

Excerpts from:
Attrition Loss Analysis for
Arsenic Adsorption Media

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(Comparison of Purolite Media Vs. Granular Iron Media)

PURPOSE

The particle size analysis was completed to determine the attrition losses of media during shipping and with use in water systems. This analysis is intended to determine the best media to use for individual systems based on the amount of media consumed and the frequency of maintenance on the system. High attrition losses will increase the amount of media needed because more is lost during both system use and maintenance. The frequency of maintenance increases for media with high attrition losses because fine particles create a blockade, which builds up pressure in the system, and are subsequently lost during backwashing. An increase in the frequency of maintenance and the amount of media needed will increase costs for the operation of a community water system. Media with low attrition losses are preferable because they may require water system owners to purchase less media and may need less maintenance. The purpose of this analysis was to determine the media types with the lowest attrition losses.

RESULTS

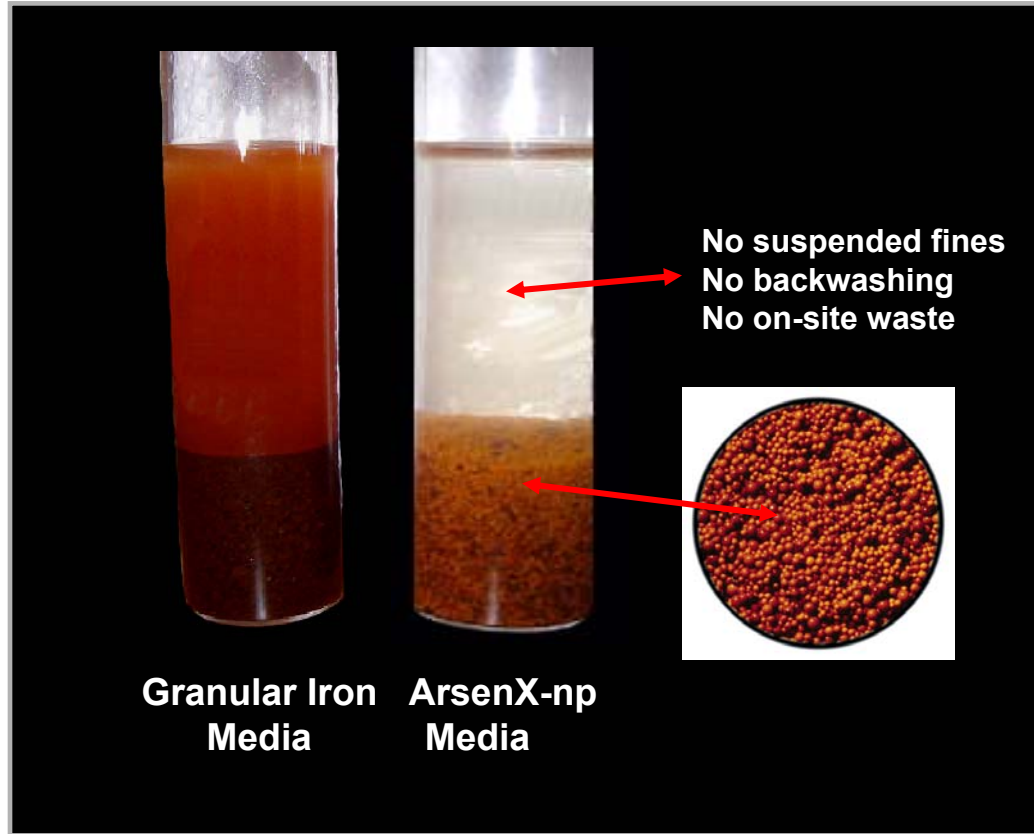
“The attrition loss analysis provided percentages that can be used to make decisions on the most appropriate sorption media to use for pilot projects and long-term community use. Based on the data from analysis on each media, the percentage of media smaller than the vendor declared range of particle sizes was calculated.”

Media	Media Size	% Attrition
Purolite ArsenX-np	16 x 50	0.8
Severn Trent Sorb 33	10 x 35	<u>13.0</u>

CONCLUSION

“The attrition loss analysis provided valuable information on the different commercially-available media for arsenic removal. High attrition losses indicate that media may be less effective and more expensive, due to increases in the frequency of maintenance and purchase of additional media.”

Media Comparison



Comparison of Physical Robustness

GFH

GFO

ArsenX-np

Titania

gIM

