Electromagnetic Coal-Transport Pipeline
First Commercial Operation
Erdos, Inner Mongolia 2009

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The Business Opportunity

- China Produces over 2B Metric Tons of Coal a Year, US 1B

- In China, Transportation of Coal from Mines to Power Plants and Rail Heads is done primarily with Trucks: Expensive, Polluting, Unsafe

- Magplane has Demonstrated Magnetic Pipeline (MagPipe) Technology in the United States that is more Economical than Trucks.

- US Market not Likely to Accept MagPipe for Coal Transport Until System First in use Elsewhere

- Inner Mongolia (IM) has Officially Embraced the MagPipe as a Solution to its Growing Coal Transportation Problem.

- IM Backed Joint Venture Underway Developing Pre-Production MagPipe System in Baotou Inner Mongolia

- China first, then US Applications
US - China Joint Venture
Inner Mongolia Market

- Design
- Design Improvements
- Global Control System
- US Market

- Manufacturing
  - Vehicle
  - Motors
  - Power Electronics
  - System
- Rare Earth Magnets
- China Market

Magnetic Pipeline System (Magpipe)
Demonstrated Technology
MagPipe Integrated System

- 610 mm Pipeline Diameter
- 300 kg Payload of Phosphate Rock/Capsule
- Electromagnetic Propulsion at 65 km/hr
- 275 m Pipeline Length

Pipeline
Standard Pipe

Capsules
NbFeB Permanent Magnets

Power
Electronics/Controls
Robust Solid State
Electromagnetic Propulsion of Multiple Capsules
Continuous Automatic Operation

- Periodically Spaced Motor Windings
- High Flux Permanent Magnet Array
- Solid State Power Electronics
- Fault Tolerant Wireless Control
MagPipe Cost Competitiveness

One Meter Diameter System has Capacity up to 10 Million Metric tons/year
Summary – MagPipe Perspective

- Coal Transportation is Imperative to Power Inner Mongolia’s (IM) Revenue and Infrastructure
- Magpipe Pipelines Can Transport Coal Significantly More Economically and Environmentally Friendly than Trucks
- Proven/Demonstrated Technology
- PRC (China) Government and Private Funding
- Pre-Production System Complete in IM by early 2009.
- Commercials Sales in China by 2009, US by 2010