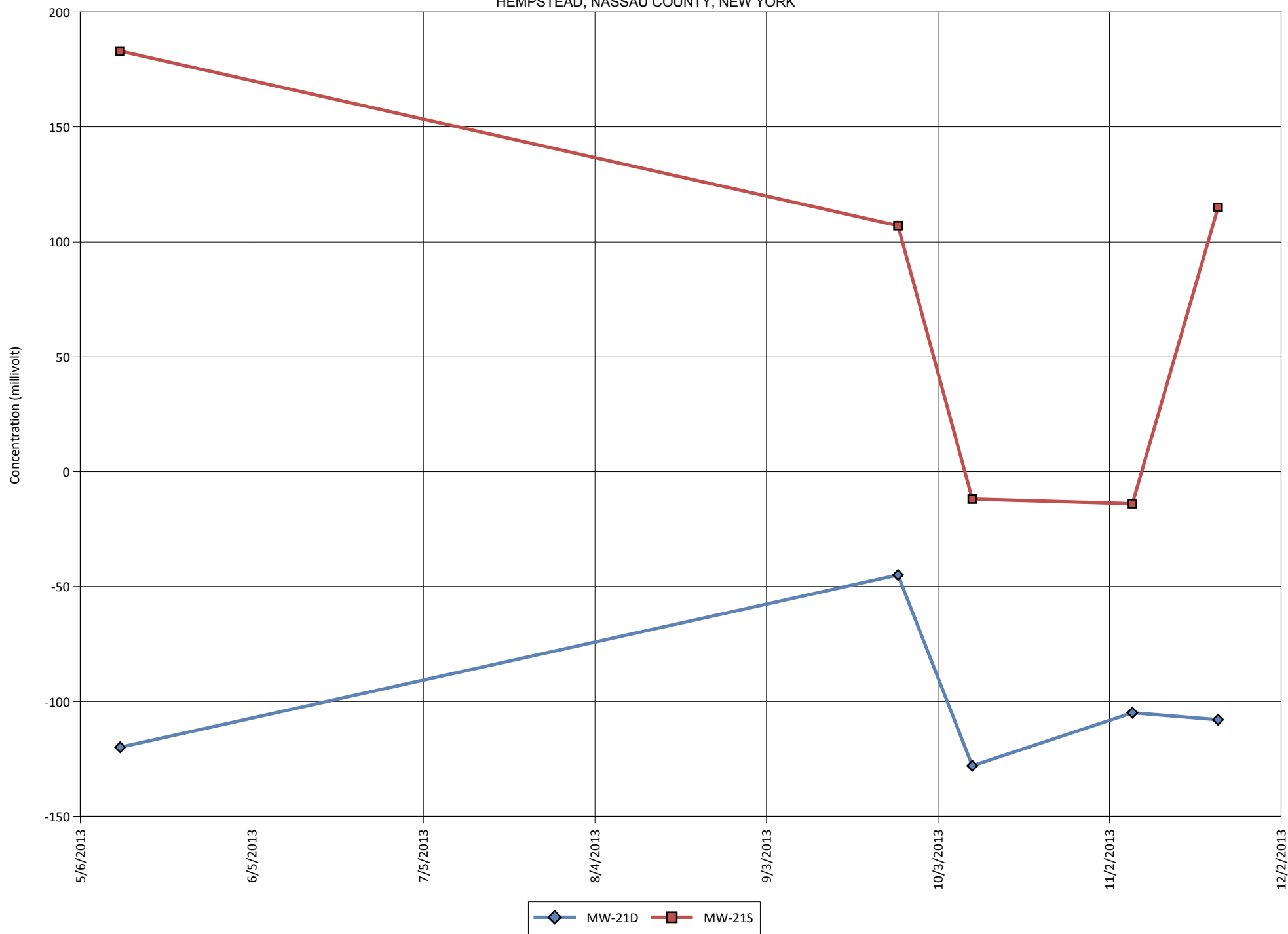


FIGURE 4-37
DISSOLVED OXYGEN TRENDS FOR WELLS MW-21D AND MW-21S
PENINSULA BOULEVARD GROUNDWATER PLUME SITE
IN-SITU REMEDIAL DESIGN
HEMPSTEAD, NASSAU COUNTY, NEW YORK

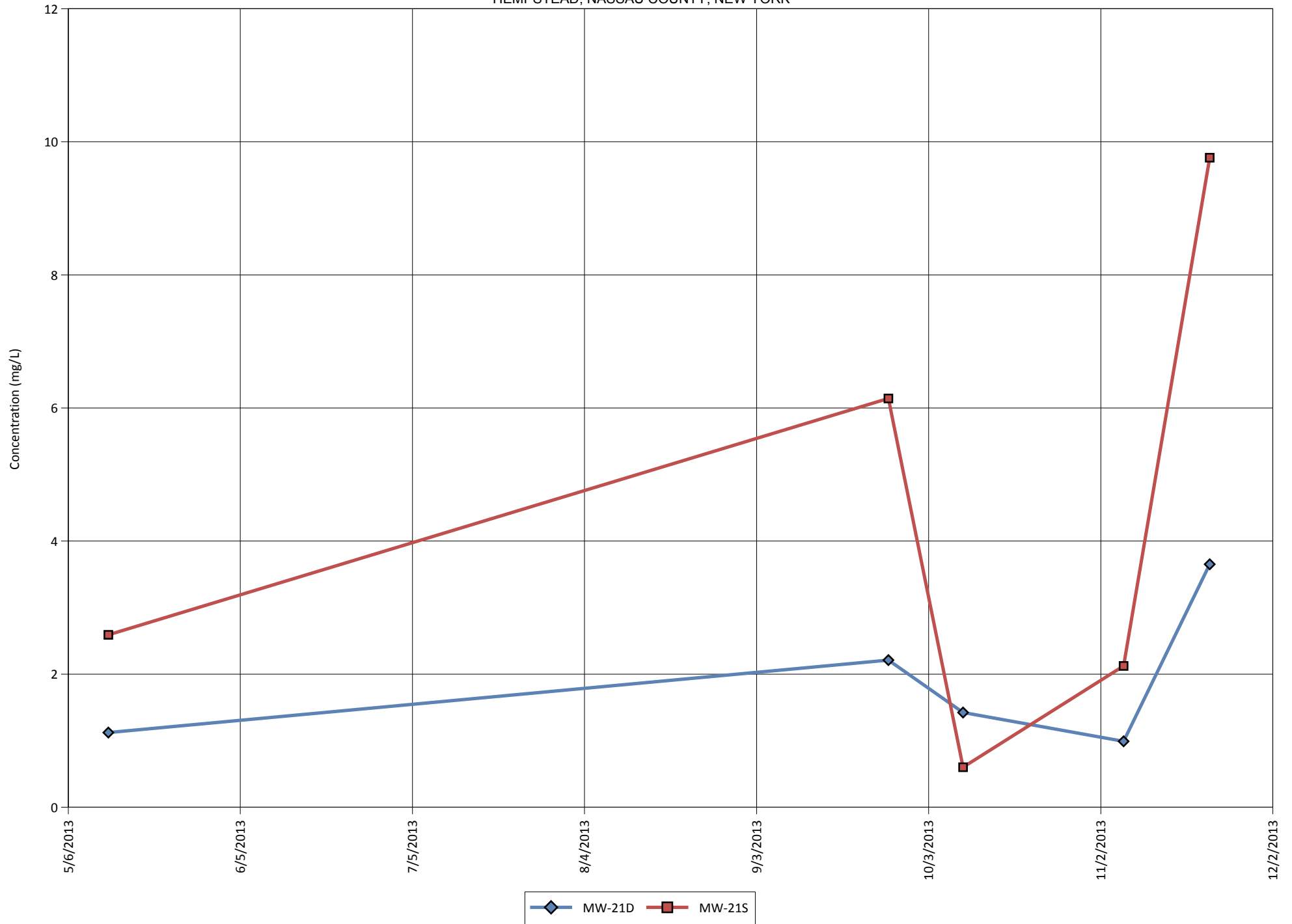


FIGURE 4-38
PH TRENDS FOR ALL WELLS
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