

Path: H:\LePetom\NERT\Annual Performance Reports\2012 Annual Figures\Figure 1 - Location Map.mxd

Figure 1

WELL LOCATION MAP

Annual Performance Report
Nevada Environmental Response Trust Site (NERT)
Henderson, Nevada

DESIGNED BY:
EJK

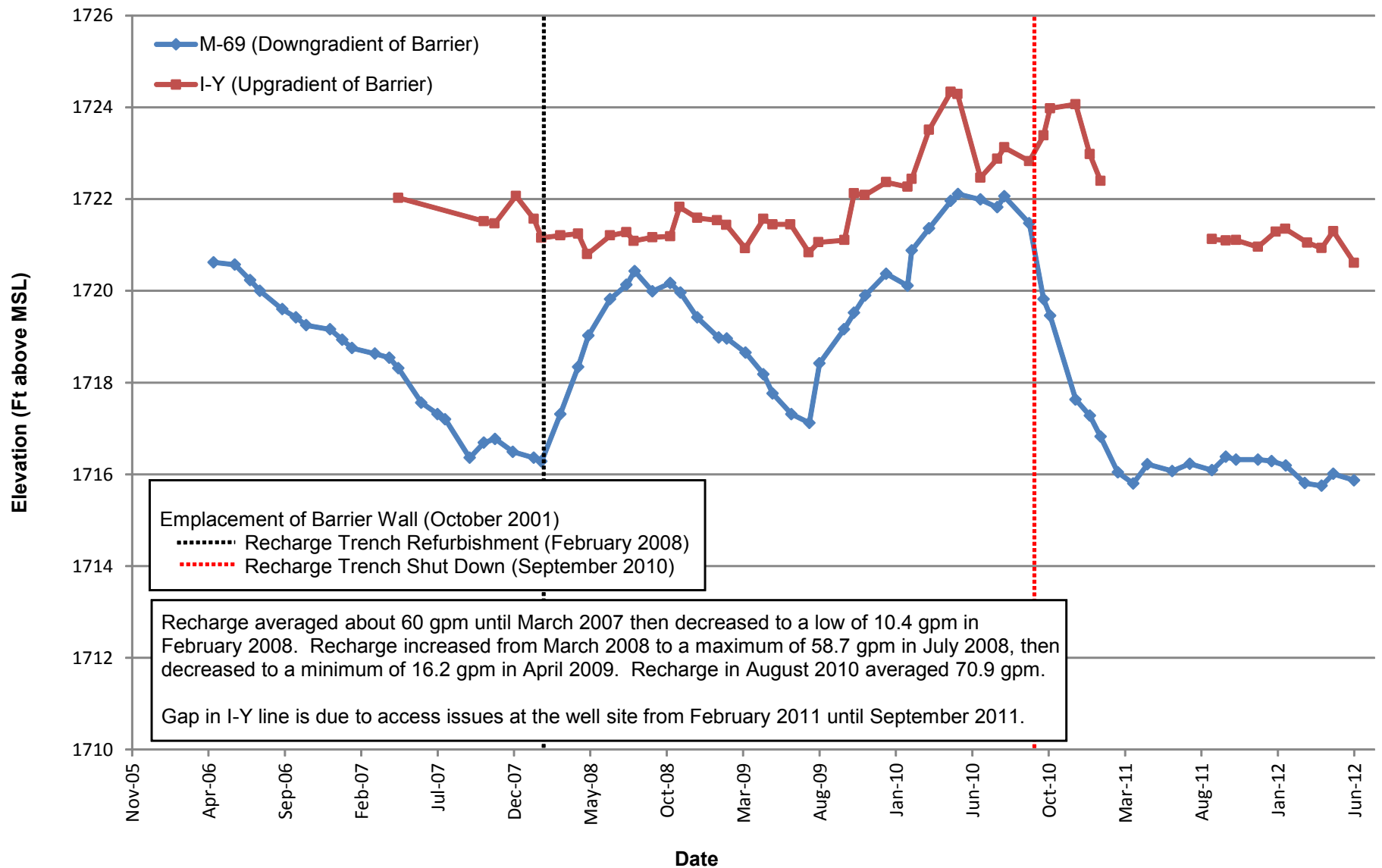
DRAWN BY:
RS

CHECKED BY:
CJR

APPROVED BY:
CJR/EJK

No.	DESCRIPTION:	DATE:	BY:
0	GENERATE APPROVED MAP	8/29/2012	RS

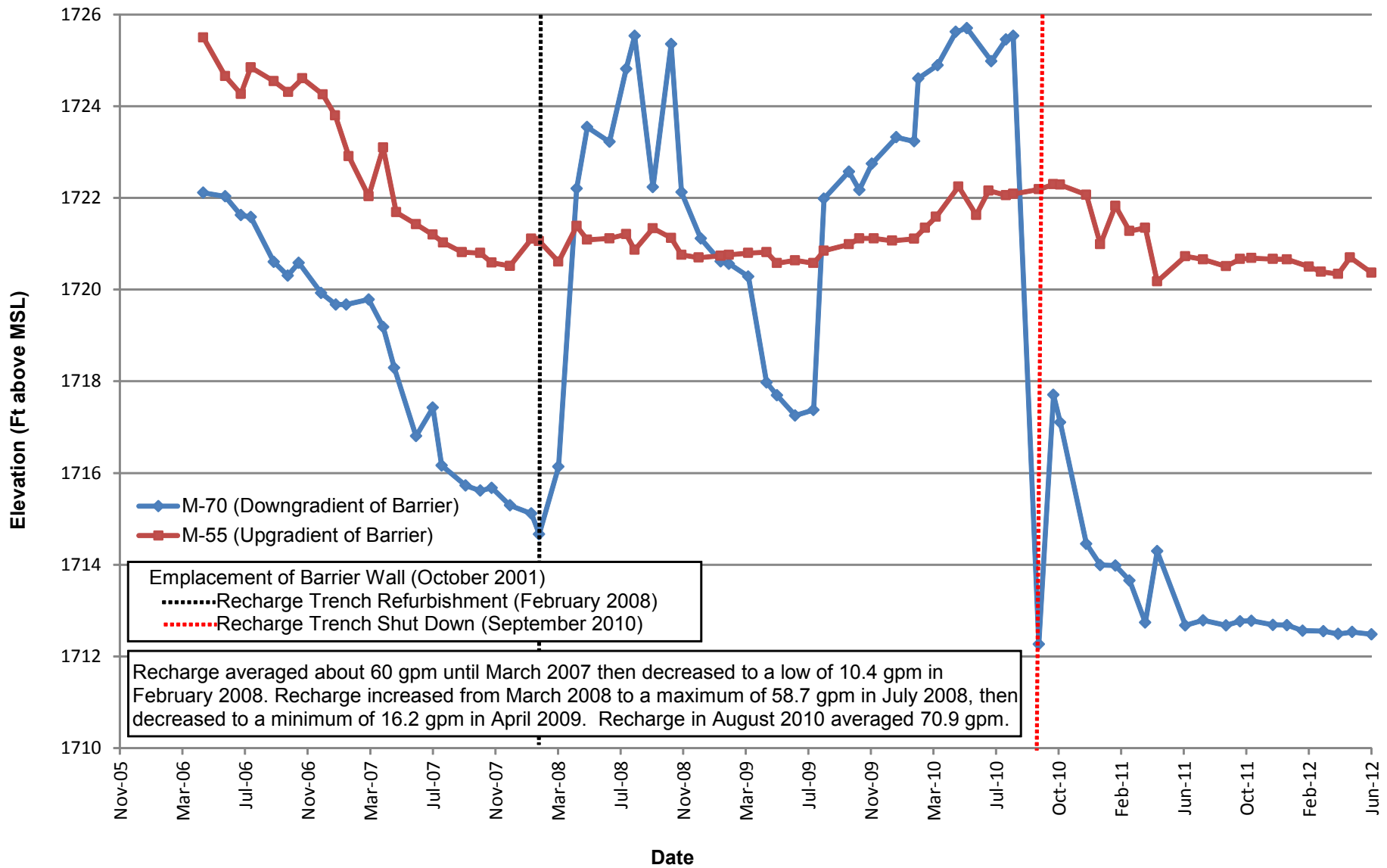




Hydrograph Pair Across the Barrier Wall - M-69 and I-Y
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

2A



Hydrograph Pair Across the Barrier Wall - M-70 and M-55
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

2B

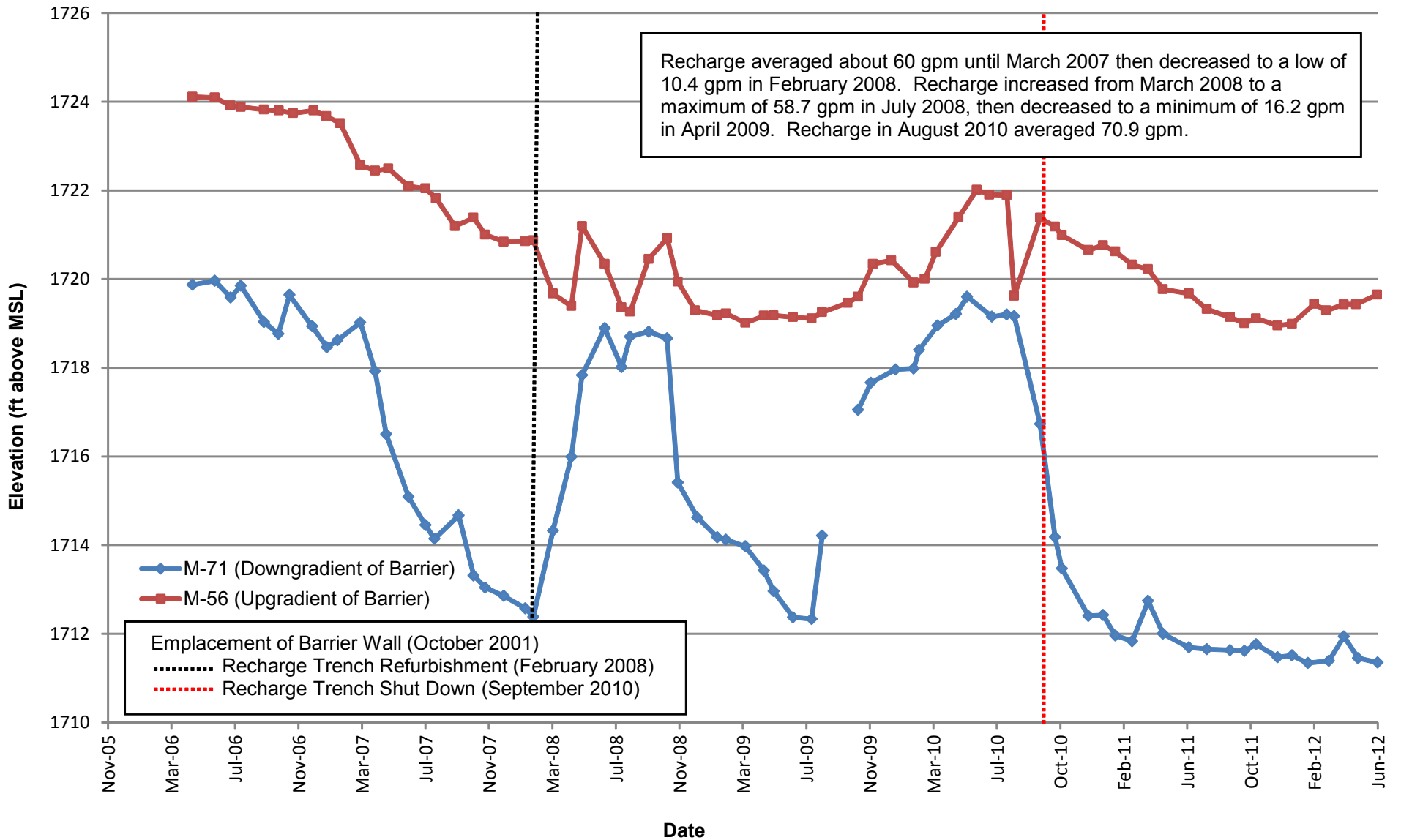
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Date: 8/8/12

Contract Number: 21-29100G

Approved:

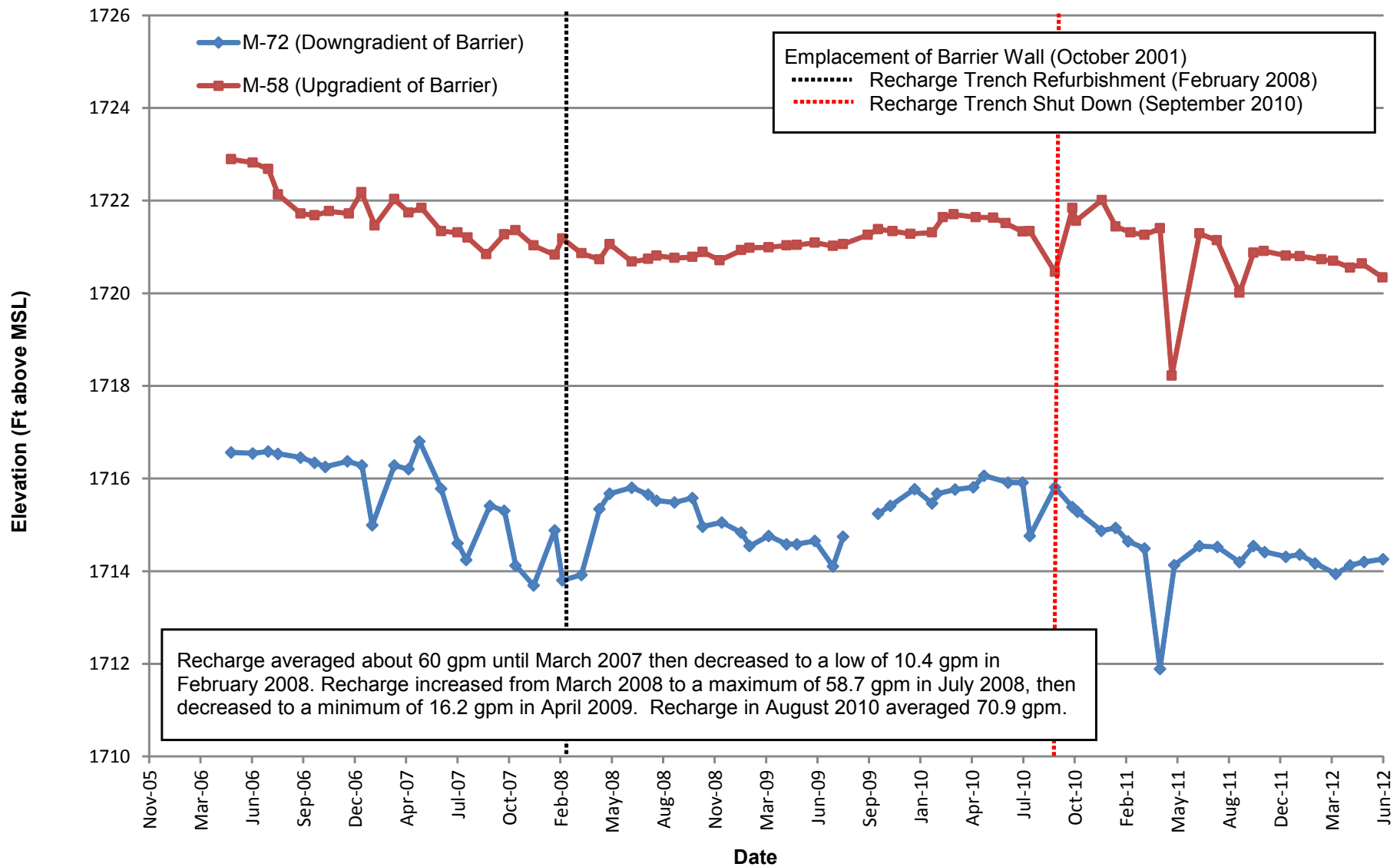
Revised:



Hydrograph Pair Across the Barrier Wall - M-71 and M-56
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

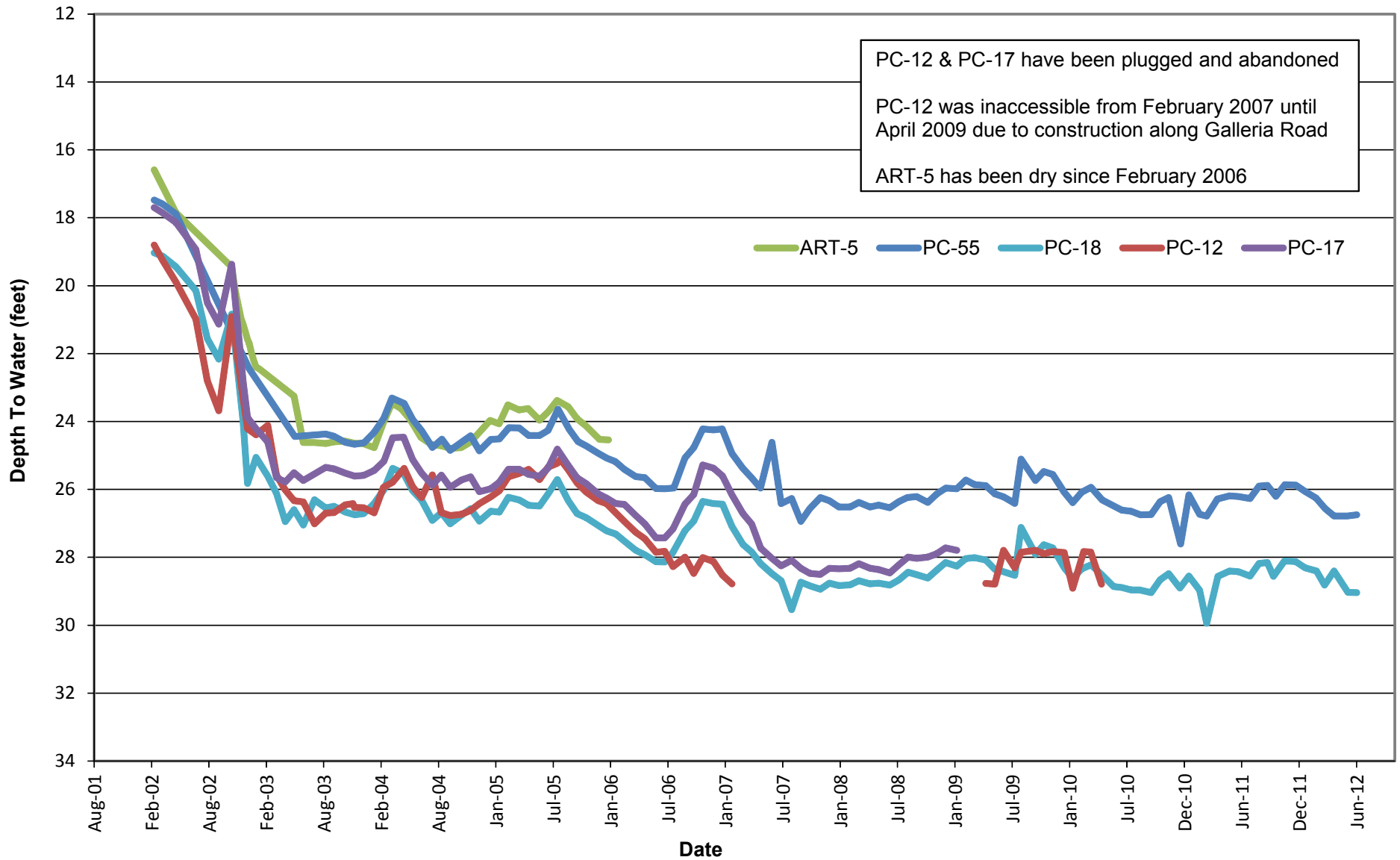
2C



Hydrograph Pair Across the Barrier Wall - M-72 and M-58
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

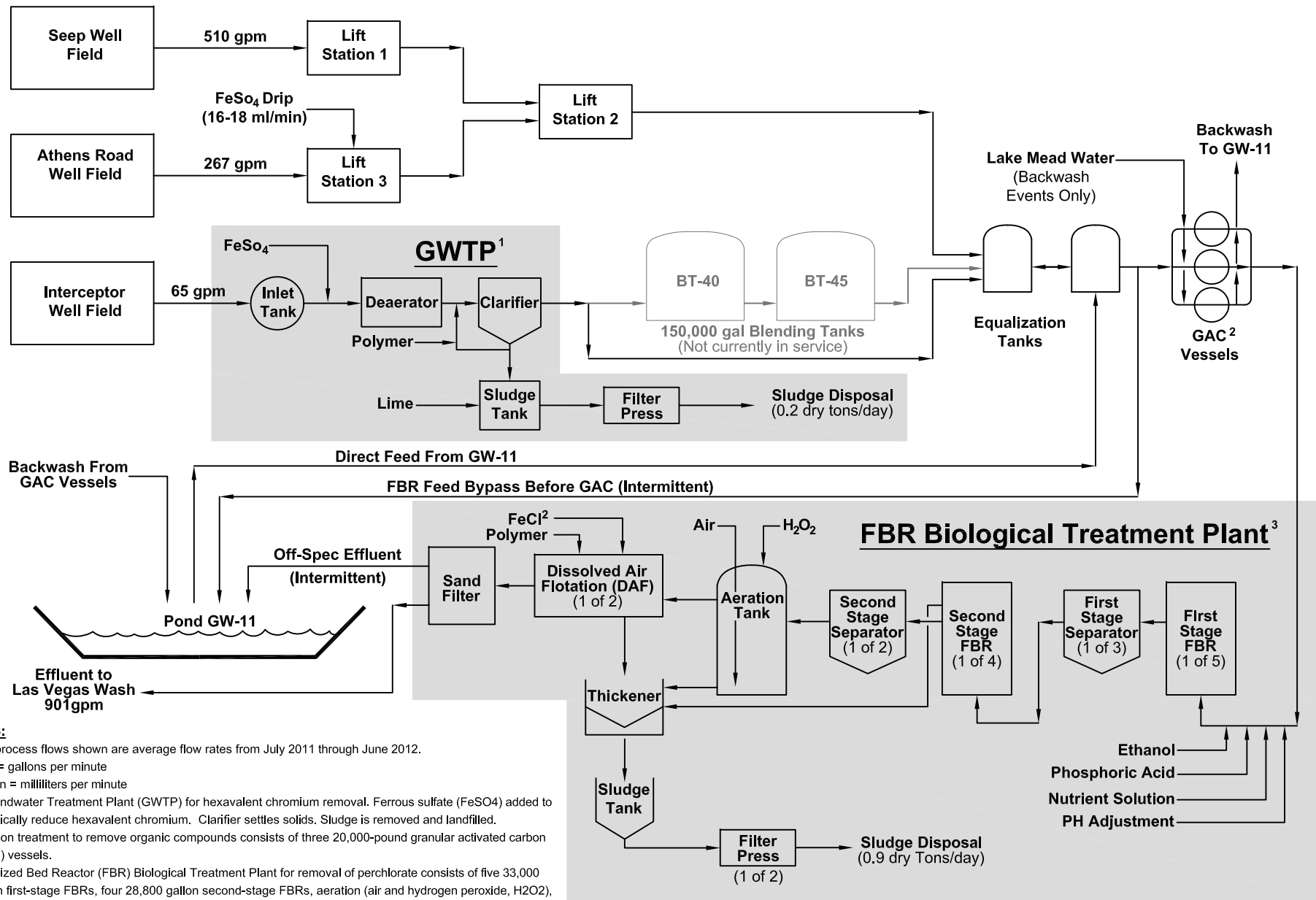
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Athens Road Well Field Drawdown
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

3



NOTES:

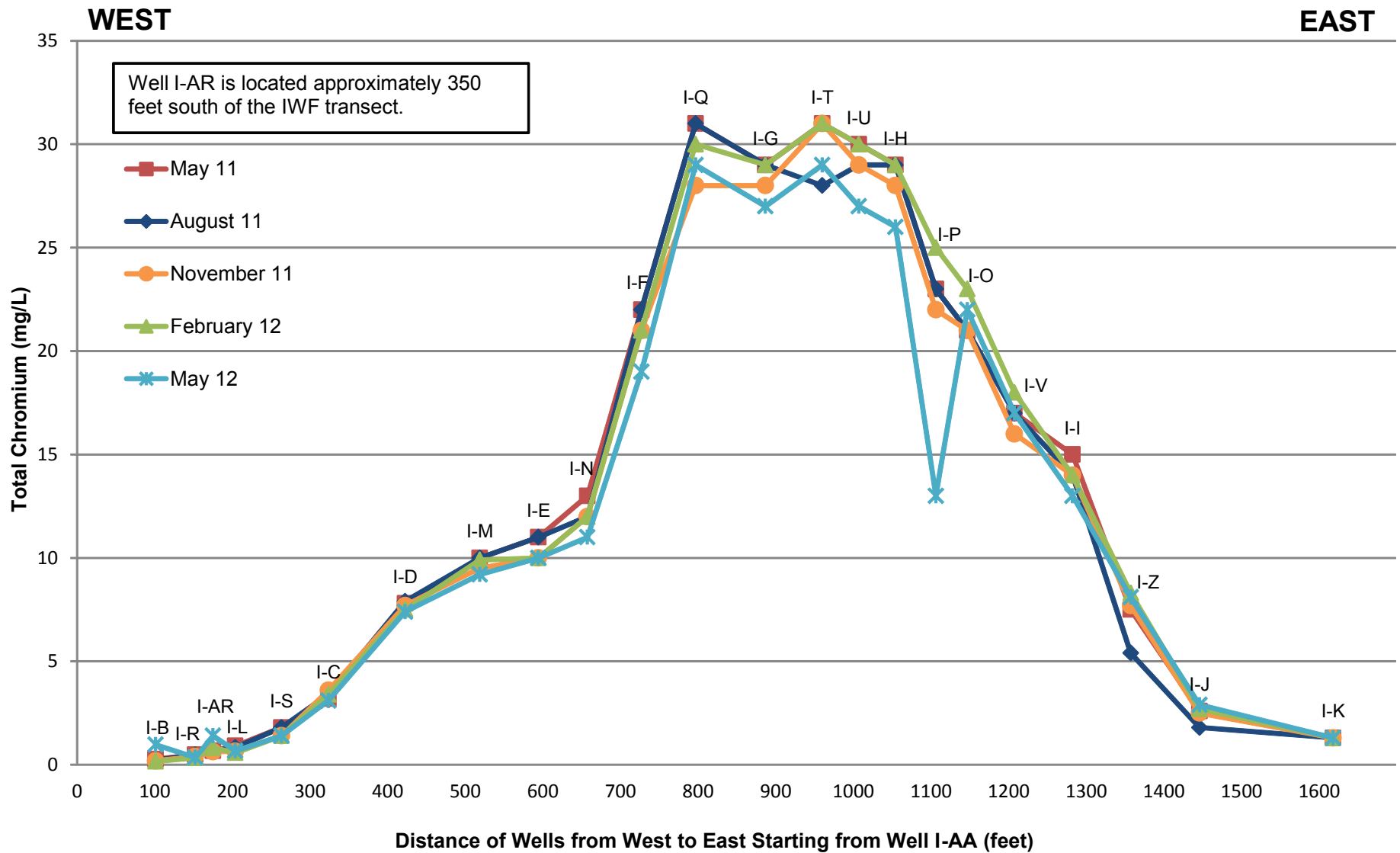
- The process flows shown are average flow rates from July 2011 through June 2012.
 gpm = gallons per minute
 ml/min = milliliters per minute
- 1) Groundwater Treatment Plant (GWTP) for hexavalent chromium removal. Ferrous sulfate (FeSO₄) added to chemically reduce hexavalent chromium. Clarifier settles solids. Sludge is removed and landfilled.
 - 2) Carbon treatment to remove organic compounds consists of three 20,000-pound granular activated carbon (GAC) vessels.
 - 3) Fluidized Bed Reactor (FBR) Biological Treatment Plant for removal of perchlorate consists of five 33,000 gallon first-stage FBRs, four 28,800 gallon second-stage FBRs, aeration (air and hydrogen peroxide, H₂O₂), dissolved air flotation (DAF), two plate and frame filter presses, and a sand filter.



Groundwater Extraction and Treatment System (GWETS) Flow Diagram
 Nevada Environmental Response Trust (NERT)
 Henderson, Nevada

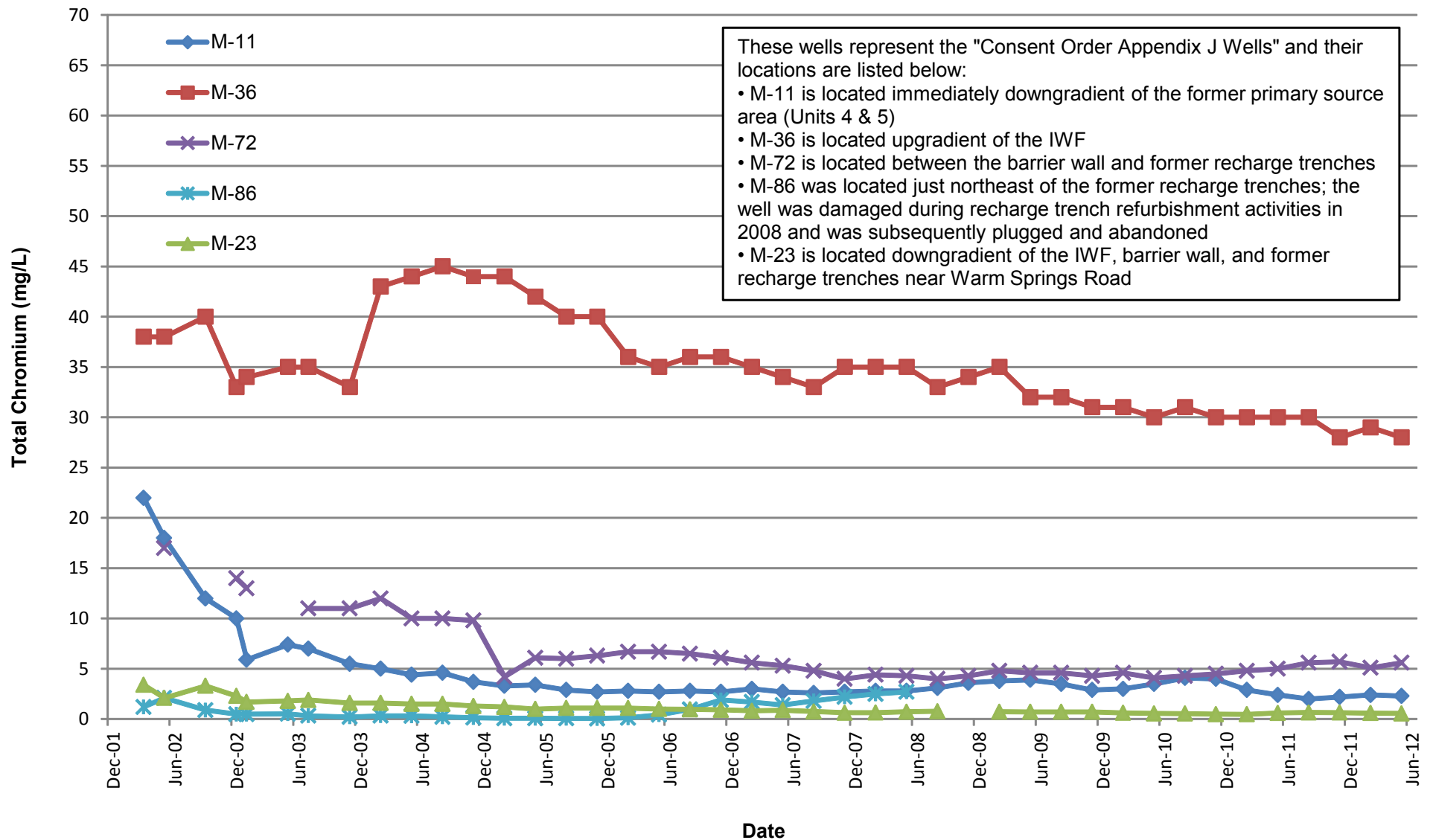
Figure

4



Interceptor Well Field Transect Total Chromium Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

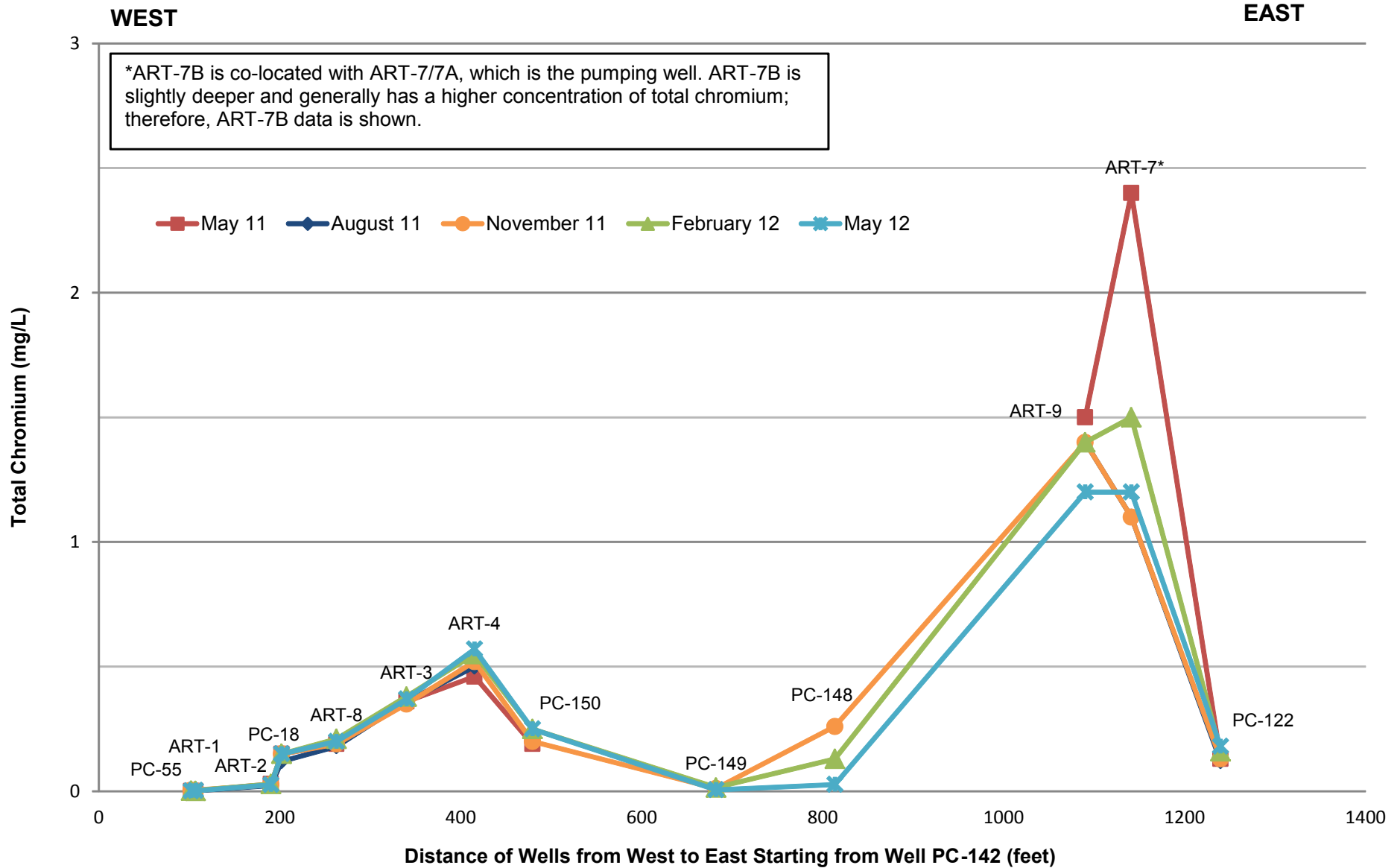
Figure



Total Chromium Concentration Trends in Select Wells
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

6



Athens Road Well Field Transect Total Chromium Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

7

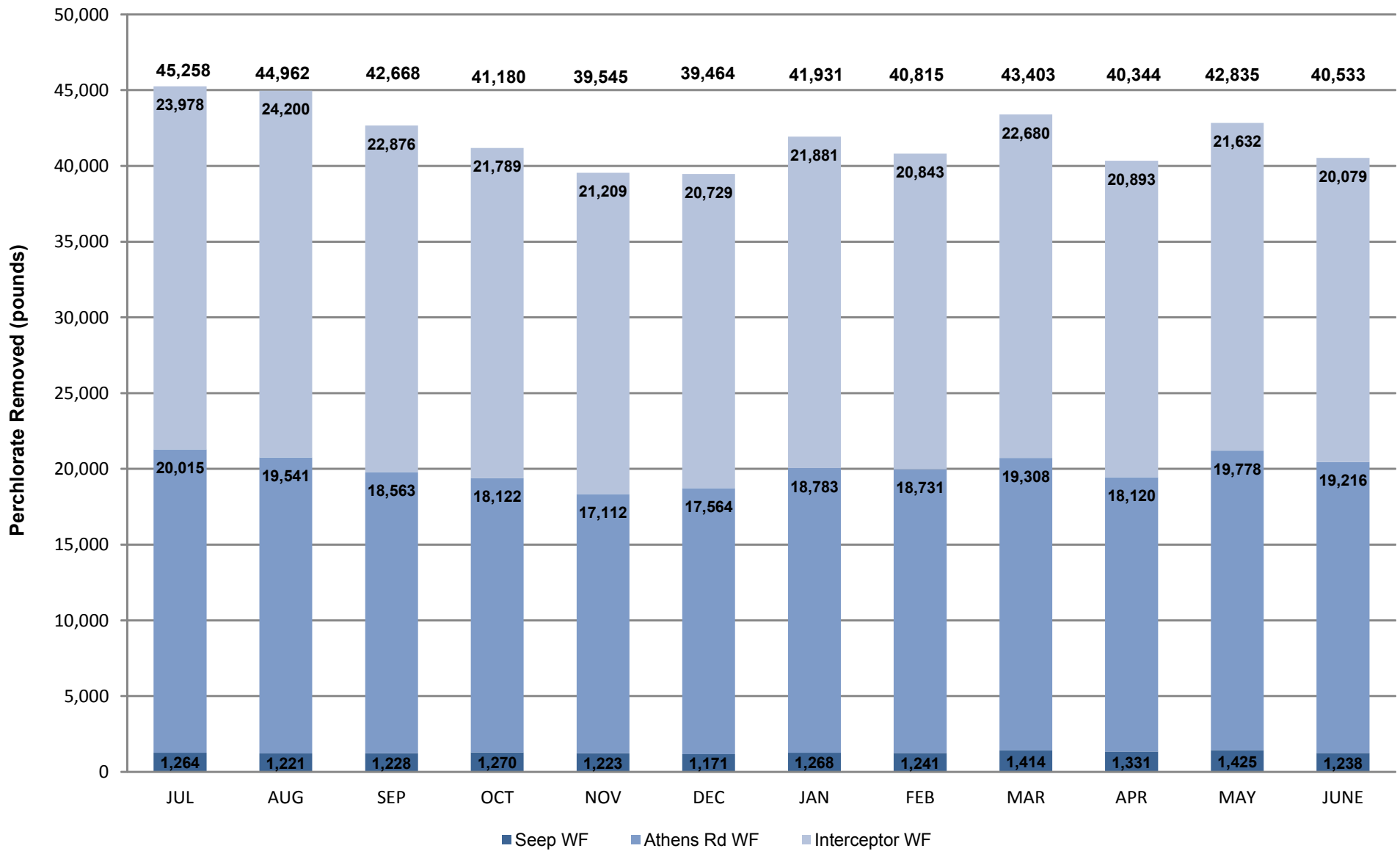
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Date: 8/22/12

Contract Number: 21-29100G

Approved:

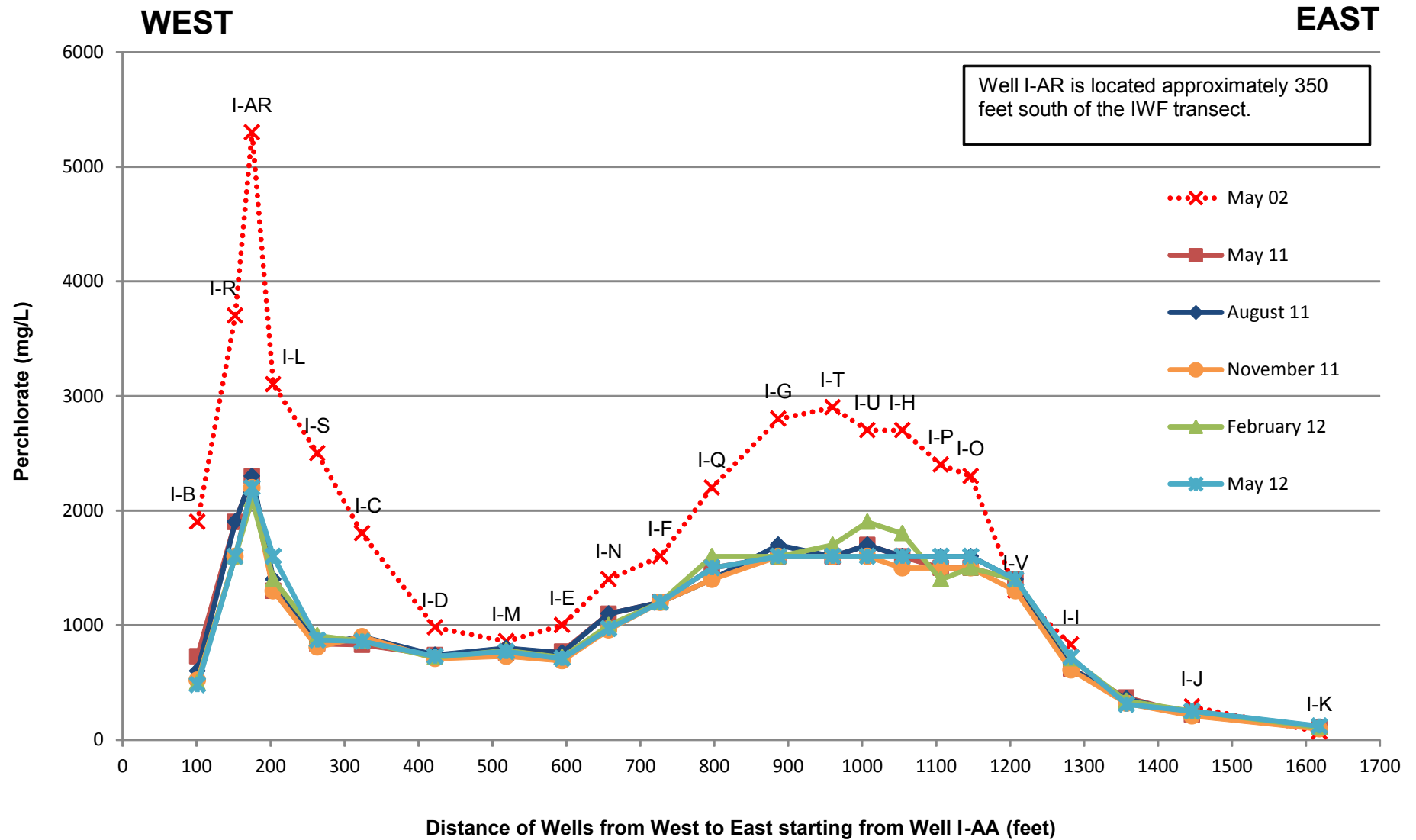
Revised:



Perchlorate Removed from the Environment July 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

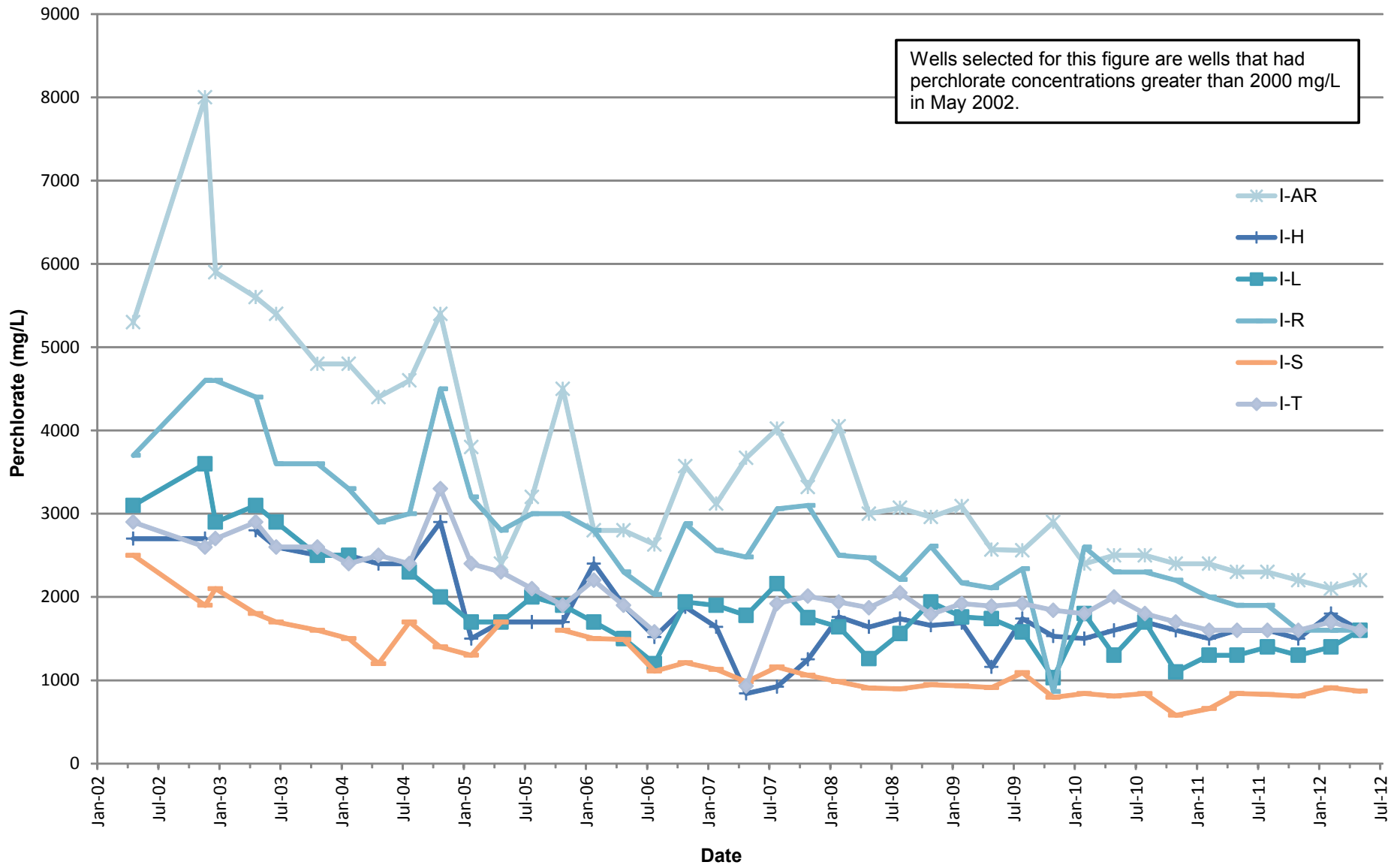
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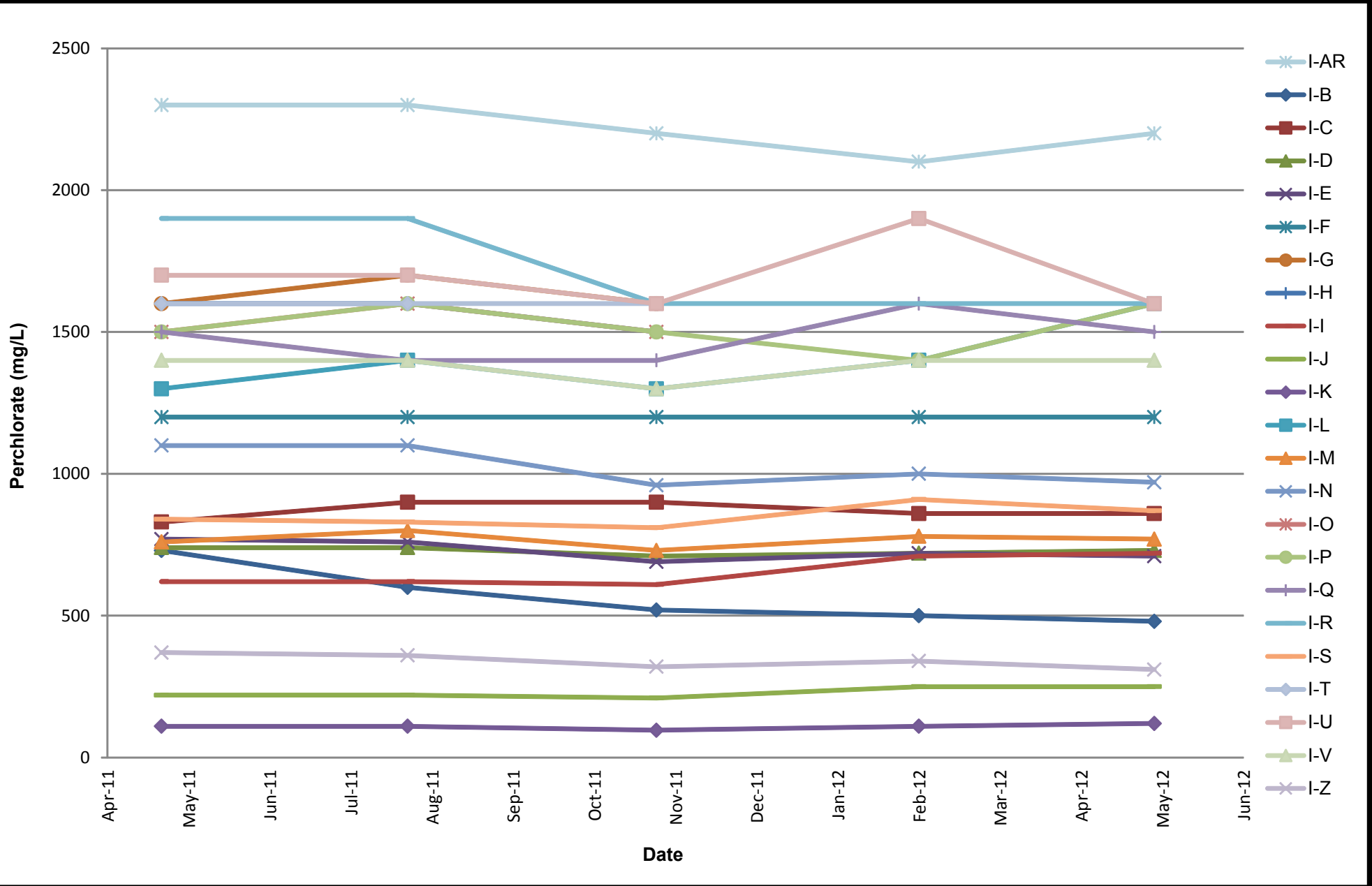
Interceptor Well Field Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

9

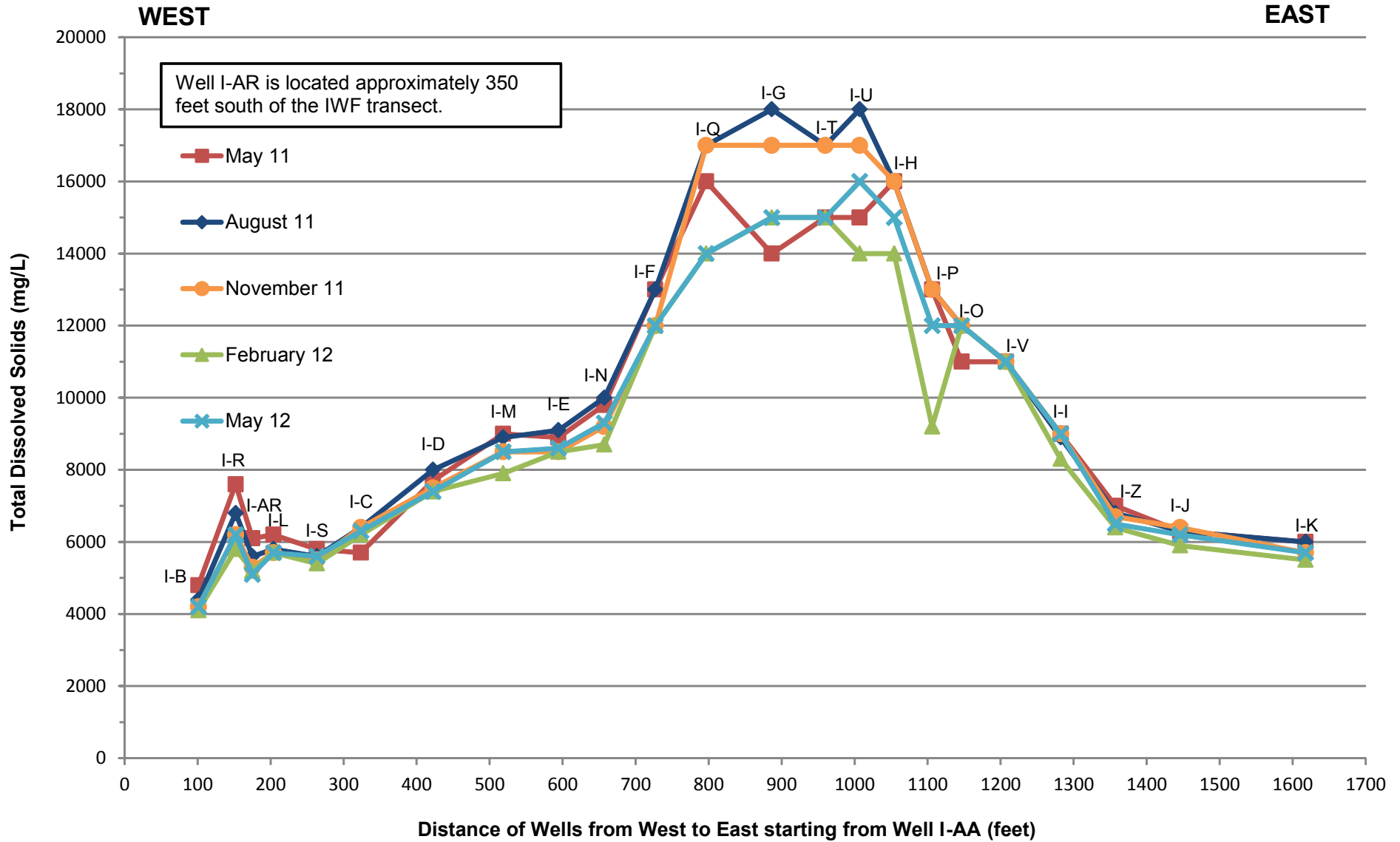


Interceptor Well Field Perchlorate Concentration Trends for Select Wells
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada



Interceptor Well Field Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

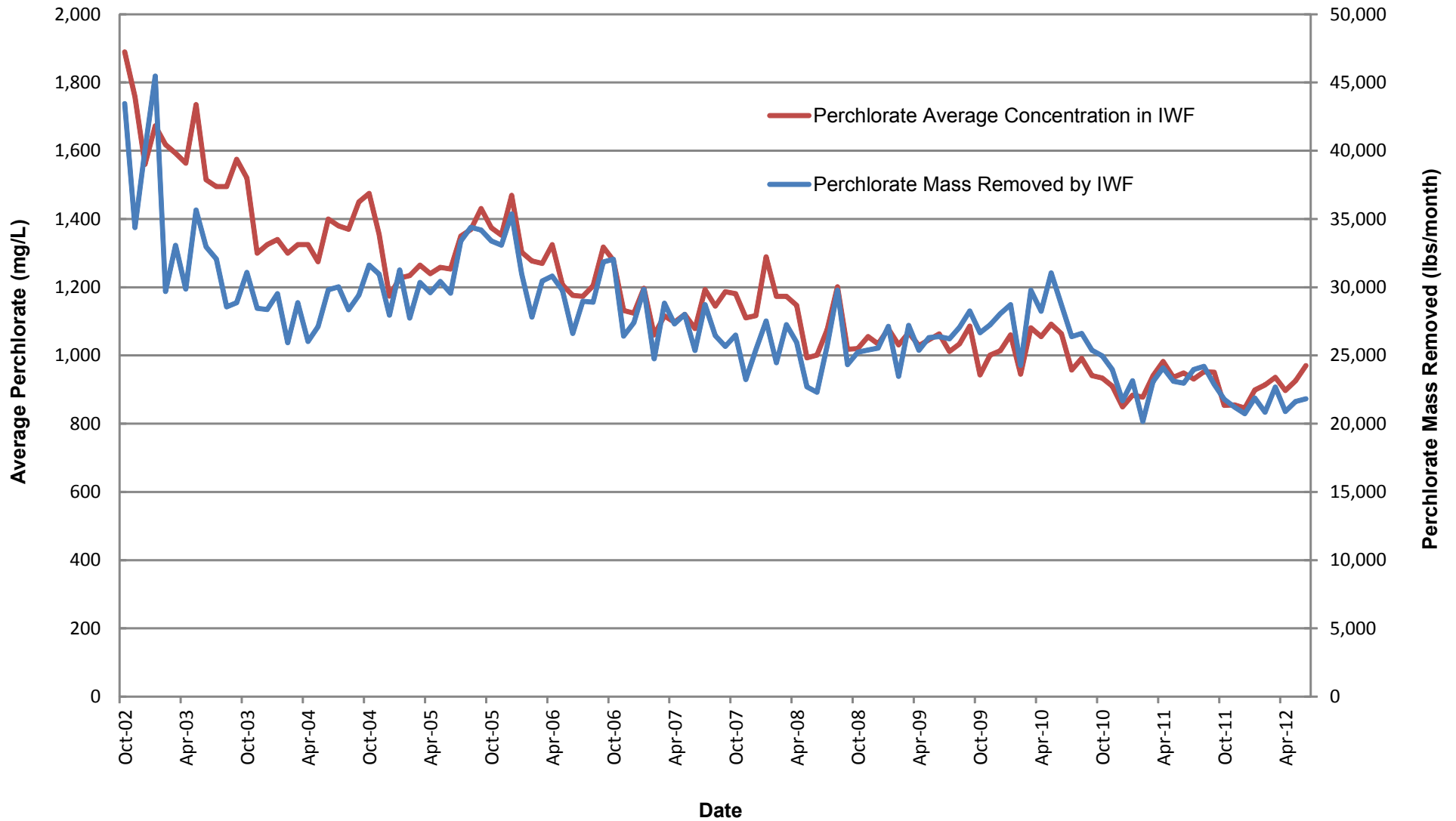
Figure
10A



Interceptor Well Field Transect Total Dissolved Solids Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

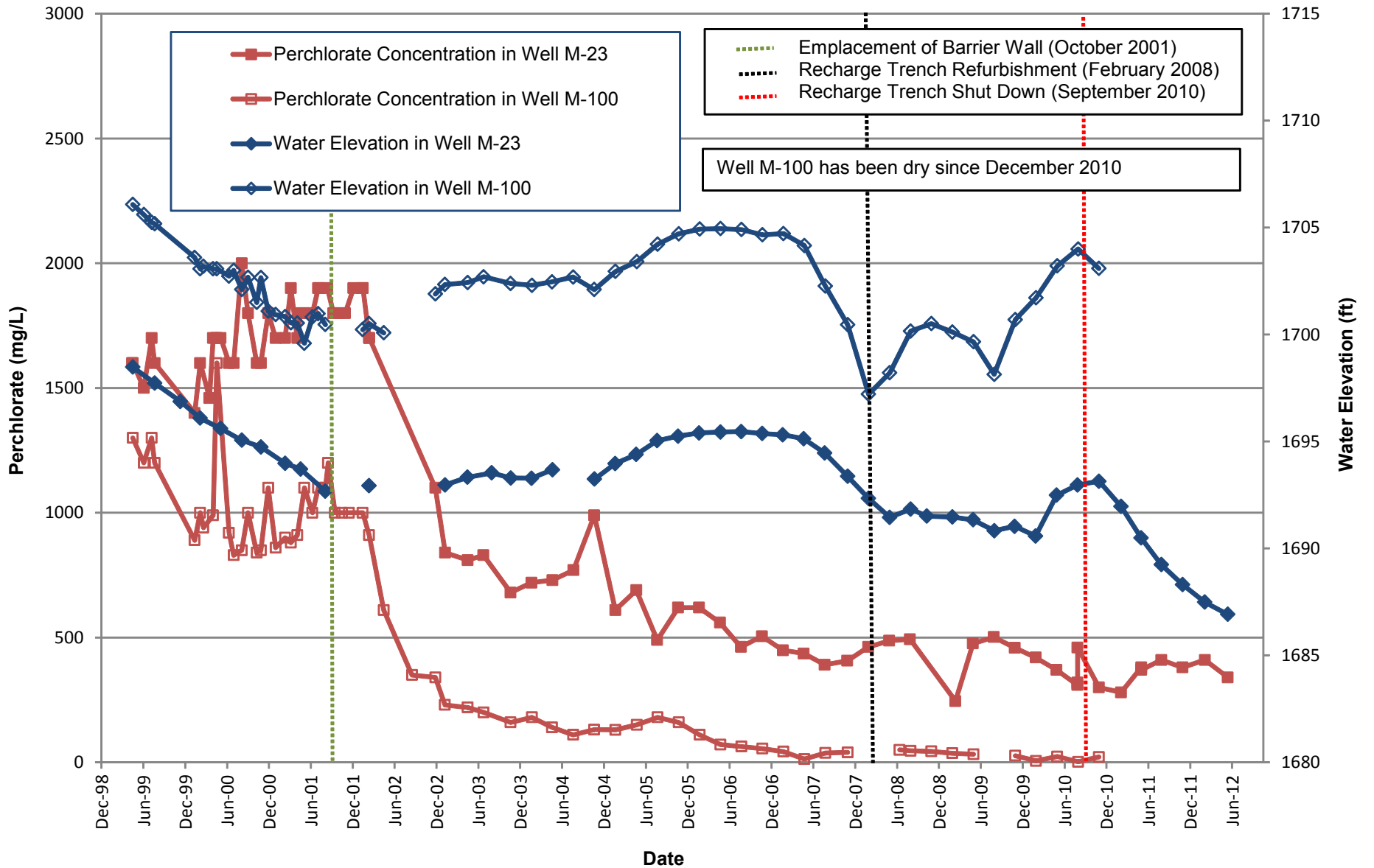
11



Interceptor Well Field Average Perchlorate Concentration and Mass Removed
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

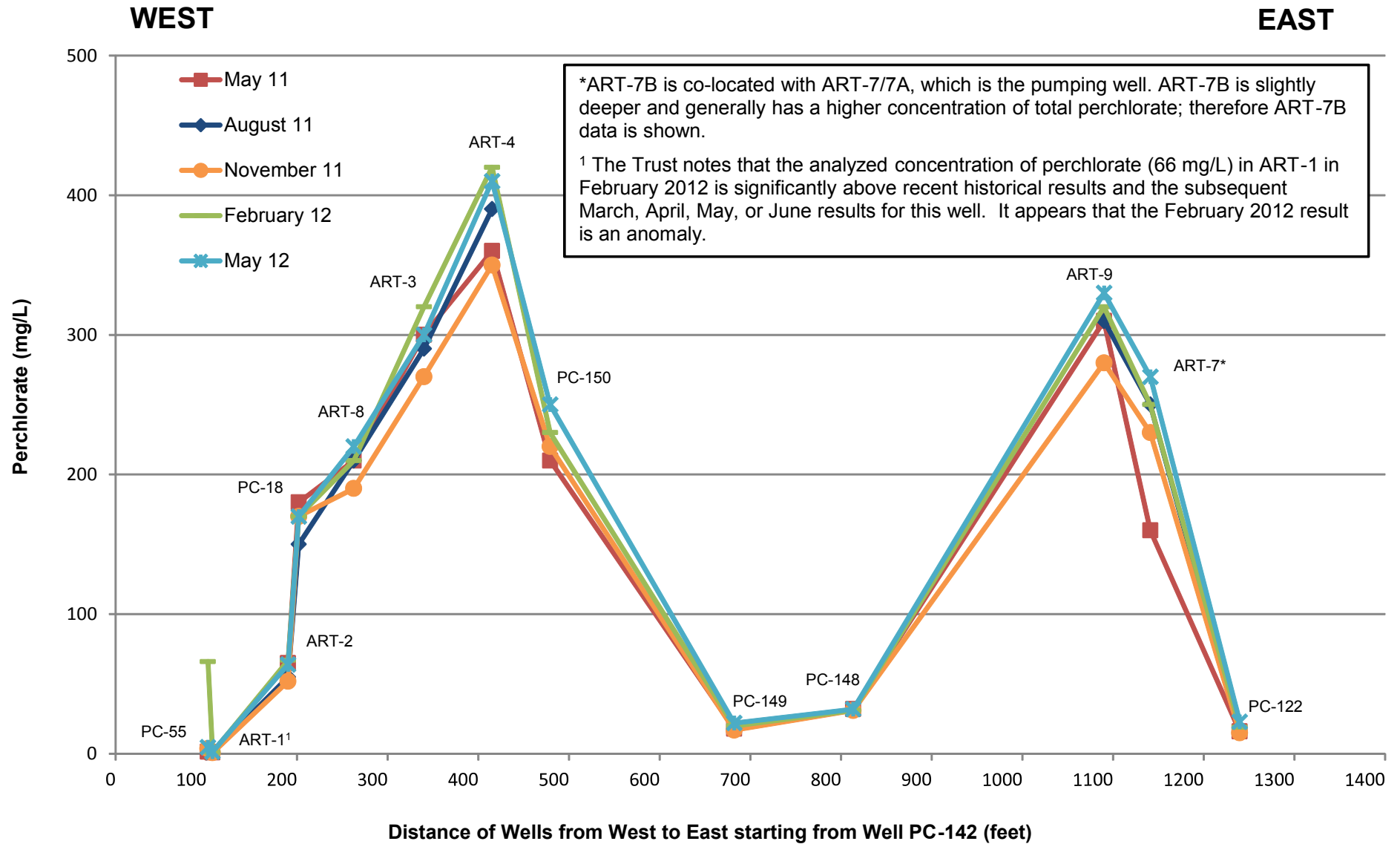
12



Wells M-23 and M-100 Perchlorate Concentration vs. Water Elevation Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

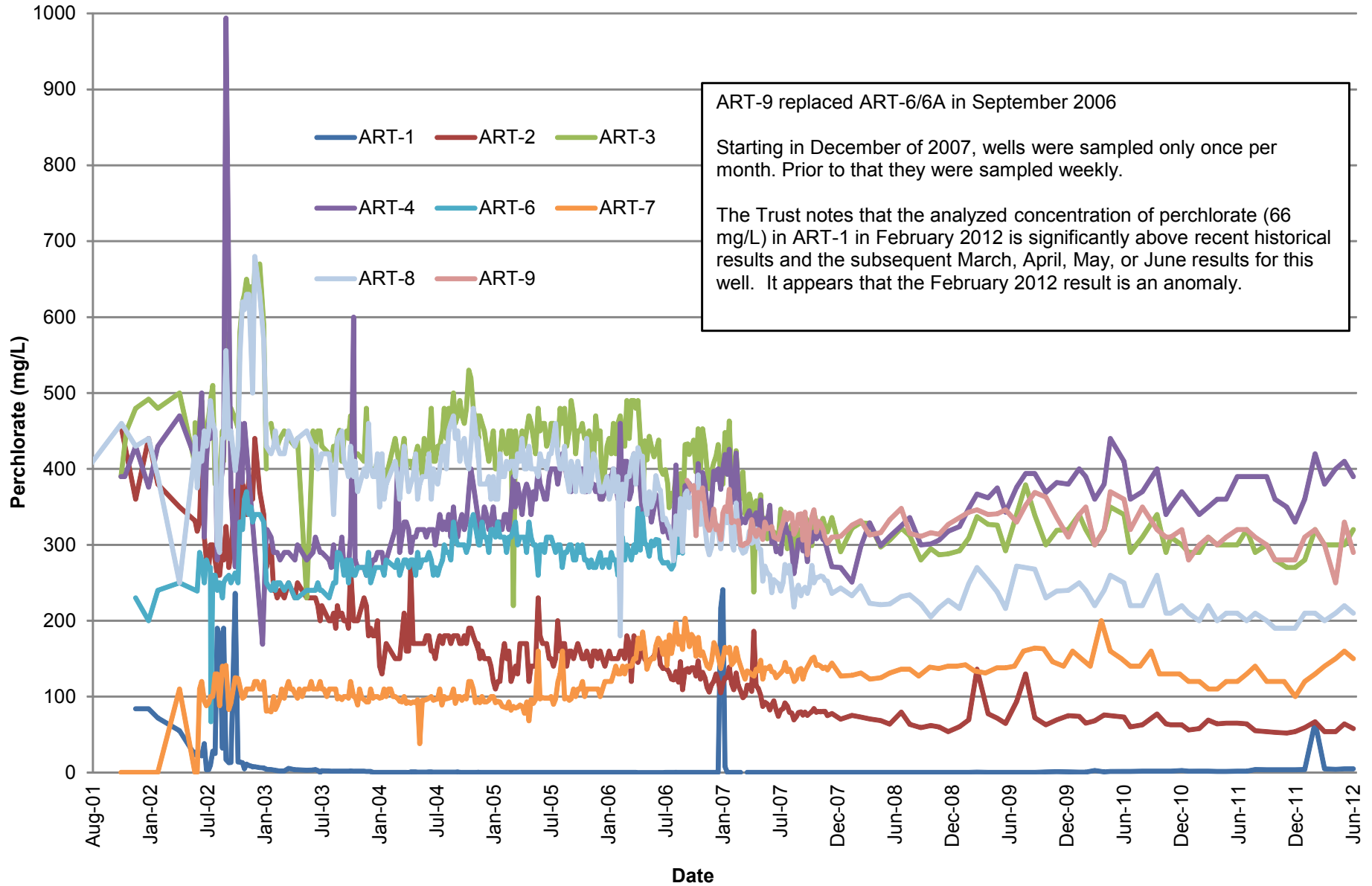
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Athens Road Well Field Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

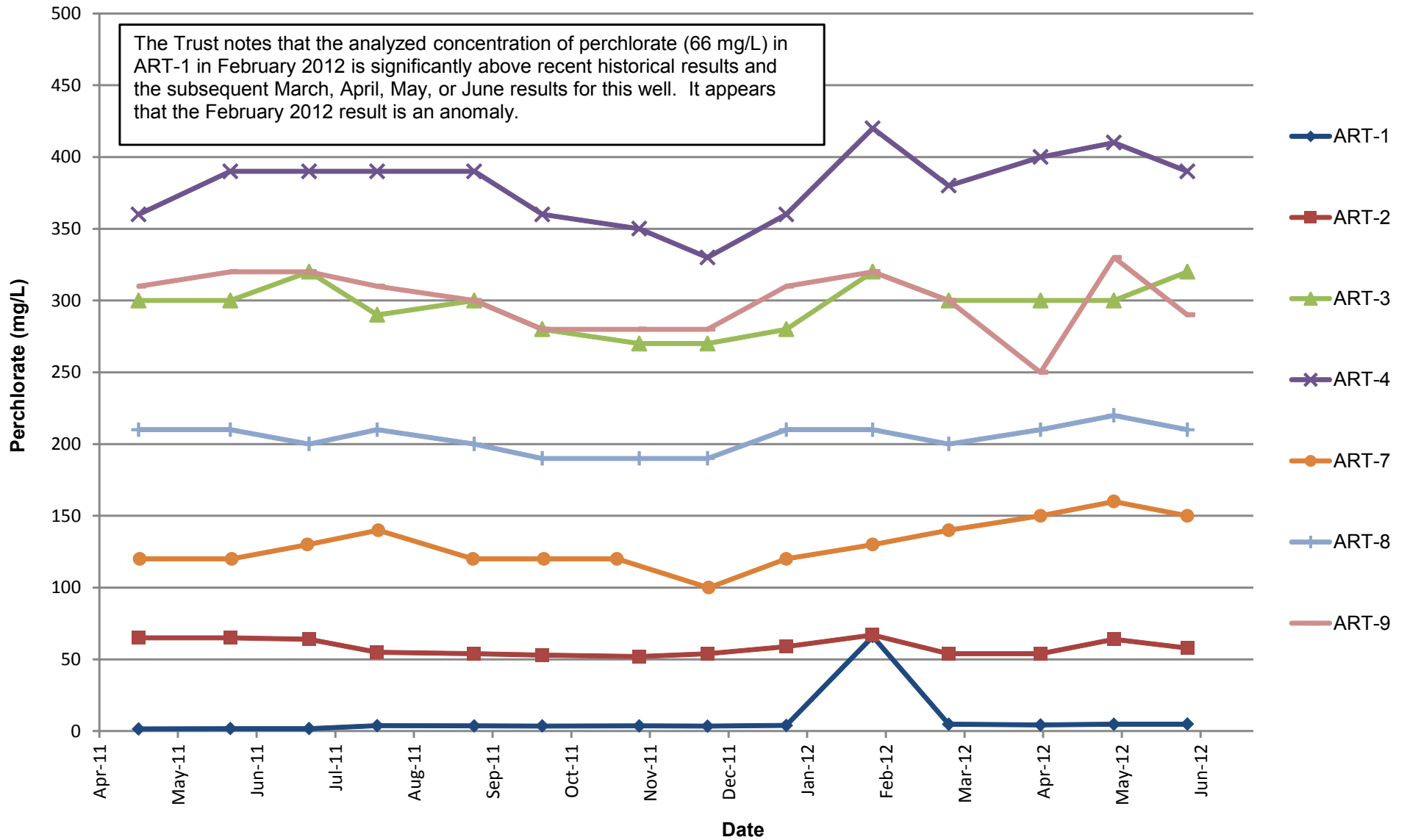
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Athens Road Well Field Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

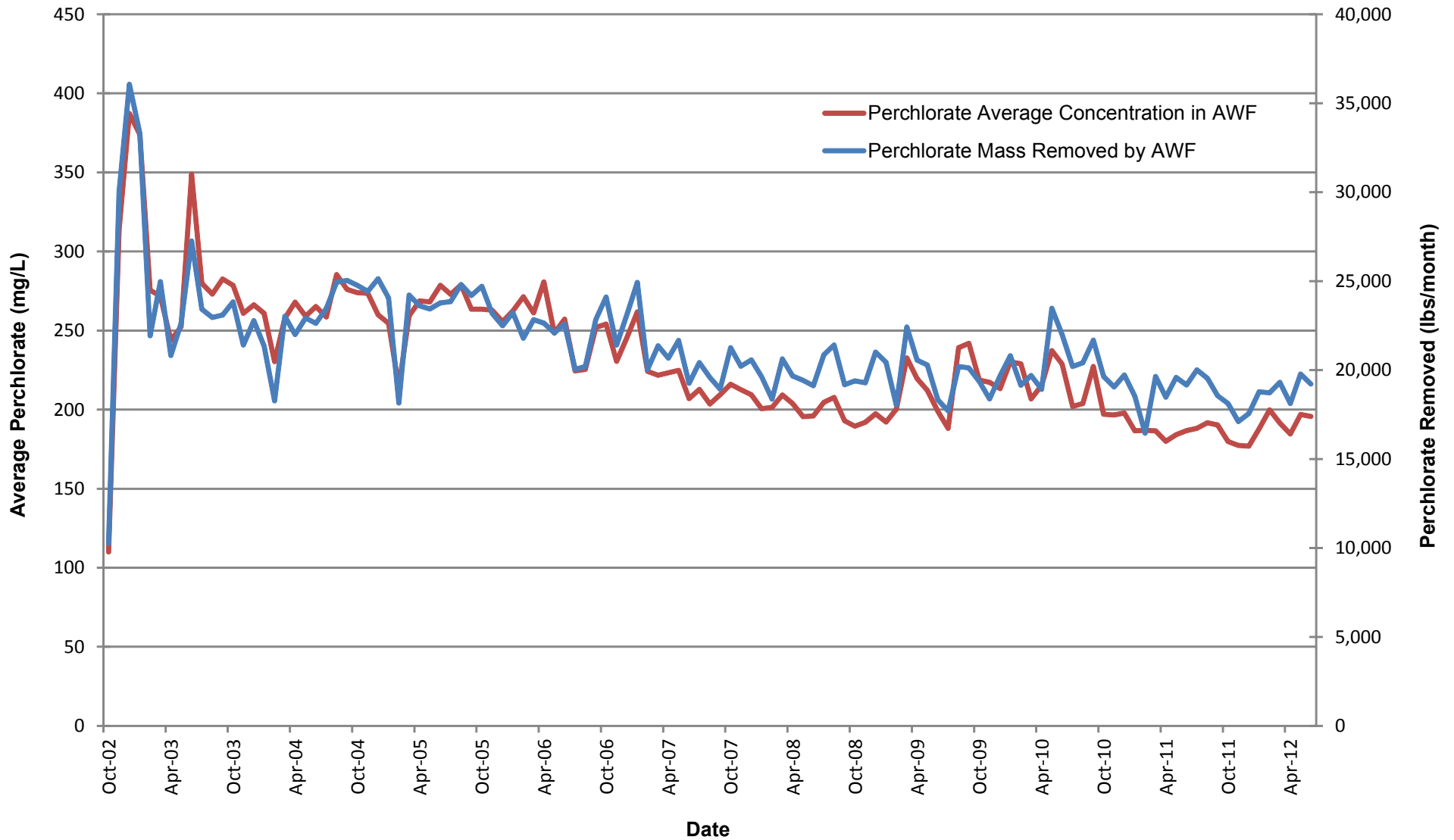
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Athens Road Well Field Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

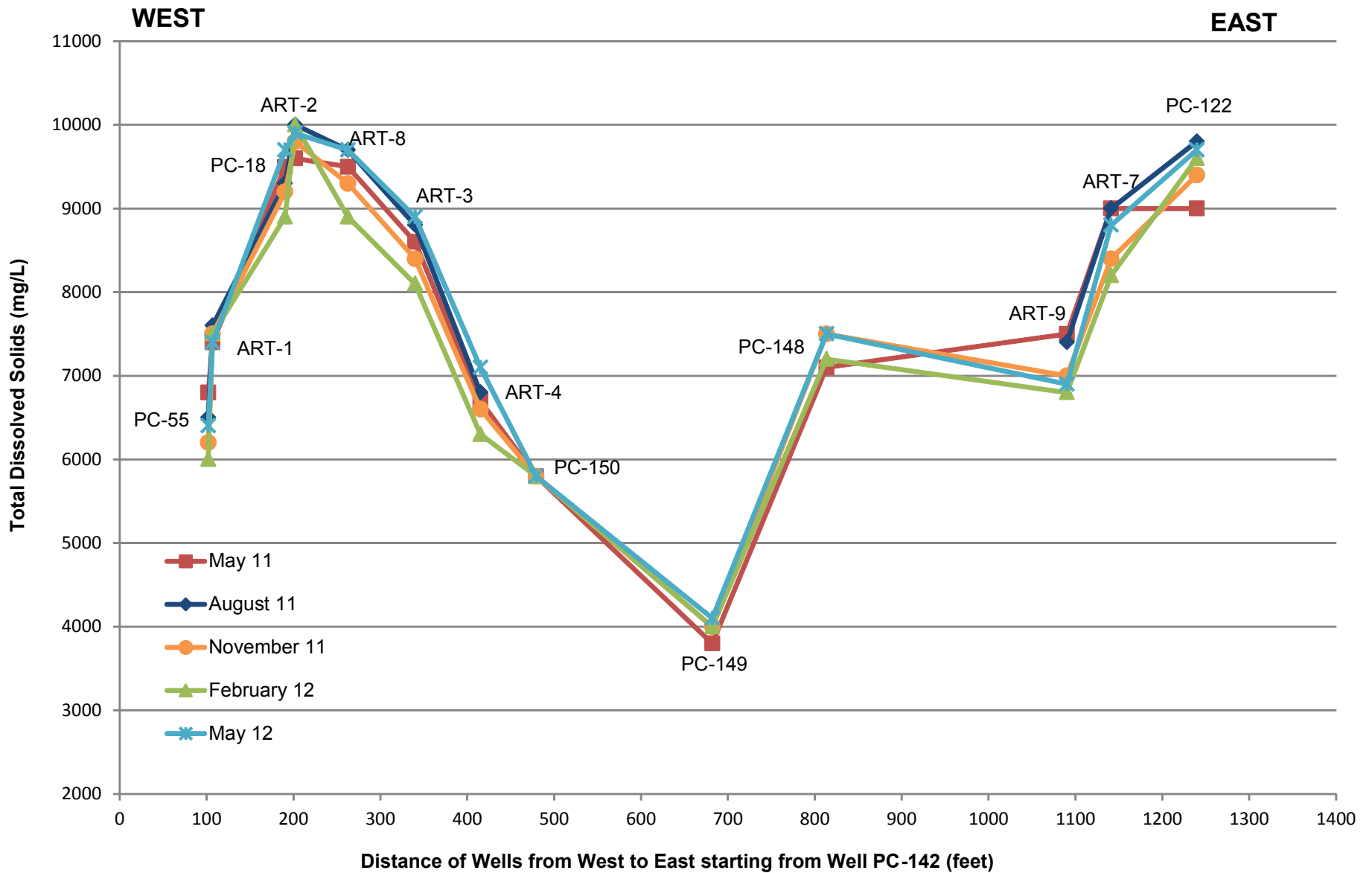
15A



Athens Road Well Field Average Perchlorate Concentration and Mass Removed
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

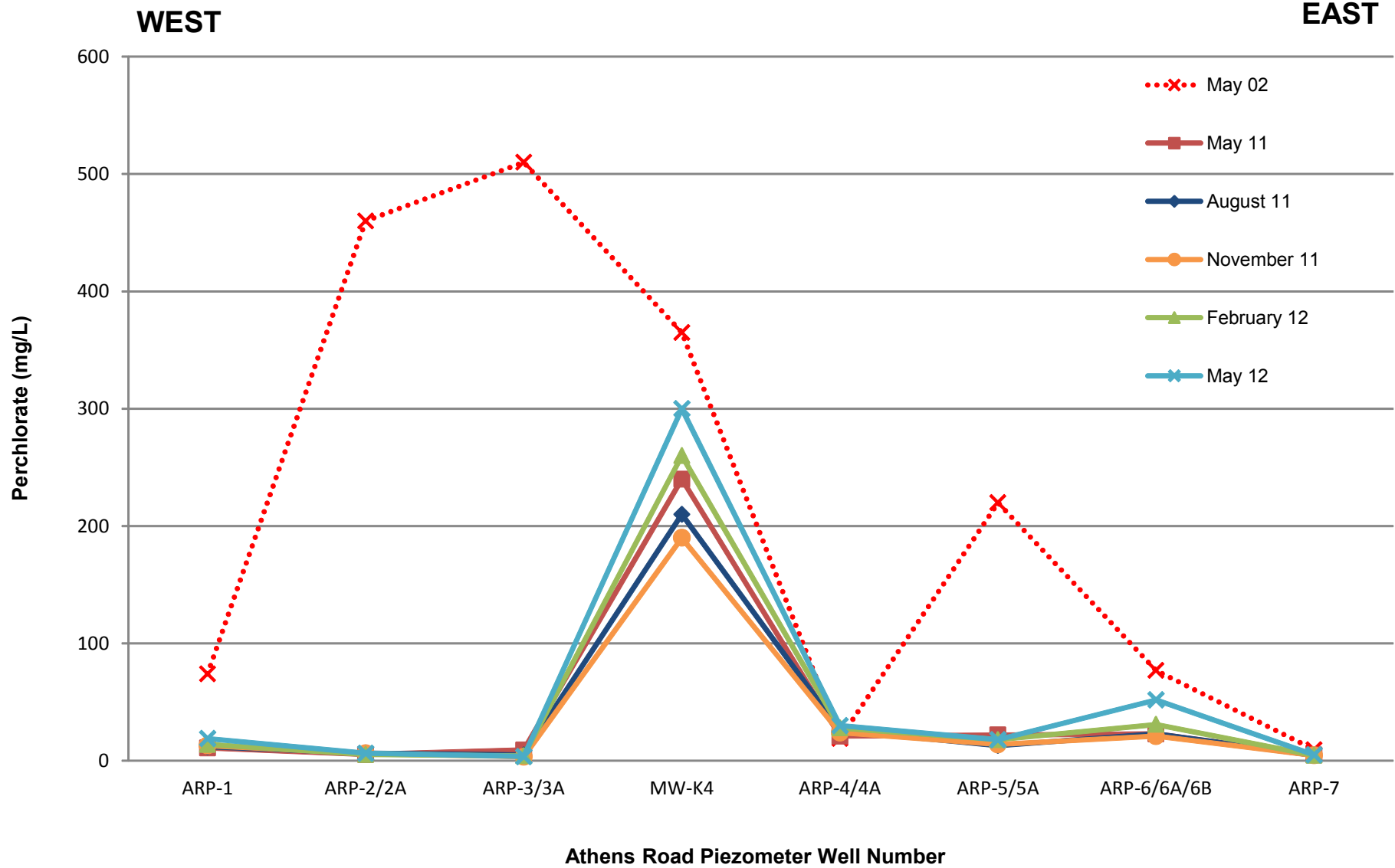
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Athens Road Well Field Transect Total Dissolved Solids Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

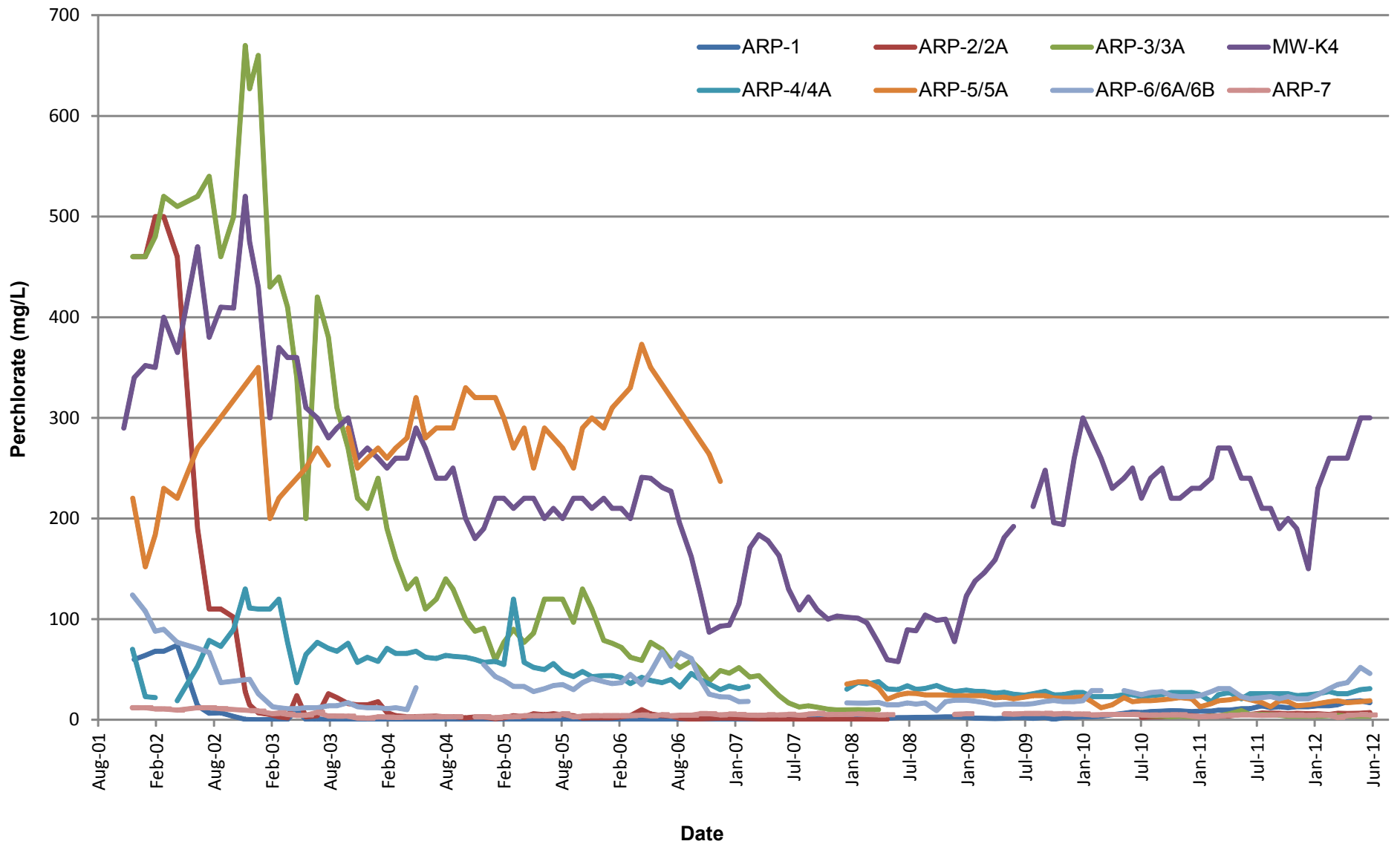
17



Athens Road Piezometer Well Line Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

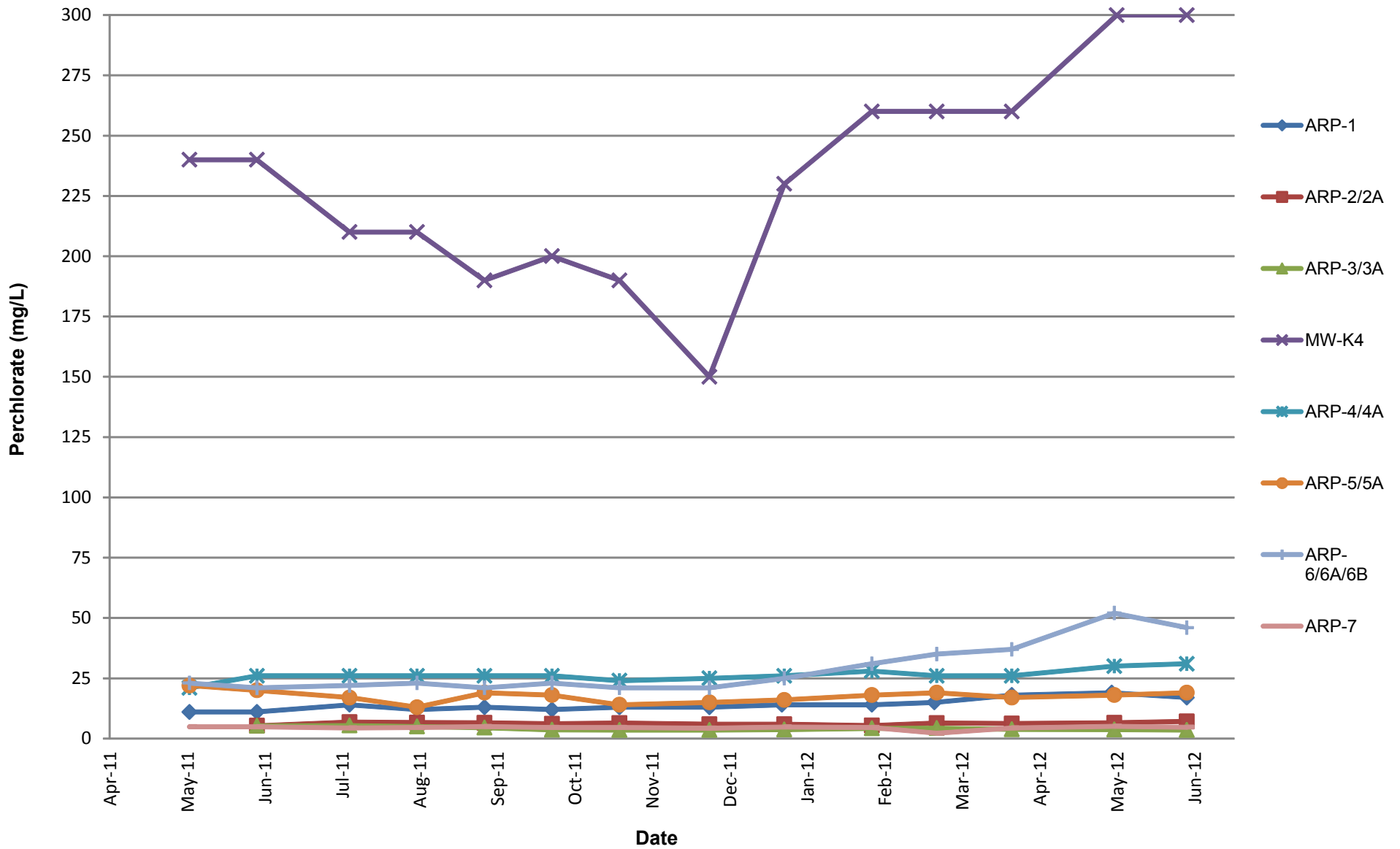
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Athens Road Piezometer Well Line Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

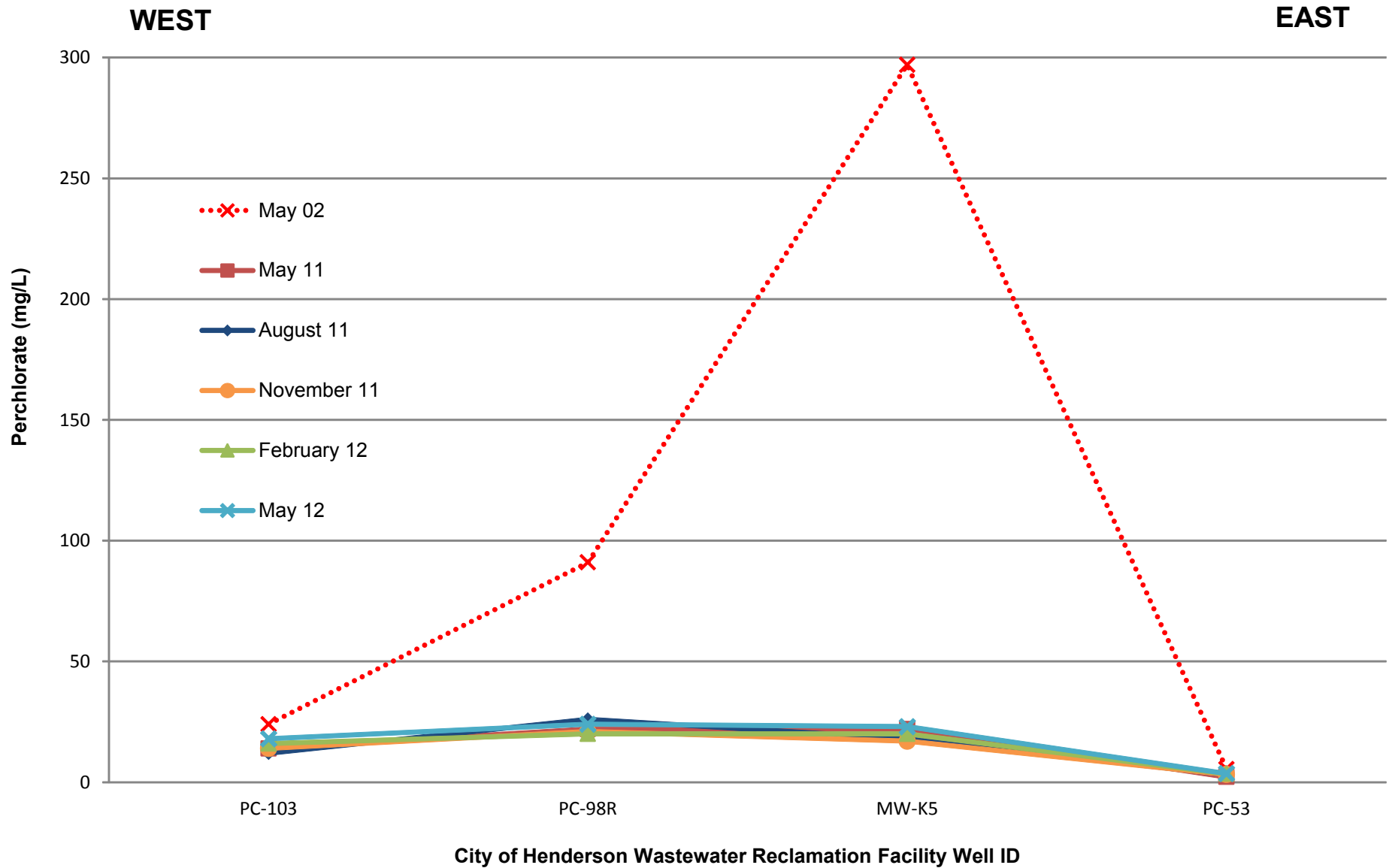
19



Athens Road Piezometer Well Line Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

19A



City of Henderson WRF Well Line Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

20

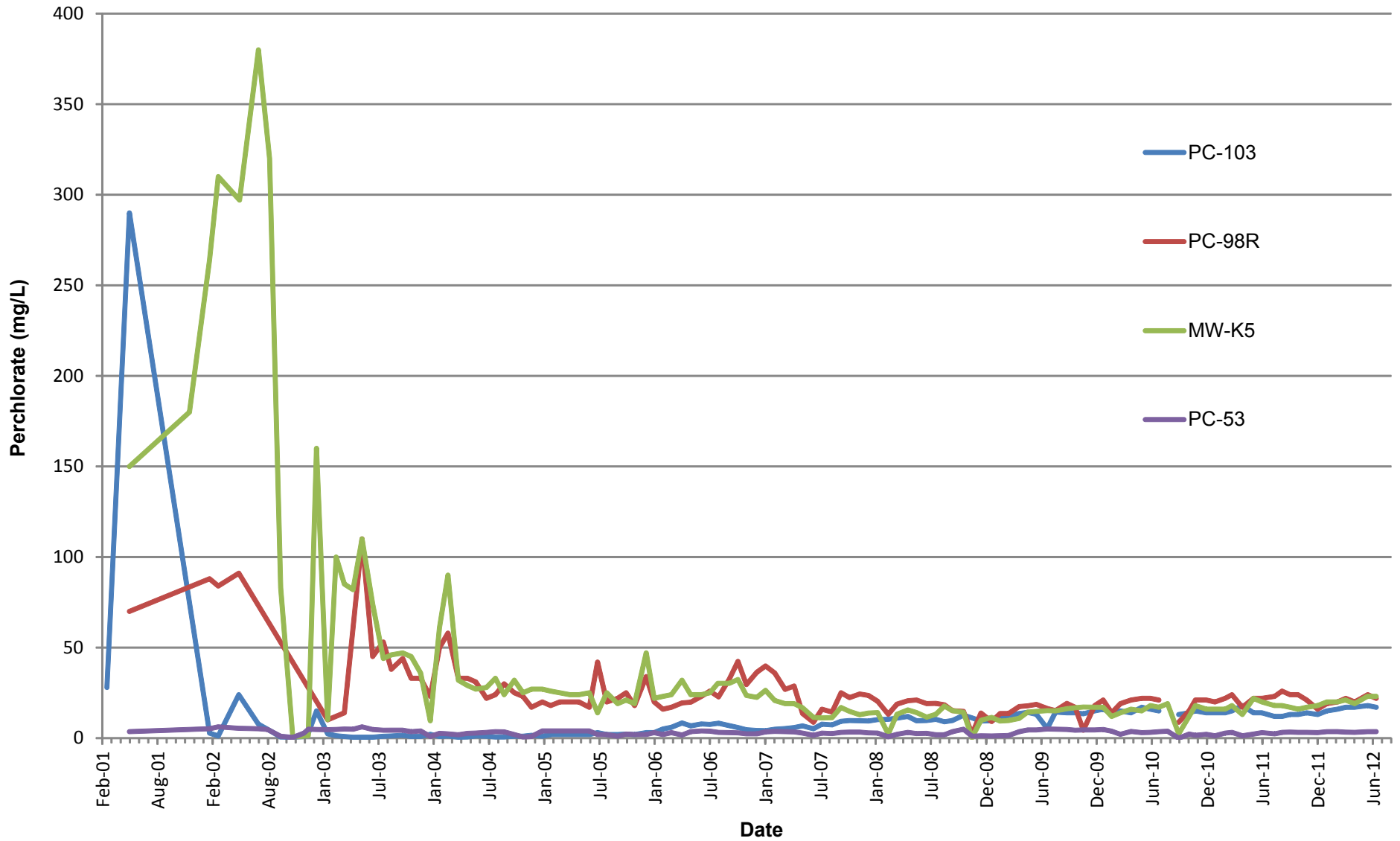
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Date: 8/8/12

Contract Number: 21-29100G

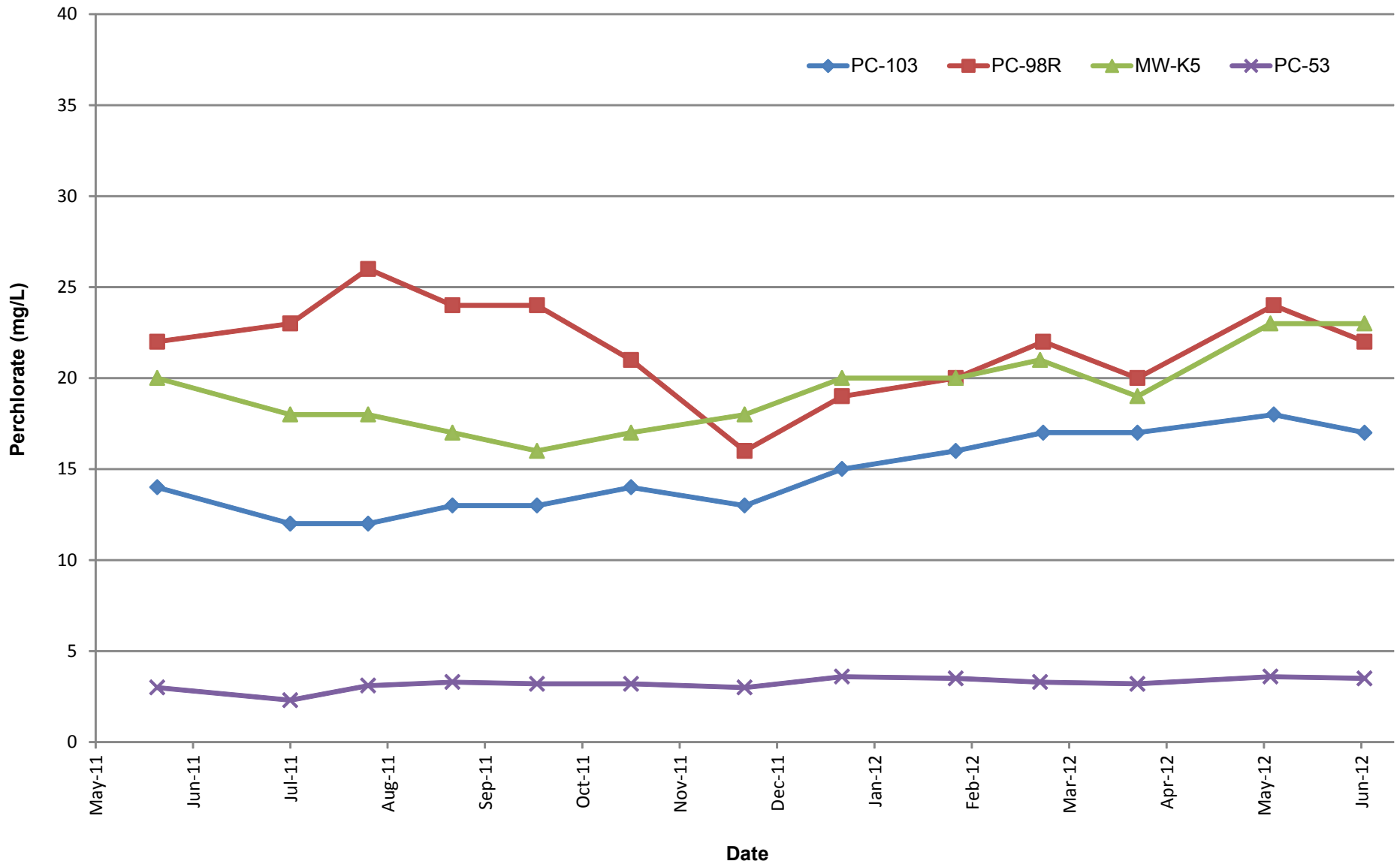
Approved:

Revised:



City of Henderson WRF Well Line Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure



City of Henderson WRF Well Line Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

21A

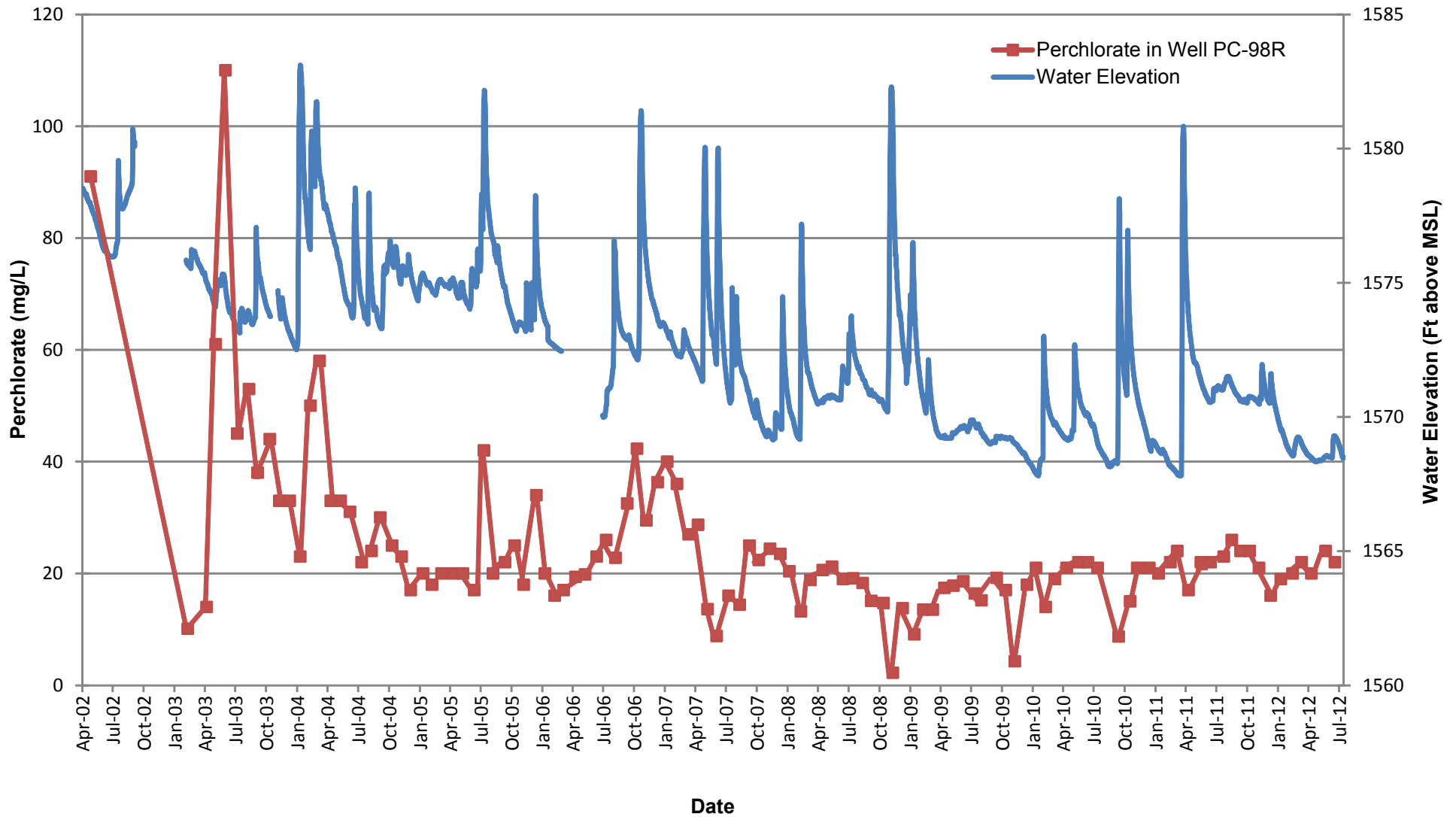
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Date: 8/8/12

Contract Number: 21-29100G

Approved:

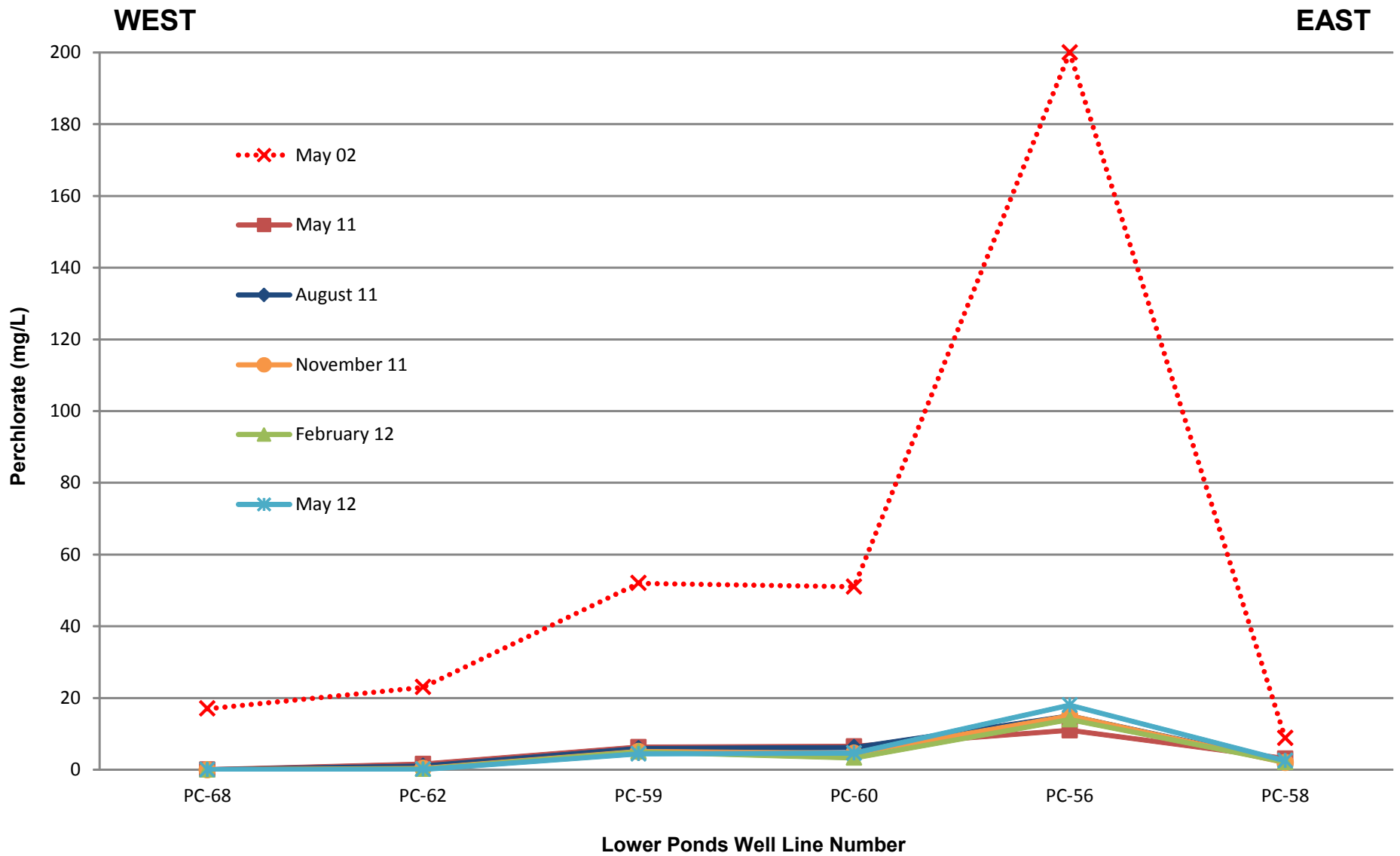
Revised:



Well PC-98R Perchlorate Concentration vs. Water Elevation Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

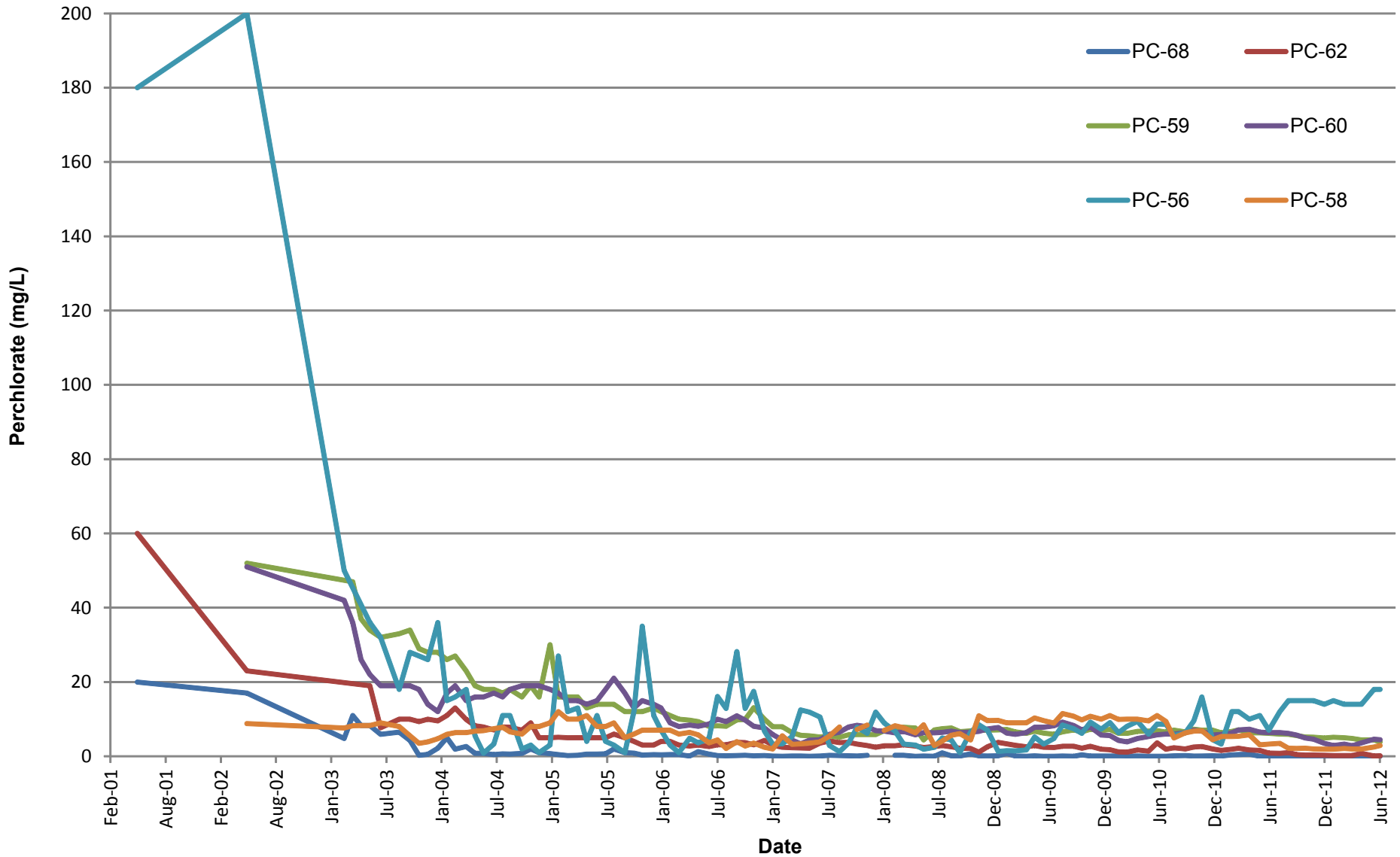
22



Lower Ponds Well Line Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

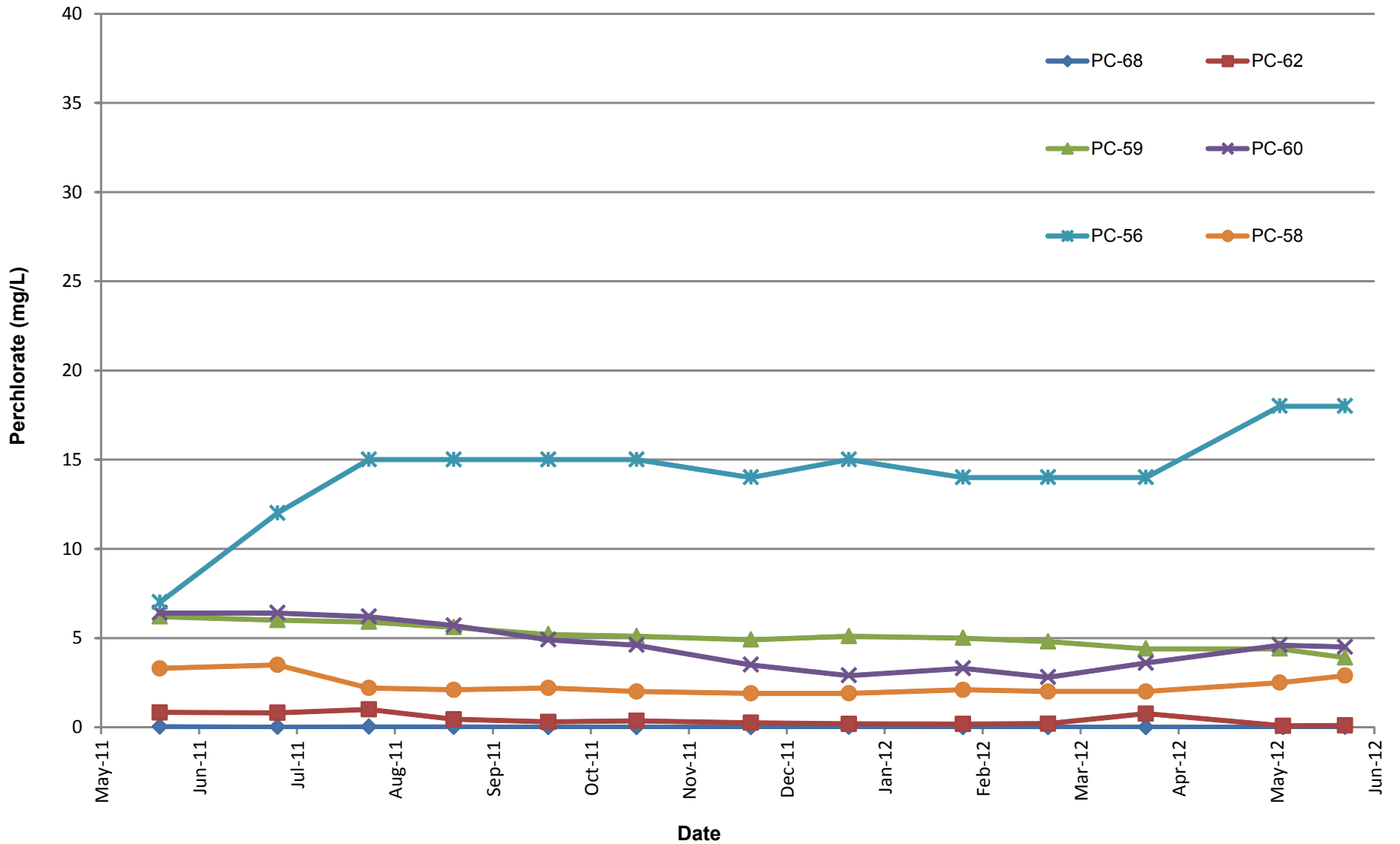
23



Lower Ponds Well Line Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

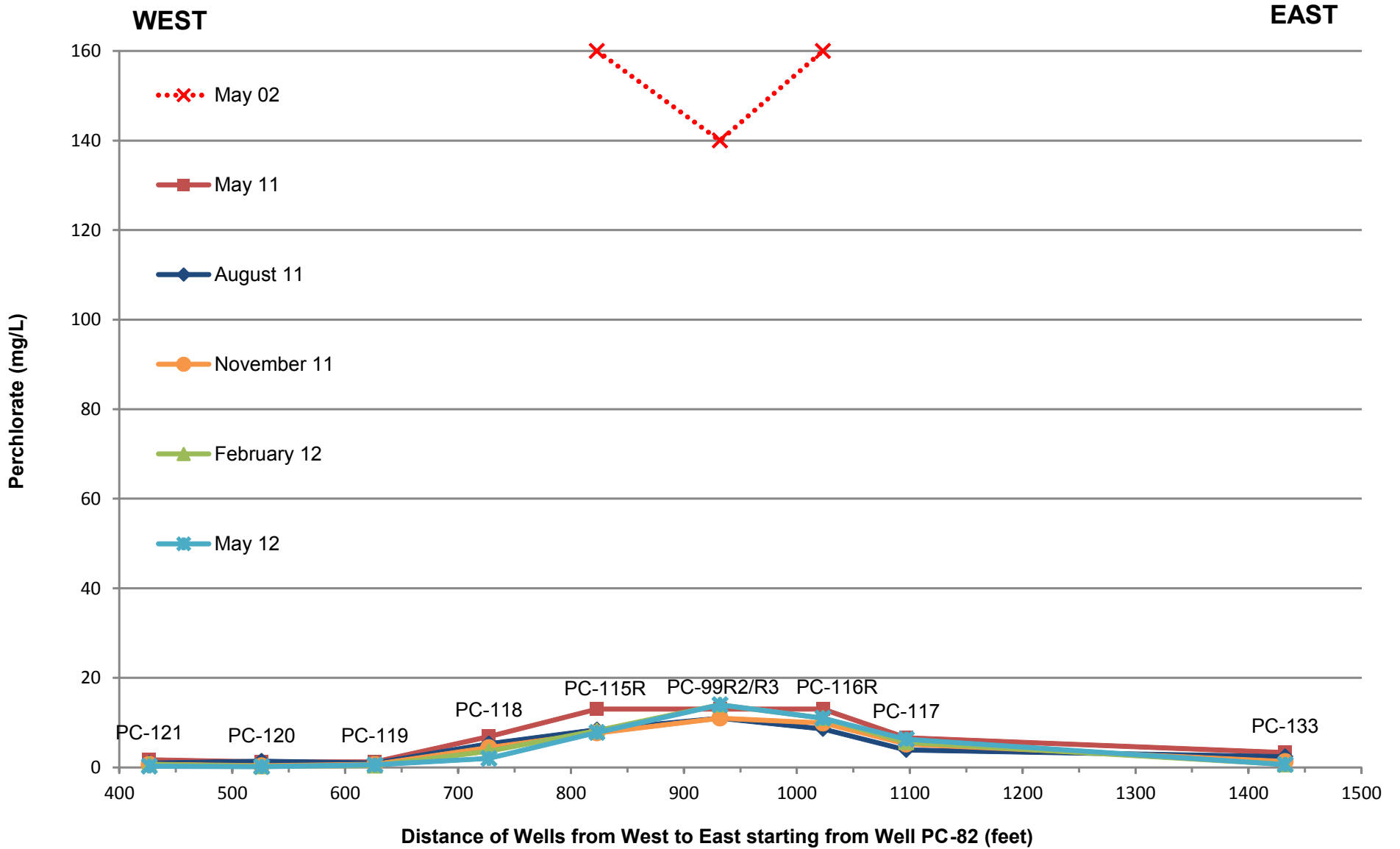
24



Lower Ponds Well Line Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

24A



Seep Well Field Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

25

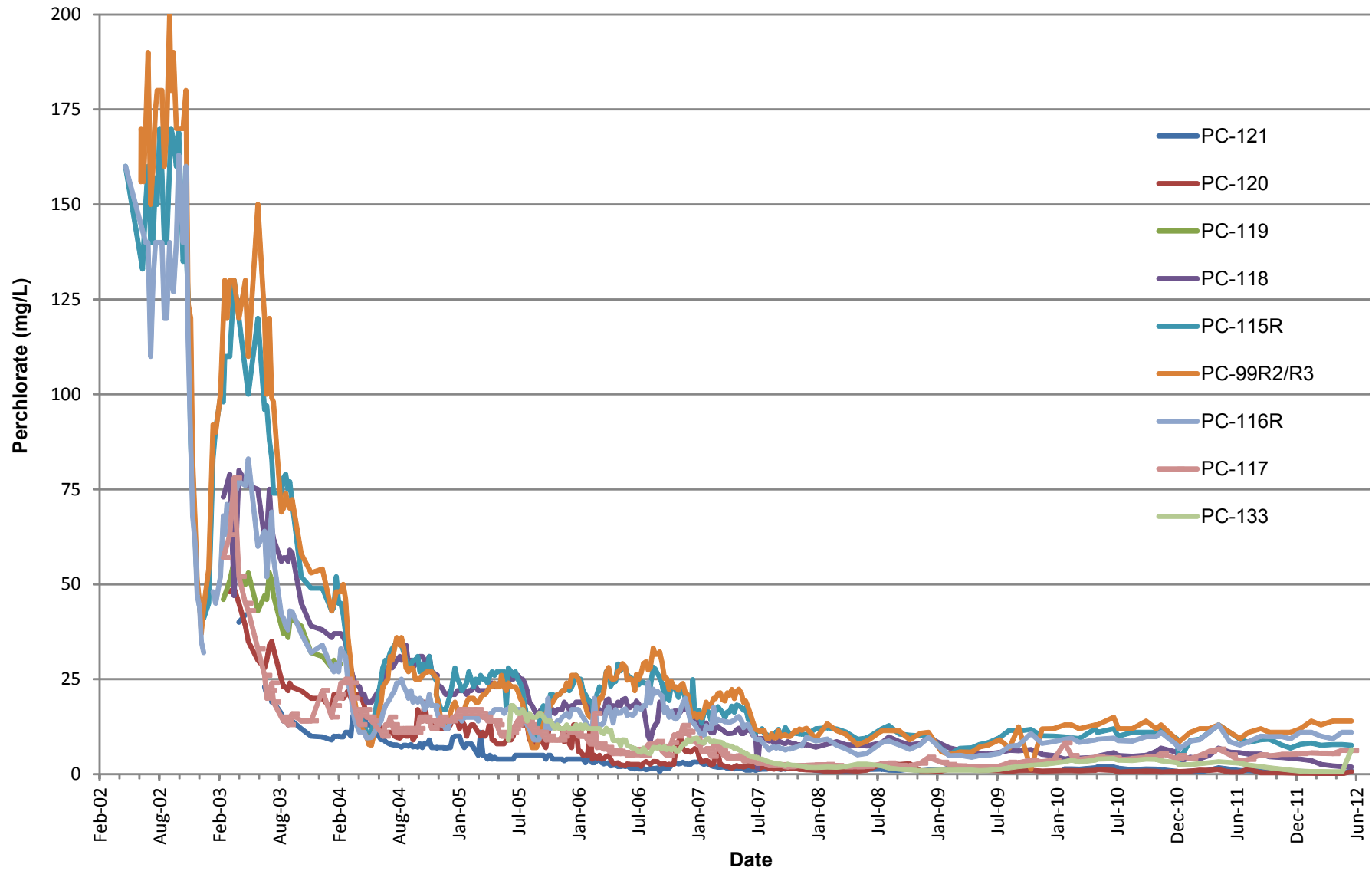
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Date: 8/10/12

Contract Number: 21-29100G

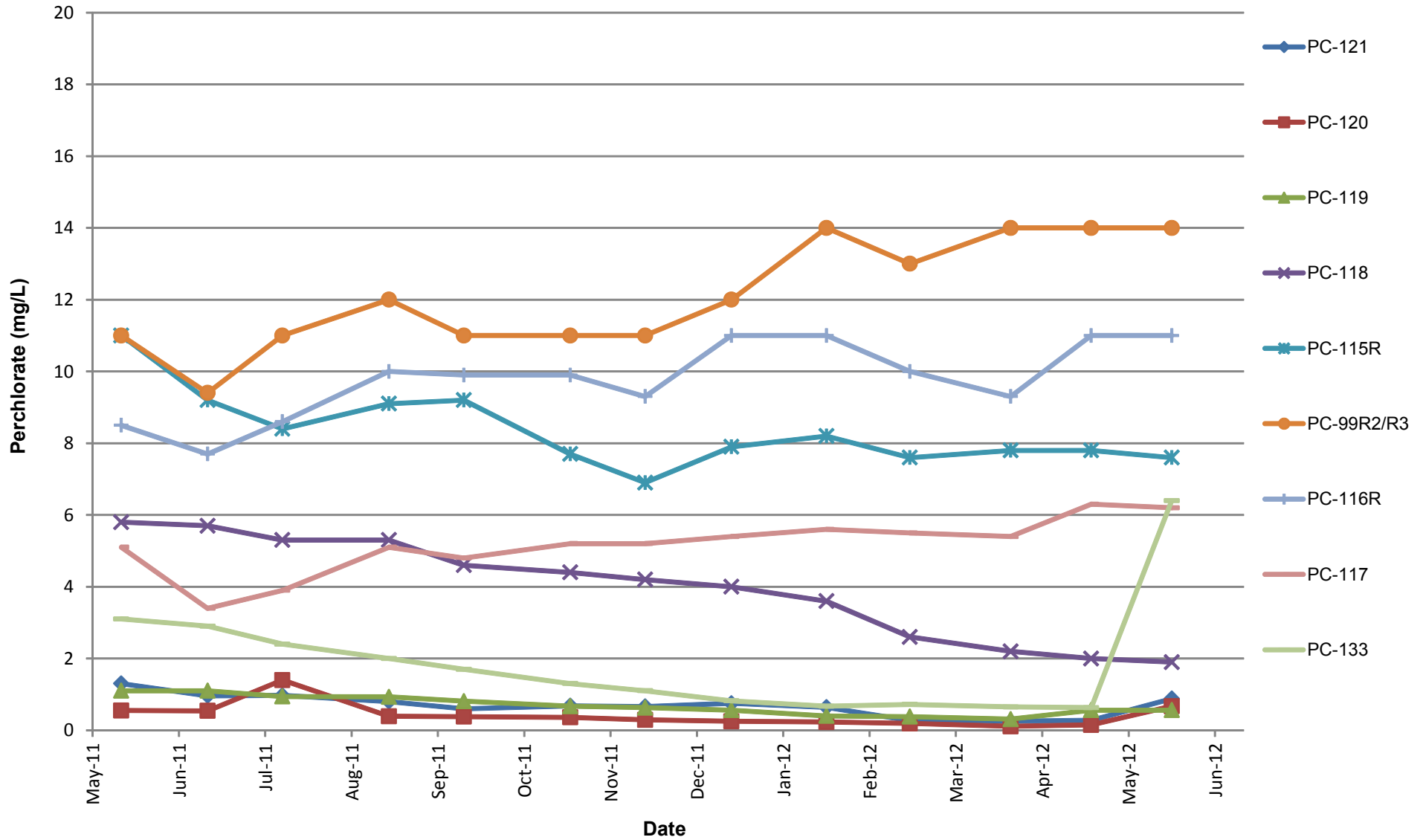
Approved:

Revised:



Seep Well Field Perchlorate Concentration Trends
Nevada Environmental Response Trust (NERT) Site
Henderson, Nevada

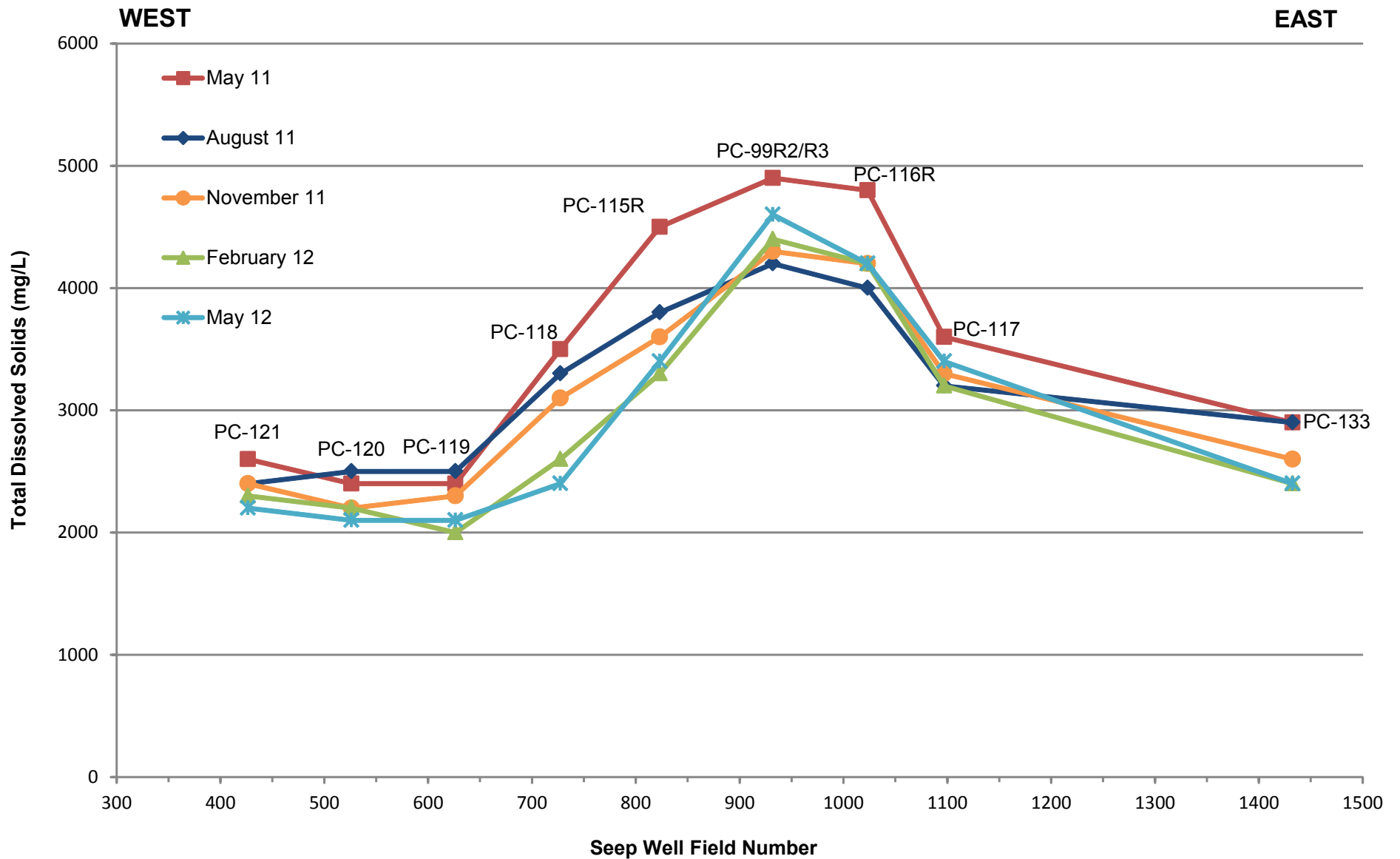
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Seep Well Field Perchlorate Concentration Trends, May 2011 - June 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

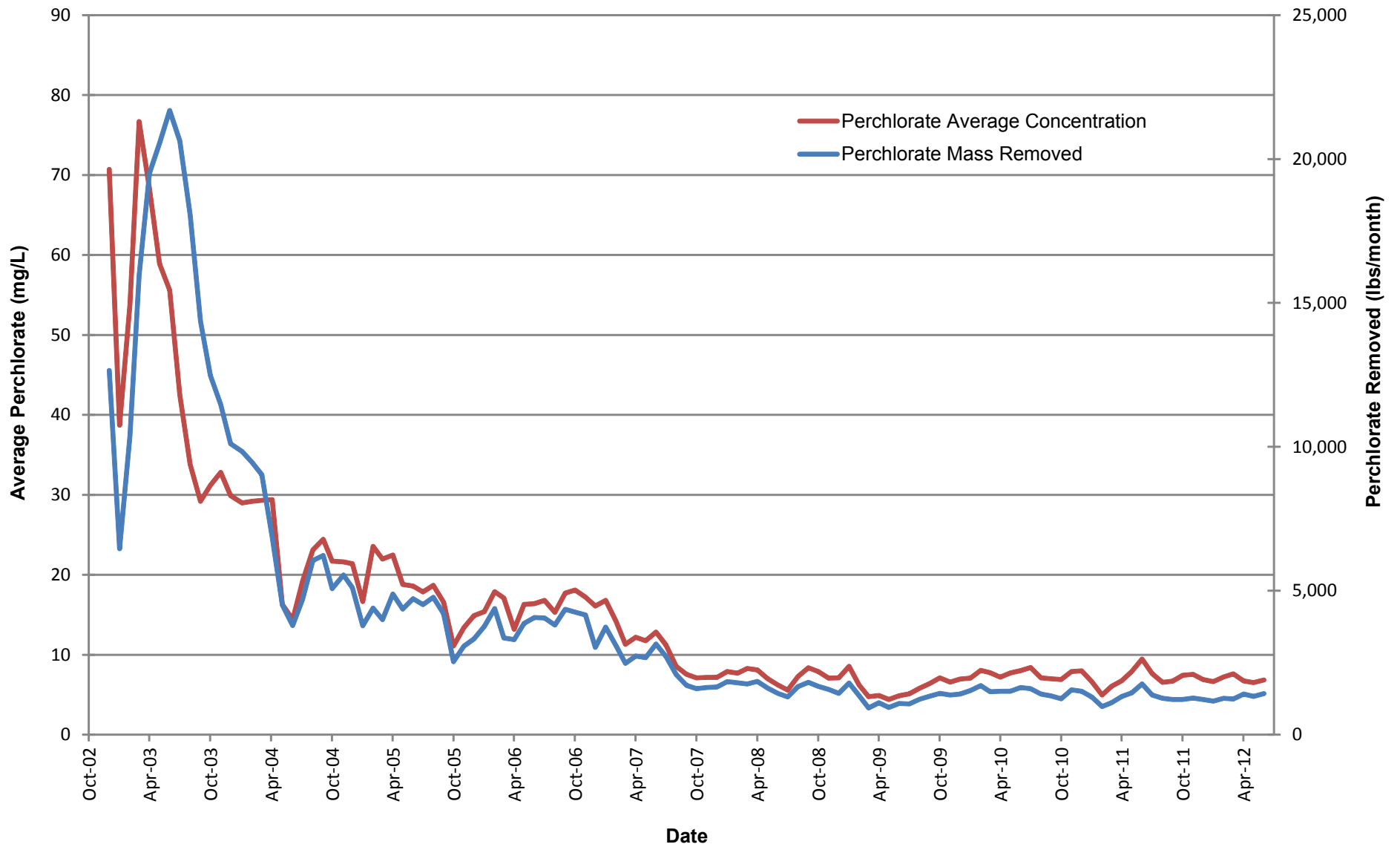
26A



Seep Well Field Transect Total Dissolved Solids Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

27



Seep Well Field Average Perchlorate Concentration and Mass Removed
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

28