Environmental Science & Technology

Environ. Sci. Technol., 1998, 32(12), 1832-1840, DOI:10.1021/es971064l

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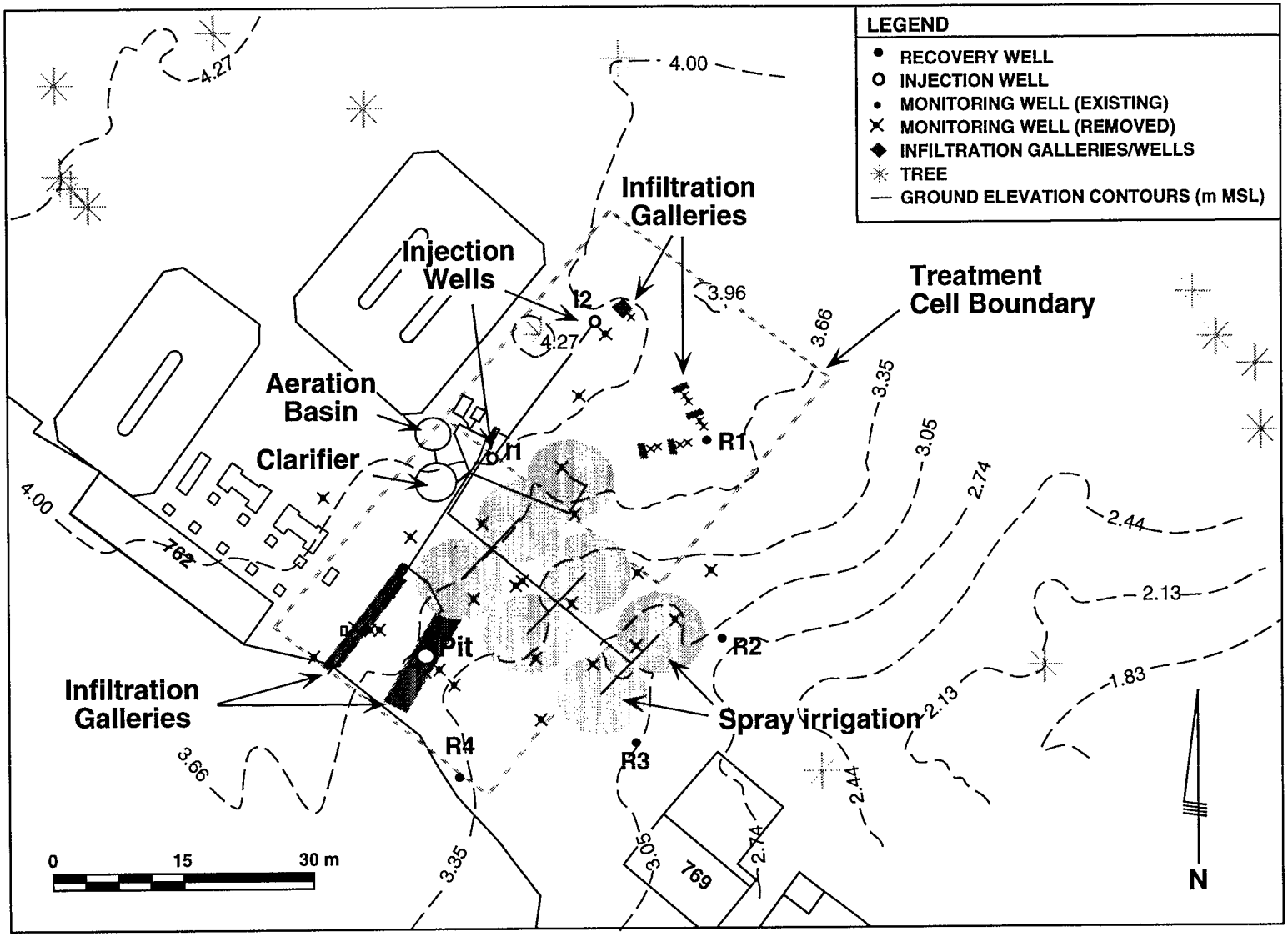

Figure 1. Site Schematic of POL Area at Eglin AFB, Showing Location of Original Hydrogen Peroxide Study, Current Treatment Cell Boundaries, and Ground Elevation Contours

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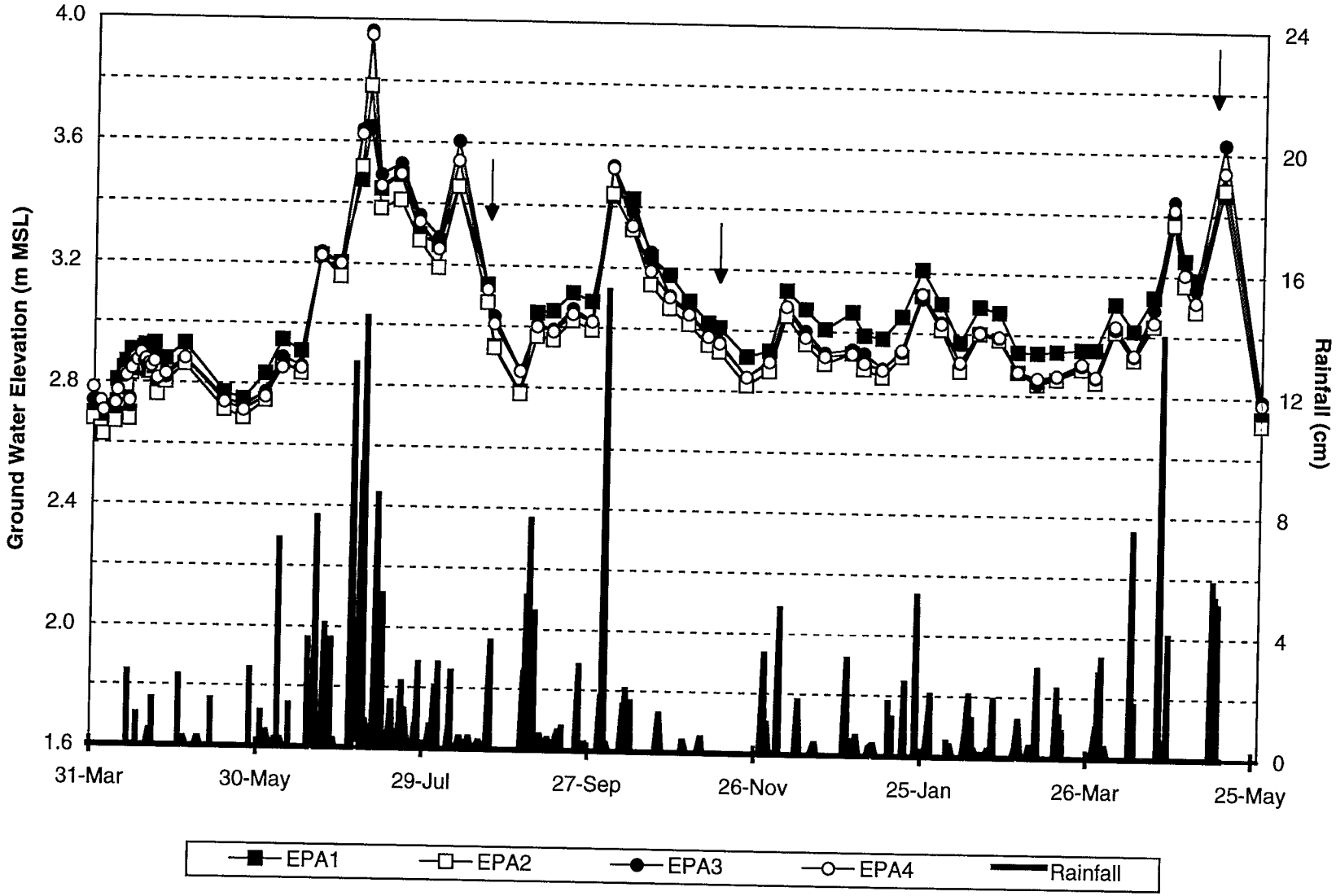

Figure 2. Water Level Response to Sprinkler Application and Rainfall Events in Pilot Demonstration Wells. Arrows Denote Times Sprinklers were Turned Off for Sampling Events

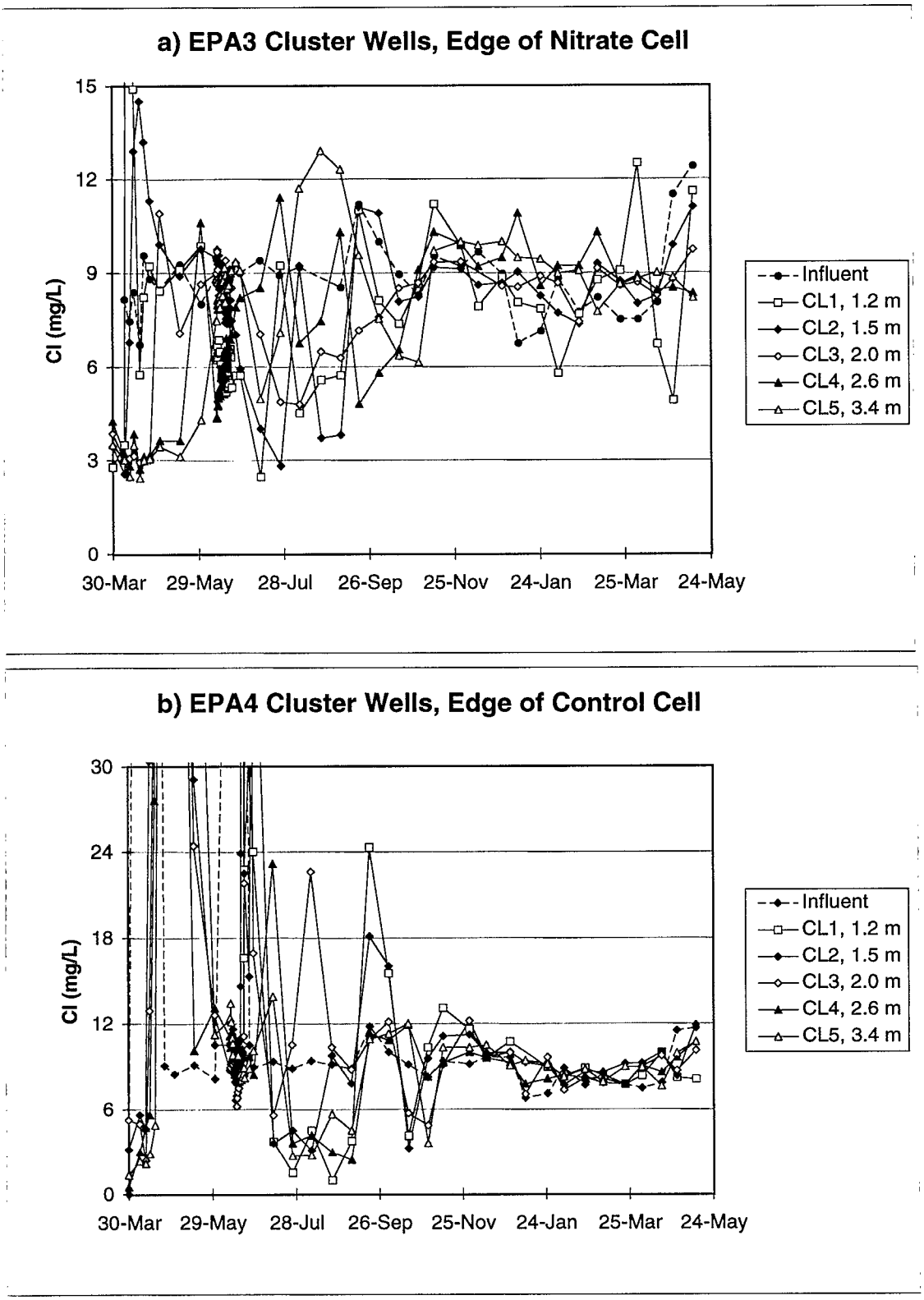

Figure 3. Breakthrough of Background Chloride in Edge Cluster Wells from Recharge Water Used for a) Nitrate Cell and b) Control Cell. Note that Chloride was Occasionally Used as a Tracer for the Control Cell

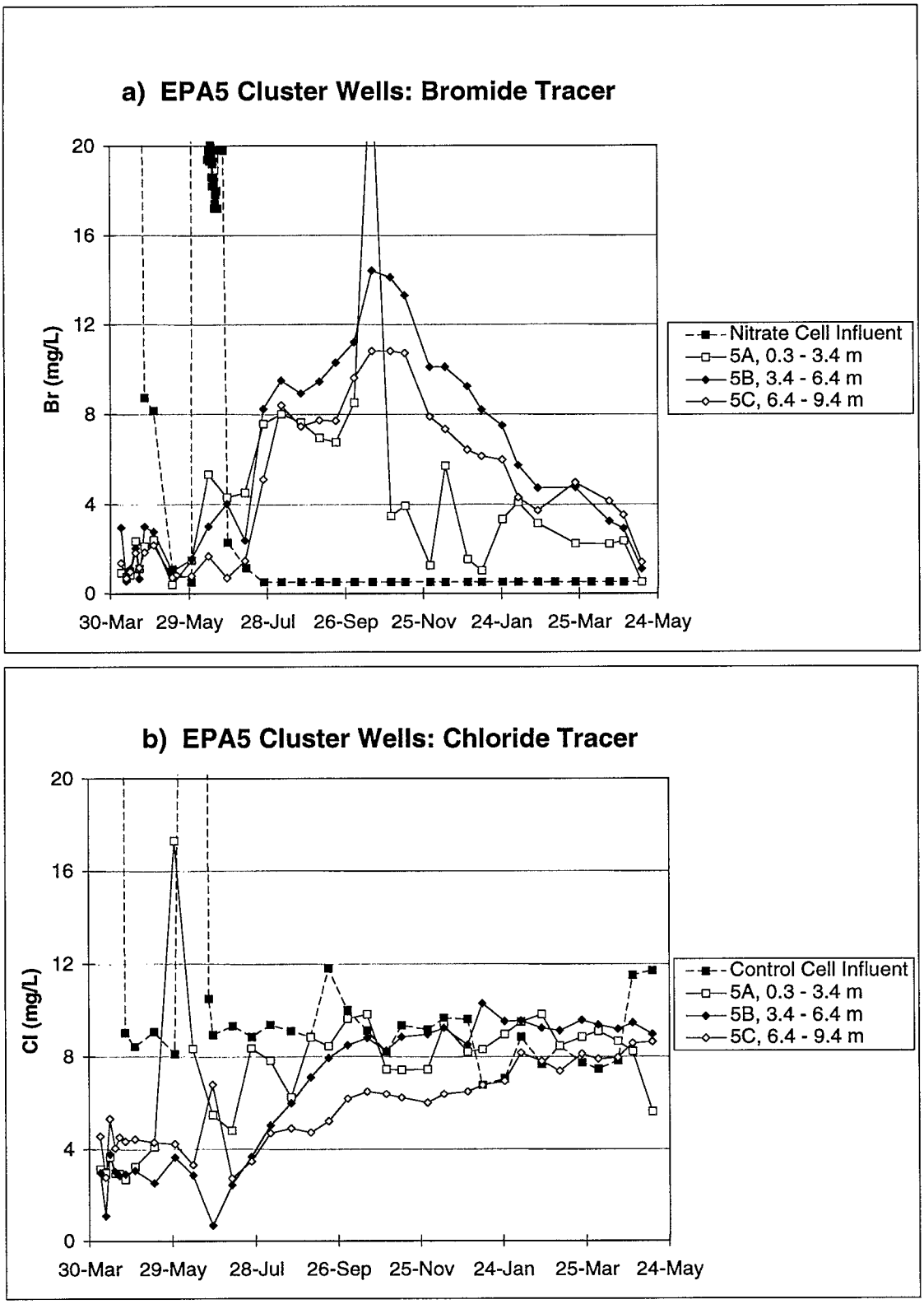

Figure 4. Breakthrough of a) Bromide and b) Chloride Tracers in EPA5 Cluster, Downgradient of Nitrate Treatment Cell

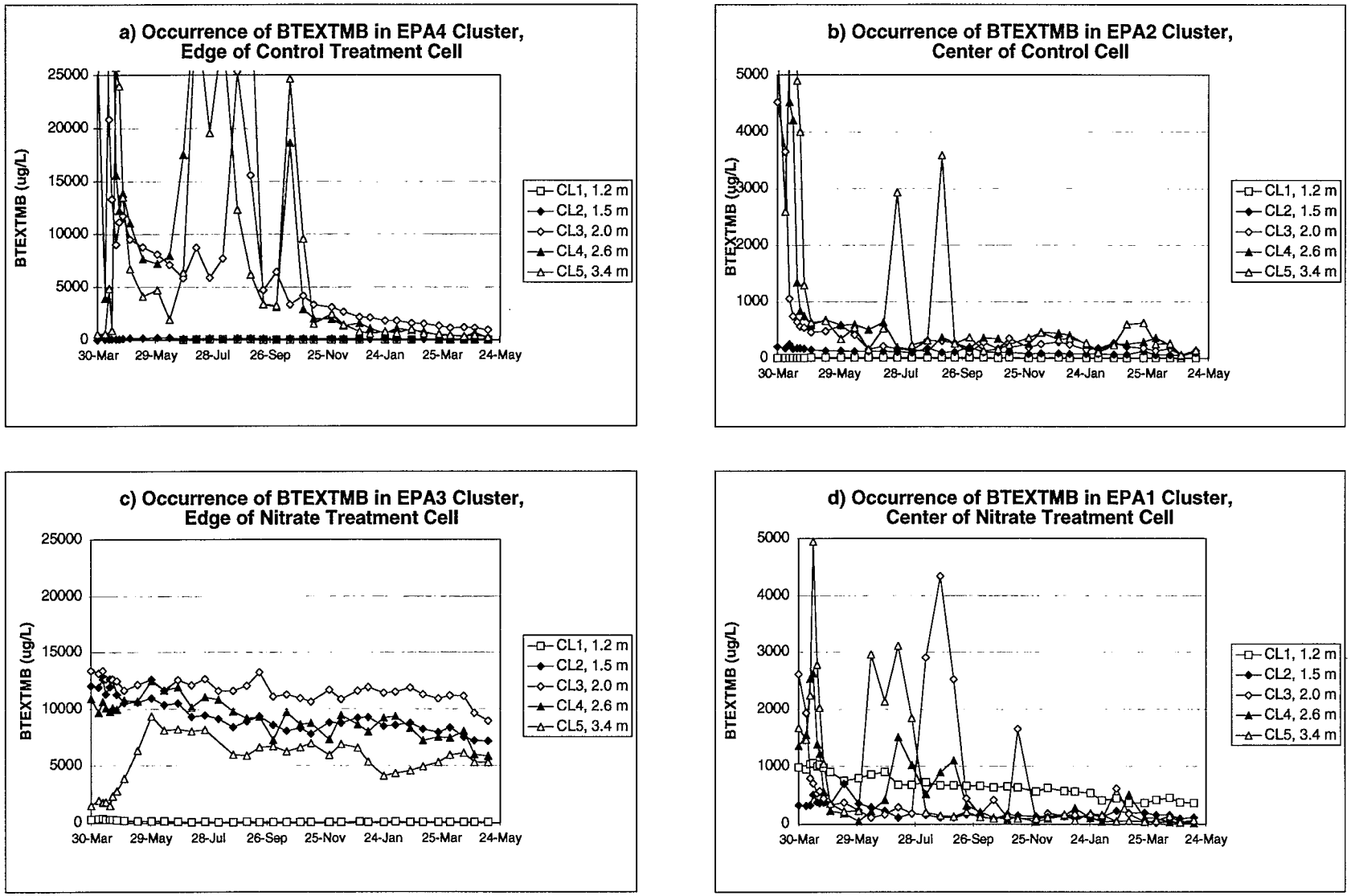

Figure 5. Occurrence of BTEXTMB in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

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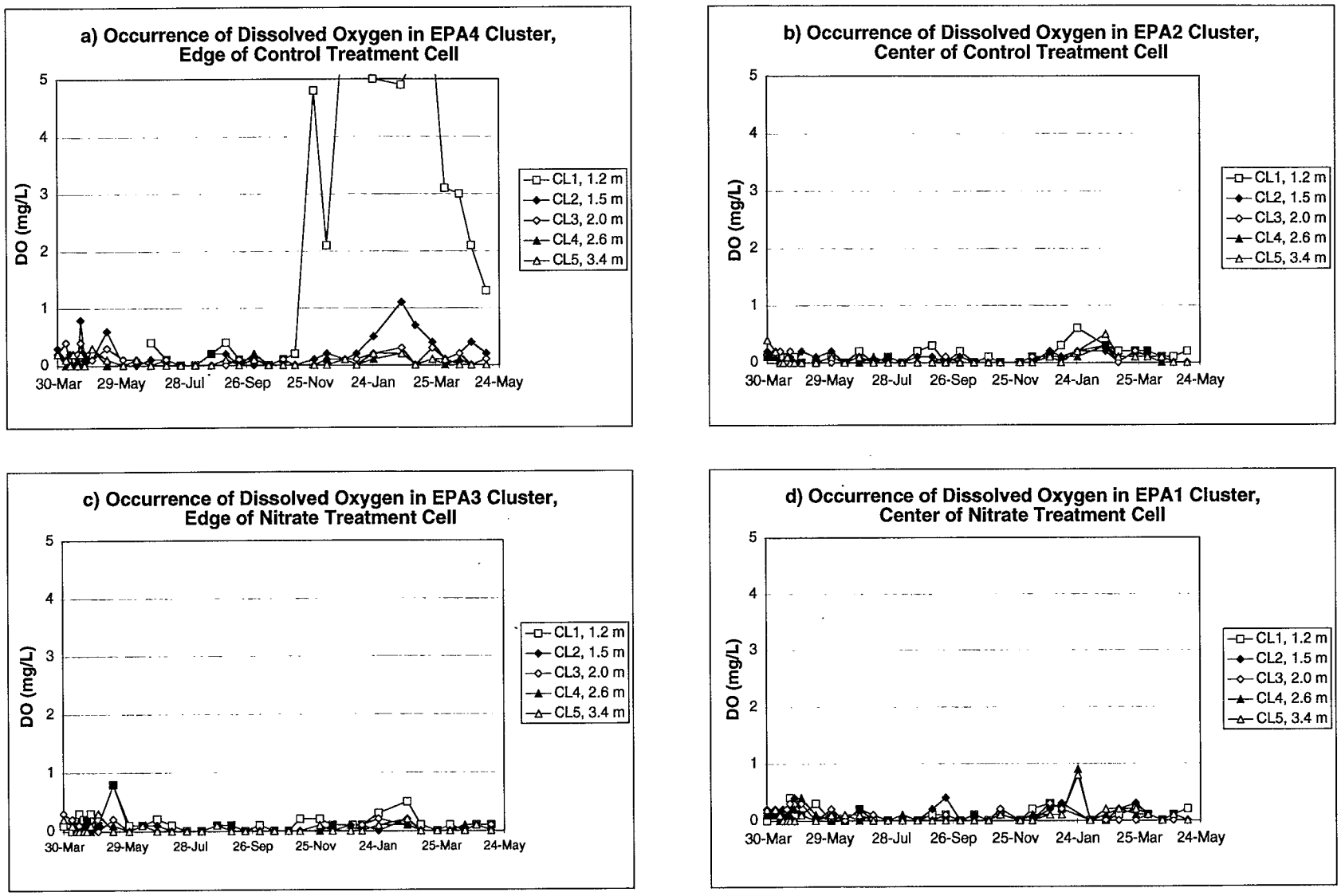

Figure 6. Occurrence of Dissolved Oxygen in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

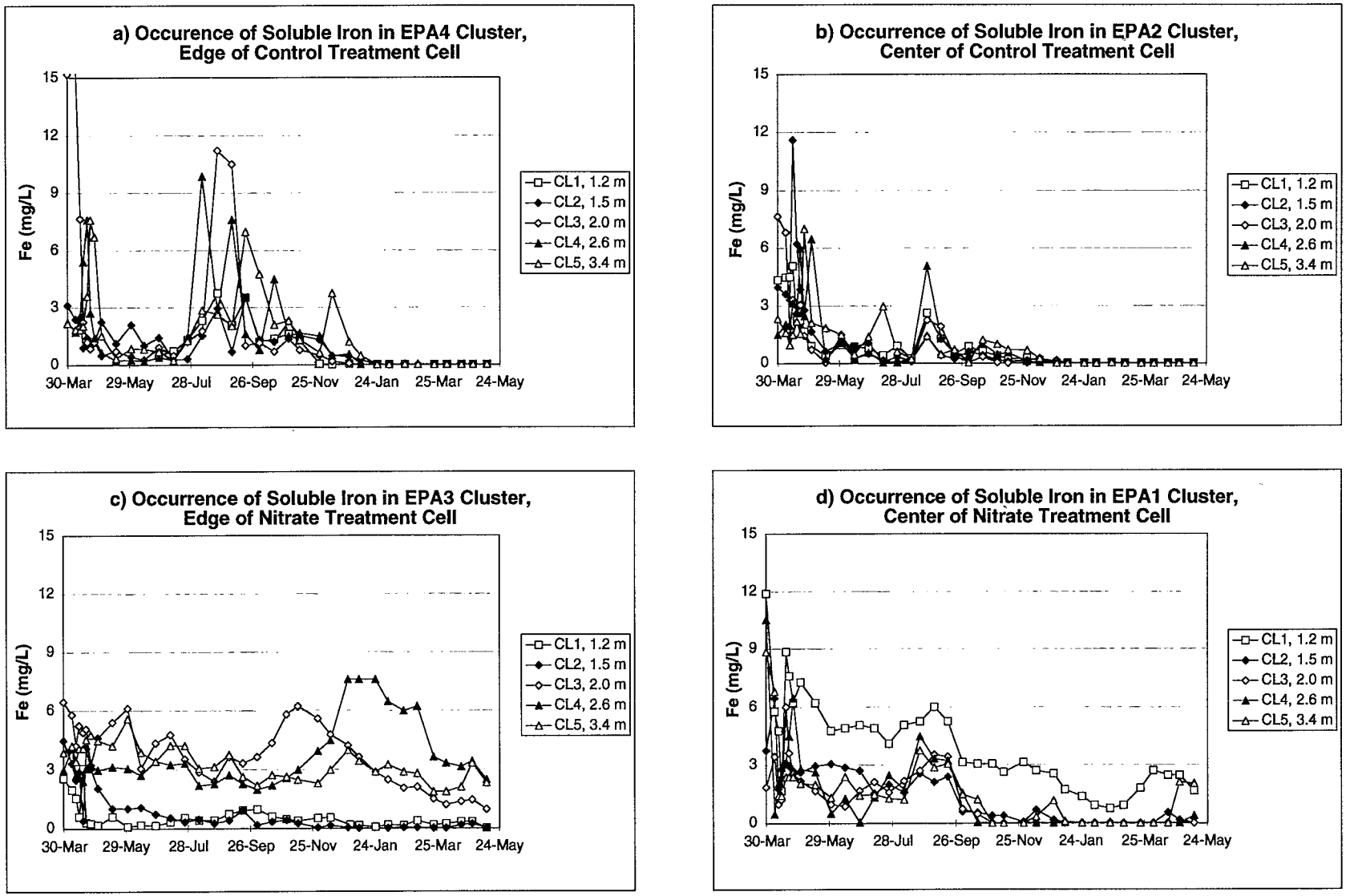

Figure 7. Occurrence of Soluble Iron in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

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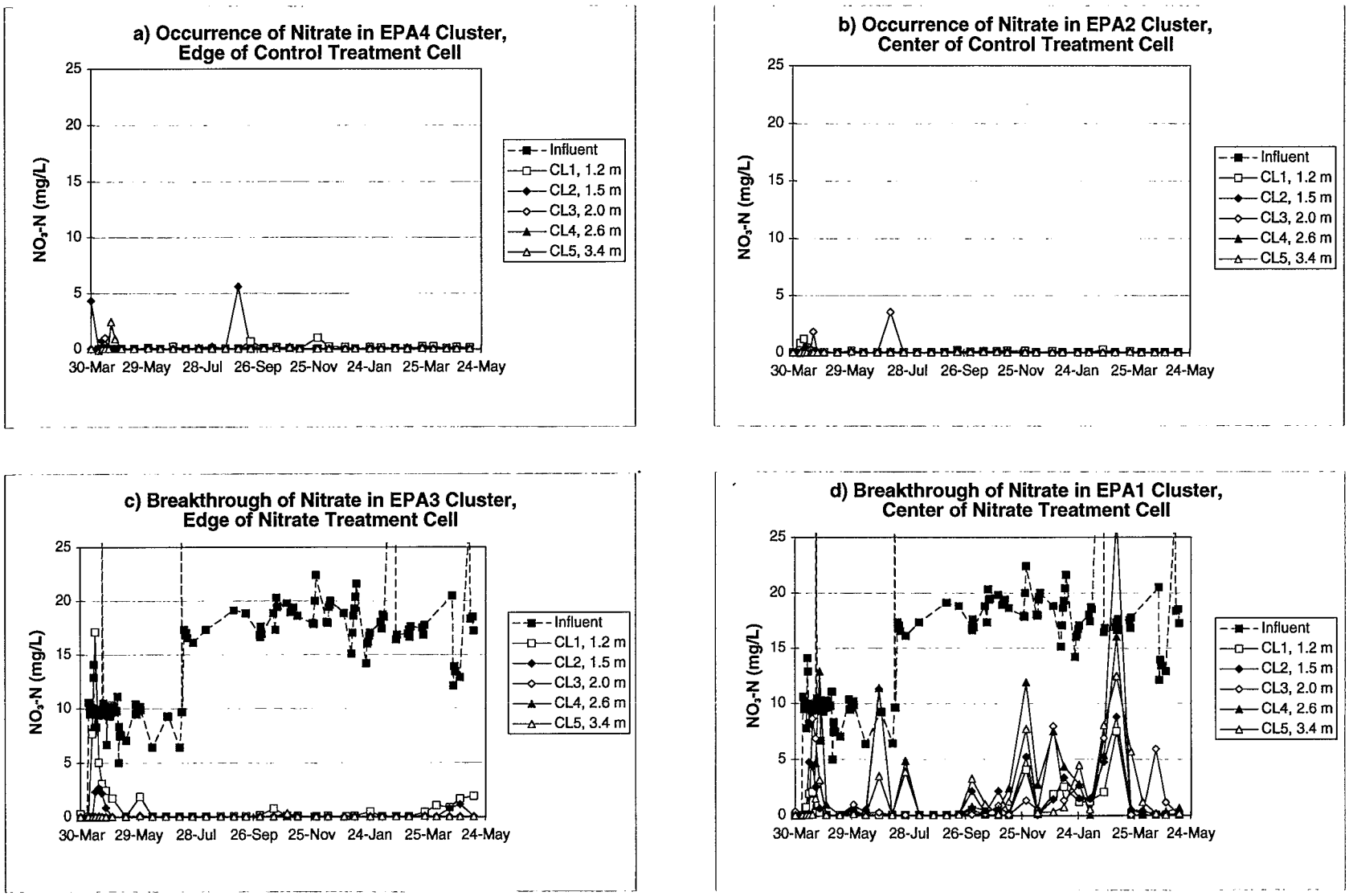

Figure 8. Occurrence and/or Breakthrough of Nitrate in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

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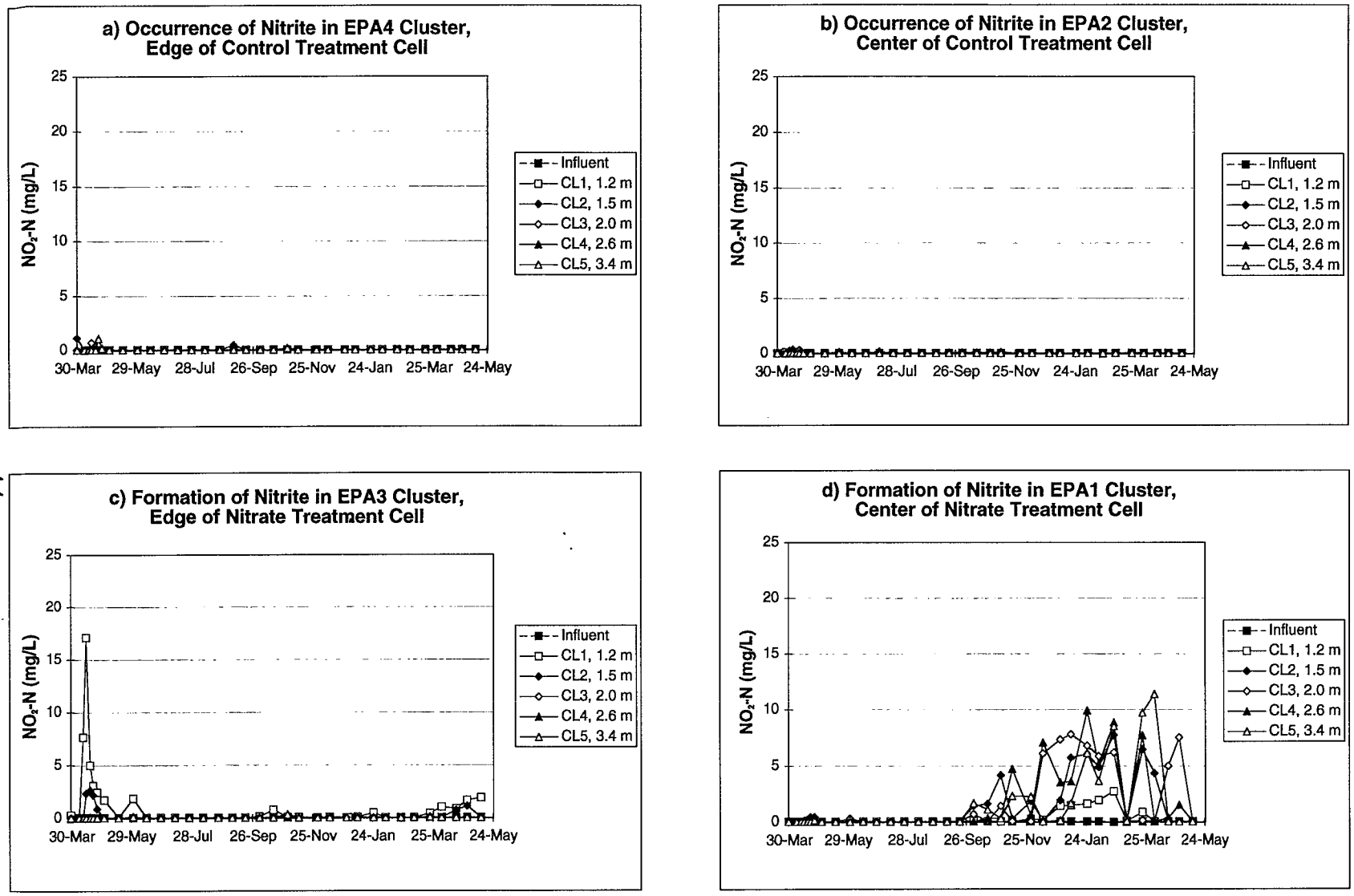

Figure 9. Occurrence and/or Formation of Nitrite in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

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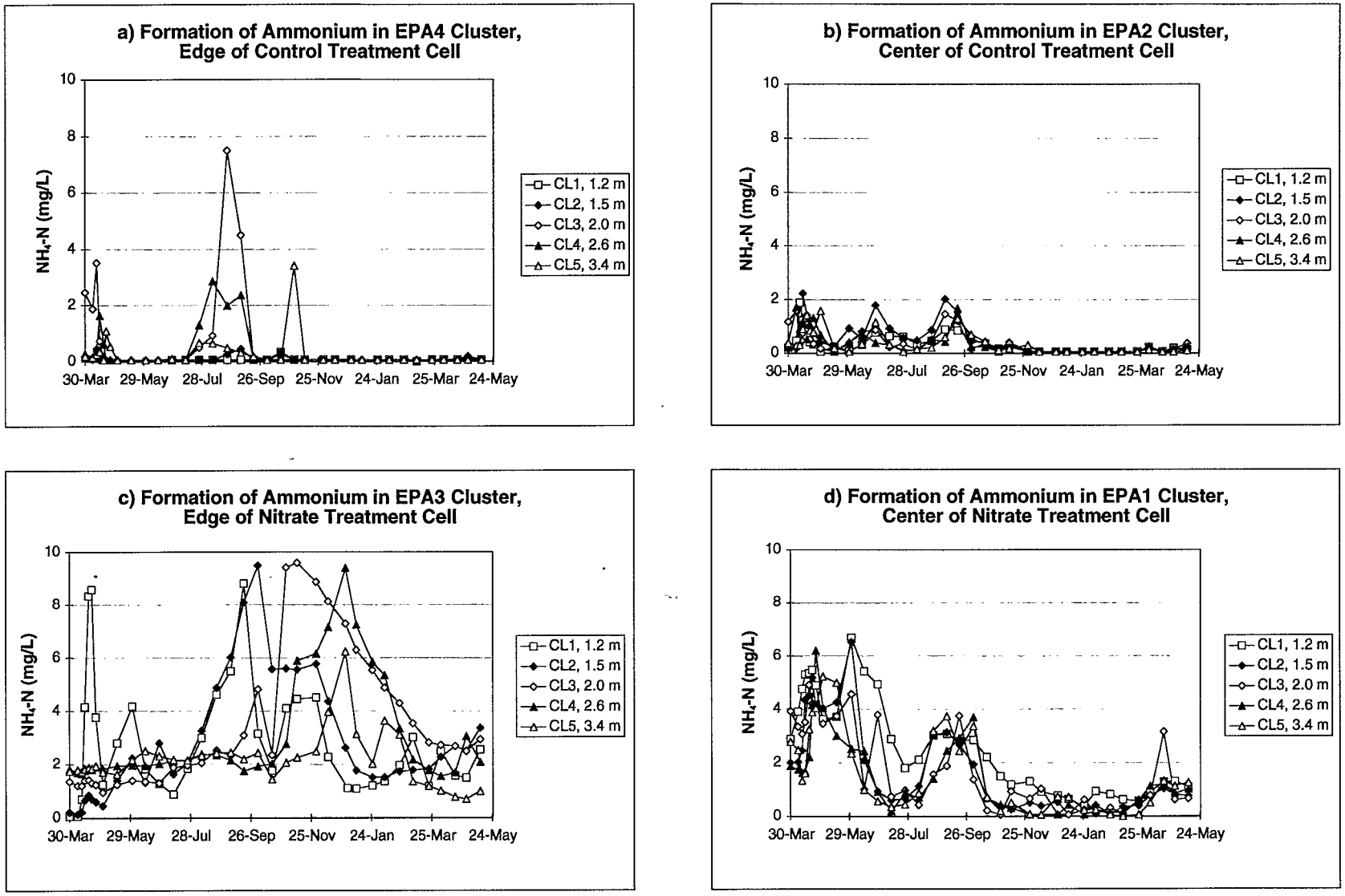

Figure 10. Formation of Ammonium-Nitrogen in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

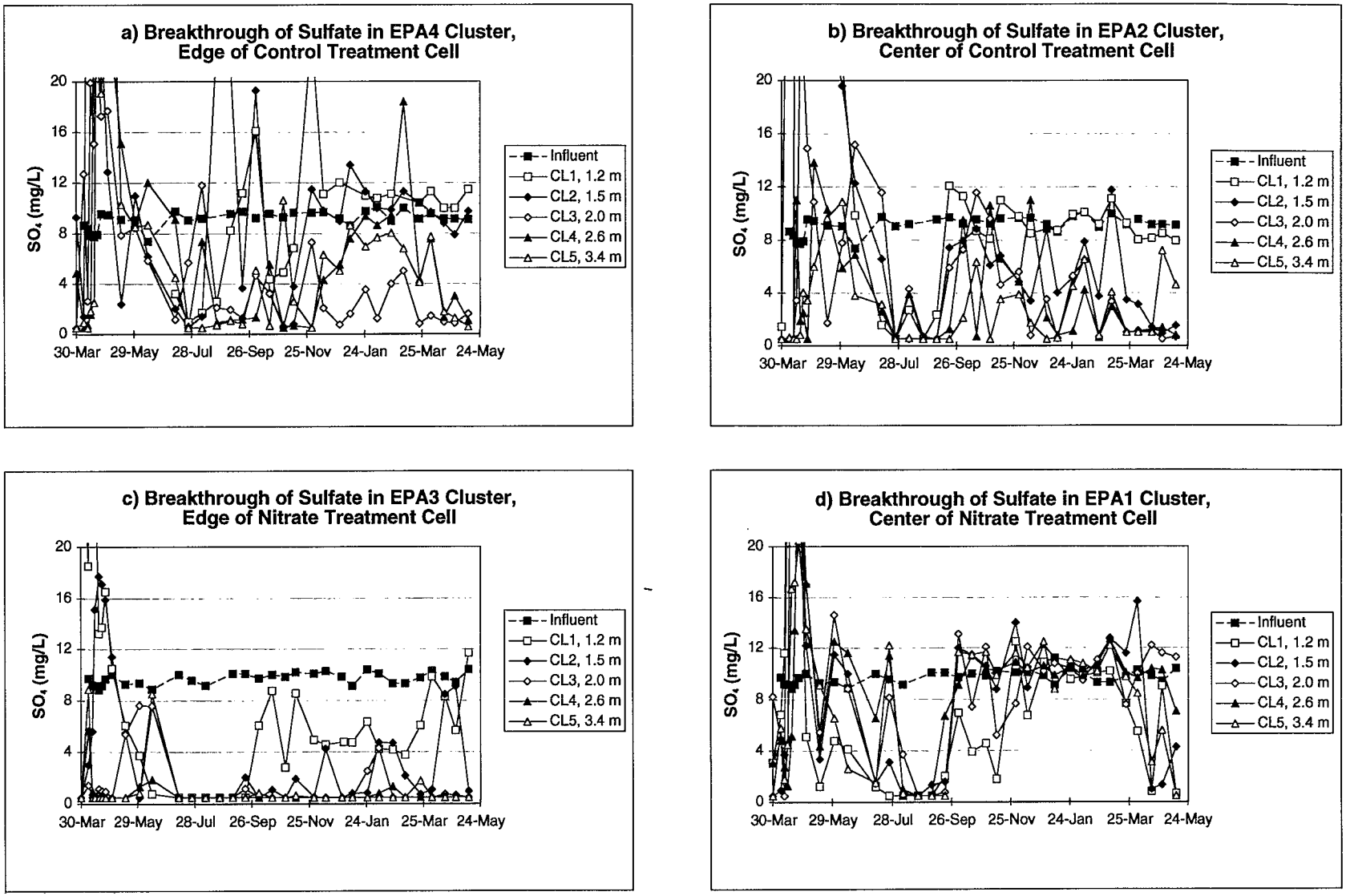

Figure 11. Breakthrough of Sulfate in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell

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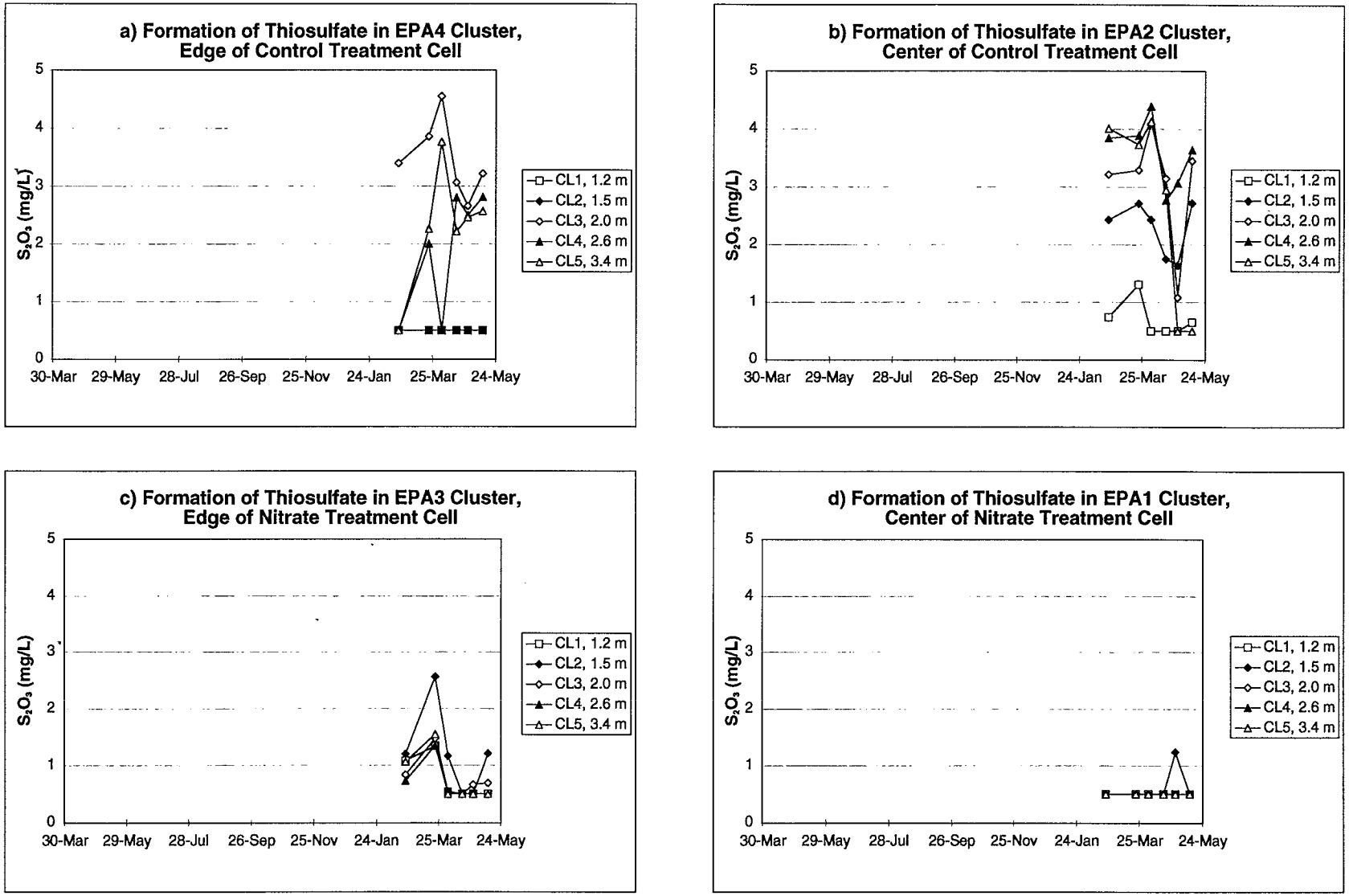
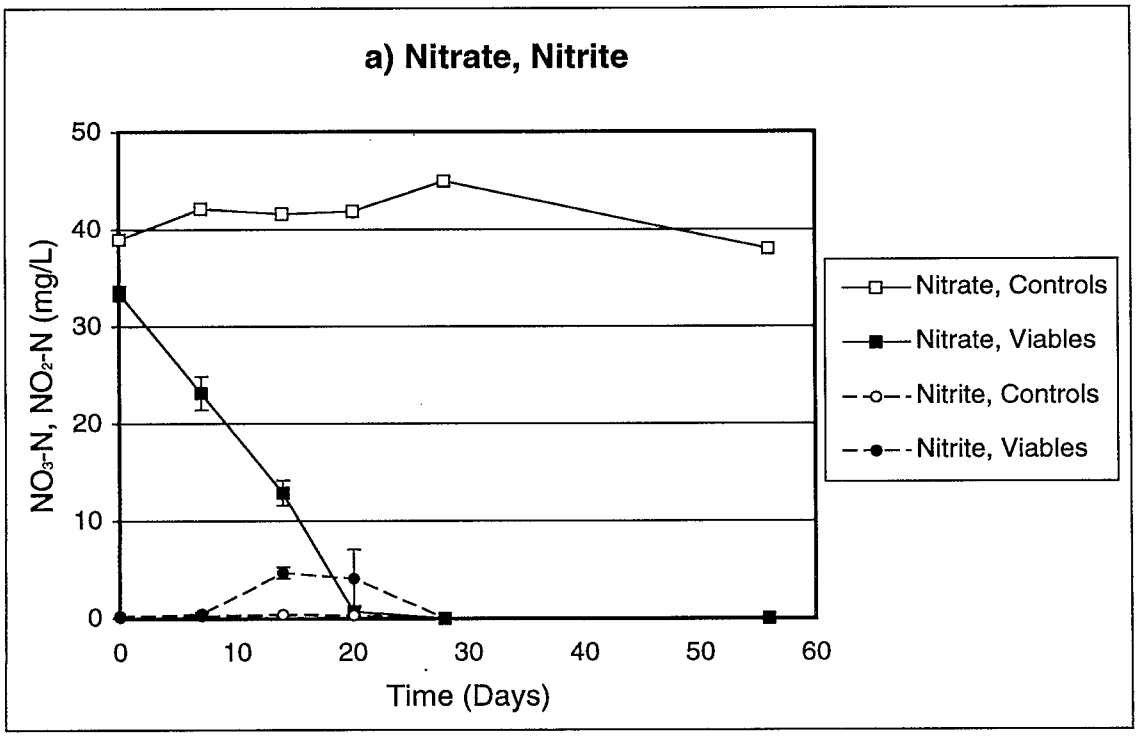


Figure 12. Formation of Thiosulfate in Cluster Wells Located at a) Edge of Control Cell, b) Center of Control Cell, c) Edge of Nitrate Cell, and d) Center of Nitrate Cell. Detection Limit is 0.5 mg/L



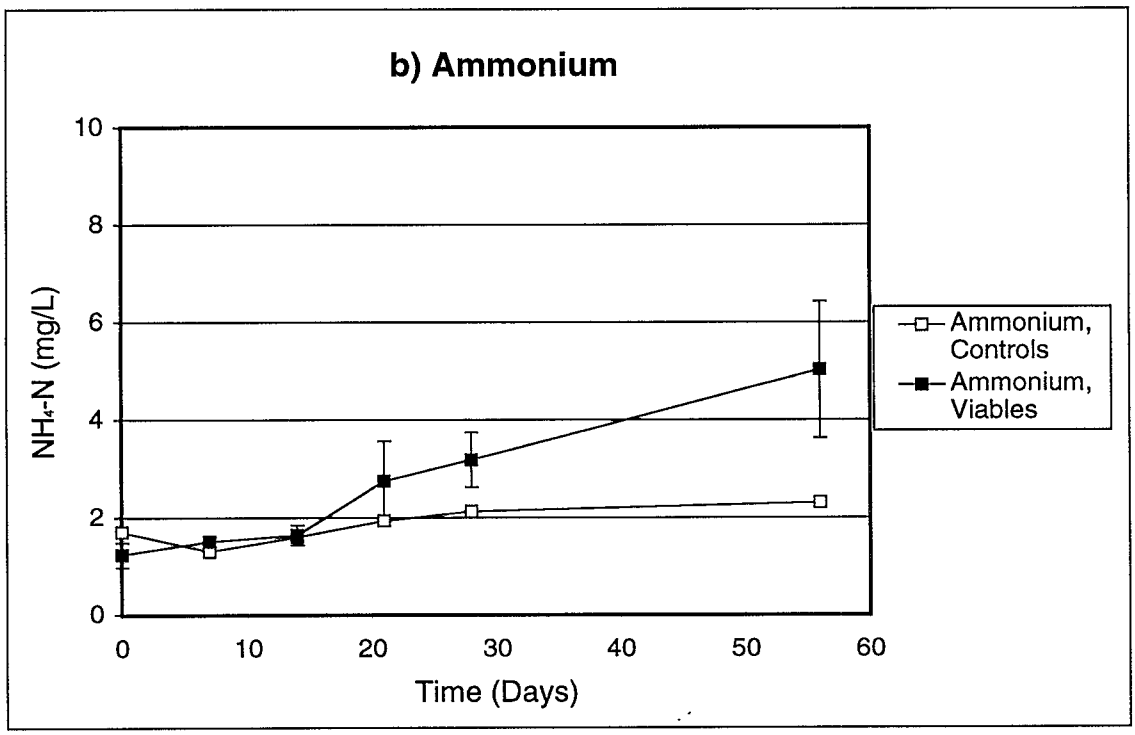


Figure 13. Nitrogen Speciation in Post-Test Microcosms Prepared with N-15 Nitrate, showing a) Nitrate Removal and Nitrite Formation, and b) Formation of N-15 Ammonium. Three Replicates Per Viable Set with Standard Deviation

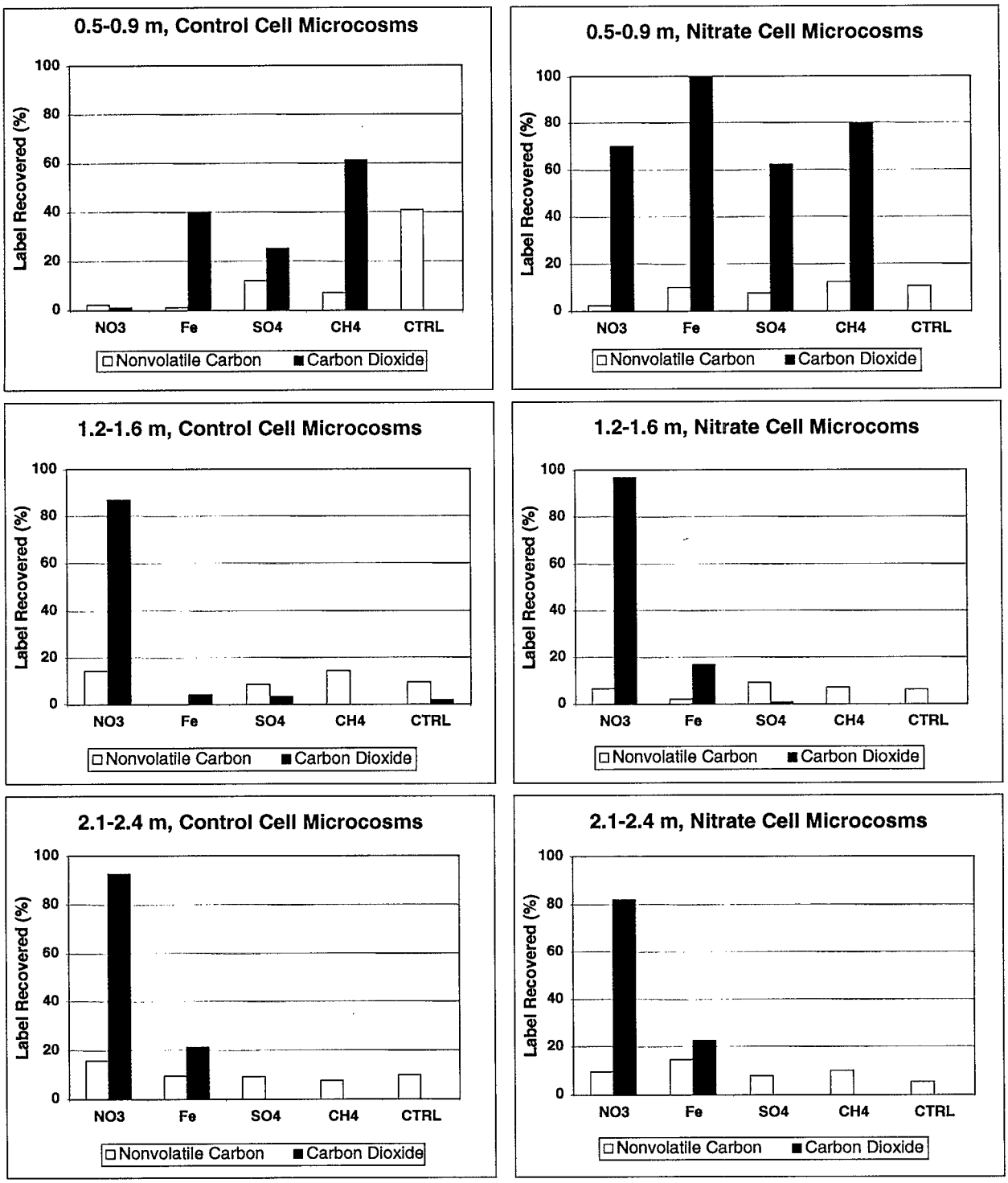
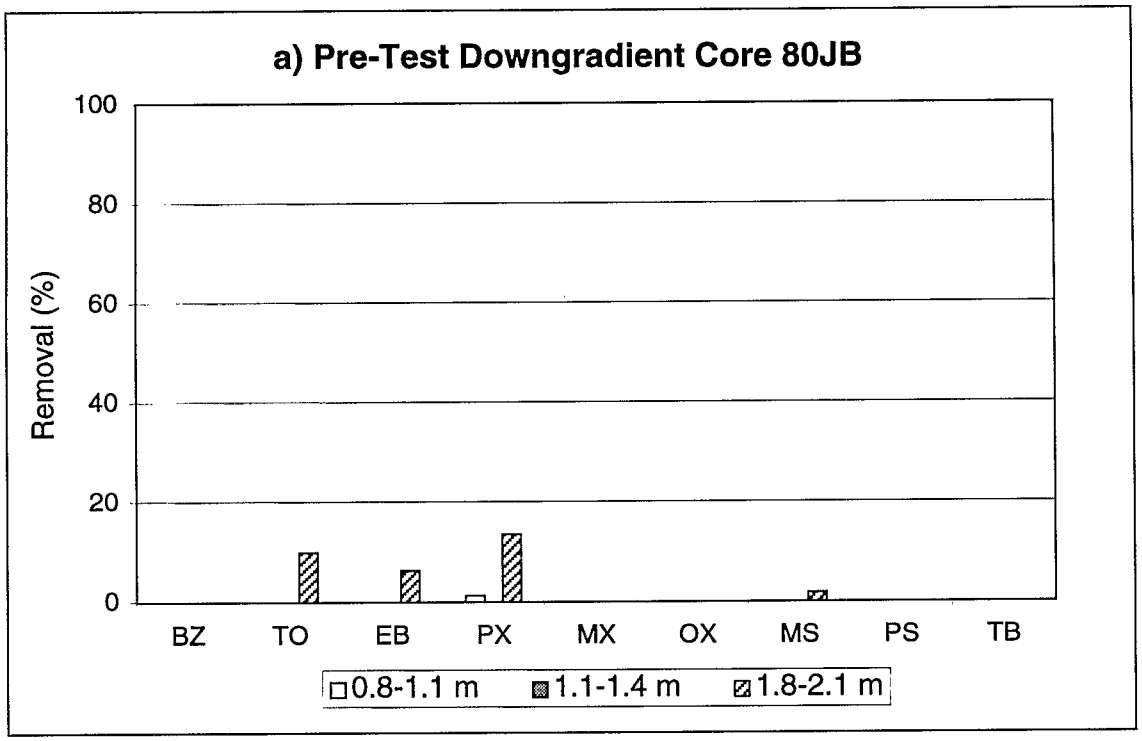


Figure 14. Recovery of Nonvolatile Carbon and Carbon Dioxide from Biodegradation of Radiolabeled m-Xylene in Microcosms from Each Treatment Cell Using Different Electron Acceptors. Mean of 2-3 Replicates, 200 Days



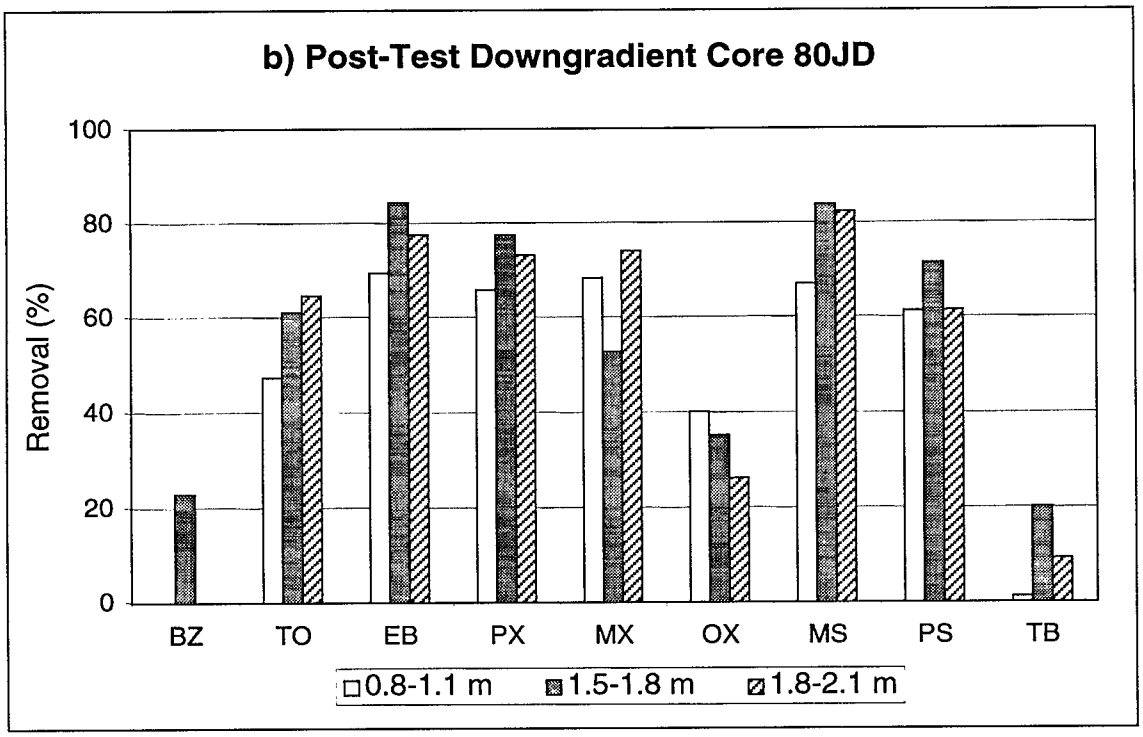


Figure 15. Removal of Added BTEXTMB Isomers After 28 Days in Denitrifying Microcosms From a) Pre-Test and b) Post-Test Cores Taken Adjacent to POL Well R3, Downgradient of Nitrate Cell. Mean of Three Replicates Per Set