The Growth Curve

Composite Rail Road Ties
The Ruth Factor

"Say... what's a mountain goat doing way up here in a cloud bank?"
Composite Rail Road Tie
The Market Need

- Replacement of Existing
- Proven Performance
- Ability to Deliver
- Leaching
- Life Cycle
- Cost
- Ability to Deliver
Rail Road Ties

Creosote
Challenges

- Product Development
- Testing & Certification
- Handling Issues
- Cost
- Overall Acceptance
- Supply – Supply - Supply
Compressed Carpet Pellets

- 100% PC Carpet
- Readily Available
- Cost Effective
- An Active Material (not filler)
Compressed Carpet Pellets

- Easy to Handle
- Used With Existing Equipment
- High Melt/Low Melt Components
- Fiber Component
Compressed Carpet Pellets
Rail Road Tie Requirements

- MOE
- Drop Test
- Weight
- Spike Pull-Out
- Water Pick-Up
- Insect Resistance
- Leaching
- Line Testing
The Success of Recycled Carpet

- PC Pelletized Carpet used in RR Ties
- 40% - 70% By Weight
- Compatible With Existing Equipment
- Compatible With Existing R/M
- Replaces Fiberglass
- 10-14 Million Pounds per Year – Plant
- 90,000 Ties per Year - Plant
The Cost of Failure
The Challenge

- Technology Established
- Raw Material is Available
- Supply Chain Understood
- Product is Viable
- WE MUST DELIVER!