Background/Objectives. Manistique River AOC: OU1 (Zones 3 and 4) Project involved the
dredging of both TSCA and non-TSCA regulated PCB-containing sediments and debris from the
Manistique River. Based on past site investigations and treatability studies, it was anticipated that
up to 10% (wt./wt.) of drying agent would be adequate to amend the sediment to “pass” the paint
filter test, required for waste acceptance at both the TSCA and non-TSCA landfill disposal
facilities. The material initially dredged from the river contained a significant amount of wood
chips and smaller woody particles and required a considerably larger quantity of amendment
than anticipated to solidify the sediment to “pass” the paint filter test. In response, additional
bench scale solidification tests were conducted in the field to determine the most cost effective
drying agent.

Approach/Activities. A representative sample of the dredge spoils was collected directly from the
dredge material barge and mixed to produce a homogenous sample that was used for all of the
solidification tests. Bench scale solidification tests were then conducted using locally available drying
agents, which included: cement kiln dust, lime kiln dust, type IA portland cement, biodegradable
sorbent, and super absorbent polymer. The addition rate of the drying agents varied from 0.3 to 40%
(wt./wt.) and the resulting mixtures were allowed to cure for a minimum of four hours prior to paint
filter testing.

Results/Lessons Learned. Results of the bench scale testing indicated that biodegradable
sorbent was the most cost effective locally sourced drying reagent for the non-TSCA dredge
material. However, due to a TSCA disposal regulation restricting the use of biodegradable
sorbent material, cement kiln dust proved to be the most cost effective drying agent for the
dredge material requiring disposal at a TSCA landfill disposal facility.