

## CHITOREM® Chitin Complex Laboratory Microcosm Test for Mine Influenced Water Treatment

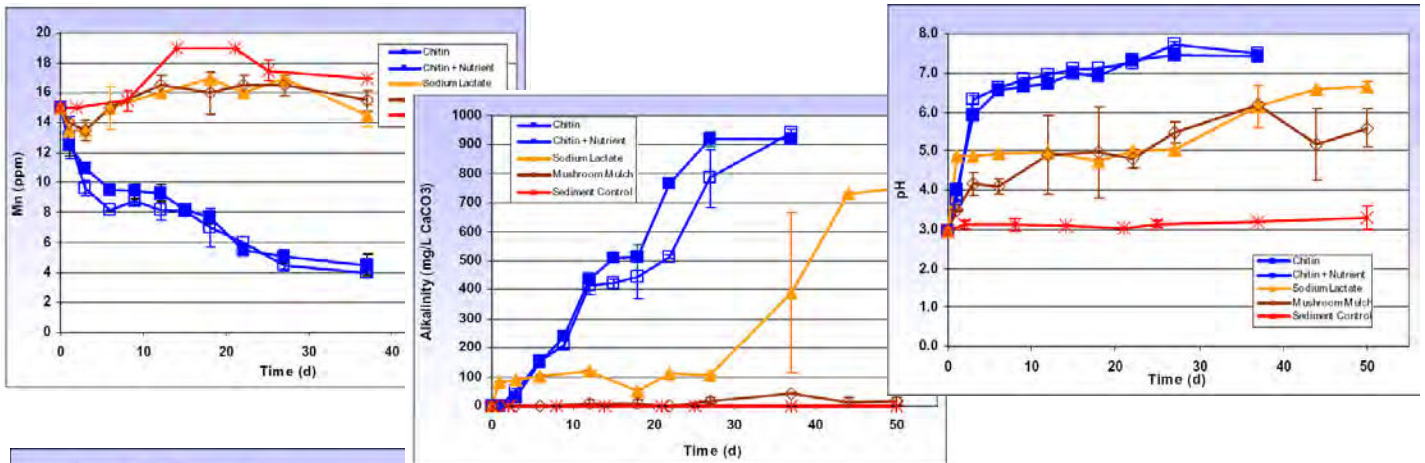
### Background

- Laboratory microcosm tests performed at Penn State University to determine the effectiveness of CHITOREM® in treating mine influenced water (MIW).
- MIW collected from Kittanning Run in Altoona, PA exhibiting pH of 3.21, acidity of 192 mg/L and alkalinity of 0 mg/L.
- CHITOREM® chitin complex compared with mushroom mulch and sodium lactate as potential biochemical reactor substrates.



Photos courtesy of Dr. Rachel Brennan, Penn State University

### Project Status



- Over 99% Fe and Al removal in 9 days with CHITOREM® chitin complex.
- Mn decreased by 81% in 37 days.
- pH increased to 6.79 and acidity decreased from 192 to -114 mg/L.
- Sulfate reduced from 489 mg/L to 303 mg/L in 2 days and exhausted at 37 days confirming the activity of sulfate reducing bacteria.
- CHITOREM® chitin complex significantly outperformed other substrates for MIW treatment.