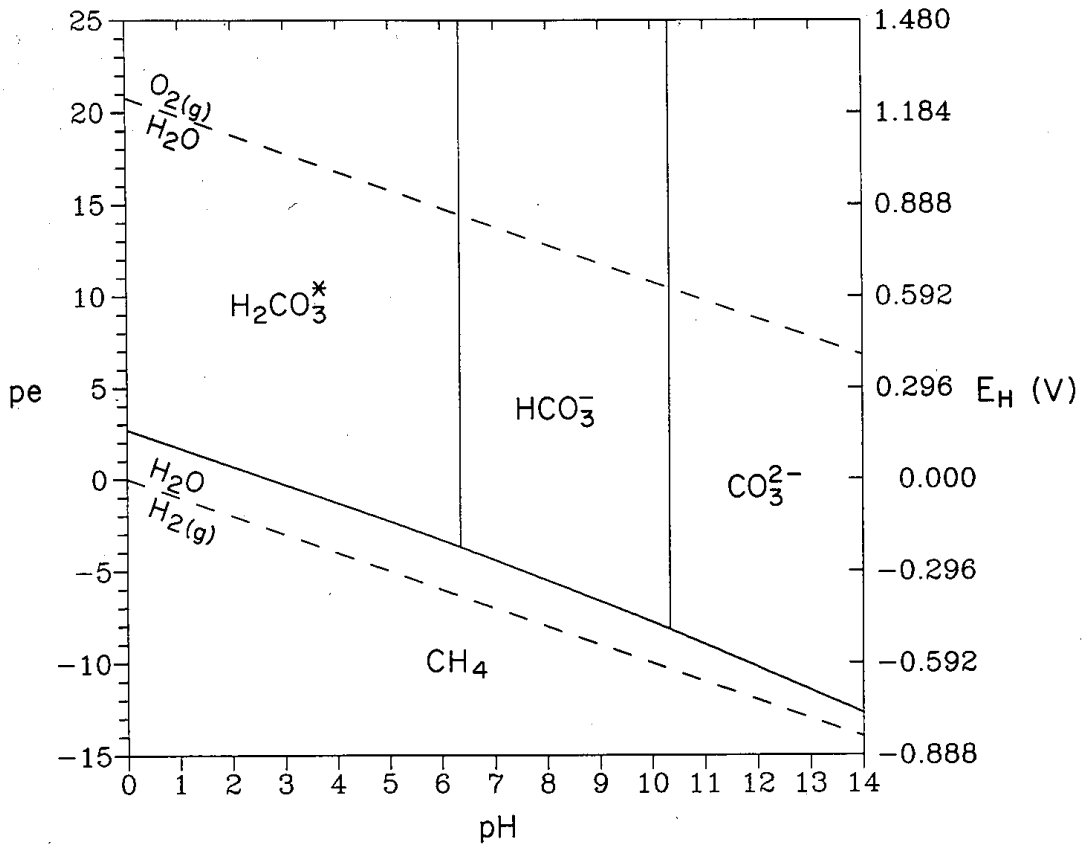

Figure 23.5 pe-pH diagram for aqueous carbon at 25°C/1 atm, and when solid elemental forms of carbon are not considered. Activity corrections are neglected. Since $H_2CO_3^*$, HCO_3^-, CO_3^{2-}, and CH_4 all contain one atom of carbon, and since no solid forms of carbon are considered, the diagram is independent of C_T. As the pe is lowered at any given pH value, the diagram indicates that CH_4 can become the dominant form of carbon before the in-situ p_{H_2} can reach 1 atm.

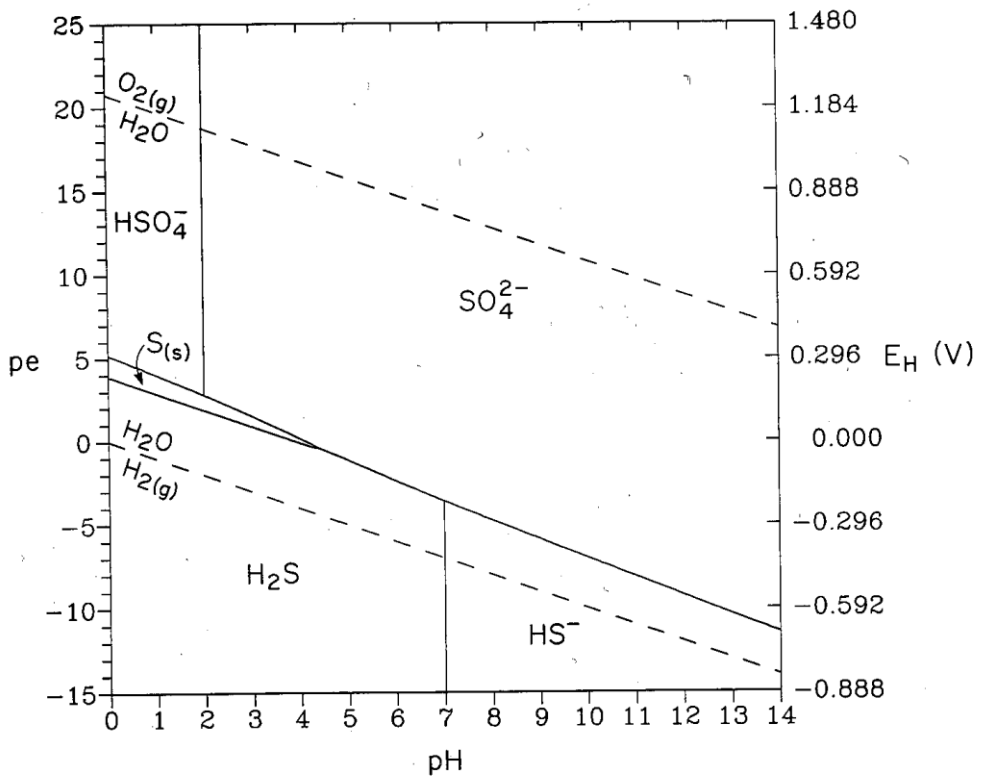

Figure 23.12 pe-pH diagram for aqueous sulfur when $S_T = 10^{-3}$ *M* and 25°C/1 atm. Activity corrections are neglected. $S_{(s)}$ is only possible at relatively low pH. As the pe is lowered at any given pH value, the diagram indicates that S(−II) (either as H_2S or as HS^-) can become the dominant form of sulfur before the in-situ p_{H_2} can reach 1 atm.