

Appendix to Richfield Groundwater Monitoring Results - 2014

D. S. Cherkauer, January, 2014

The following pages contain two sets of graphs showing the historical water levels changes in each of the wells in the Richfield volunteer monitoring array. The first page is a copy of the map showing the geographical extent of the five areas of Richfield defined in Figure 5 of the report Richfield Groundwater Monitoring Results - 2014. Each subsequent page presents two graphs for a given area.

The topmost graph shows the actual change in water level relative to the level in a well when its monitoring began. This upper graph is a parallel graph to Figure 6 of the Groundwater Monitoring Results article. It presents the historical pattern of water level changes from each volunteered well within an area. If a well's water level on these upper plots has declined over time, it will plot in the negative (<0) range on the graph. If it had an increase in water level, the line will plot in the positive (>0) range. The record shown begins at the start date for wells that were entered into the monitoring program after 2004.

The lower graph shows the accumulated change in water level in each well relative to the average level for all wells in the monitoring program. It is a parallel to Figures 8, 10 and 12 in the report, showing the historical pattern for each individual well. As reported in the report, wells showing a downward trend on this type graph have generally had water levels which have not increased as much as the Village average. With a few exceptions, these downward trends are NOT showing wells with declining water levels, just wells with smaller increases.

The only wells that have shown a historic decline in water level are those that plot in the negative range on the upper figure and show a downward trend on the lower graph. Note that a few of the wells that were entered into the monitoring program after 2009 fall into this category. Their monitoring records are not long enough for this to be a significant trend yet.

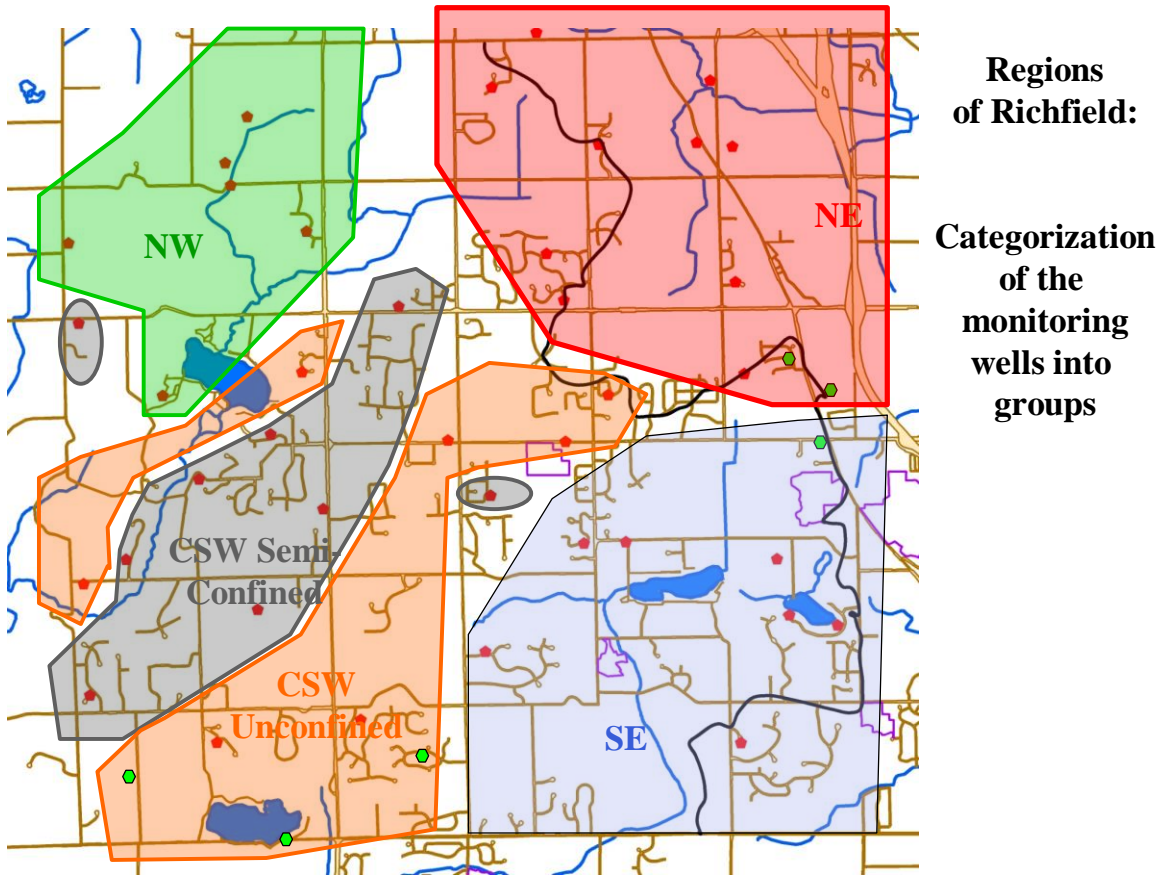


Figure A1 Subdivision of Monitored Wells into Five Categories
 The well array consists of 6 wells in the northwest (NW) region; 12 in the northeast (NE); and 8 in the southeast (SE) geographic regions. Wells in the southwest and central parts of the Village are grouped according to their hydrologic response. There are 10 in areas where the shallow aquifer is unconfined (CSW-unconfined) and 8 where the shallow aquifer responds as if semi-confined (CSW-semiconfined). Wells are the red and green dots.

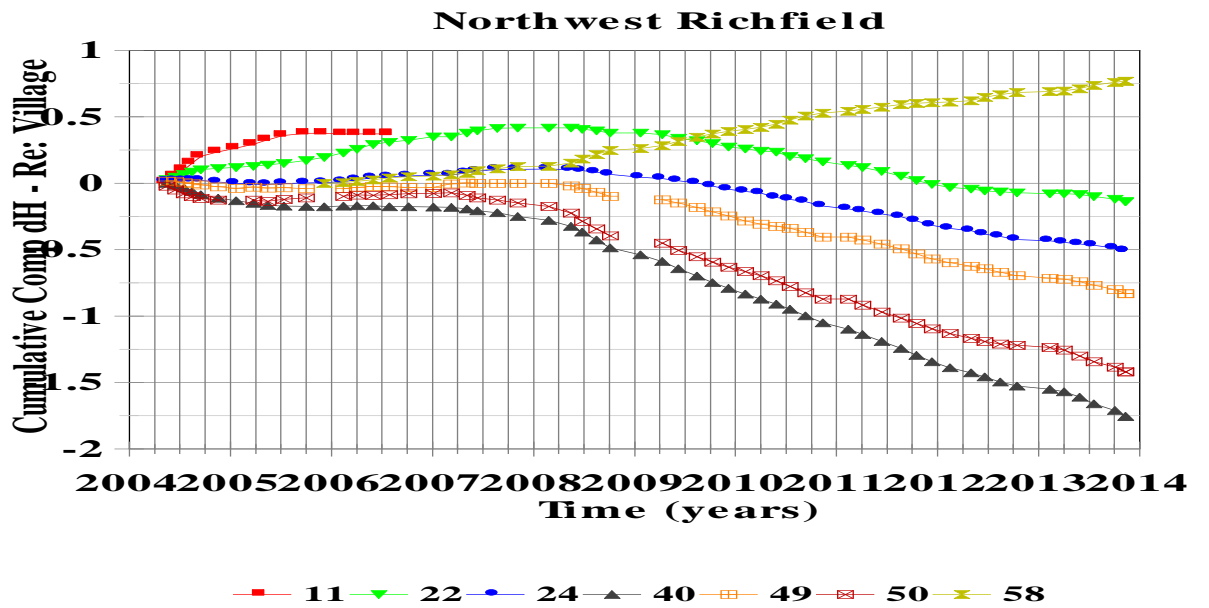
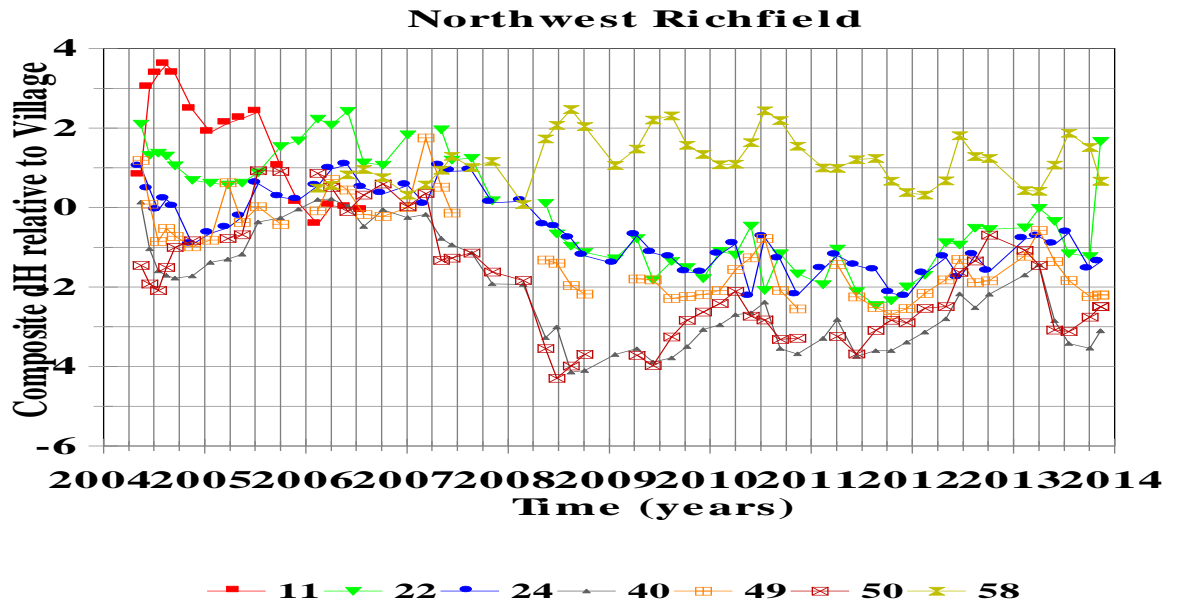


Figure A2 Individual well plots for Northwest Richfield

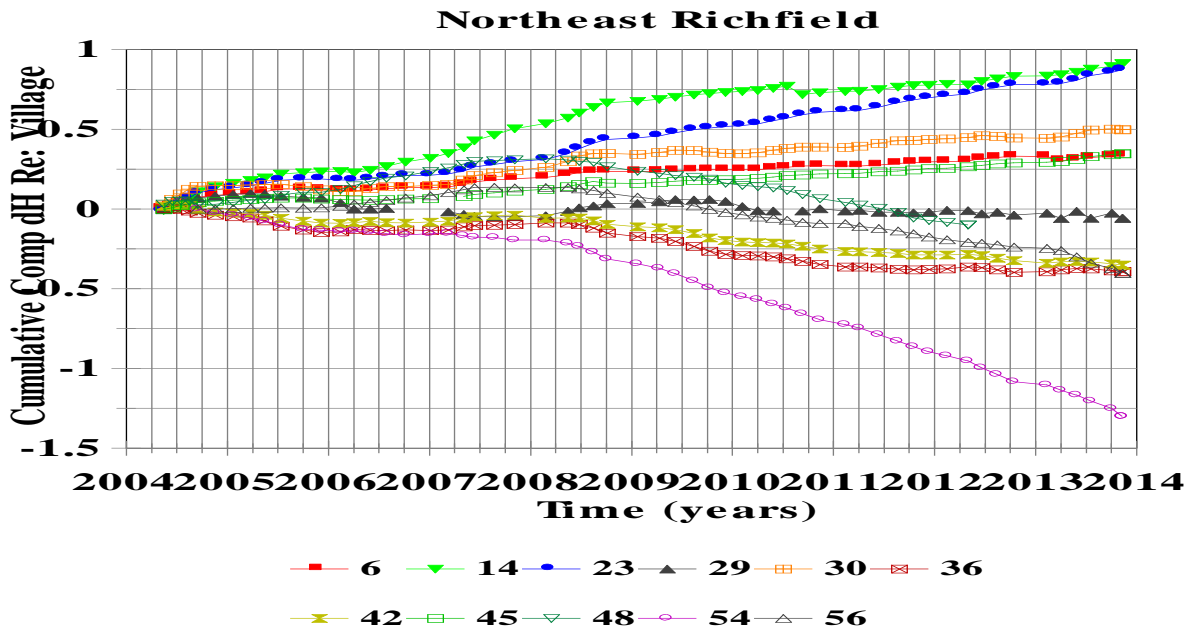
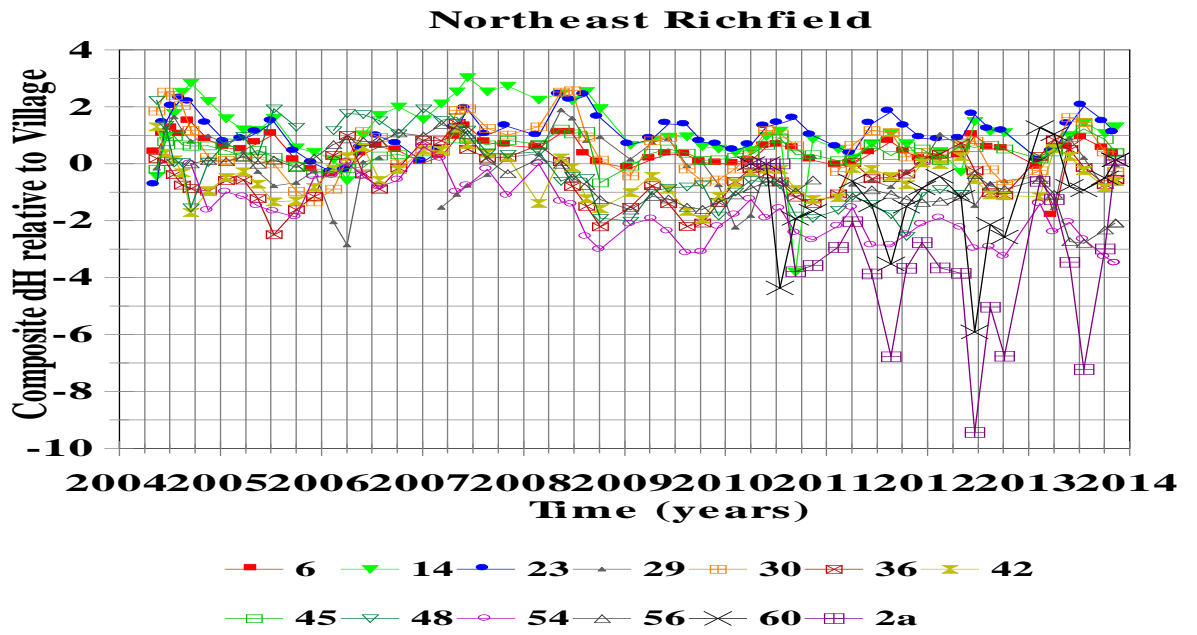


Figure A3 Individual well plots for Northeast Richfield

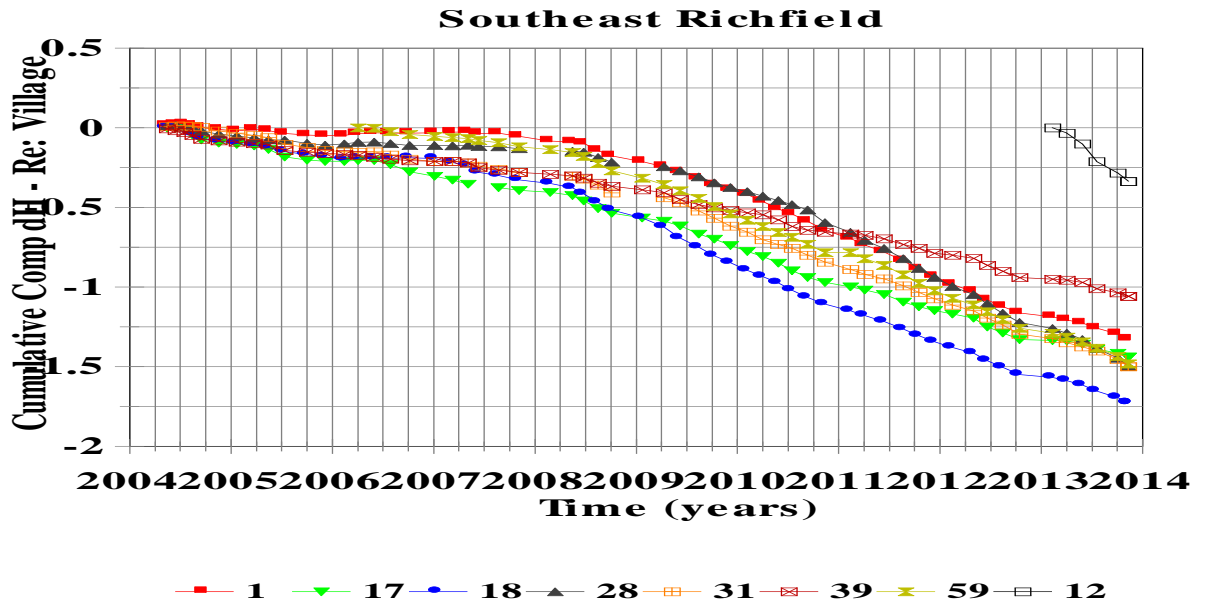
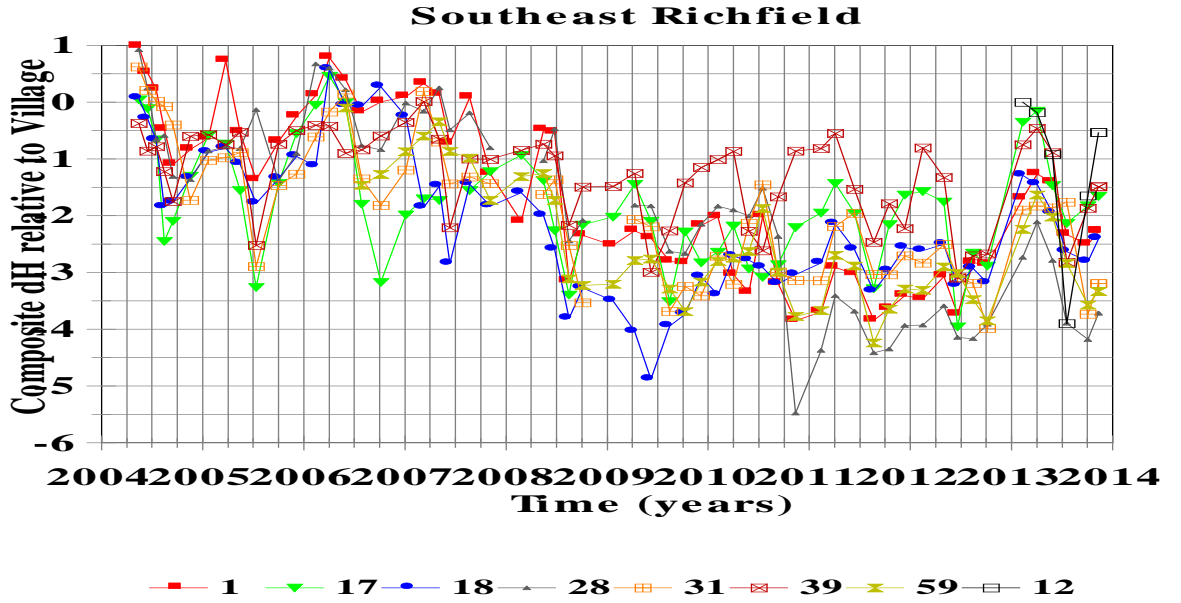


Figure A4 Individual well plots for Southeast Richfield

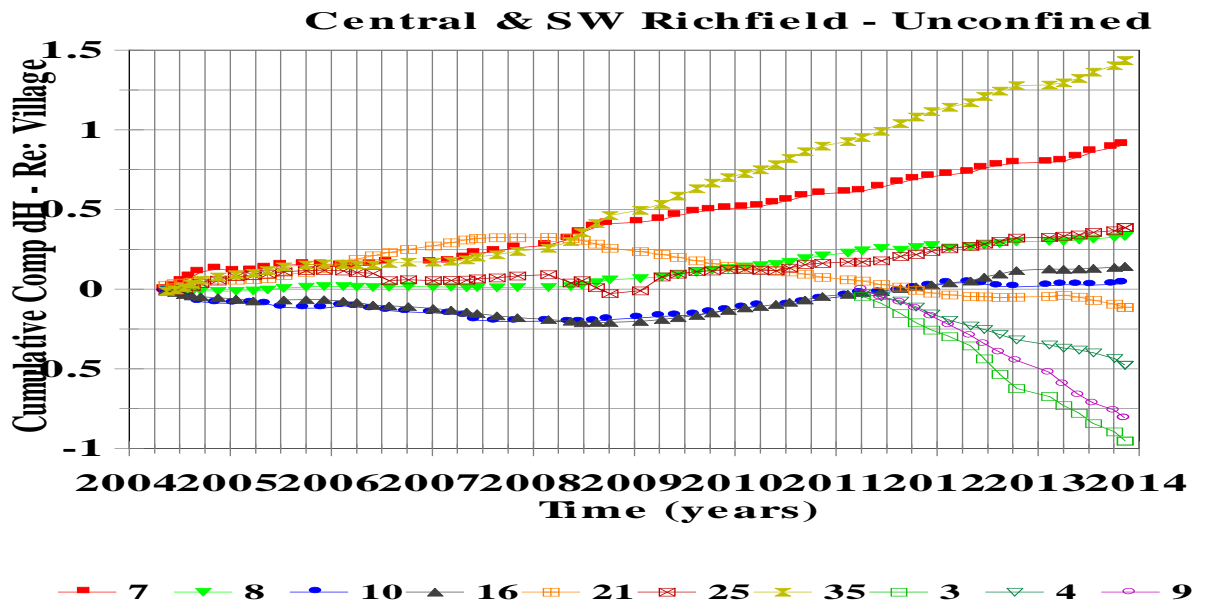
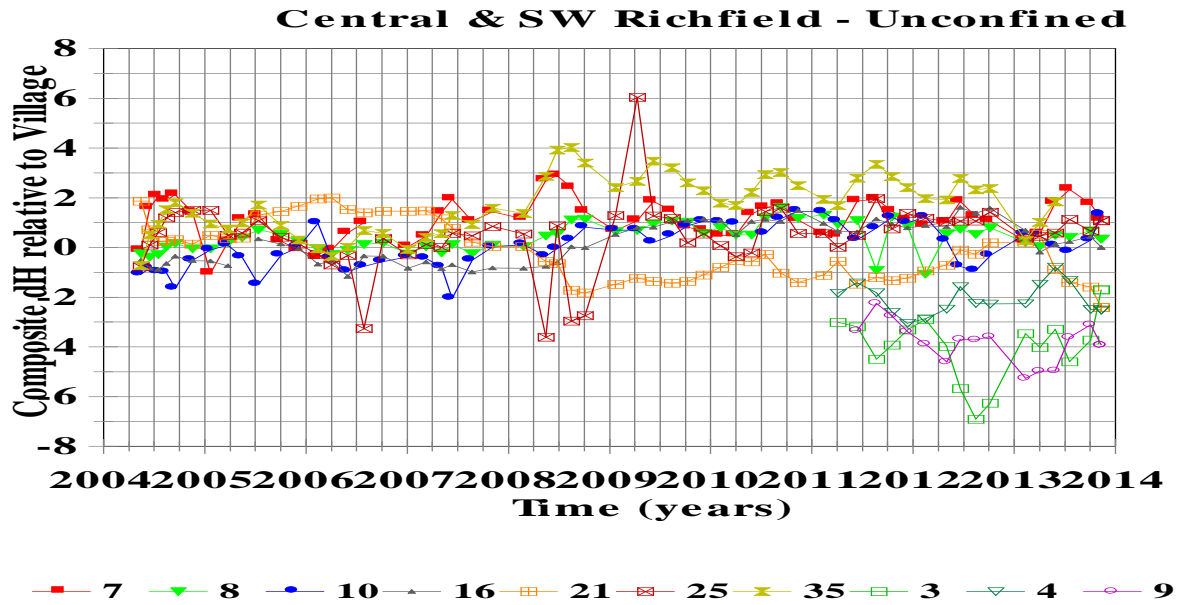


Figure A5 Individual well plots for unconfined wells in Central & Southwest Richfield

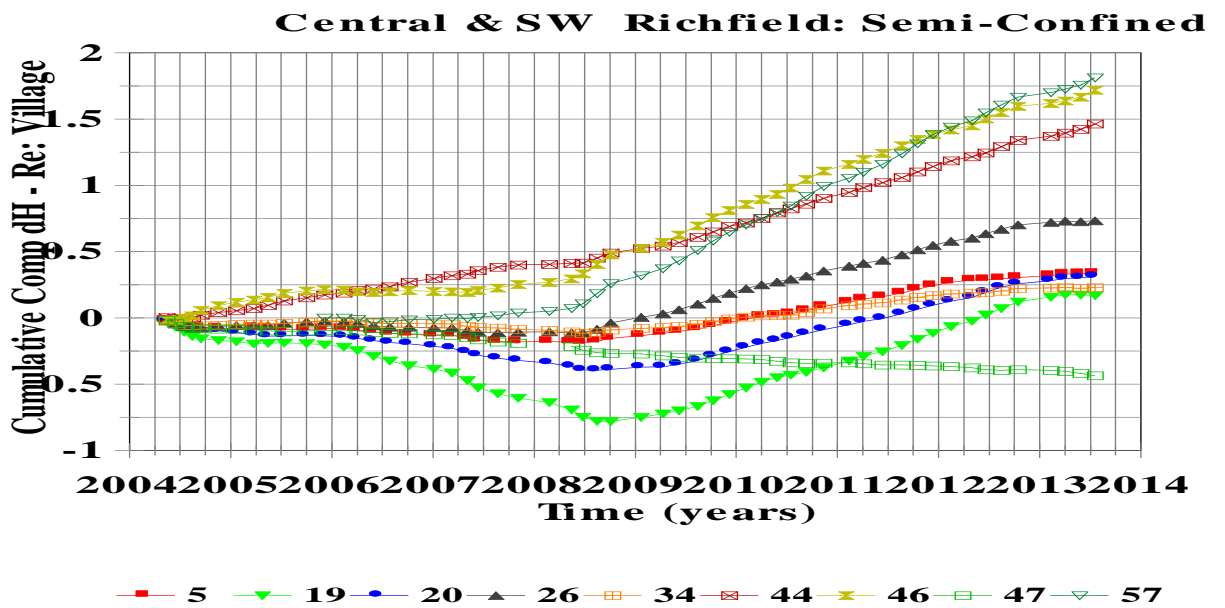
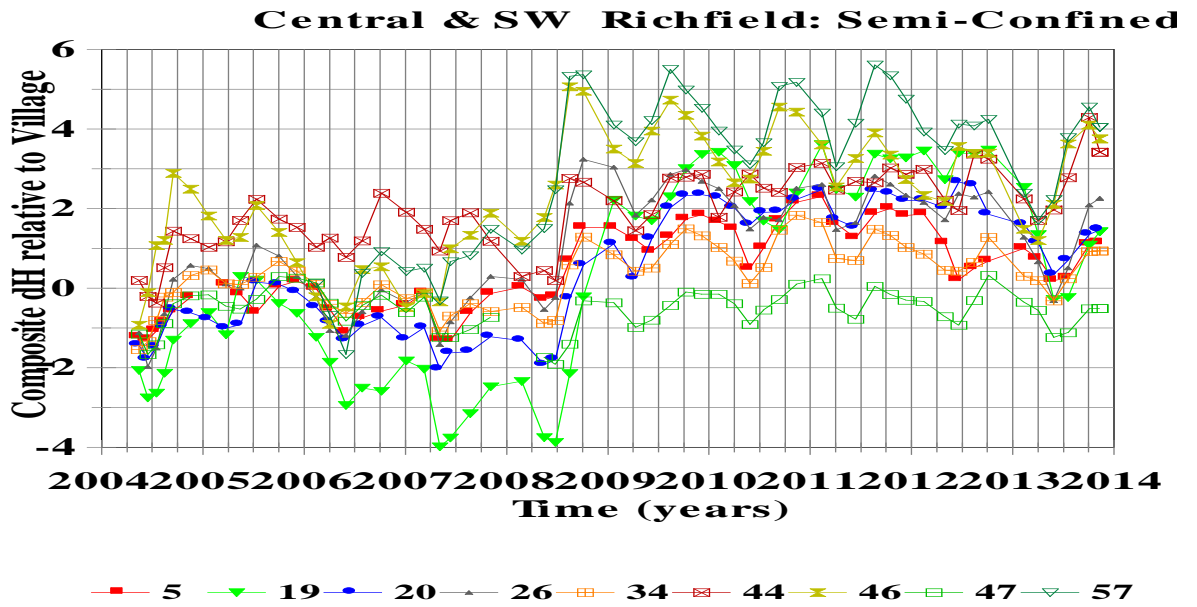


Figure A6 Individual well plots for semi-confined wells in Central & Southwest Richfield