Recovery and Remediation

The Landfill Mining Option

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Introduction

- Necessity of Landfill Mining
  Siting/Permitting New Landfills Increasingly Difficult
- Acceptance of Mining Operations
  Regulatory Inclusion
  Recognition by Industry
- Focus of these Operations
  Recovery
  Remediation
Recovery - Recyclables

- Metals
  - Ferrous Metals
  - Aluminum
  - Copper
  - Rare Earth
  - Precious
- Plastics
- Wood
- Aggregate Materials

Recovery – Reuse

- Soils Used for Cover
- Fines Generated
  - From Demolition Activities
  - From Handling/Placement Activities
- Use in Landfill Operations
Recovery – Reuse (continued)

- Airspace is Critical
- Increase Waste Disposal Capacity
- No Increase in Landfill Area
- No Need to Permit New Facility

Recovery - Energy

- Primarily MSW Materials
- Incineration
- Gas Plasma Technology
Reclamation

- Remove Property Restrictions
- Remove Groundwater Contamination Source
- Remove Air Contamination Source

Why Isn’t Everyone Doing It?

Show Me the Money!
### Economics

- Character of the Waste
- Market for Recyclables
- Operational Costs
- Value of the Airspace
- Post Closure Care Costs
- Destination of Residuals

### Other Challenges

- Safety Issues
- Chemicals in Soil/Fine Component
- Contamination of Recyclables
- Neighborhood Conflicts
  - Noise
  - Odors
Plan to Mine 26 Acres of 52.8 Acre Landfill

Recovery
- Metals: 3%
- Wood: 8%
- Concrete: 2%
- Plastics: 7%
- Fines: 25%

Fauquier County
Fauquier County

- System to Operate 2 to 3 Months a Year
- Recovery (Ferrous Scrap, Plastic, White Wood)
- Operating Expenses $150,000
- Revenue (Recyclables) $22,000
- Value is in Airspace

The Sustainable Landfill!

System to Operate 2 to 3 Months a Year

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Conclusion

- Landfill Mining Has Many Benefits
- Economic and Operational Challenges
- International Focus for the Future
- Innovation and Investment will payoff

THANK YOU!

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