

LEGEND

- Sampled / Measured Well
- ★ Seep Surface-Flow Capture Sump (no longer operating)
- ▭ Nevada Environmental Response Trust Property Boundary

LAND OWNERSHIP

- City of Henderson
- Timet
- BMI
- Lhoist
- Former Pepcon
- Parcel Owned by Multiple Entities
- Olin

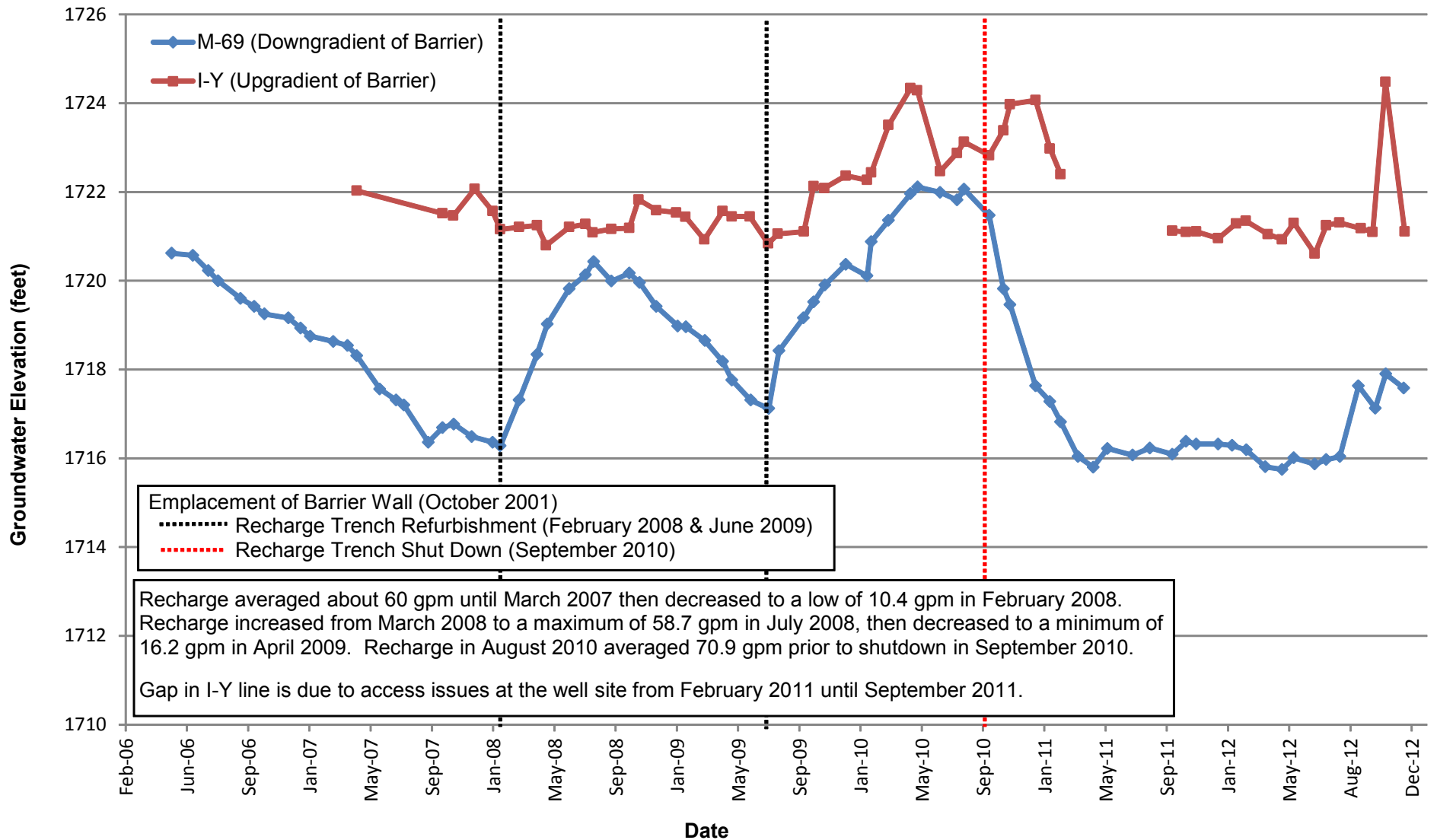
Figure 1
1
 Project No.: 21-32100H

LOCATION MAP
 Semi-Annual Remedial Performance Report
 Nevada Environmental Response Trust Site
 Henderson, Nevada

DESIGNED BY:		REVISIONS		DATE:	BY:
EJK	No.	DESCRIPTION:		2/28/2013	RS
DRAWN BY:	0	GENERATE APPROVED MAP			
CHECKED BY:					
APPROVED BY:					
CJR/KPL					



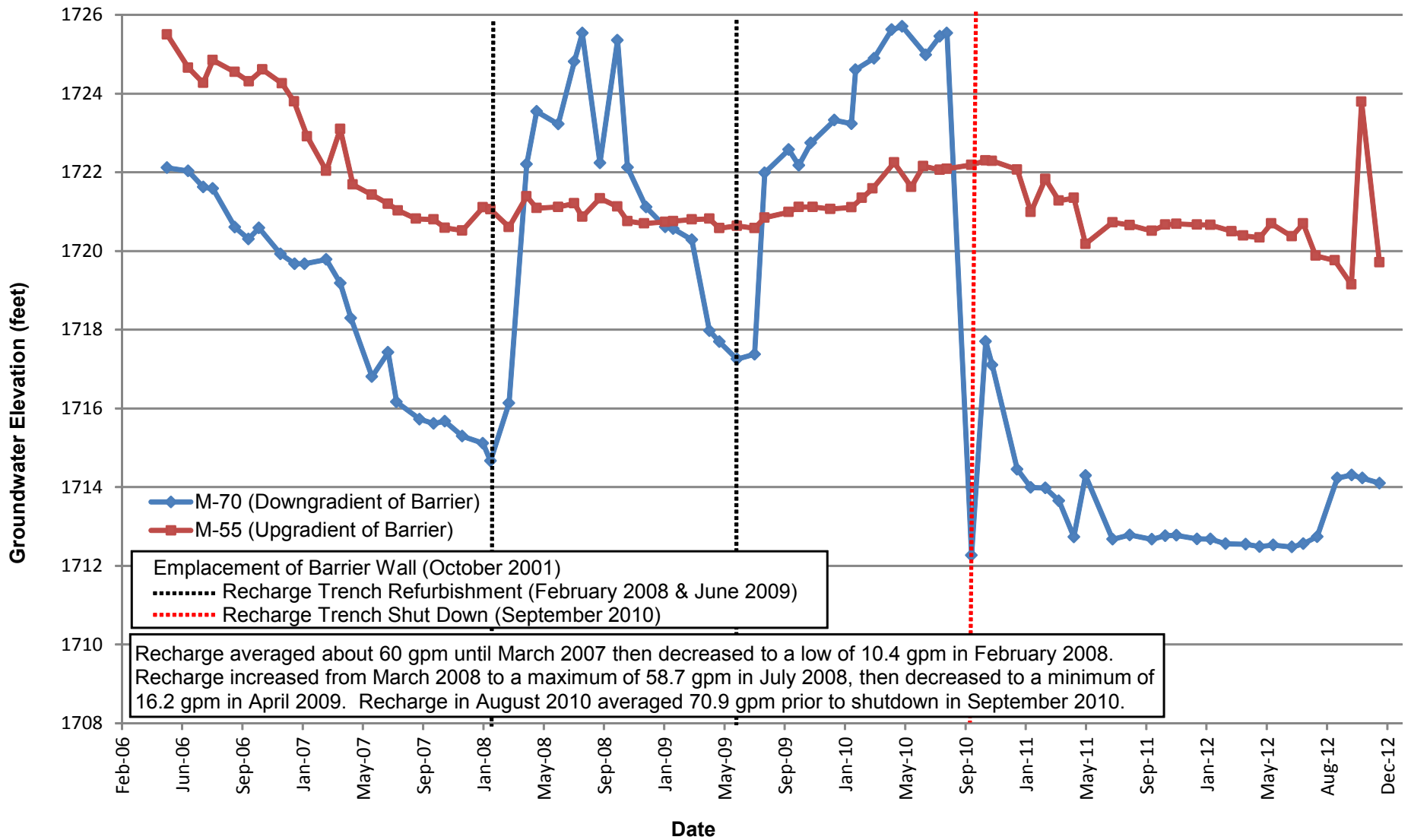
Path: H:\LePonon\NERT\Annual Performance Reports\2012 Semi-Annual Performance Report\GIS Files\Figure 1 - Location Map-3-1-13.mxd



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

Figure

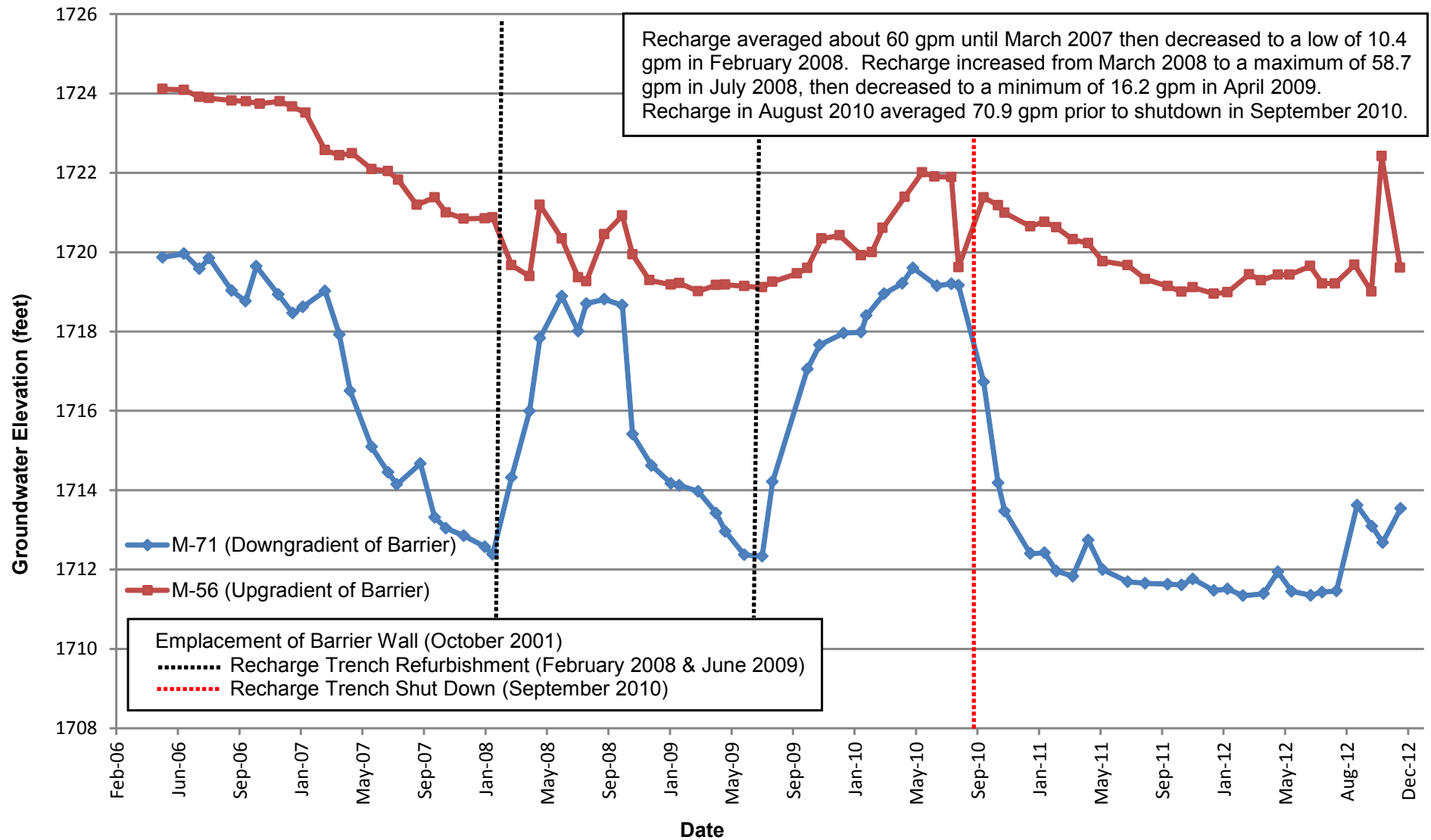
2a



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

Figure

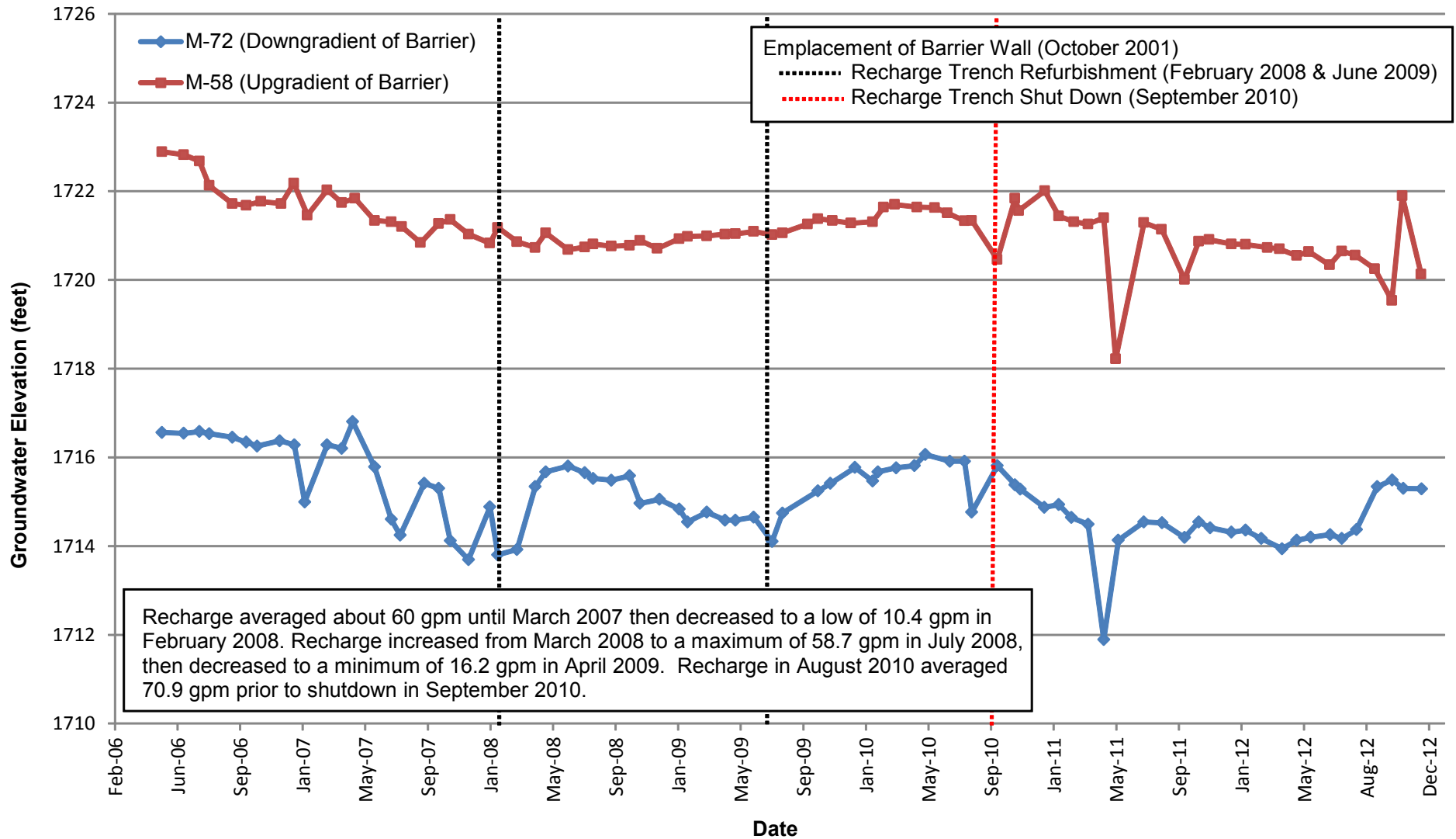
2b



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

Figure

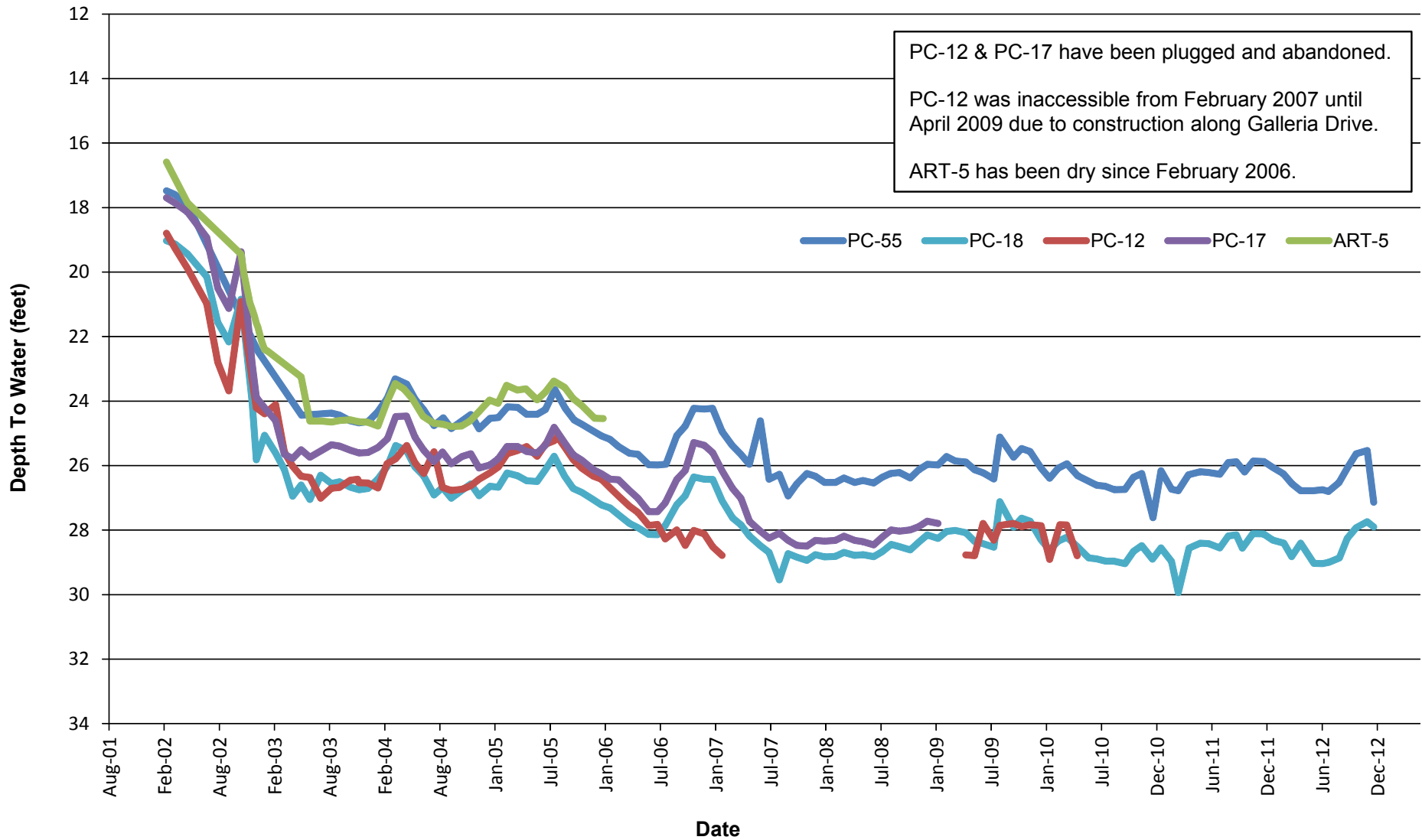
2c



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

Figure

2d



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

Figure

3

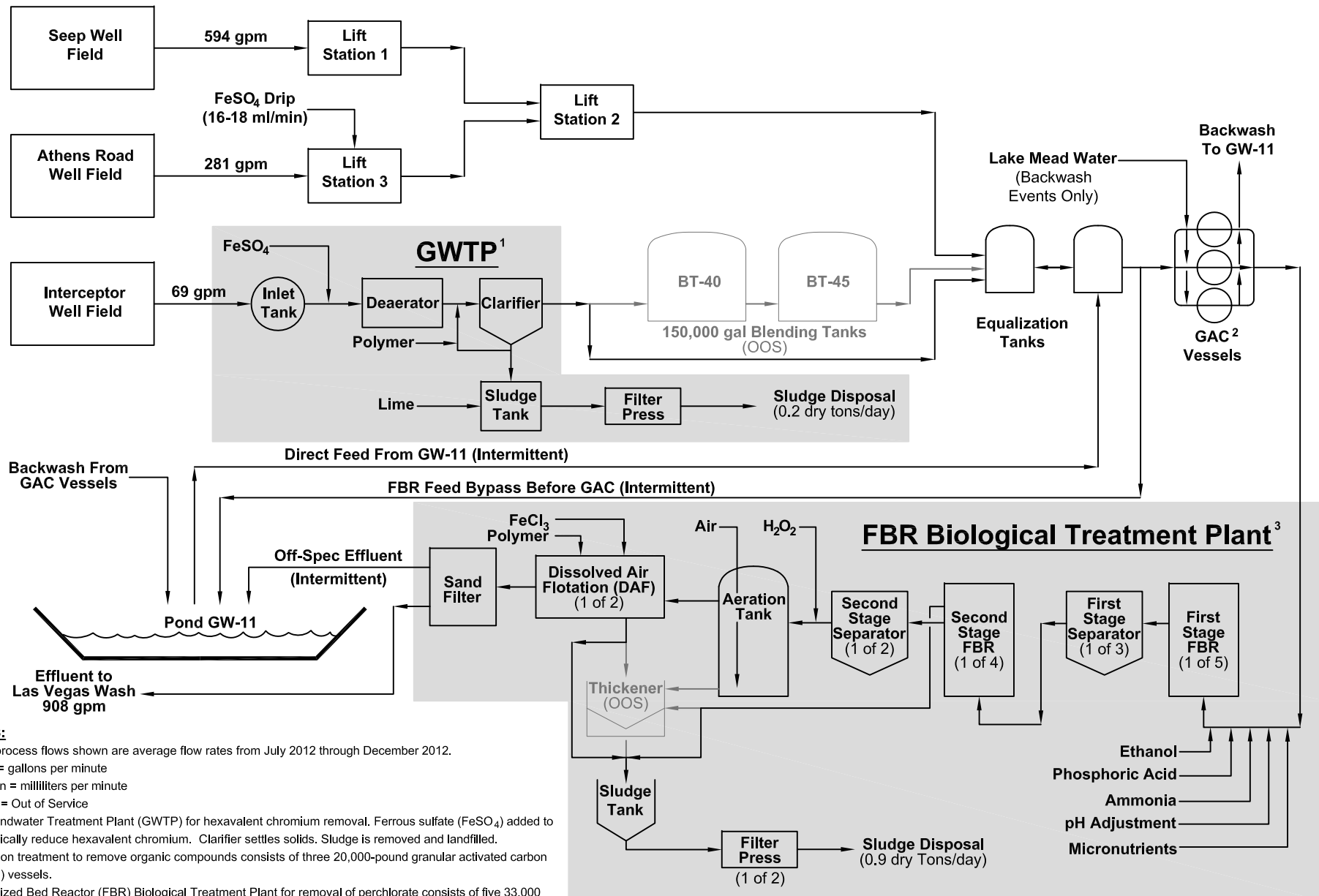
Drafter: RS

Date: 2/28/13

Contract Number: 21-32100H

Approved:

Revised:



NOTES:

- The process flows shown are average flow rates from July 2012 through December 2012.
 gpm = gallons per minute
 ml/min = milliliters per minute
 OOS = Out of Service
- 1) Groundwater Treatment Plant (GWTP) for hexavalent chromium removal. Ferrous sulfate (FeSO_4) 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, H_2O_2), 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) Site
 Henderson, Nevada

Figure

4

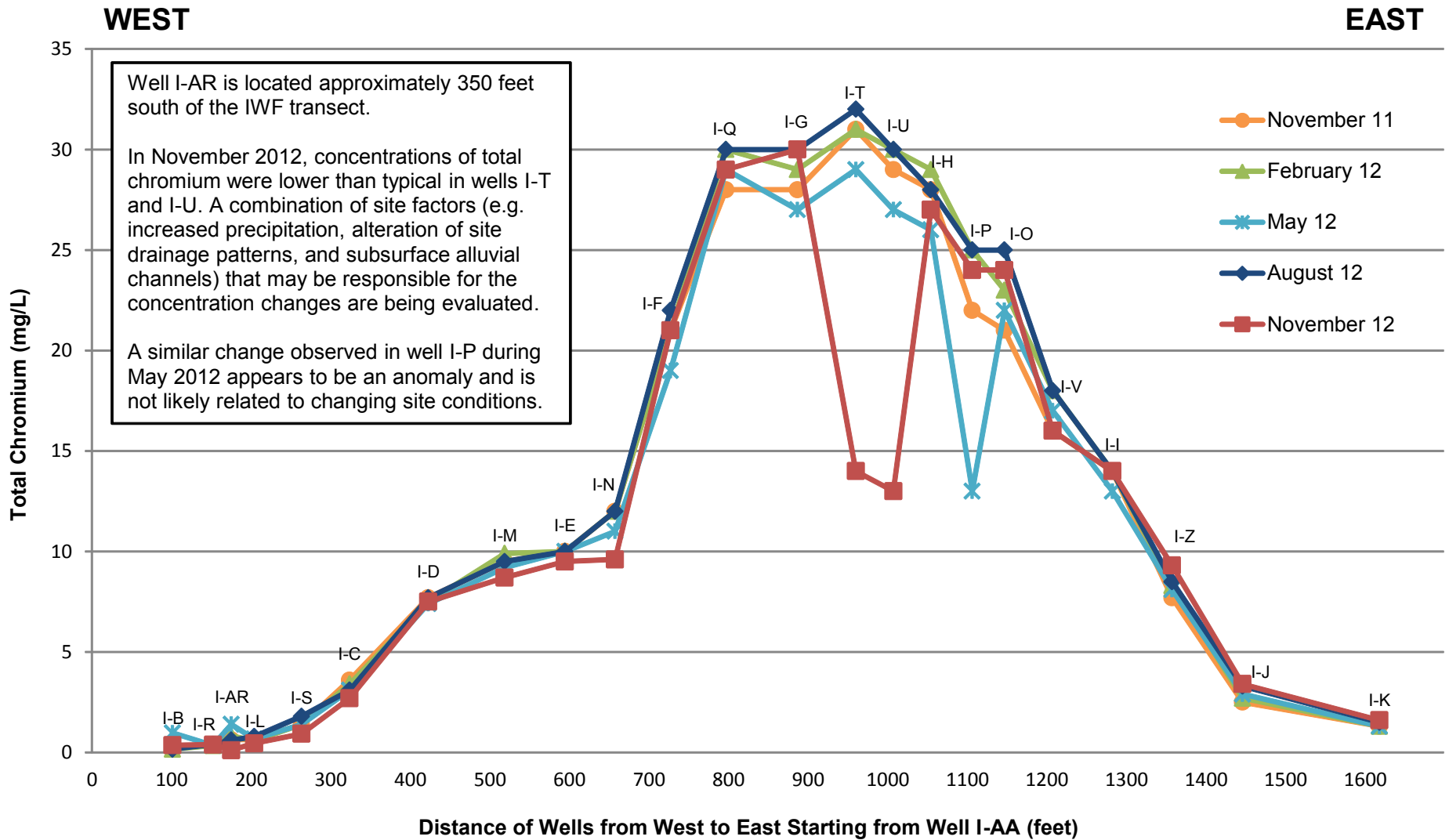
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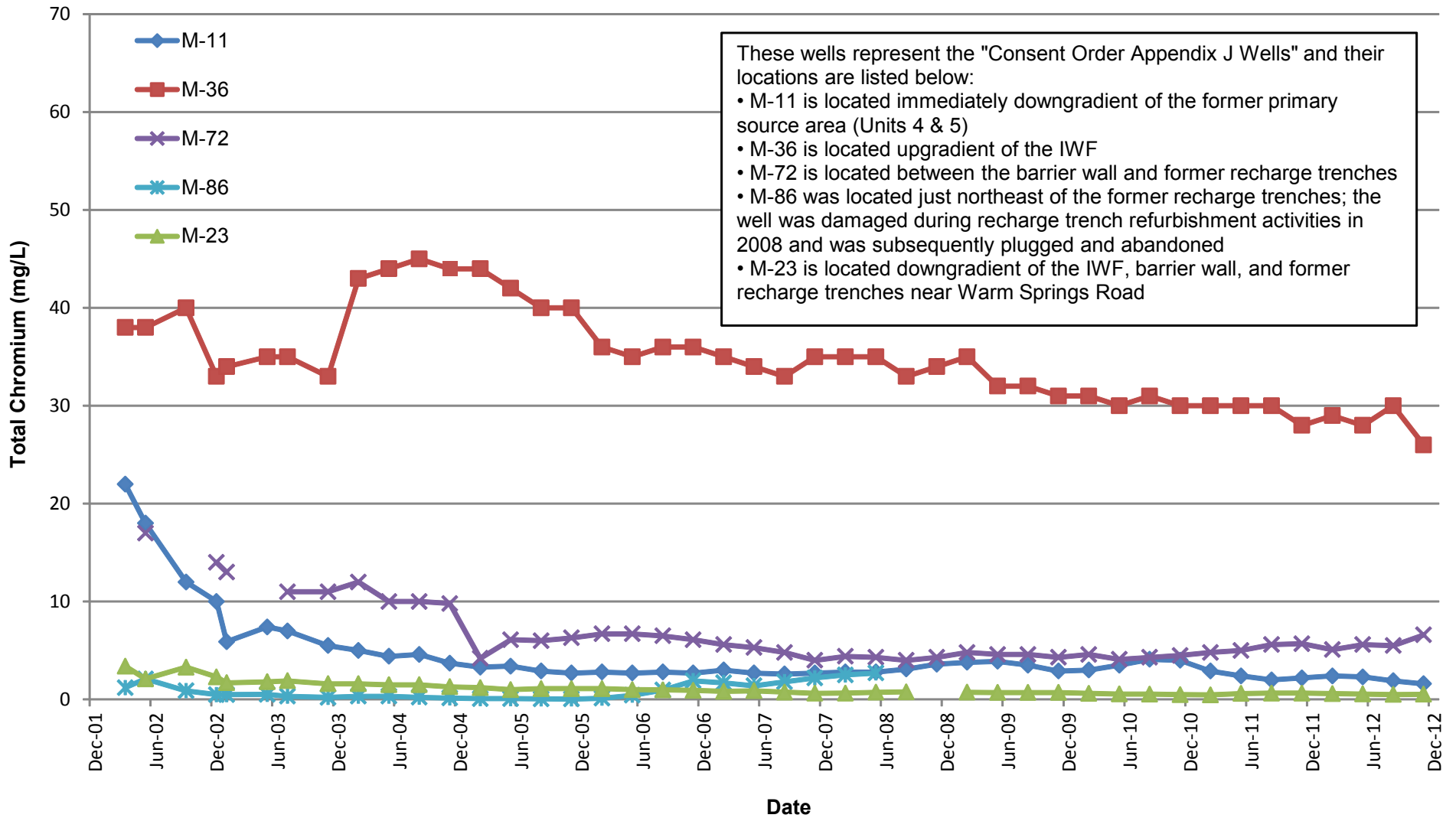
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Revised:



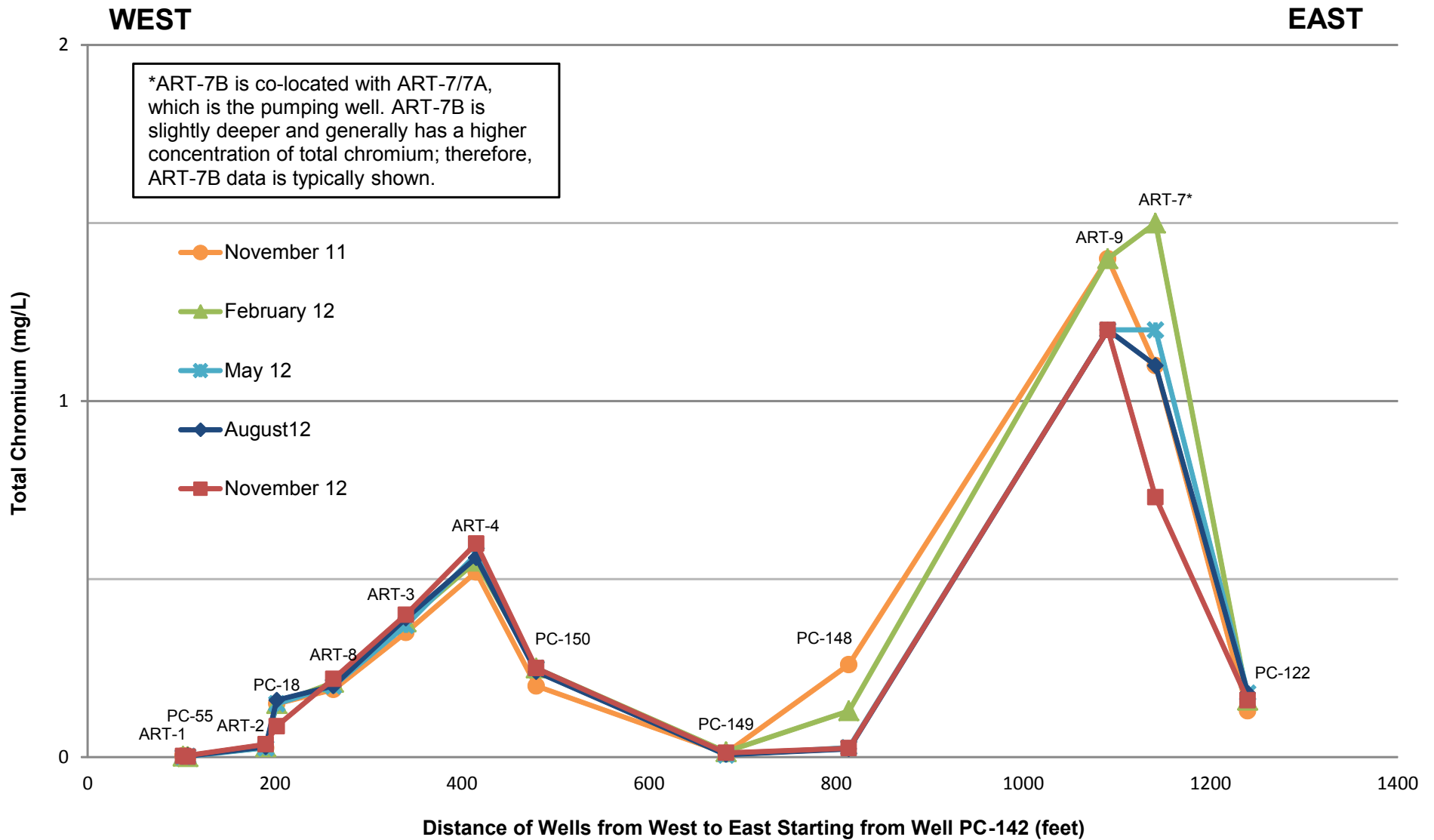
Interceptor Well Field Transect Total Chromium Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure



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

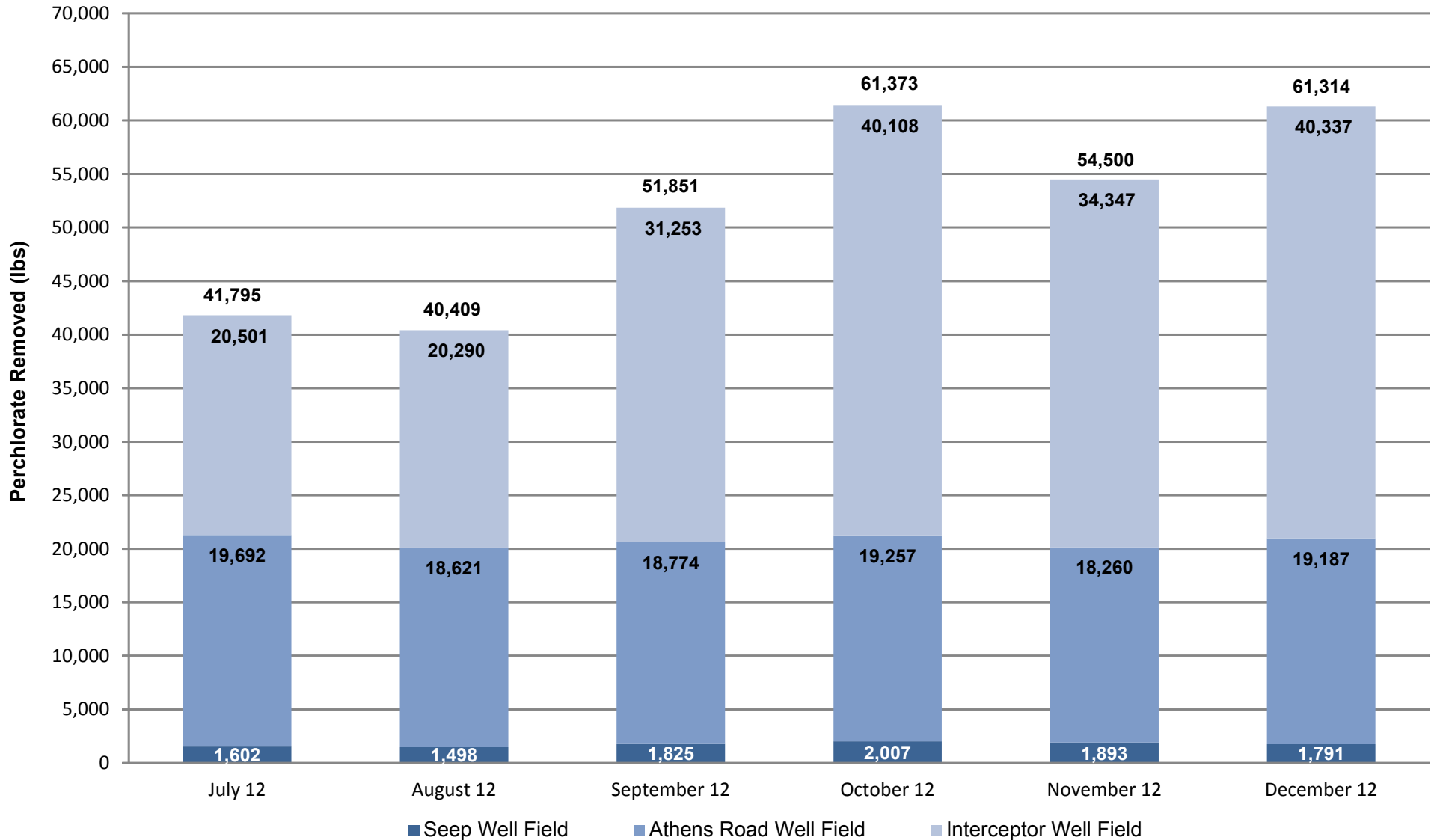
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Athens Road Well Field Transect Total Chromium Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

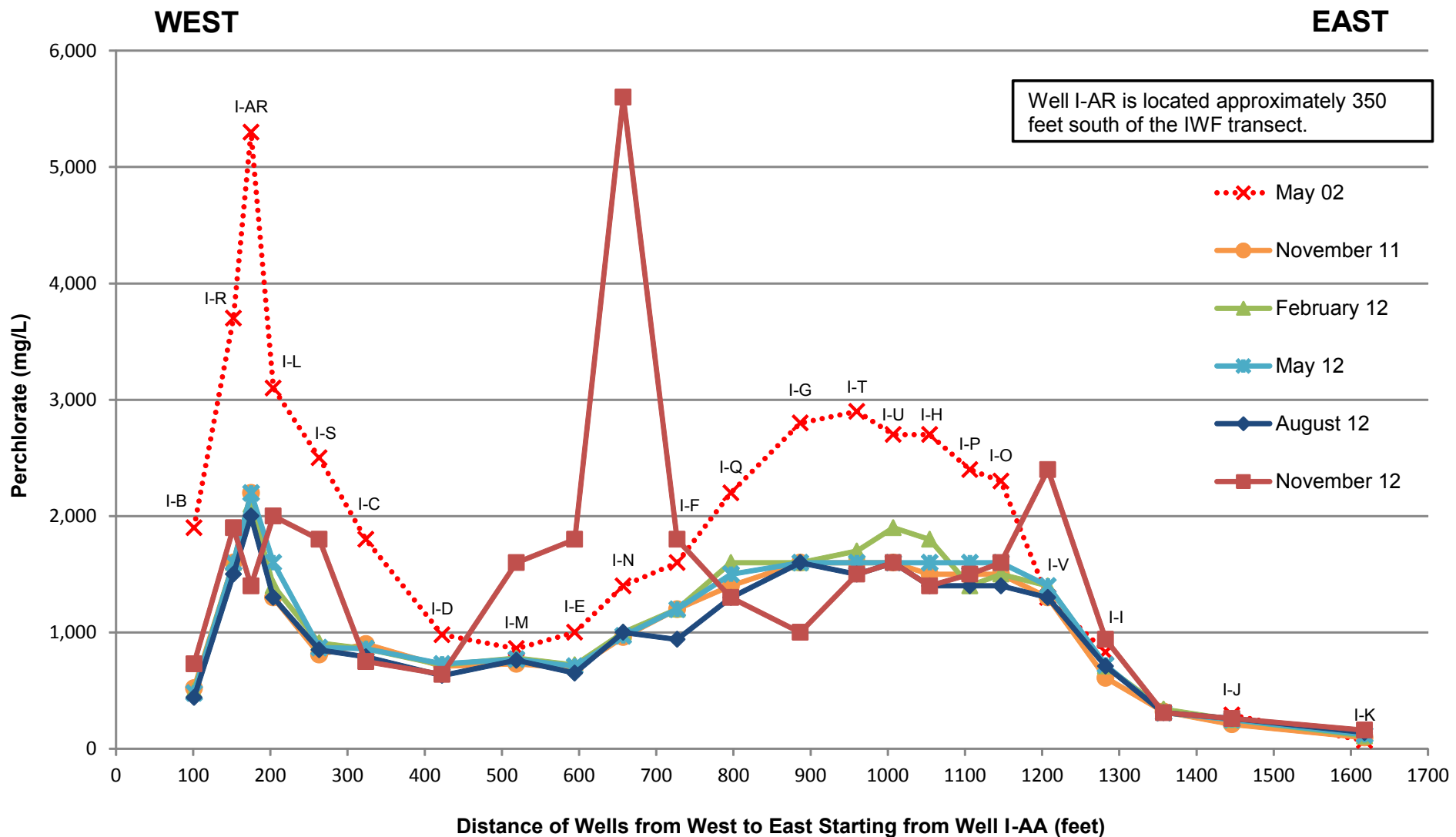
7



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

Figure

8



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

Figure

9

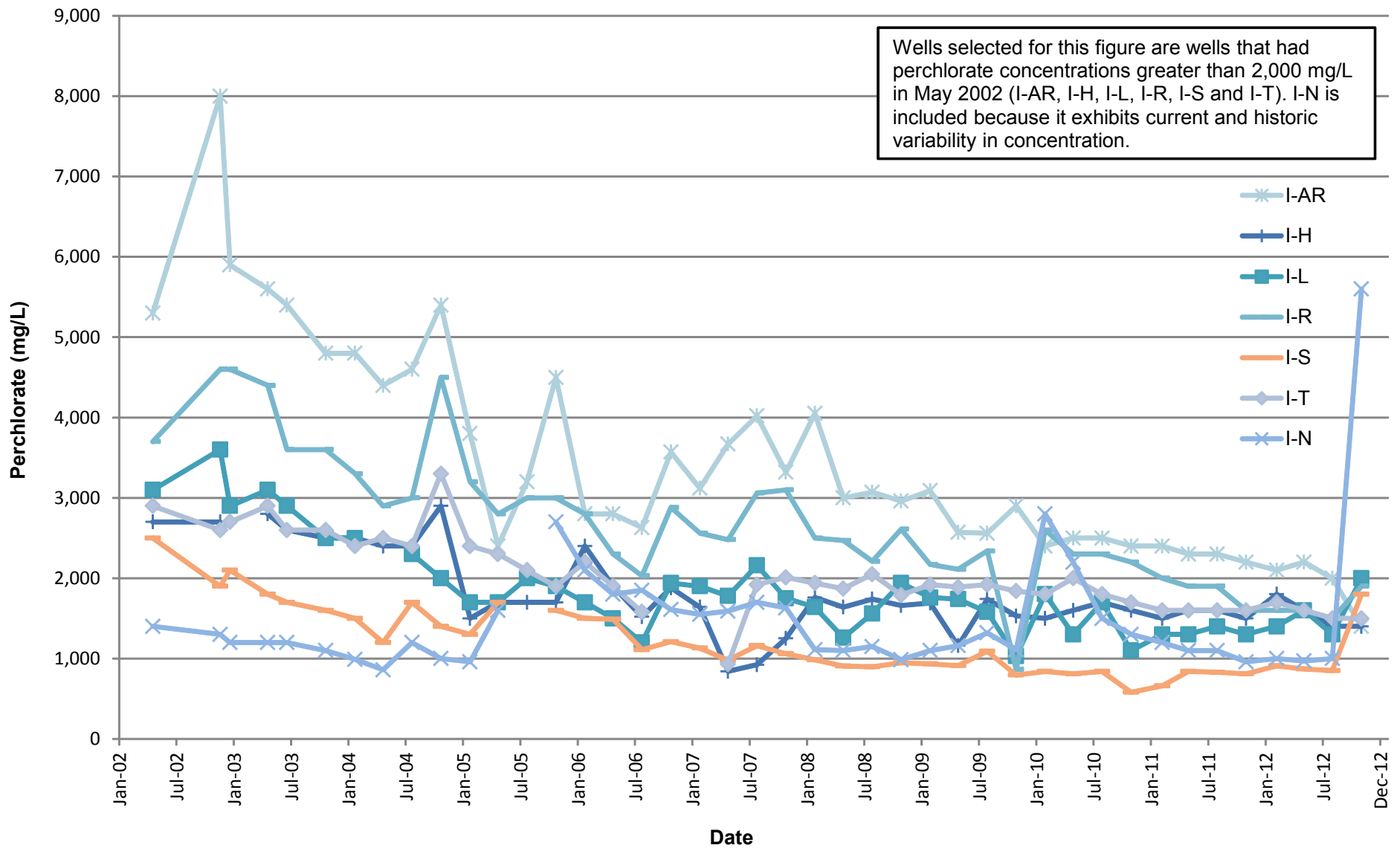
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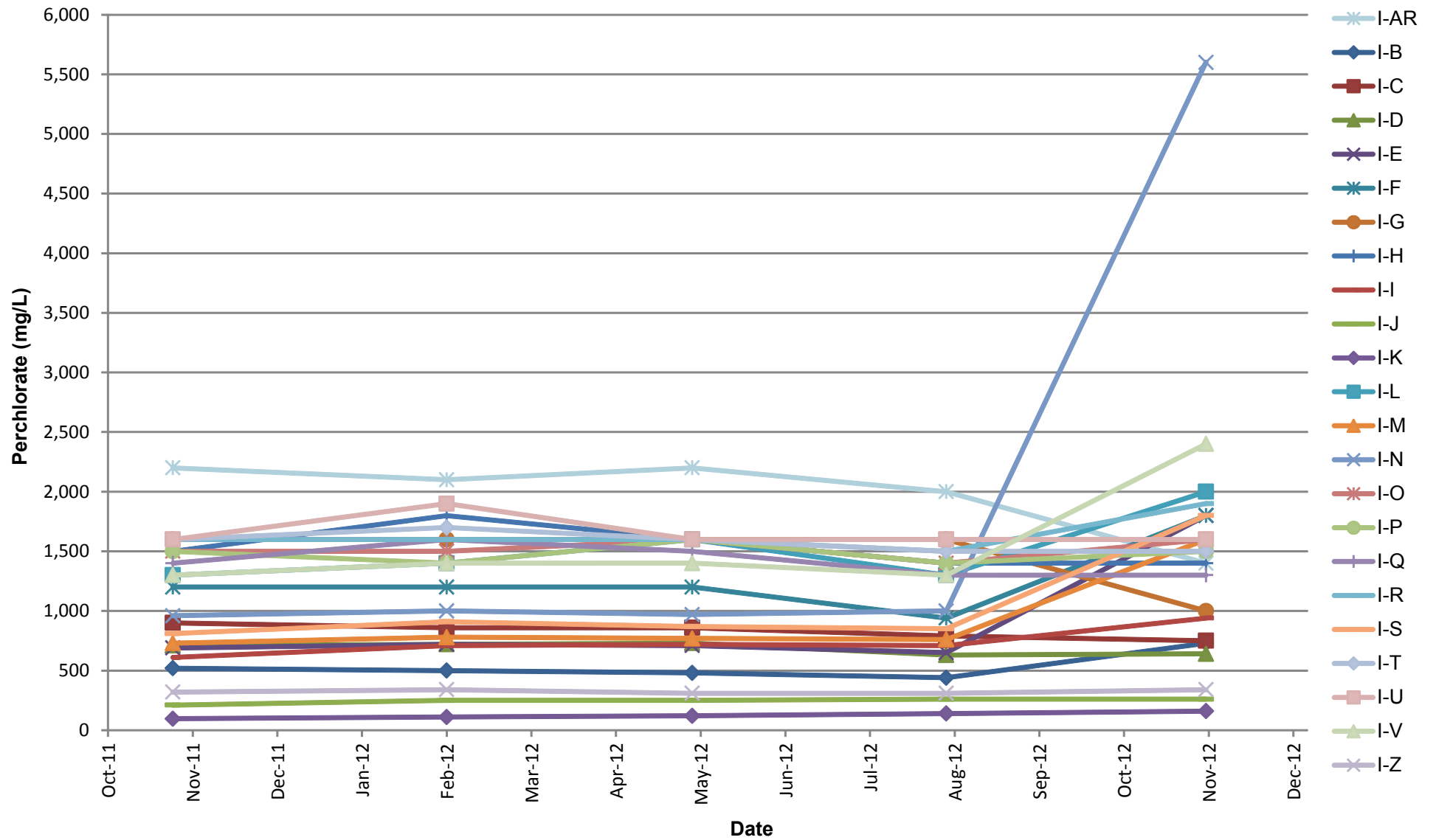
Revised:



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

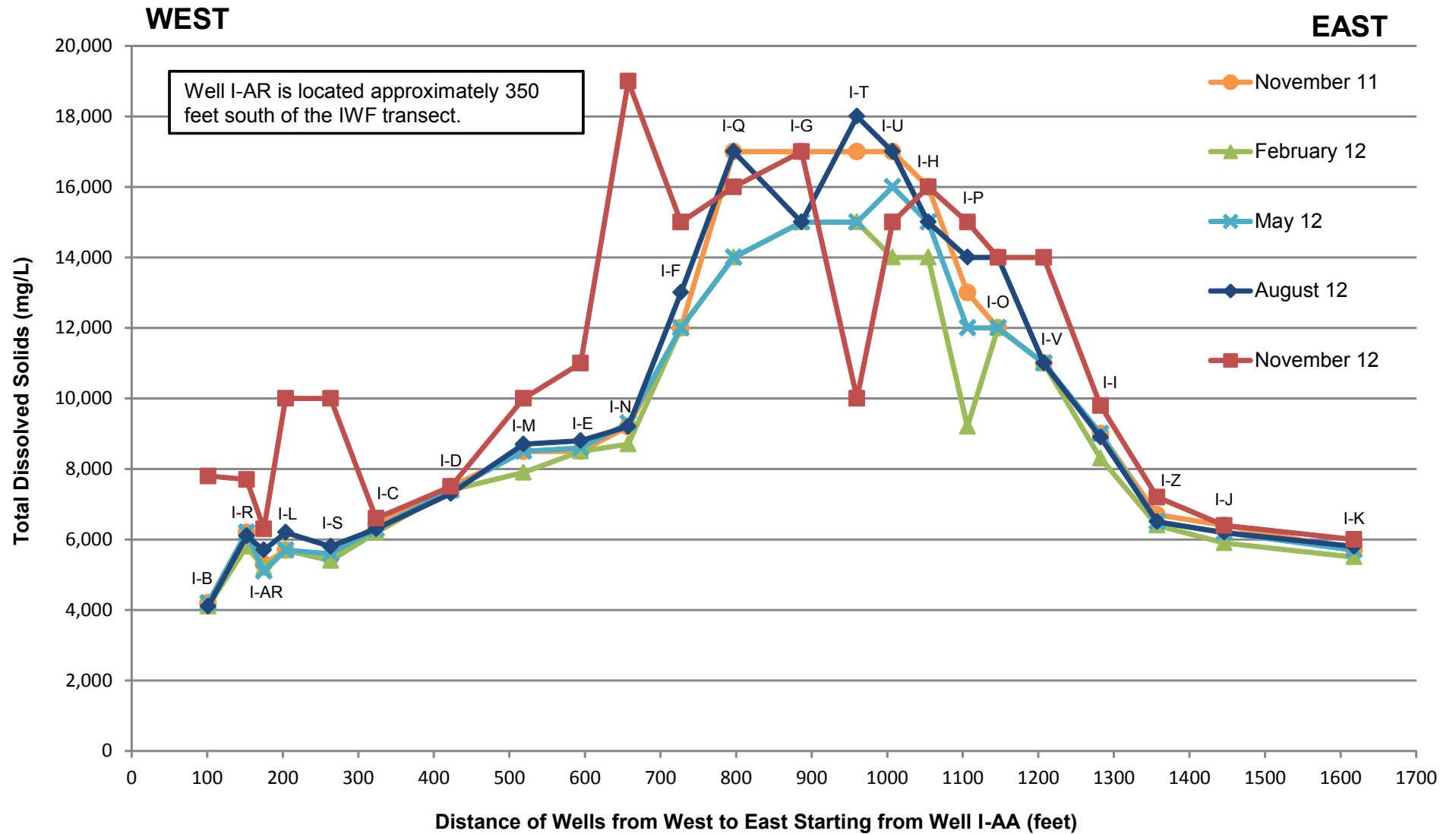
Figure

10



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

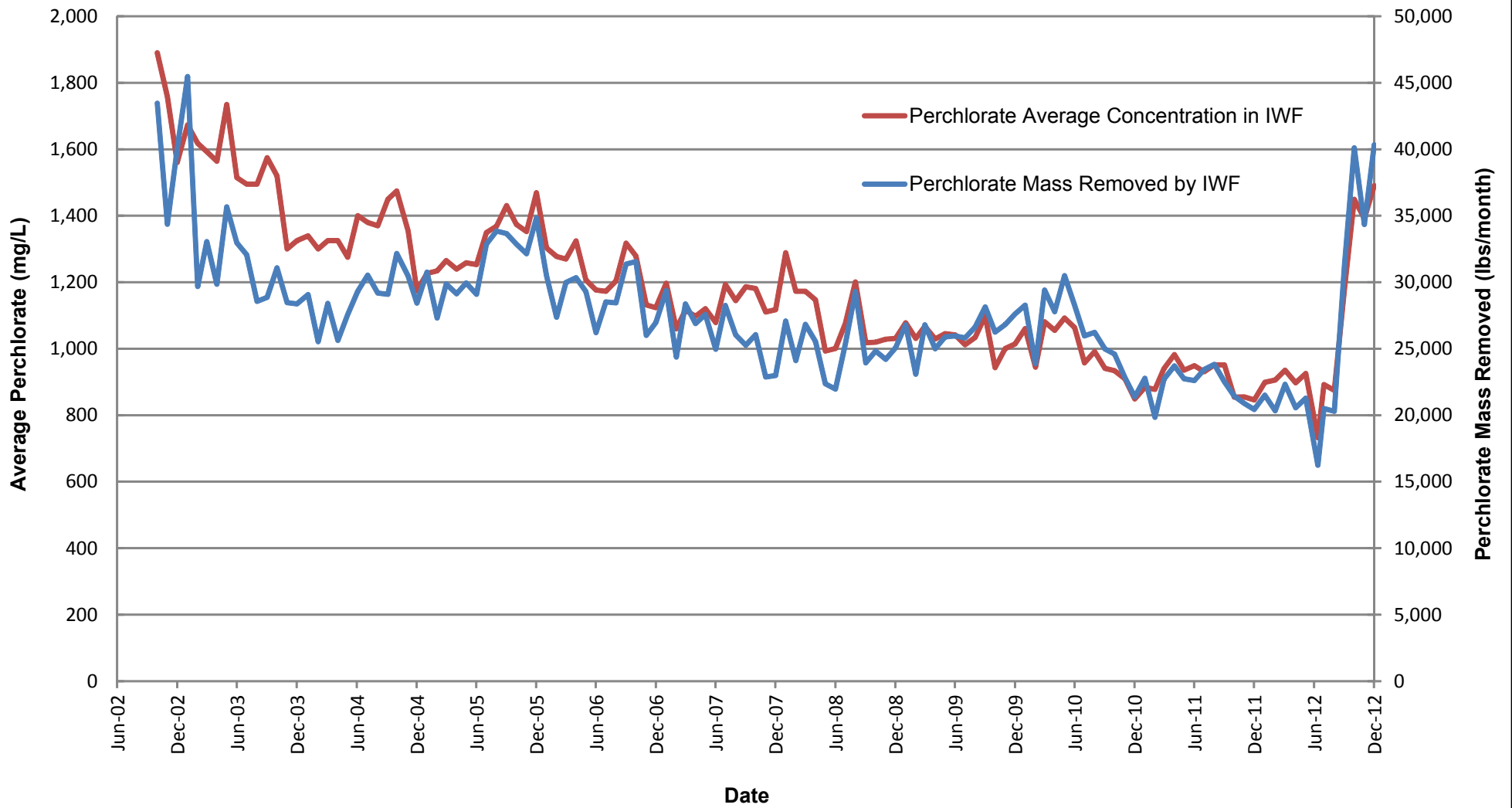
Figure
10a



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

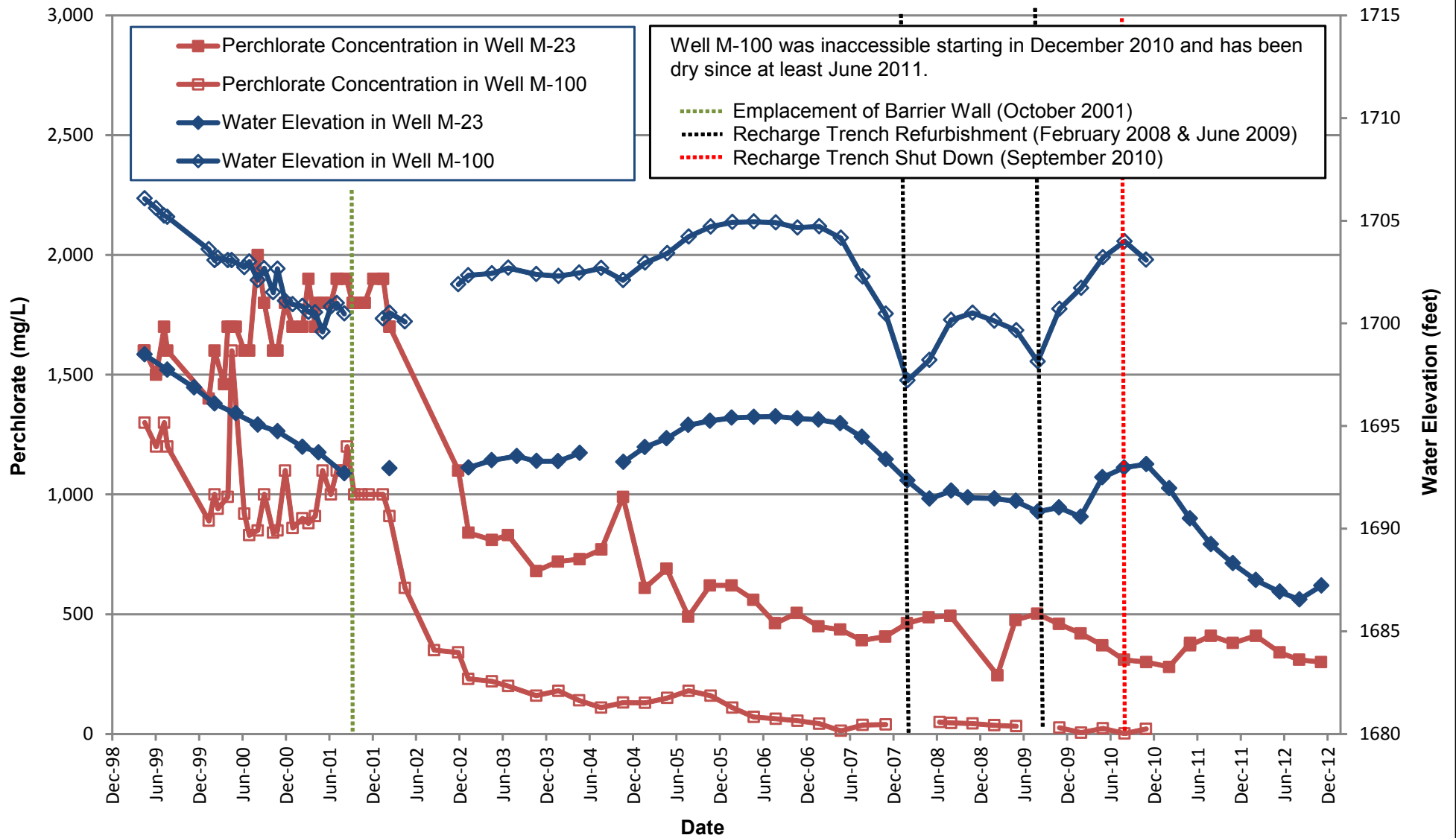
Figure

11



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

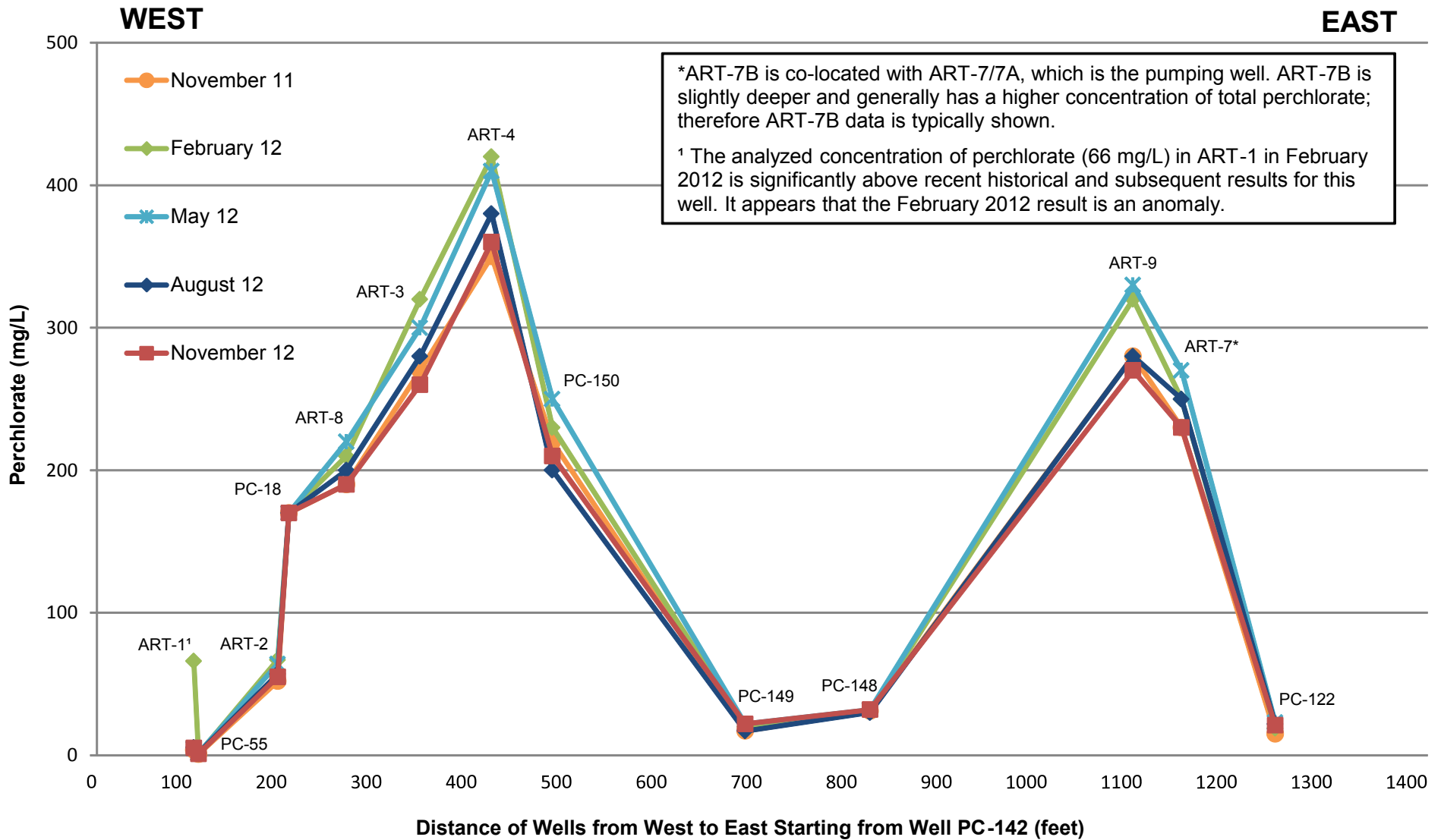
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12



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

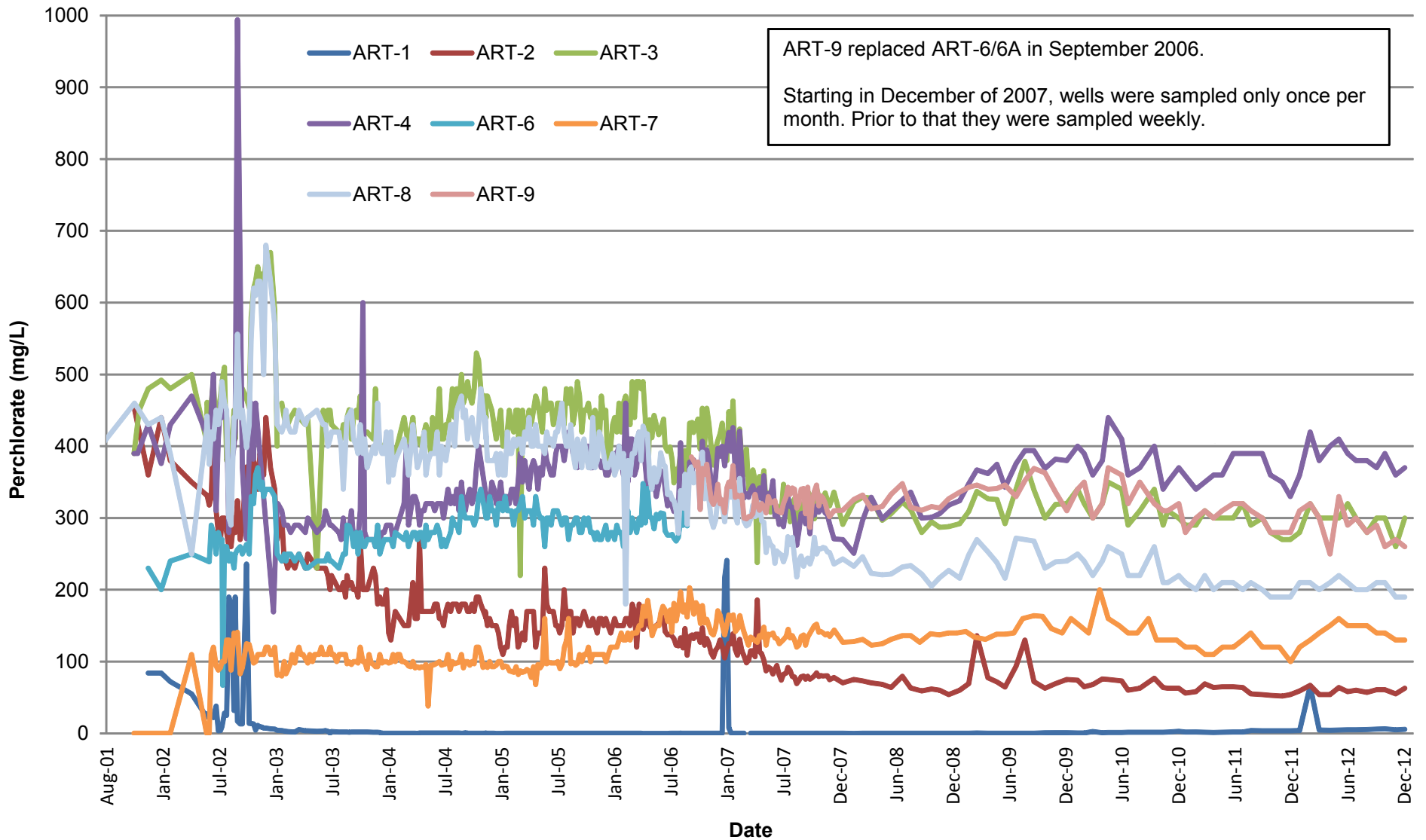
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13



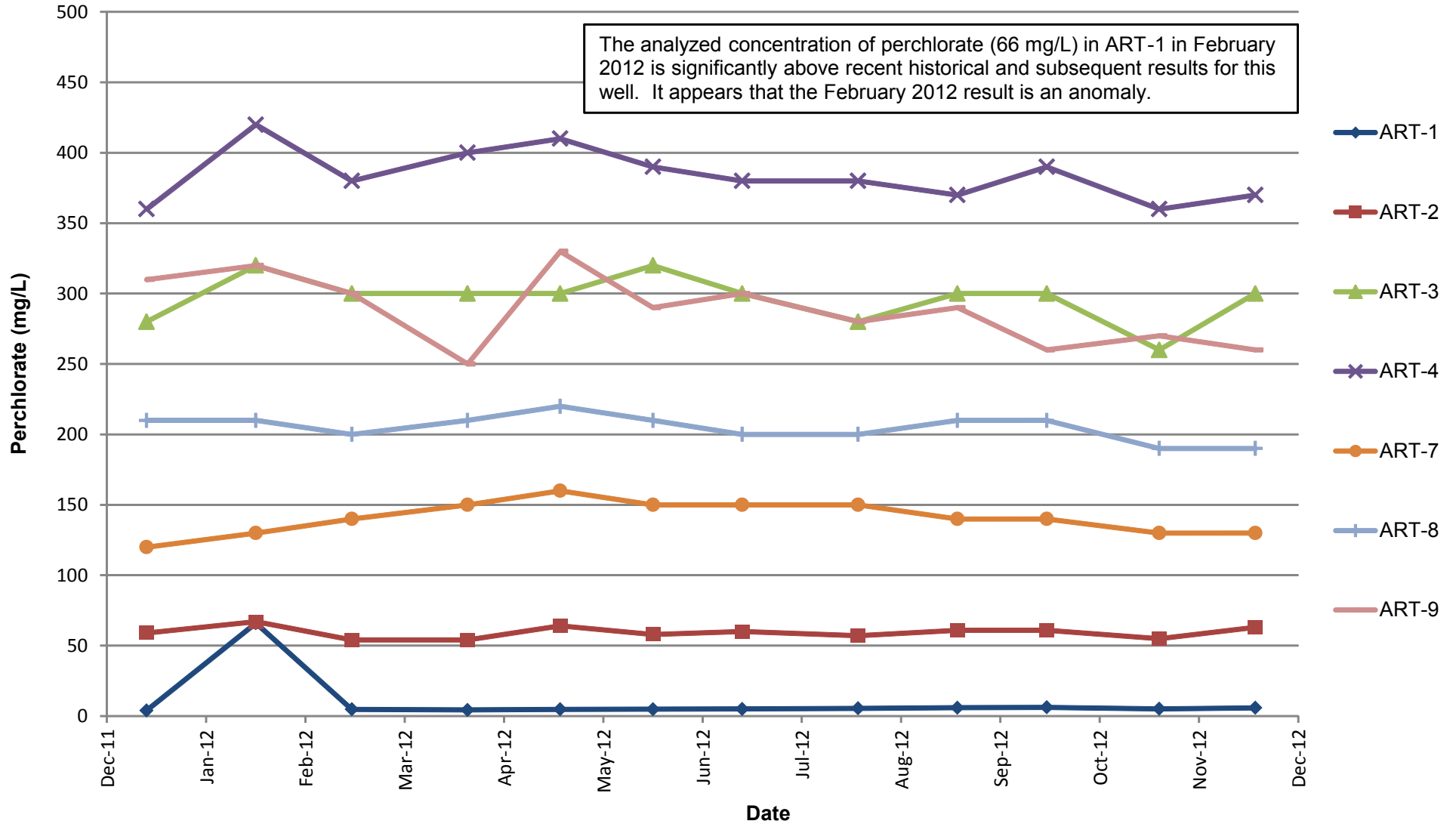
Athens Road Well Field Transect Perchlorate Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure



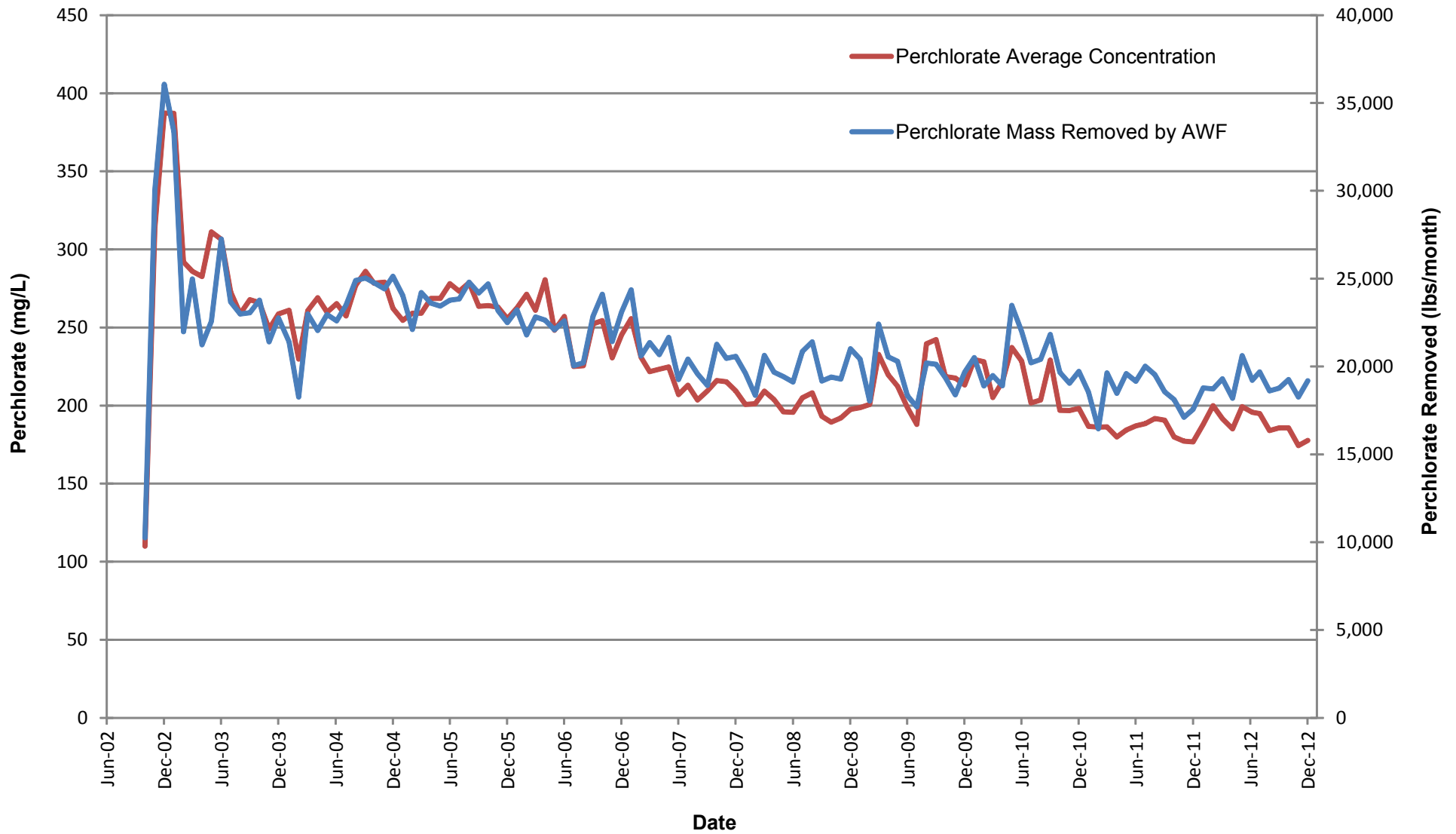
Athens Road Well Field Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure



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

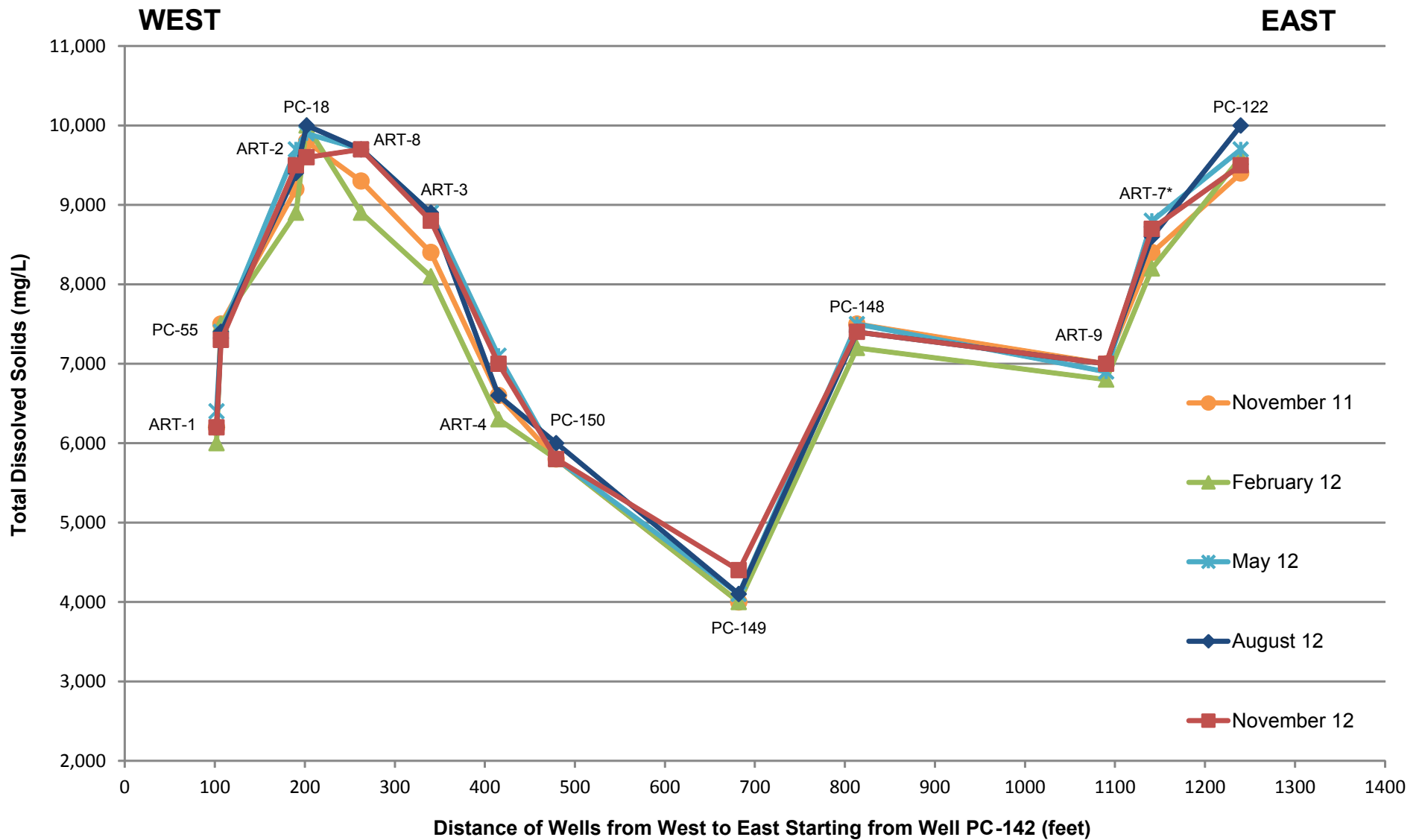
Figure
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Athens Road Well Field Average Perchlorate Concentration and Mass Removed
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

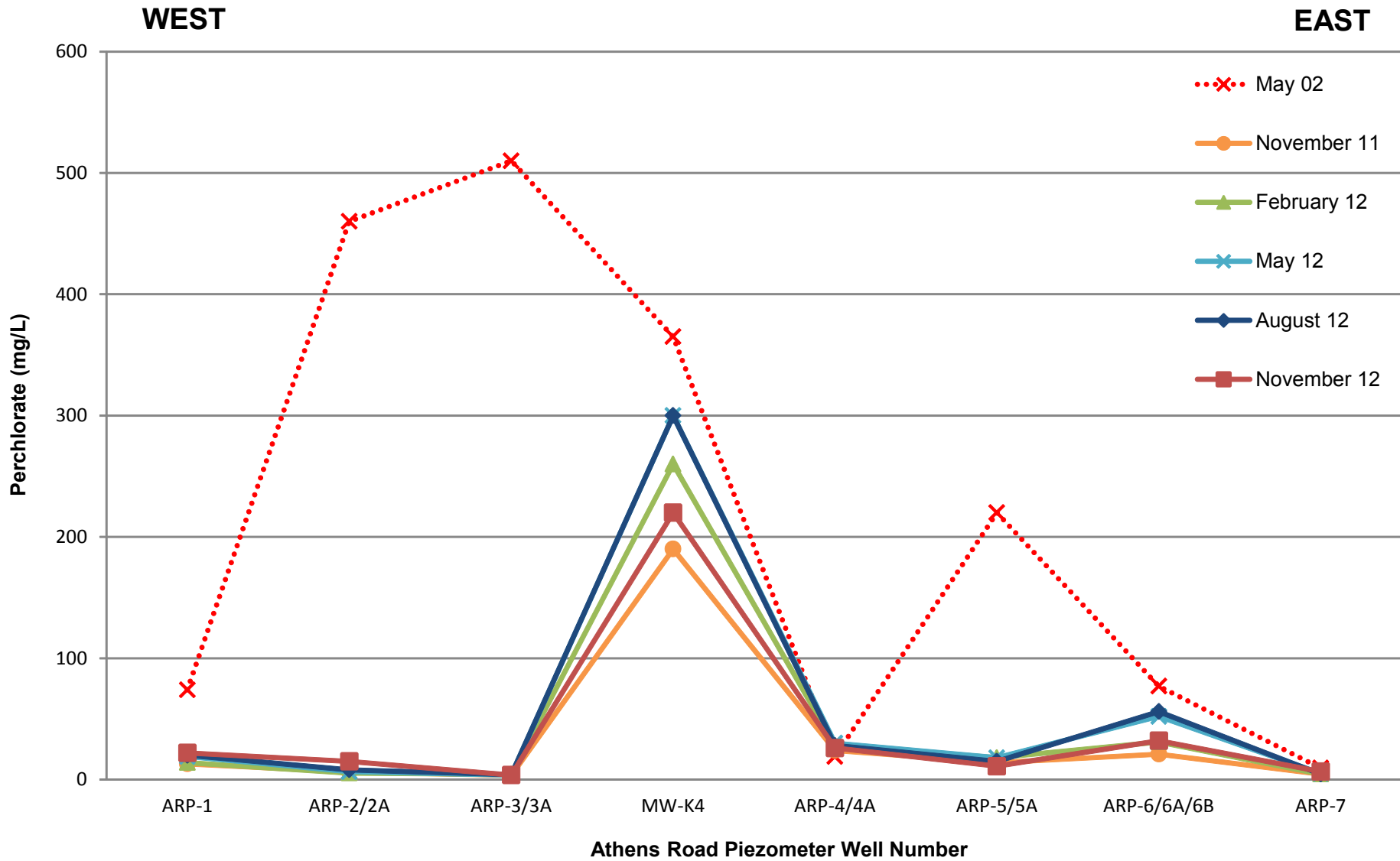
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Athens Road Well Field Transect Total Dissolved Solids Concentrations
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

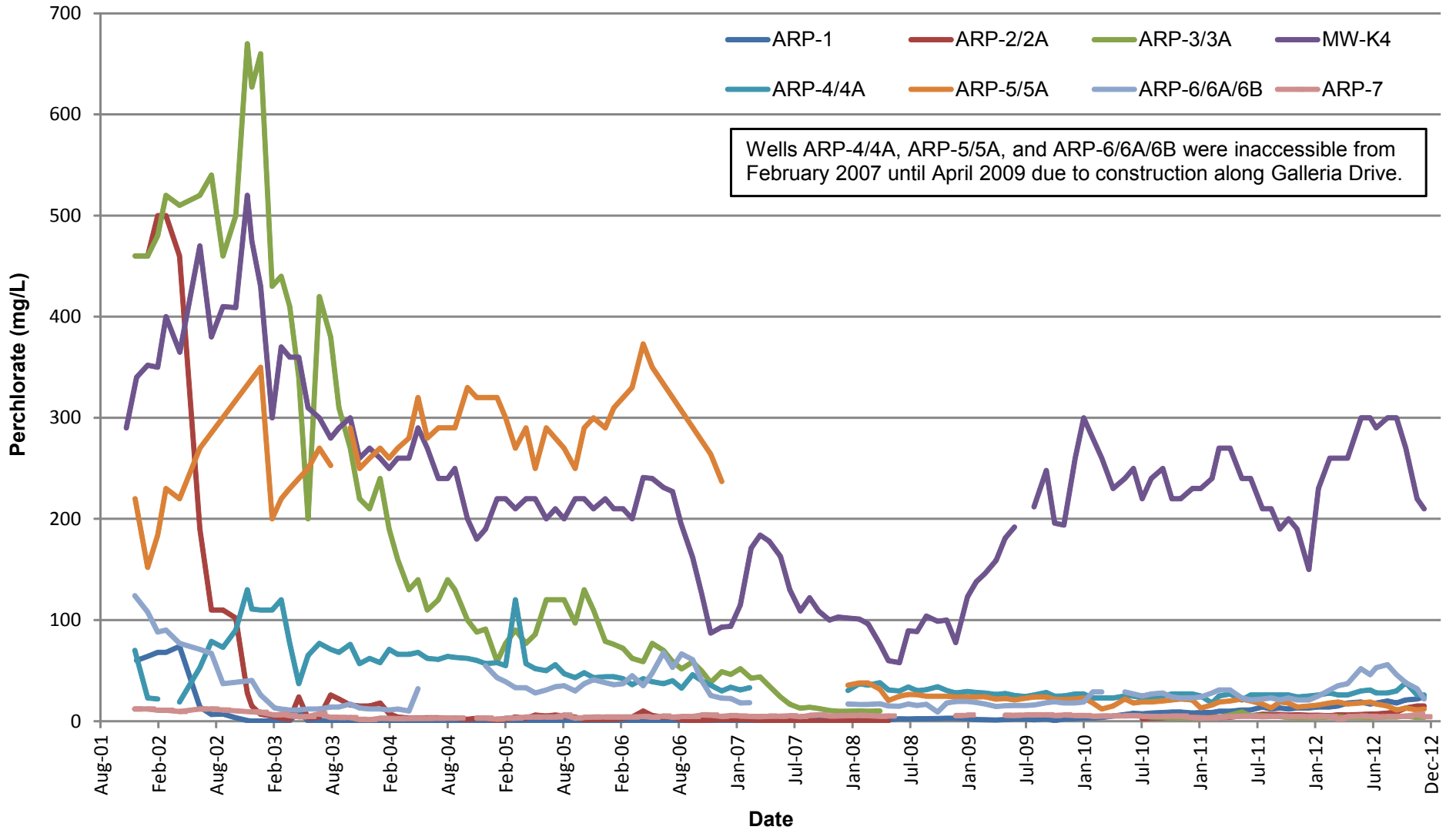
17



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

Figure

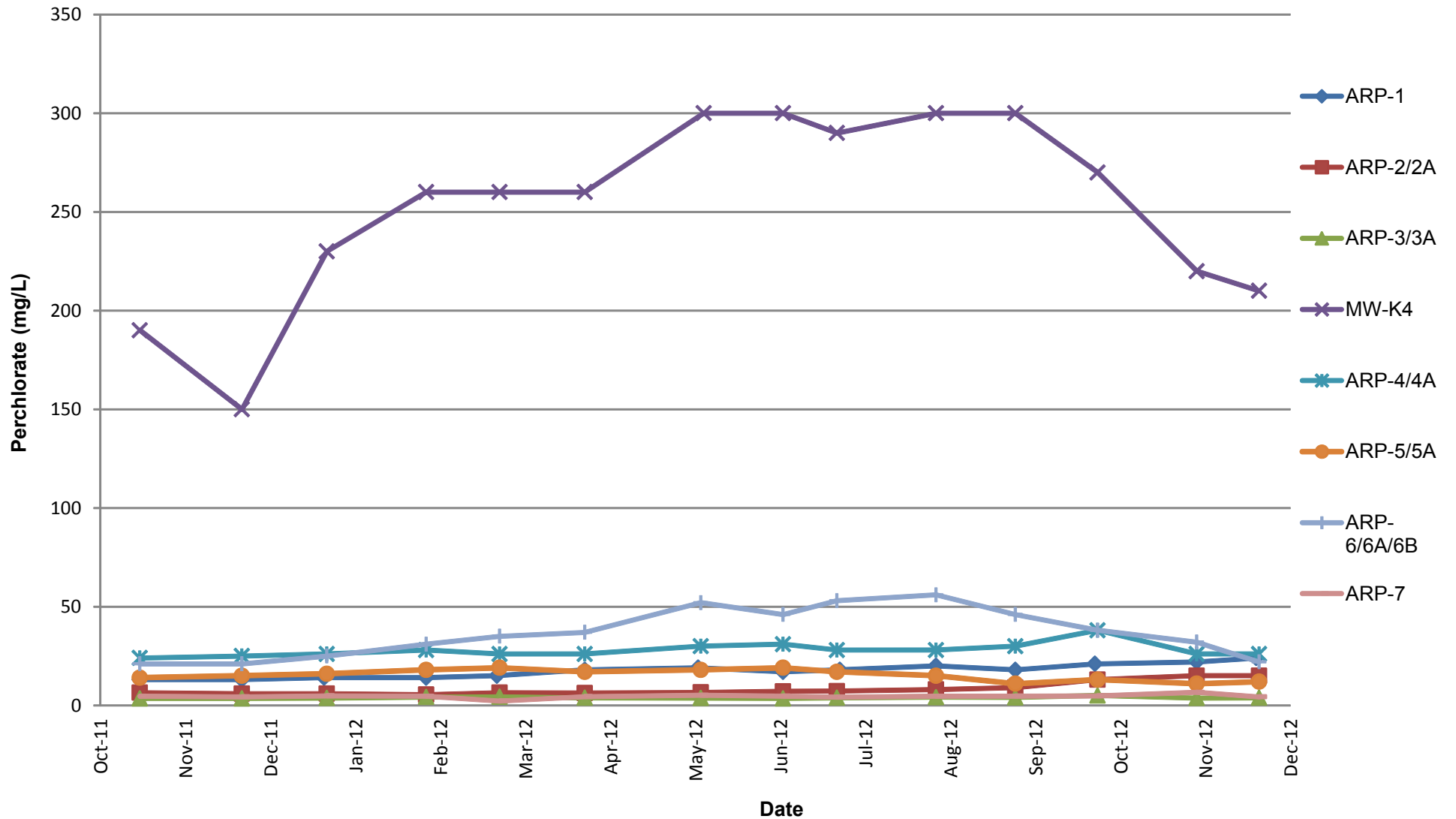
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Athens Road Piezometer Well Line Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

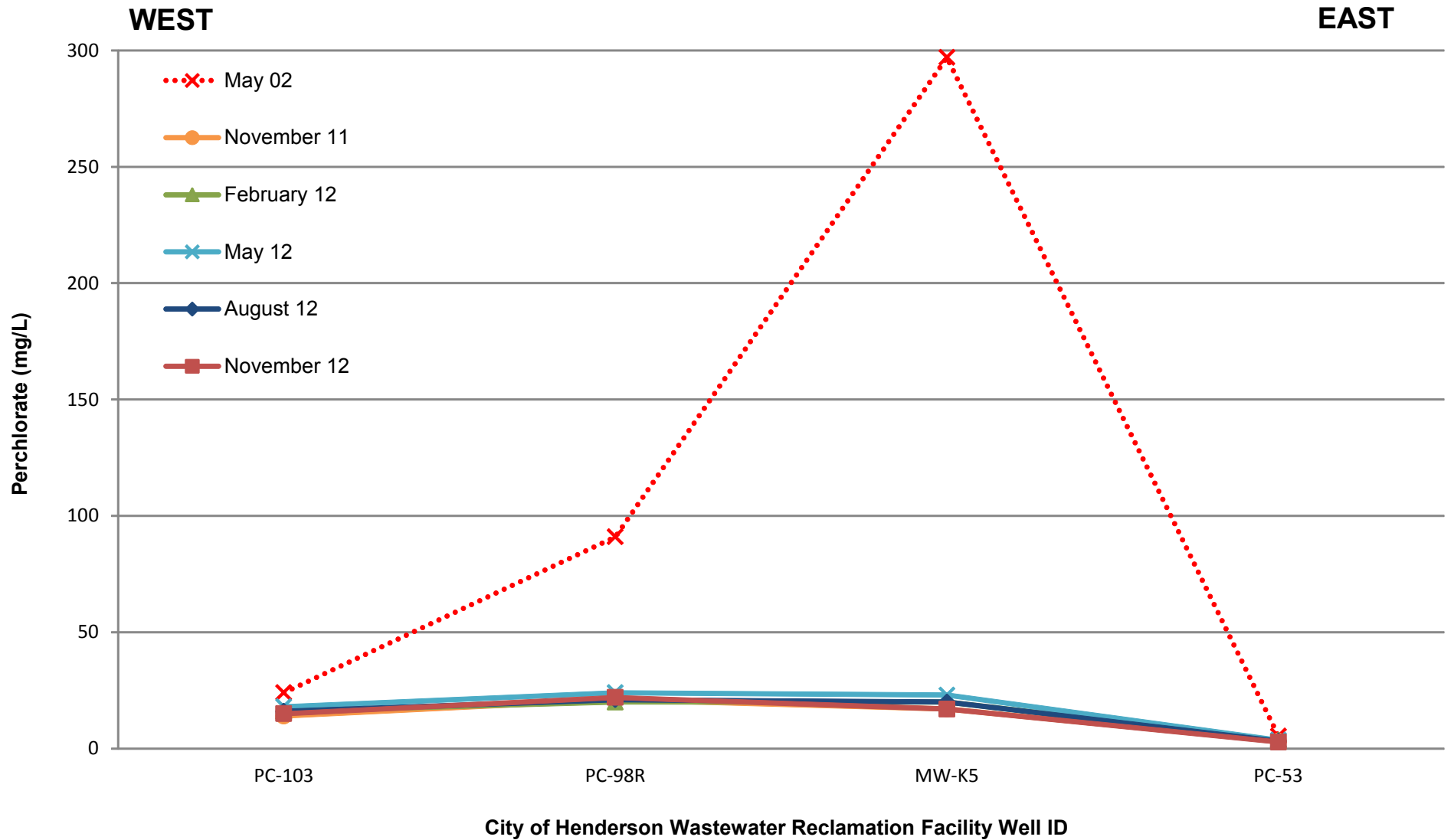
19



Athens Road Piezometer Well Line Perchlorate Concentration Trends, Nov 2011 - Dec 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

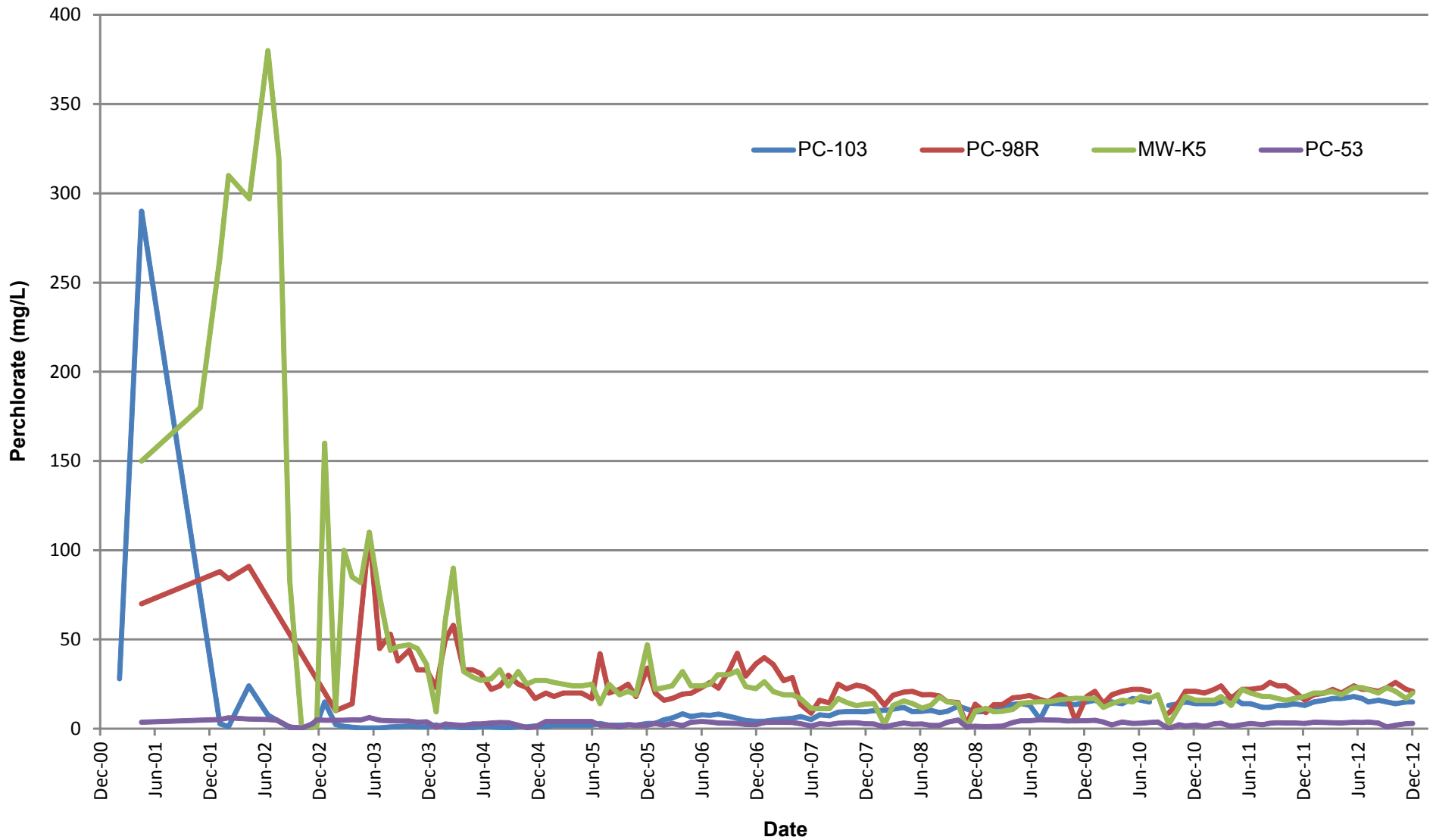
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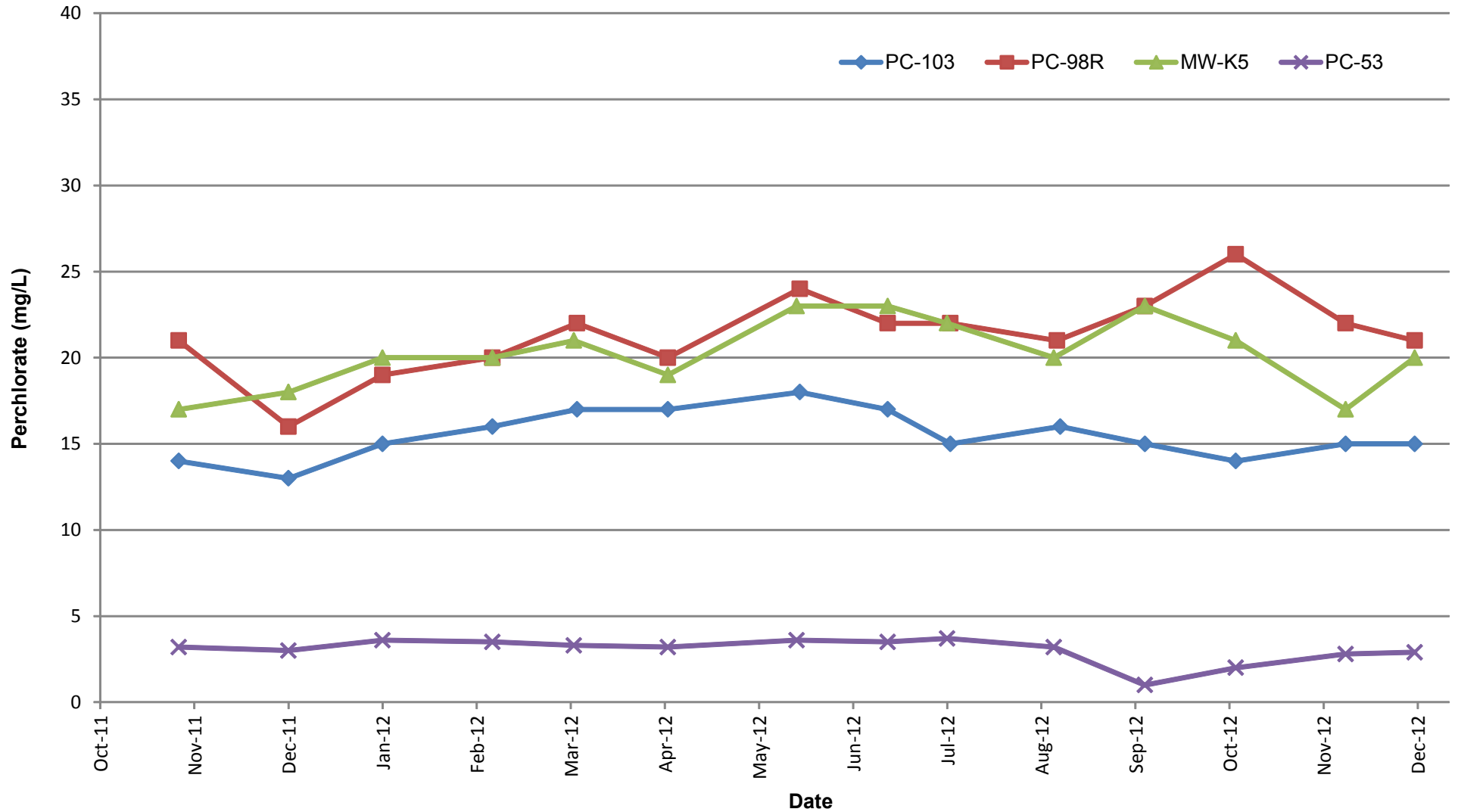
Revised:



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

Figure

21



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

Figure

21a

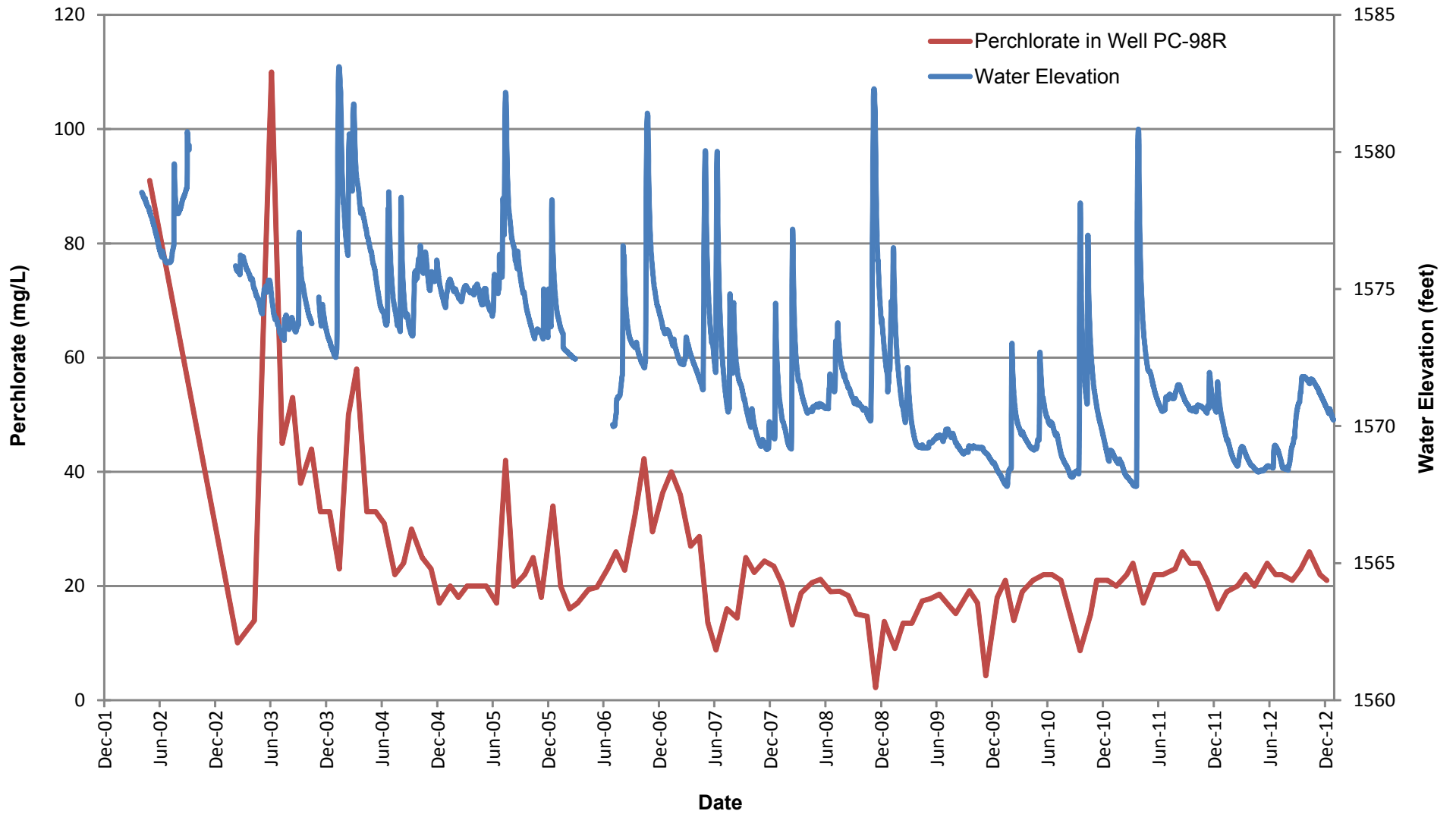
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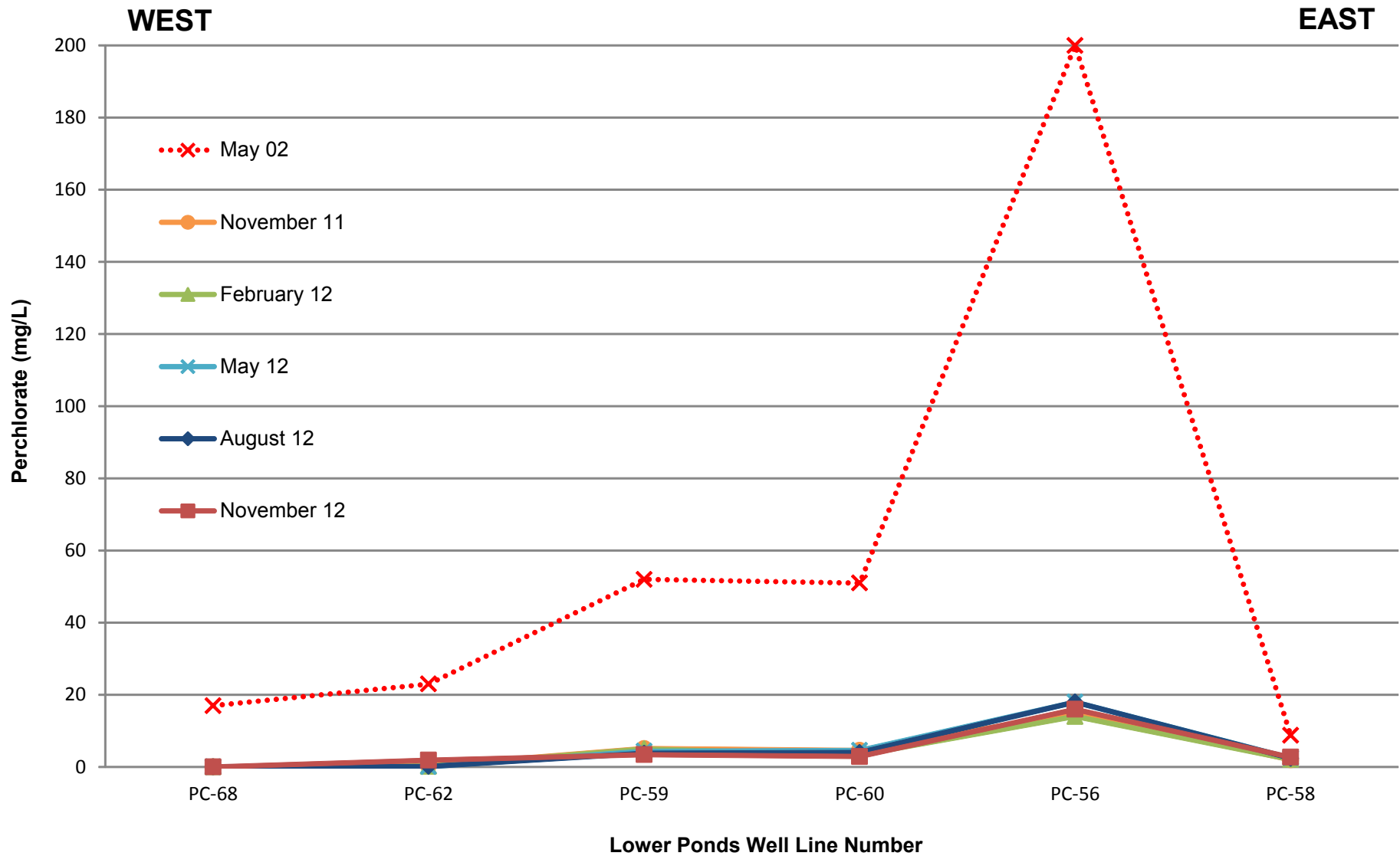
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Well PC-98R Perchlorate Concentration vs. Water Elevation Trends
Nevada Environmental Response Trust (NERT) Site
Henderson, Nevada

Figure

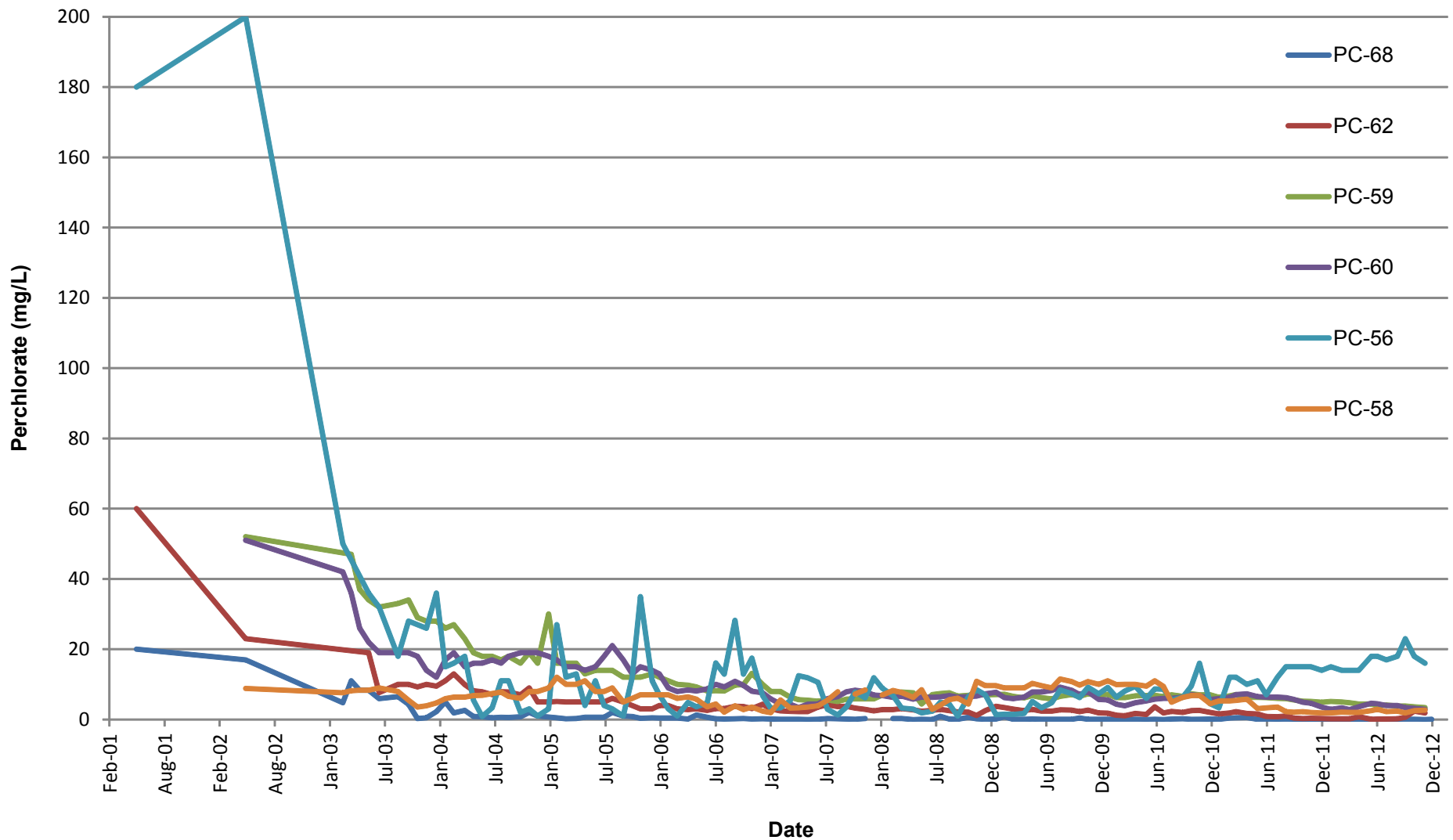
22



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

Figure

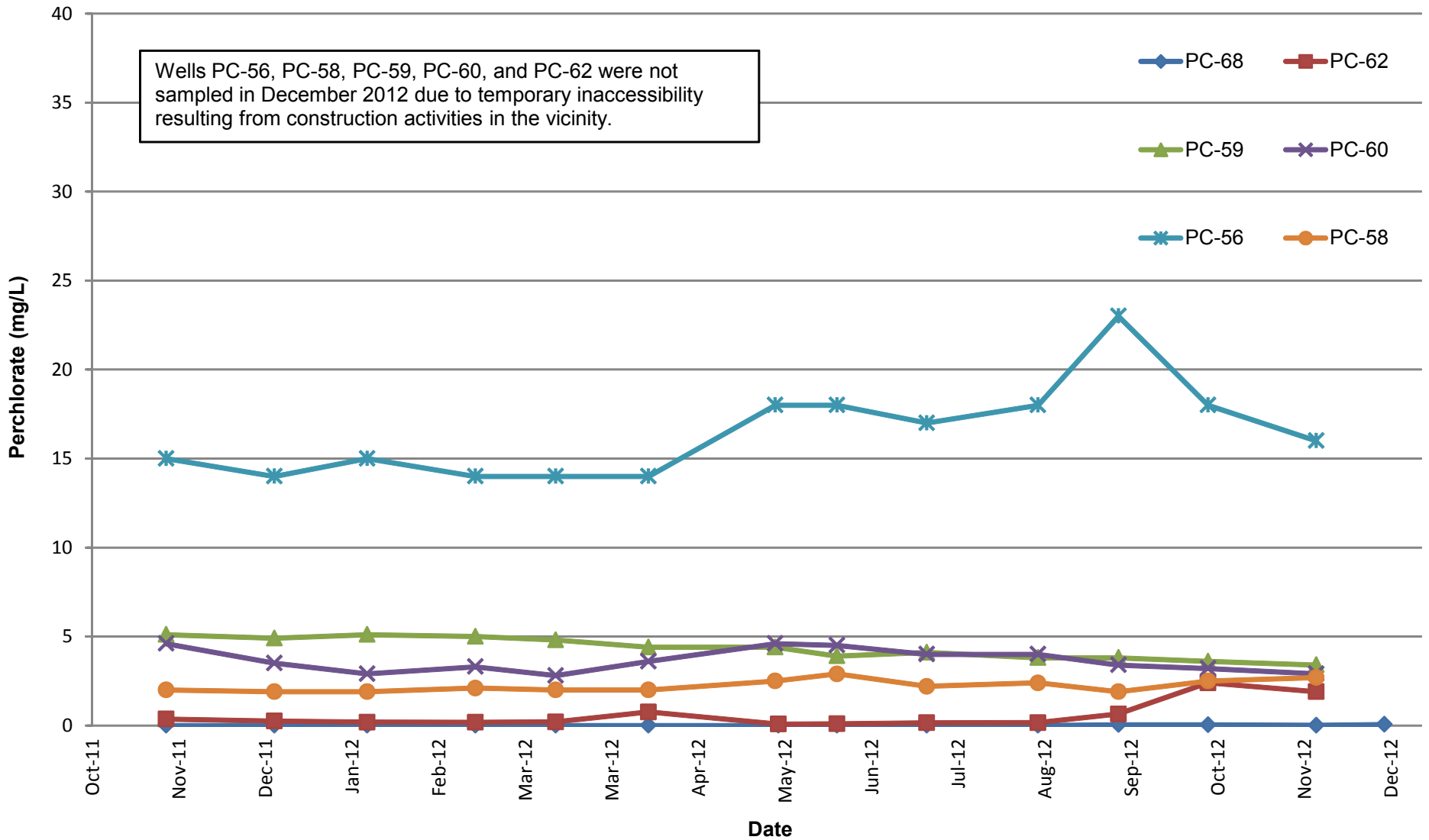
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Lower Ponds Well Line Perchlorate Concentration Trends
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

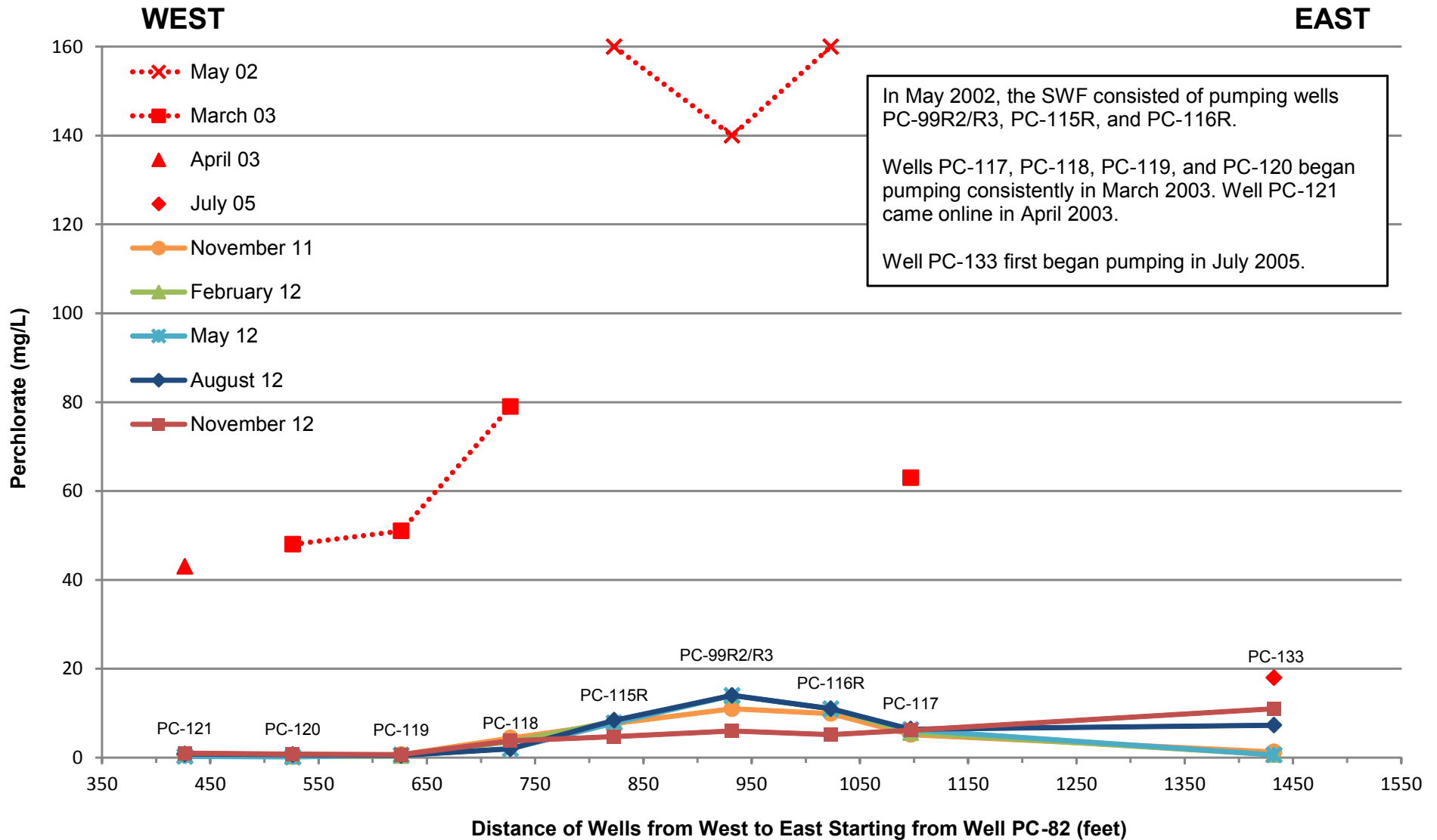
24



Lower Ponds Well Line Perchlorate Concentration Trends, Nov 2011 - Dec 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

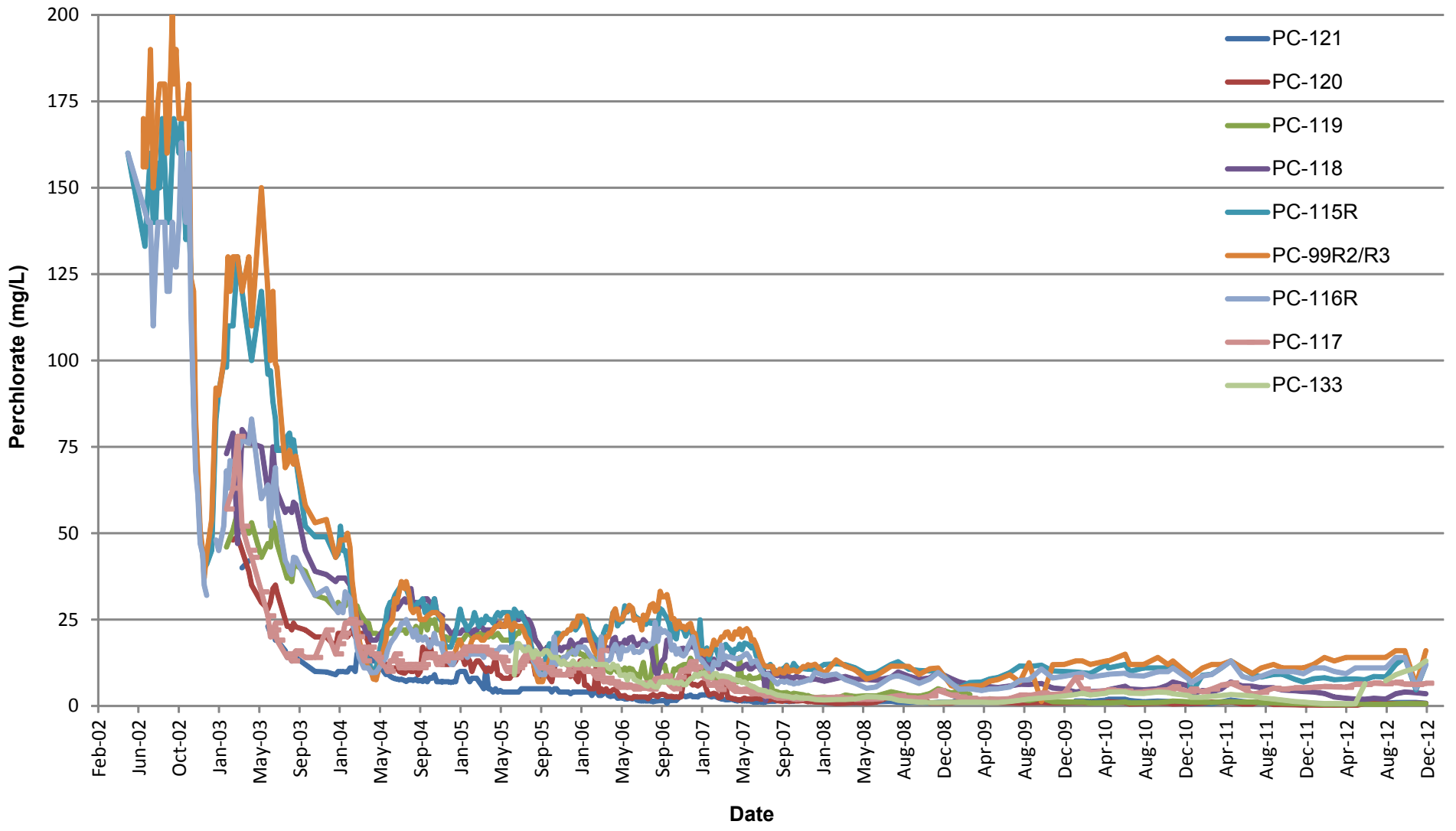
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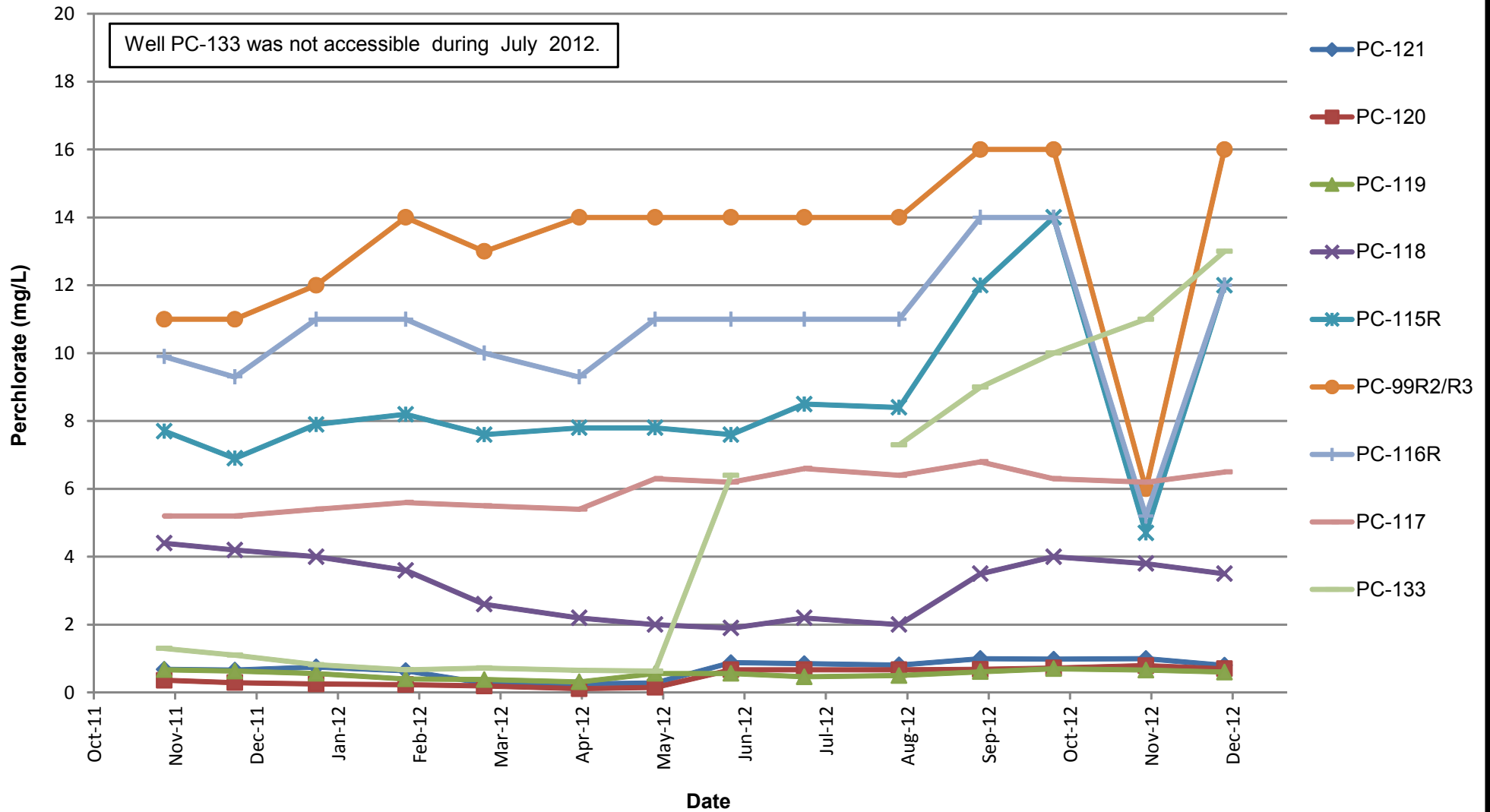
Approved:

Revised:



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

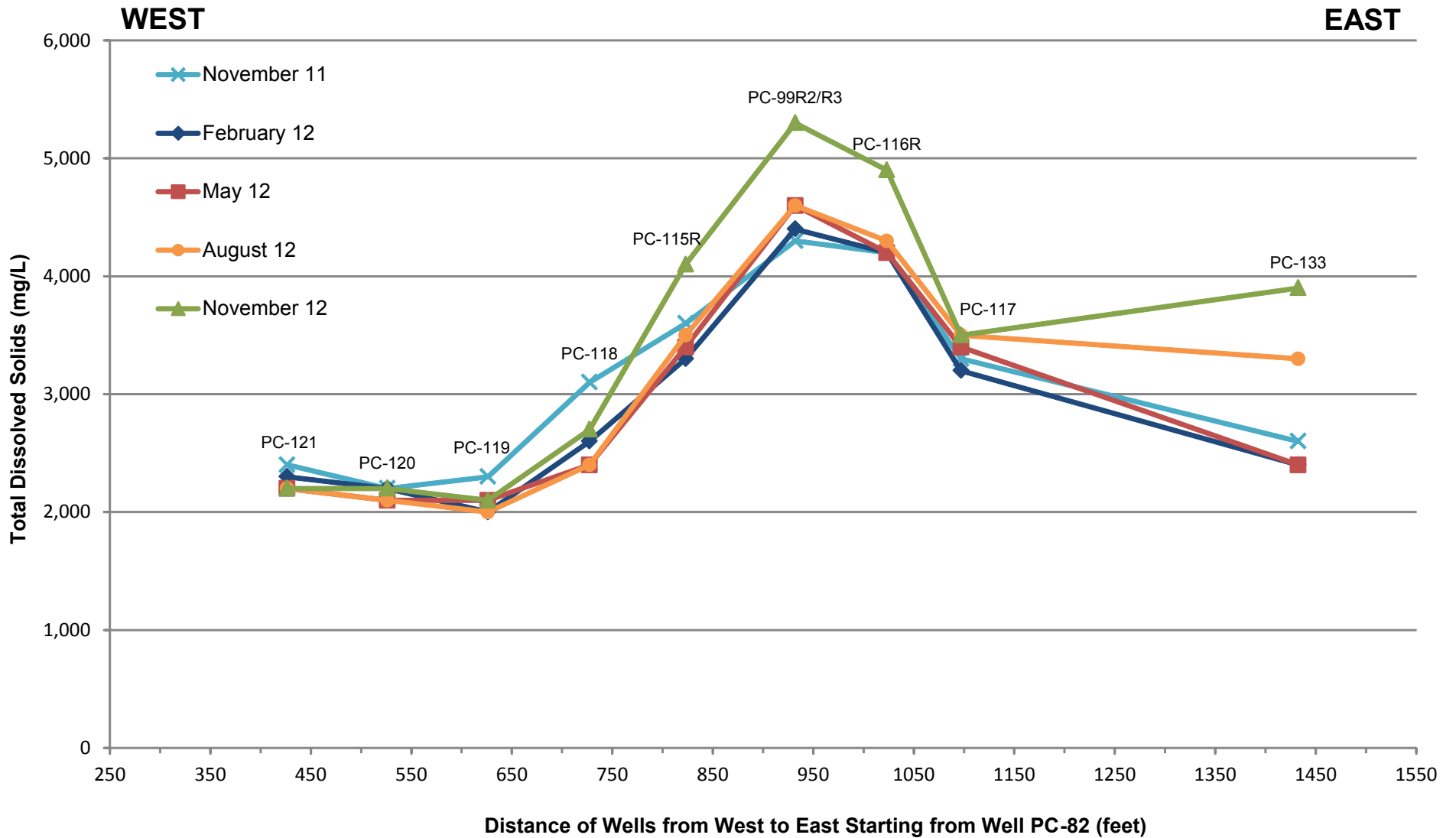
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Seep Well Field Perchlorate Concentration Trends, November 2011 - December 2012
 Nevada Environmental Response Trust (NERT) Site
 Henderson, Nevada

Figure

26a



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

Figure

27

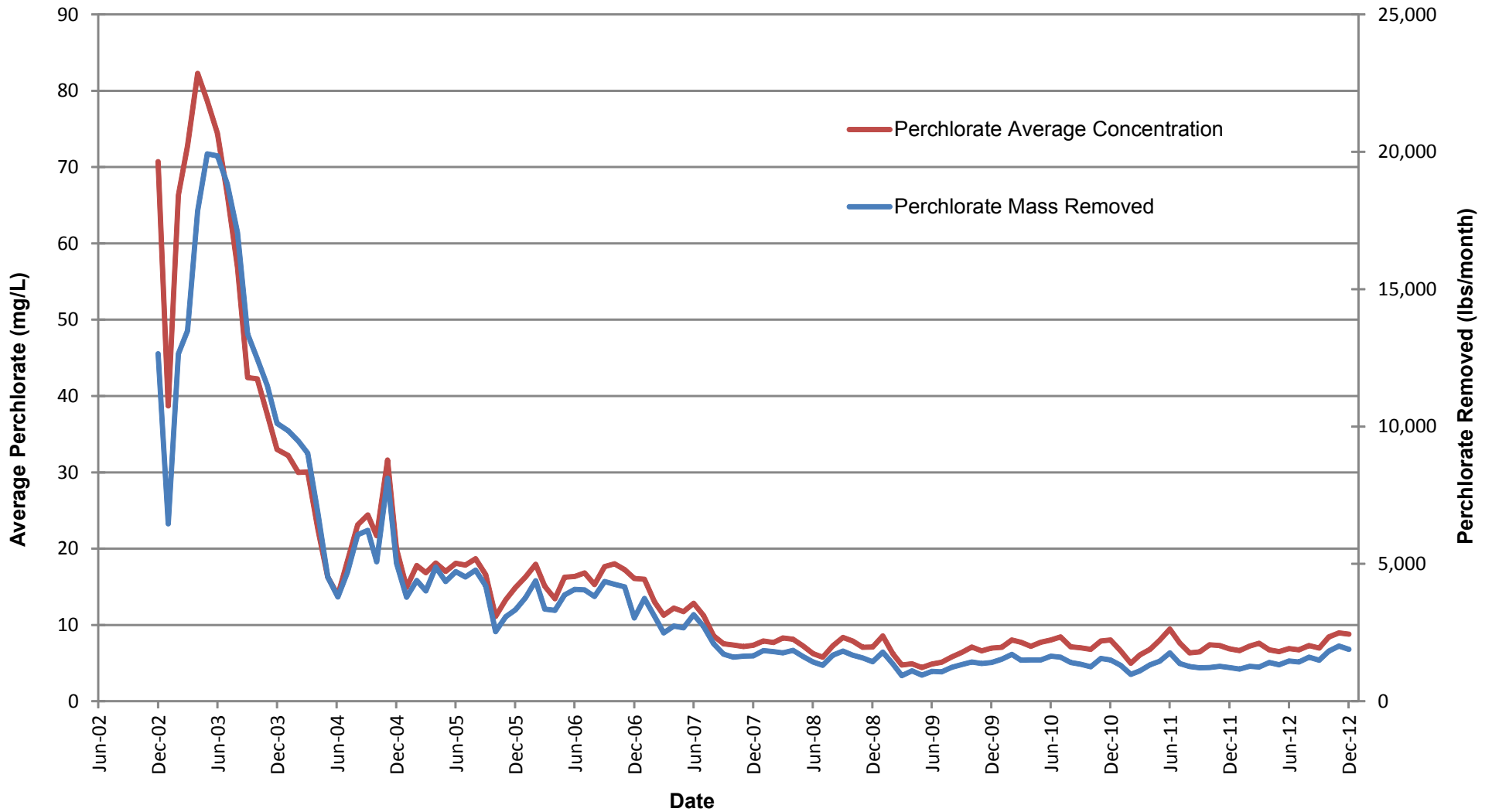
Drafter: RS

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Approved:

Revised:



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

Figure

28