Are Natural Chars Important for the Sorption of PAHs?

A Field Study with Lake Sediments in Oriole Lake (CA)

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Oriole Lake is characterized by frequent natural fires, releasing black carbon (BC), chars and polycyclic aromatic hydrocarbons (PAHs) (e.g.,high PAH concentrations during 1836-1905).
In the sediments, PAHs from natural fires (B) are sorbed more strongly than in recent sediments with soot BC (A), probably due to additional adsorption onto fire-produced chars.

	%OC	%BC	Σ PAHs	Retene
A	19%	0.54%	41	831
B	21%	0.45%	2101	63
C	22%	0.44%	260	410

Soot black carbon needed to explain sorption of PAHs

Additional sorption present – results of natural fire-produced chars?

Less extra sorption present - degradation of fire-derived chars and PAHs?