



MetalBulletin Events

2nd World Lead Conference

Radisson Blu Scandinavia Hotel

Dusseldorf, Germany

April 19 – 21st, 2010

Pyrotek

Recycling and Technology as Key Sustainability Pillars

Applied Waste Management – Lead and Lead Alloys

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Pyrotek

Metal Bulletin International Lead Conference

Living with higher and volatile prices – the new reality.



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Introductions

Value – added value from metallurgical waste.

In-house metal recovery

Industry References

Summary.

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Pyrotek

Headquarters.	Spokane, Washington, USA
Global Locations.	31 countries
Business Operations.	39 Fabrication Operations 42 Stocking Locations 66 Selling Locations
Personnel.	About 1500
Annual Sales	US\$260 million

Pyrotek

Lindskan Slagg & Kemi AB

Headquarters.	Sweden
Business Operations.	Consultancy Services to the Swedish Steel industry
Specialisation.	Re-use and recycling of by-products and metallurgical waste

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Metal Bulletin

“Living with higher and volatile prices – the new reality”

Costs

Environmental issues.

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.... Managing Enhanced Value Recovery.

Process Drosses and Wastes
Mixed Metal Scrap
Mixed Material Scrap Supplies.

.....while addressing environmental issues.

.... Managing Enhanced Value Recovery.

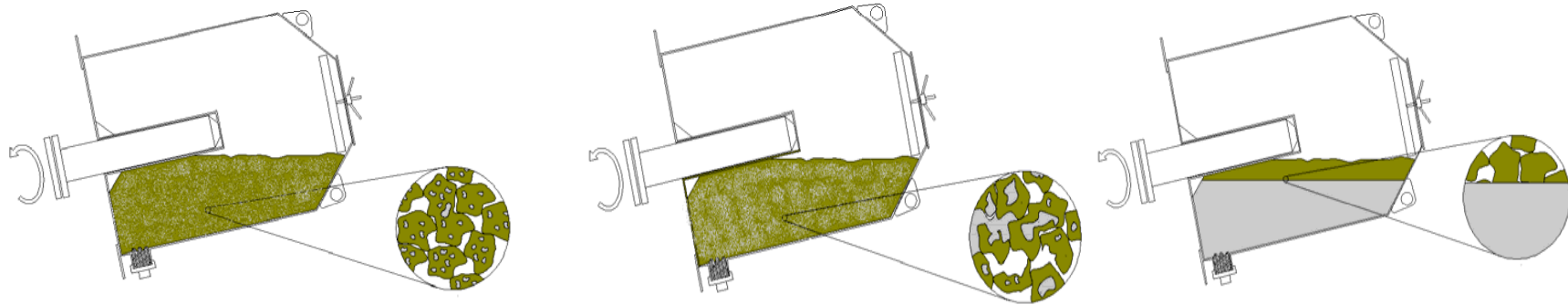
Value Recovery Options

- o Send all Drosses and Waste Materials to Landfill (Negative Value)
- o Sell All Drosses and Waste Materials to a Trader/Recycler
- o Enter a tolling arrangement with a recycler
 - Ship all waste materials for metal return at a fixed recovery rate.
 - Pay a processing charge and receive back process metal.
- ✓ Process the Drosses/Skimmings In-House.
 - Collect recovered Lead/Alloy for re-use on site.
 - Sell Reduced Volume Residues and Wastes to a Trader/Recycler.

.... **Managing Enhanced Value Recovery.**

In-House recovery.

This is done by using a thermo-mechanical device to separate free metal present in drosses and top skimmings generated as part of Lead Processing.



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.... Managing Enhanced Value Recovery.

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.....

.... Managing Enhanced Value Recovery.
Mixed Metal Scrap



.... Managing Enhanced Value Recovery.

Mixed Material Scrap Supplies.



.... **Managing Enhanced Value Recovery.**

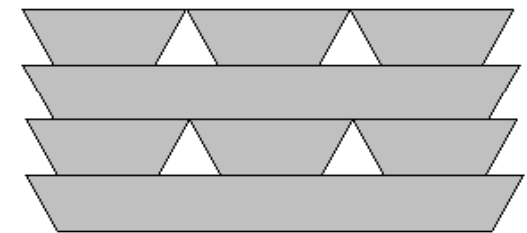
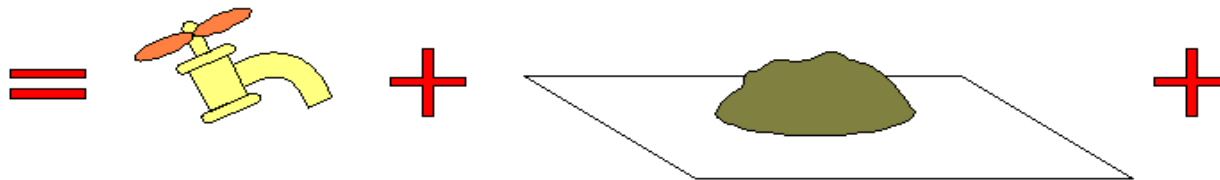
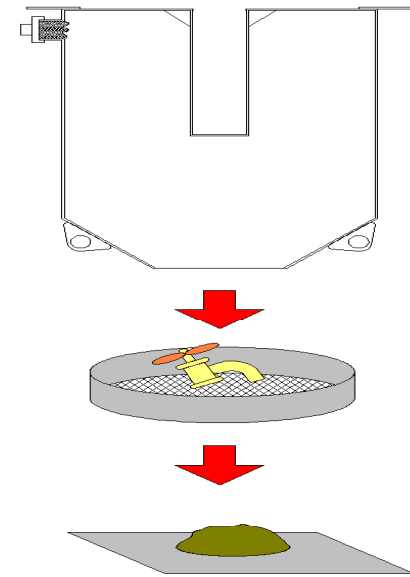
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.... Managing Enhanced Value Recovery.

In-house Processing – Elements of Value

Positive Elements

- ✓ Reduced landfill and storage space logistics.
- ✓ Recovered Lead/Lead Alloy can be returned to the process plant.
- ✓ Residues left after the Lead/Alloy removal have commercial value.
- ✓ Cash flow is Improved. Recovered metal can be re-used quickly.
- ✓ Material Movements can be Reduced by up to 75%.

Negative Elements

? Cost of processing

.... Managing Enhanced Value Recovery.

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**Equals the price in US\$
of
1% of LME for Lead**

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Lead from Lead Sheet Production Dross

5786kg of dross

3517kg metal recovered

60.7% recovery @ 99.97% purity



Lead Bismuth Alloy from Dross

(70-75% Pb + 25-35% Bi)

Material processed 1623kg

Alloy recovered 1012kg

Recovery 62% @ 72% Pb/28% Bi



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Lead Bismuth Alloy from Glass Filter Cloth and Mixed Metals

(70-75% Pb + 25-35% Bi)

Material processed 1886kg

Alloy recovered 755kg

Recovery 40% @ 71% Pb/29% Bi



Bismuth Metal from Dross

Material Processed 88000kg

Metal Recovered 53000kg

Recovery Rate 60%



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Thankyou

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