

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

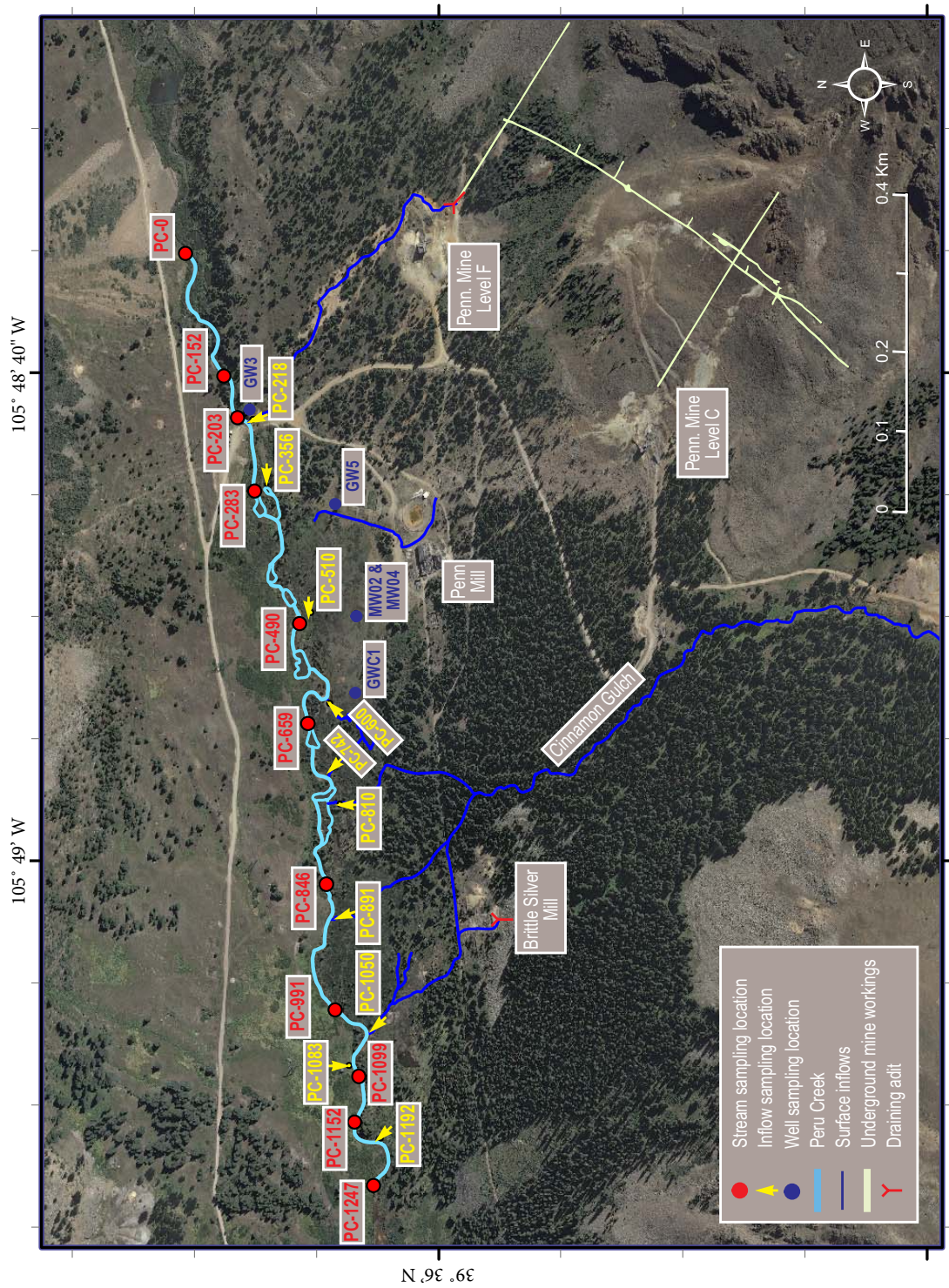
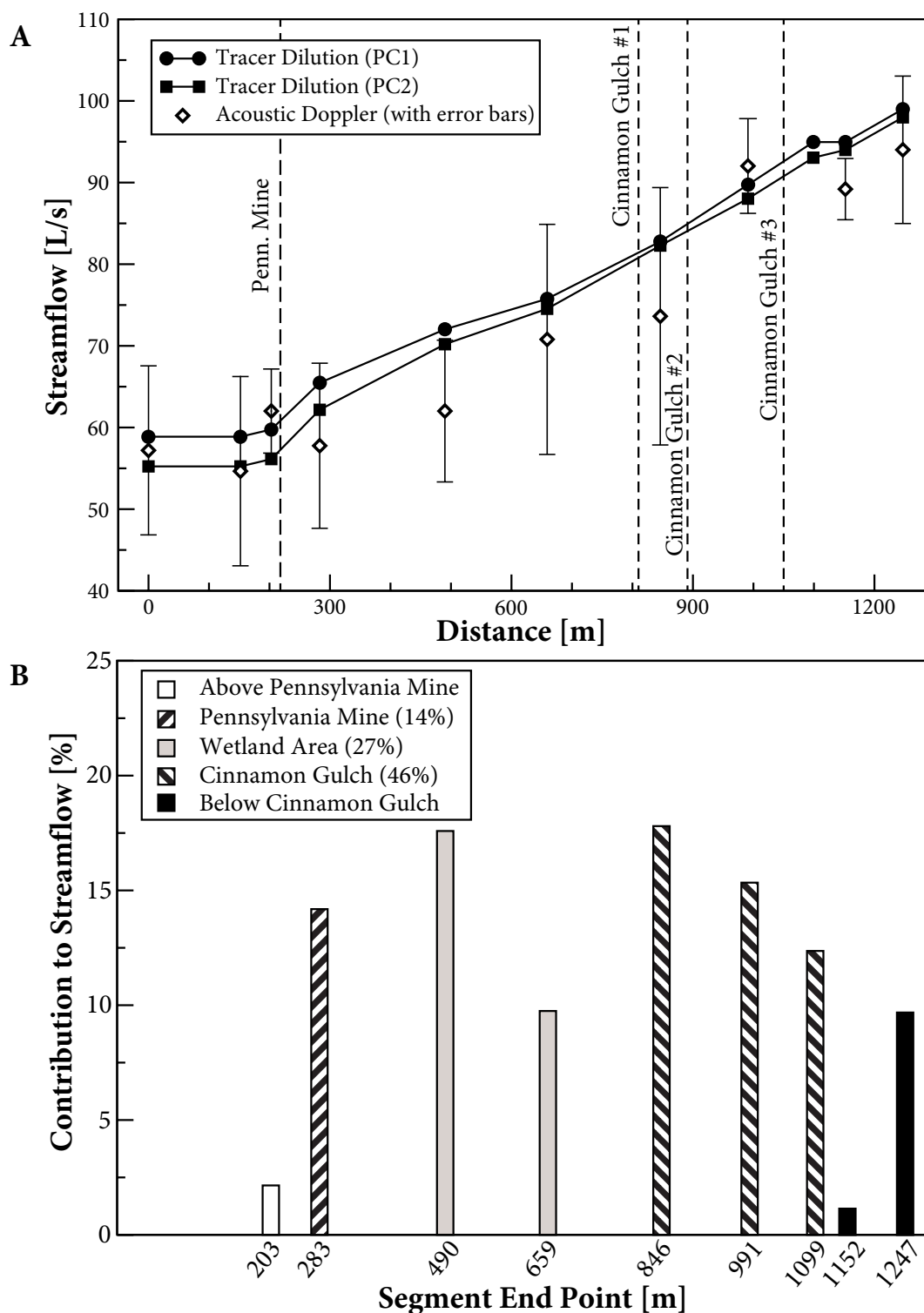
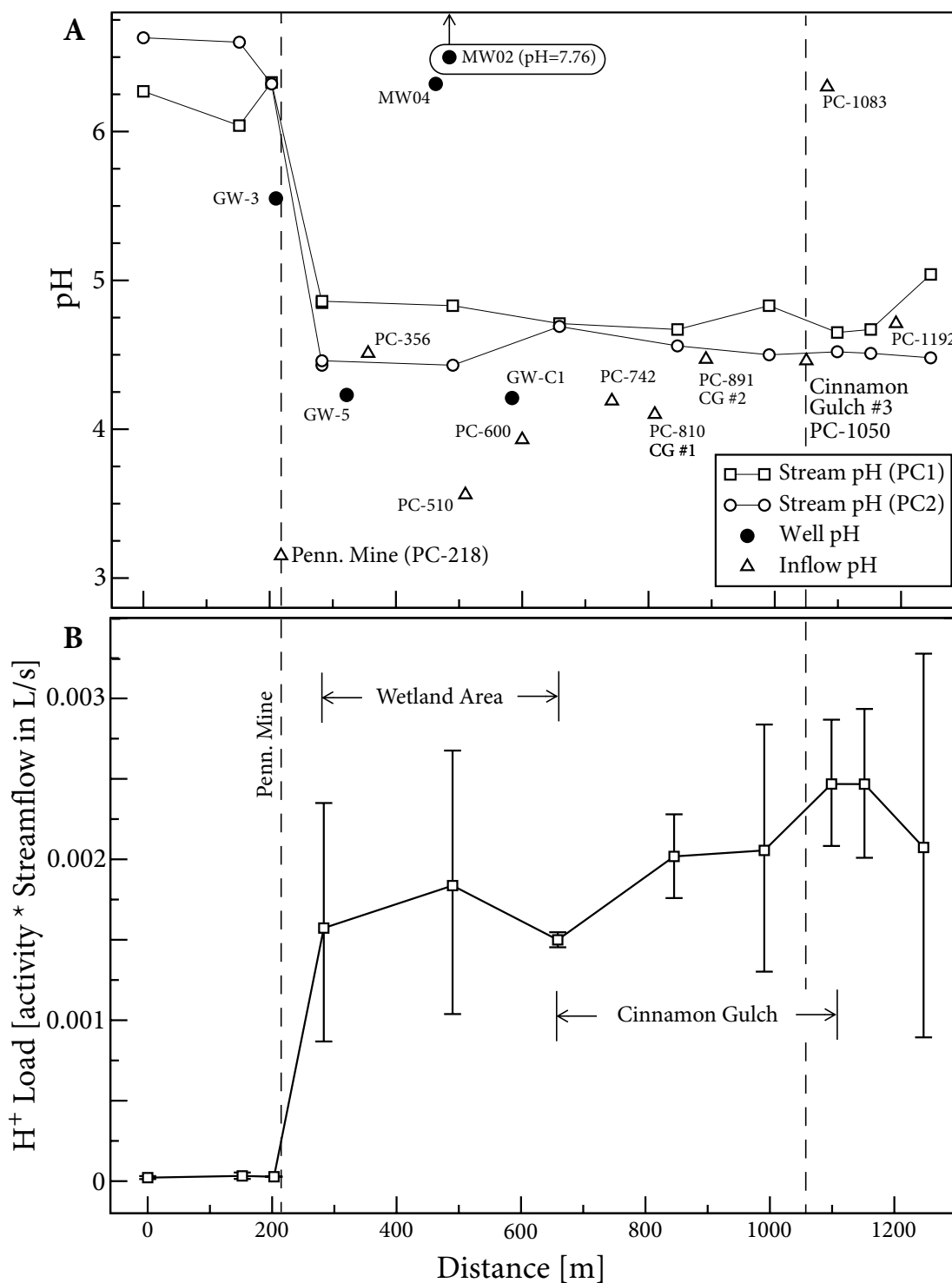


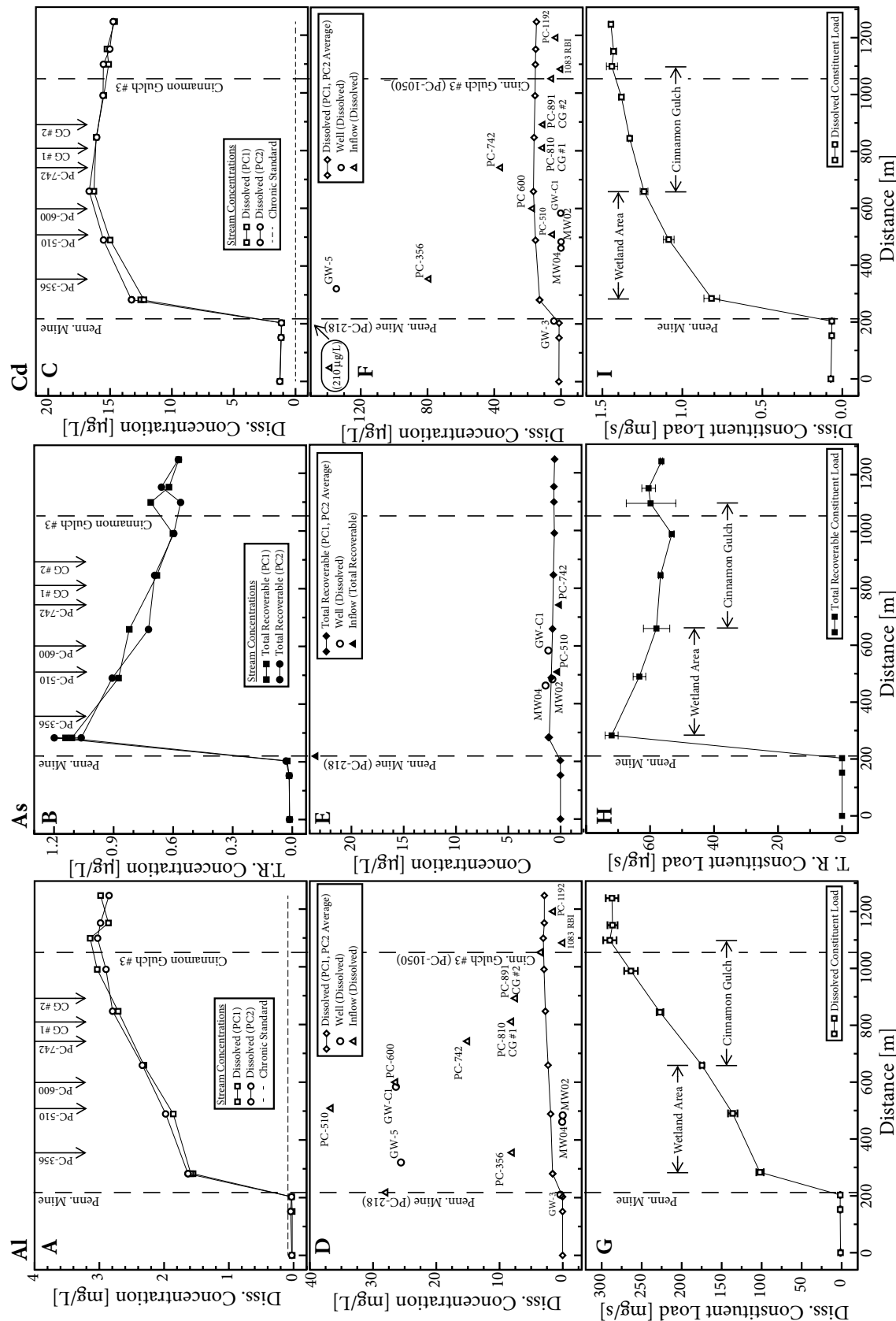
Fig. 1. Map of Peru Creek study reach including stream, inflow, and well sampling locations (base map from June 2009)



**Fig. 2.** (A) Replicate profiles of tracer-dilution streamflow estimates and streamflow measurements by Acoustic Doppler Velocimeter (ADV; error bars are described in the Supplementary material). (B) Percentage of streamflow increase attributable to specific stream segments and source areas.



**Fig. 3.** (A) Spatial profile of pH at stream, inflow, and well sites; (B) Spatial profile of H<sup>+</sup> load based on measurements of instream pH. Error bars denote minimum and maximum load estimates.



**Fig. 4.** (A-C, J-L, S-U) Spatial profiles of dissolved and/or total recoverable stream concentration from PC1 and PC2 sampling campaigns. (D-F, M-O, V-X) Spatial profiles of inflow, well, and average stream concentration. Dotted lines on Mn, SO<sub>4</sub>, and Zn plots show inflows as a mixture of adit water and Cinnamon Gulch. (G-I, P-R, Y, Z, AA) Spatial profiles of constituent load. Error bars denote minimum and maximum load estimates.

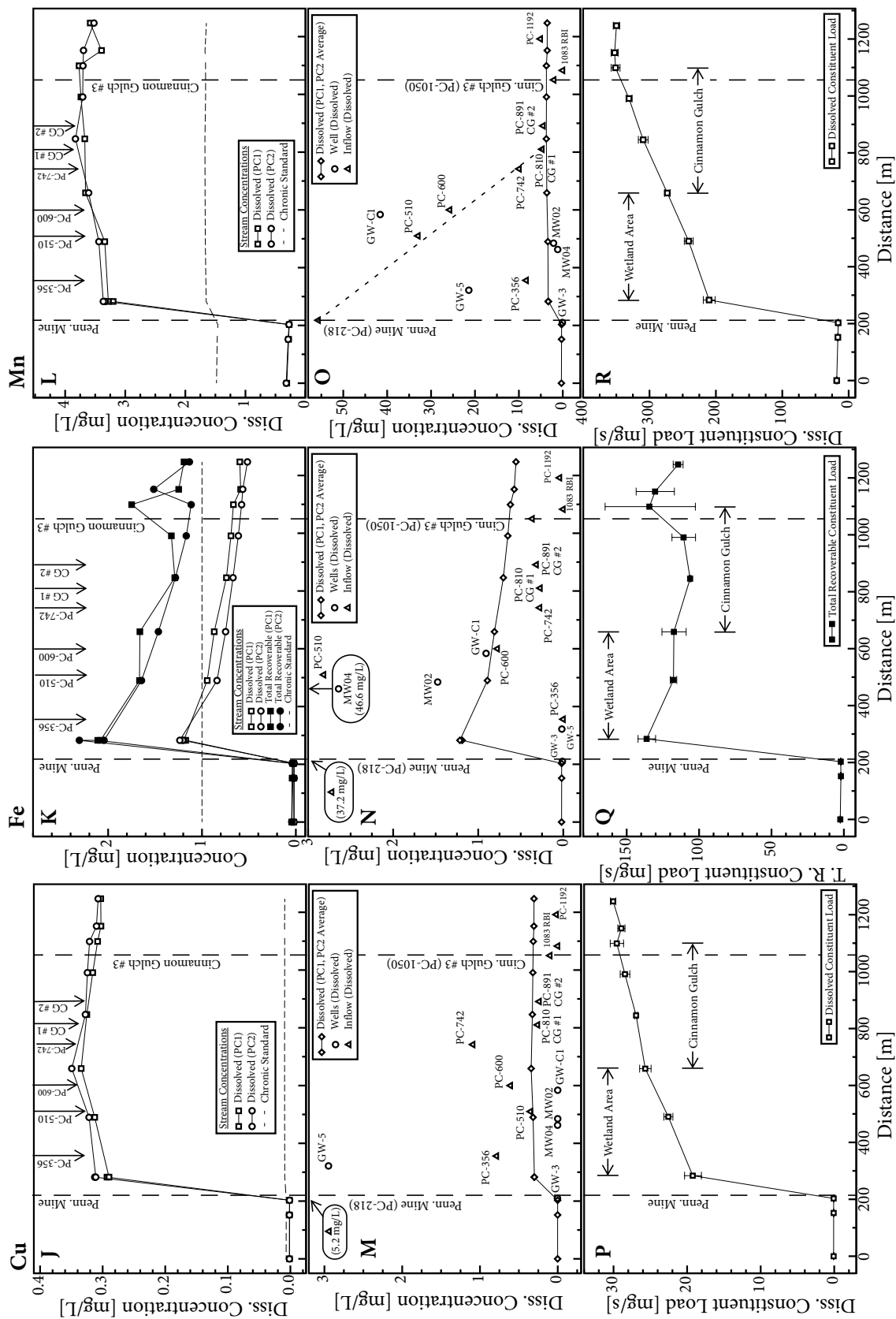


Fig 4, Cont.

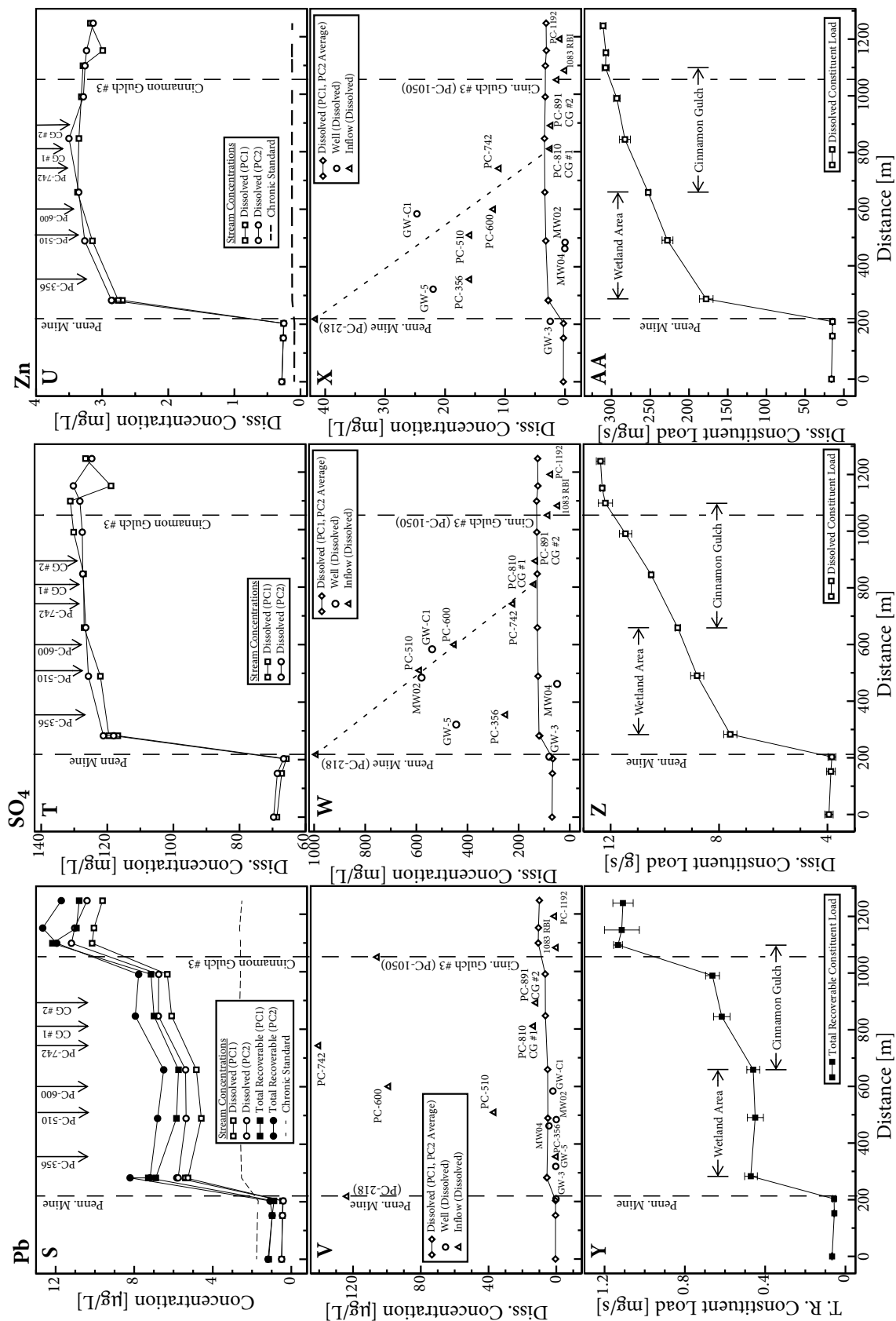
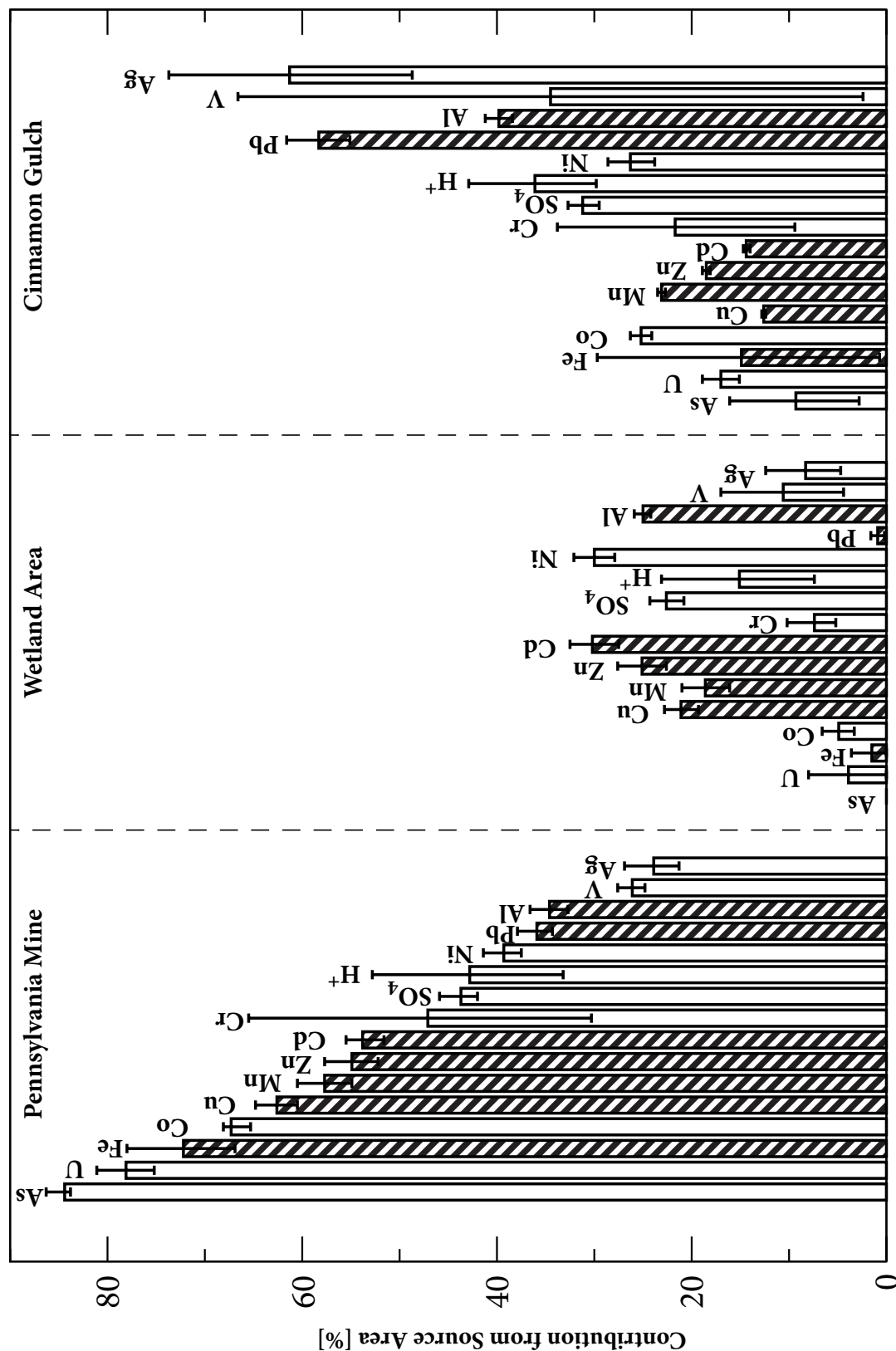
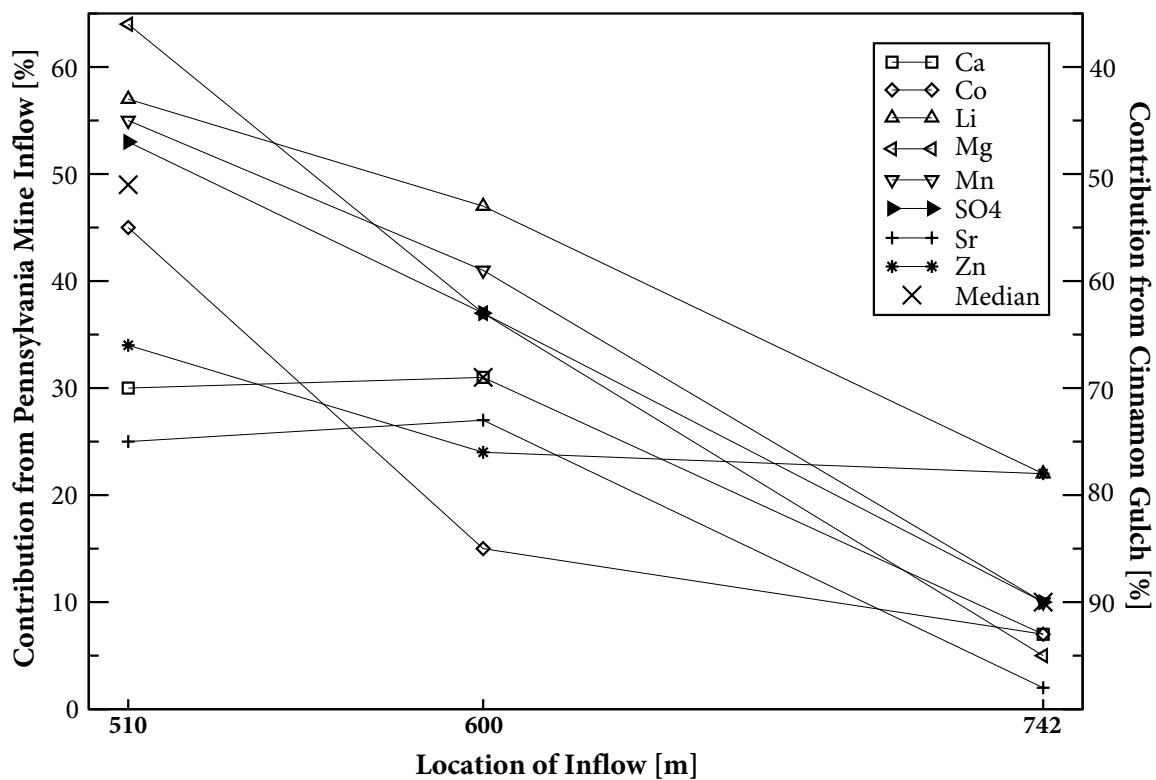


Fig 4, Cont.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24



**Fig. 5.** Percent contribution of source areas to overall load within the Peru Creek study reach. Percent contributions are based on dissolved concentrations for most constituents; total recoverable concentrations are used for Ag, As, Cr, Fe, Pb, and V. Constituents with concentrations in excess of chronic aquatic life standards (Colorado Department of Public Health and Environment, 2005) are shown with cross-hatched bars.



**Fig. 6.** Contribution of Pennsylvania Mine inflow and Cinnamon Gulch to three left-bank inflows based on two-member mixing analysis.