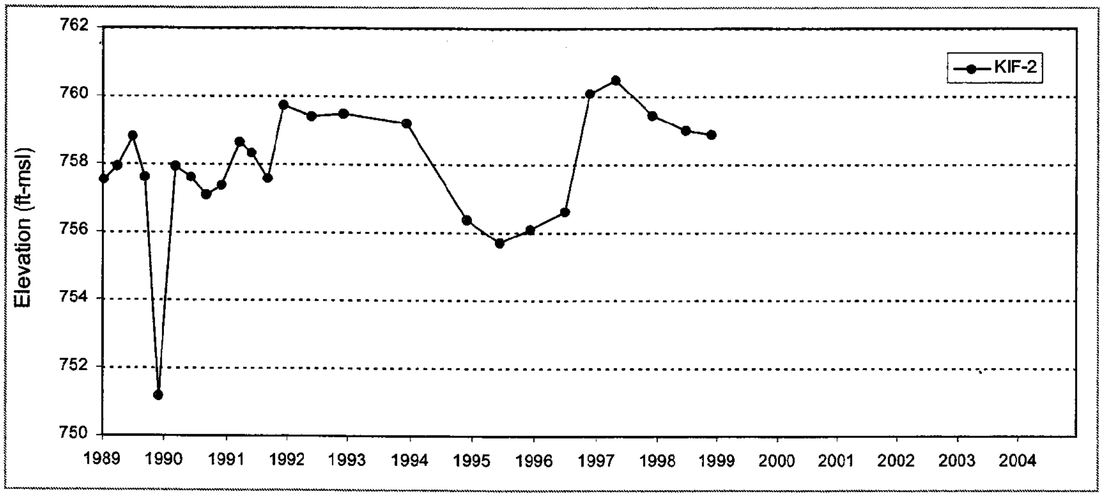
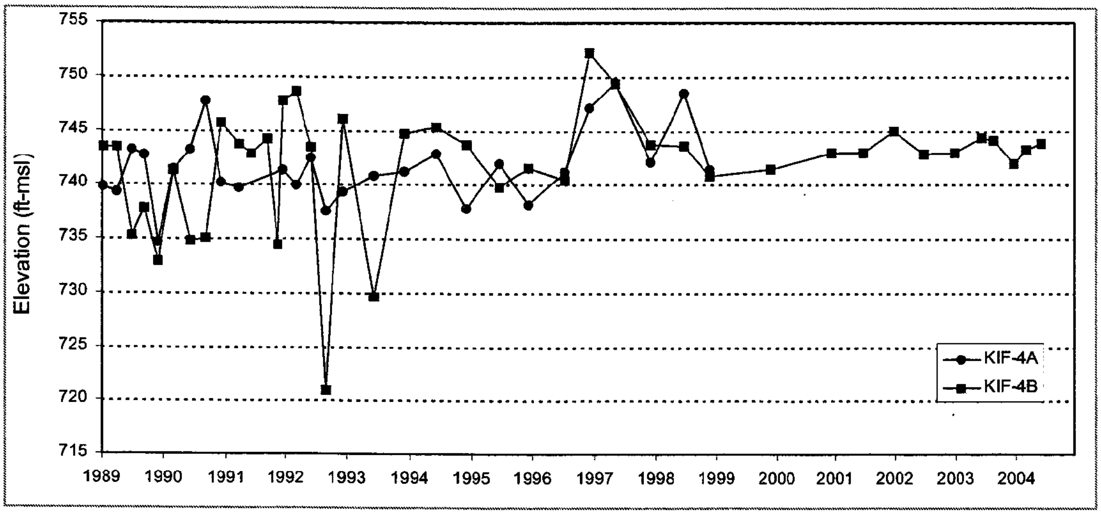
or flows around the dredge cells to the northeast or southwest. Since the drainage paralleling Swan Pond Road lies on the KIF reservation, off-site movement of groundwater appears unlikely. In general, all groundwater originating on, or flowing beneath, the proposed disposal site ultimately discharges to the reservoir without traversing private property.

Long-term hydrographs for 10 monitoring wells surrounding the disposal site are presented on Figures 2-8(a) and 2-8(b). Groundwater level data used in these figures are tabulated in Appendix D. Natural seasonality in groundwater level trends is not discernable, due in part to the infrequency of the measurements, i.e., only four or fewer observations were made per year. However, the close proximity of most monitoring wells to the active ash pond, dredge cells, and/or the reservoir, suggests that these surface water features may largely control local groundwater levels. For example, the upward water level trends observed over the past 5 to 6 years in wells 16A and 13B, both of which are situated near ash disposal areas but away from the stabilizing influence of the reservoir, can be attributed to increasing impoundment heads in the existing Ash Pond and Ash Dredge Cells 1-3.

Short-term hydrographs for piezometers B-1 through B-3 are given on Figure 2-9 with data tabulated in Appendix D. These piezometers were installed along the northwestern slope of Ash Dredge Cell 2 in April 2004, and were monitored frequently over a three-month period. The relatively high potentiometric heads observed at these wells compared to neighboring wells (e.g., 4A, 16A) reflect mounding of the water table in the Ash Dredge Cell area created by sluice water recharge. Overall differences in the potentiometric head elevations in the three wells (i.e., highest at B-3 and lowest at B-1) can be attributed to differences in topographic position of piezometers on the dredge cell slope. Decreasing water levels were observed for all piezometers over the period, probably due to pumping from a recently installed toe drain on the northwest side of Cell 3 and perhaps to limited rainfall during the period (Appendix D).

Determination of the seasonal high water table for the proposed disposal site is problematic due to the artificial influence of multiple surface water impoundments on local groundwater levels. As noted earlier, shallow groundwater levels observed in local monitoring wells are largely controlled by reservoir stage and by recharge from adjacent impoundments. Consequently, natural variability of groundwater levels produced by seasonal differences in precipitation and evaporation is generally not discernable in temporal groundwater level records. Nevertheless, Figure 2-10 provides an estimate of the seasonal high water table based on the maximum water level observed in each monitoring well during the period of record (see Appendix D). There is little noticeable difference between overall groundwater levels and gradients indicated for the seasonal high water table configuration compared to that shown for the recent water table snapshot presented on Figure 2-7.





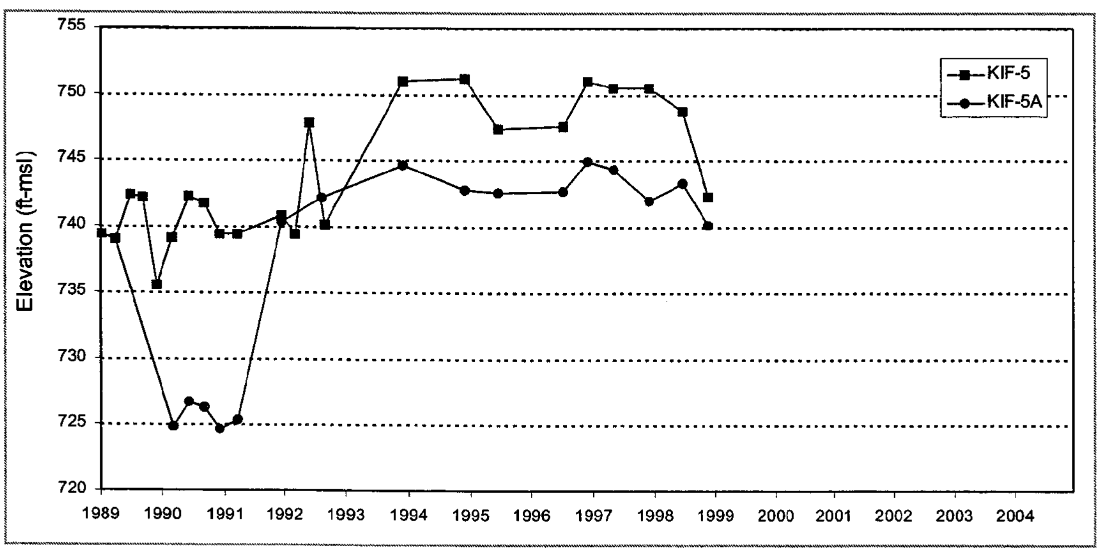


Figure 2-8(a). Long-Term Groundwater Hydrographs for Selected Monitoring Wells

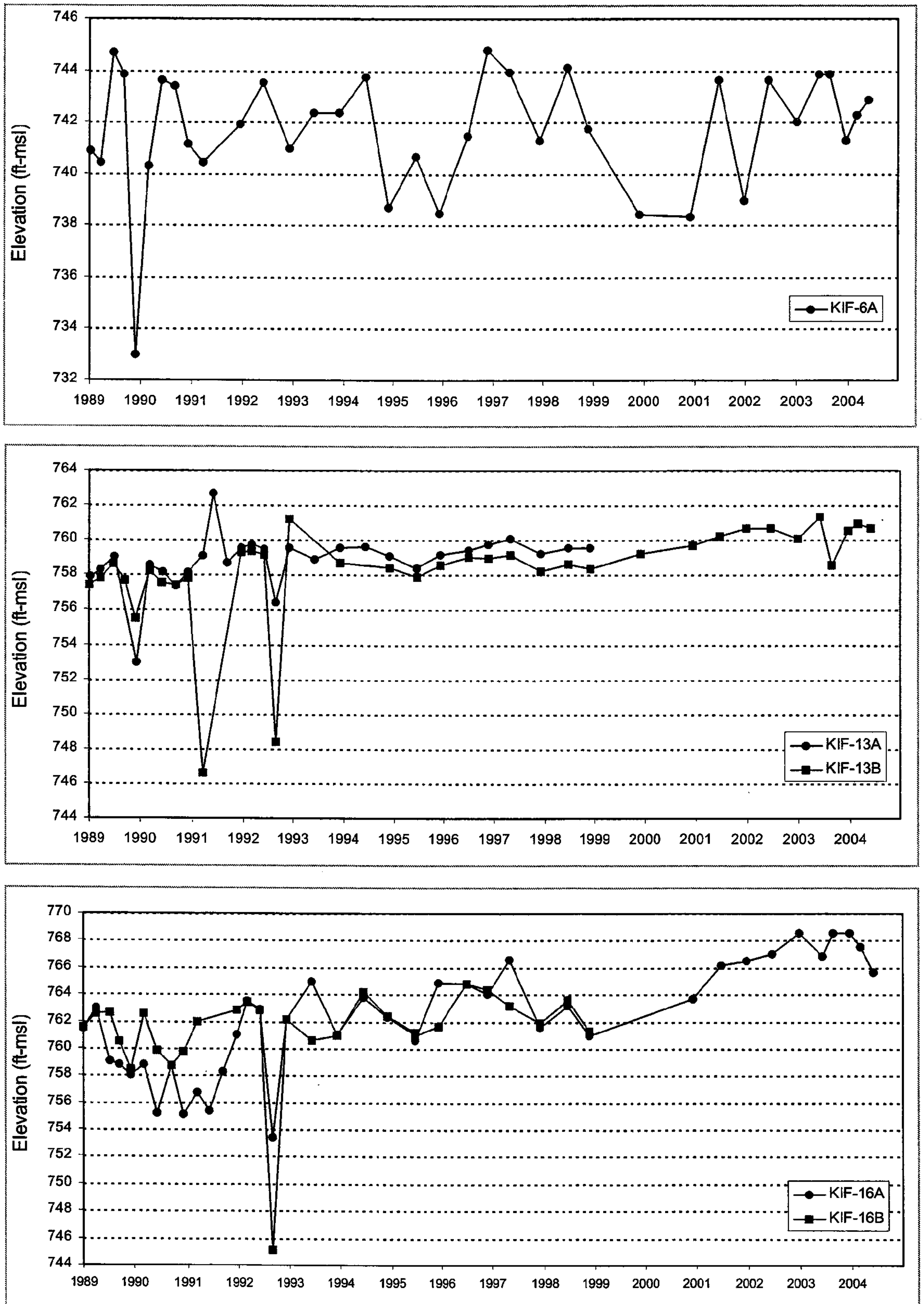


Figure 2-8(b). Long-Term Groundwater Hydrographs for Selected Monitoring Wells

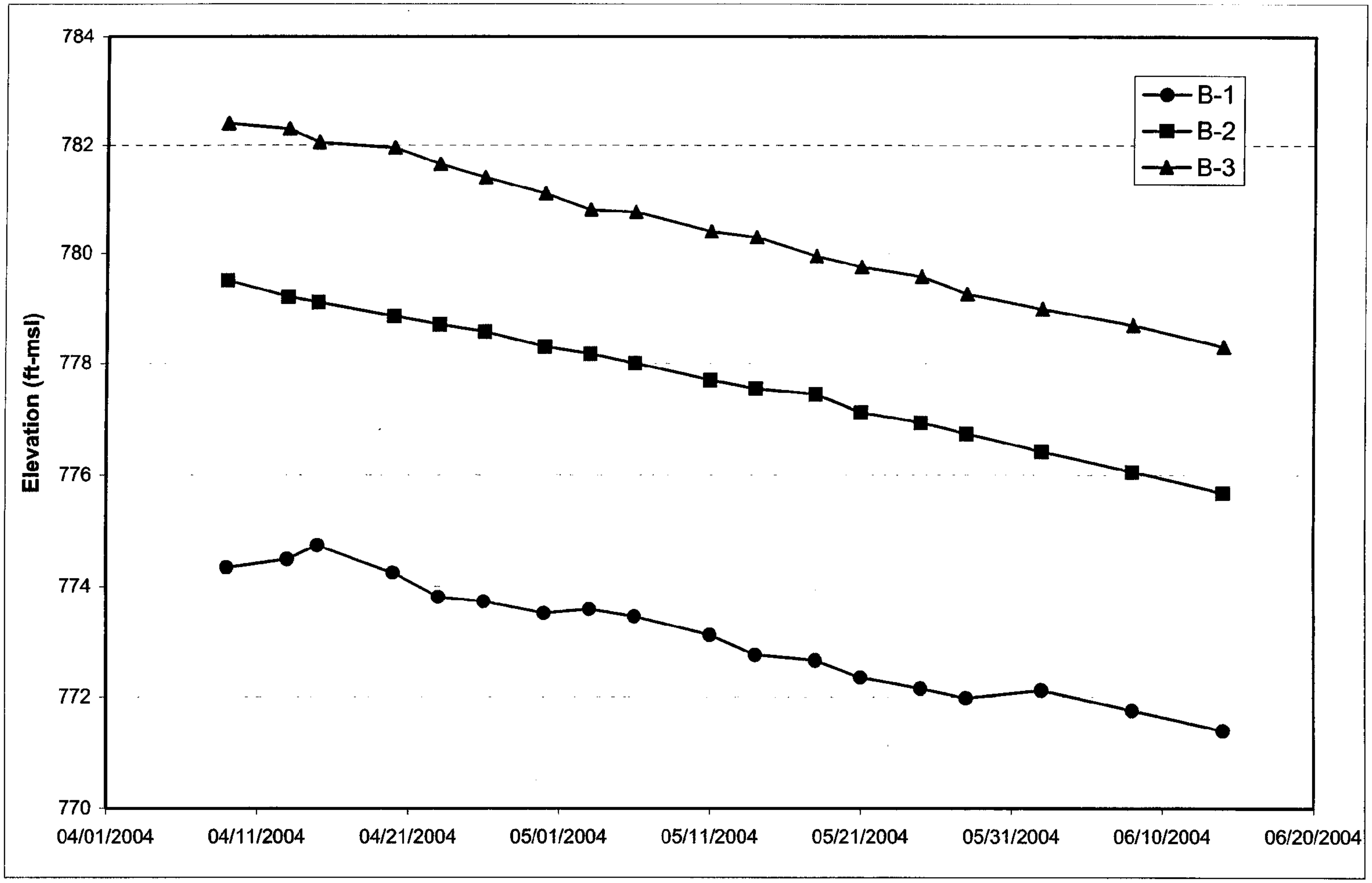


Figure 2-9. Short-Term Groundwater Hydrographs for Piezometers B1 – B3