Former ASARCO Smelter
Remediation Challenges and Project End Vision

Presented as part of the

OLLI Changing World Series

Quinn Hall Auditorium, UTEP
El Paso, Texas

February 11, 2013
Topics

- Trust Purpose
- Project Phasing & Timeline
- Remedy Components
  - Demolition
  - Soils Remedy
  - Groundwater Remedy
- Funding
- Project End Vision
Trust Purpose

Purpose: Carry out the requirements of the Texas Custodial Trust

- Addressing contamination on and in structures, soils, surface water and groundwater
- Remediating the Site to standards that are protective of human health and the environment with the oversight of TCEQ
- Ultimately to sell the property, maximizing the return to the Trust
Project Phasing

- **PHASE I**
  Site Demolition

- **PHASE II**
  Surface Soils and Surface Water

- **PHASE III**
  Ground Water

- **PHASE IV**
  Site Disposition
Site Remedy Components

- Demolition
  - Remove all infrastructure to remove future mechanical and potential chemical hazards

- Soils
  - Cells (designated waste disposal)
  - Mono-Fill Cover (across entire plant property)

- Groundwater
  - PBRs
  - Hot Spot Removals and Source Management
Demolition Phasing
Time Lapse Demolition Video
Similar to the remedy proposed as part of the bankruptcy proceedings, wastes will be contained onsite. Category I materials will be contained in a TCEQ approved lined and capped landfill.

The Trust is proposing to install up to five feet of cover on top of the Site to increase the ease for installation of utilities and infrastructure during redevelopment.
Waste Disposal: Design Drawings

Category I Landfill – Cell 4
Waste Cell Liner and Cover Cross-Section
(currently under TCEQ/EPA review)
Parker Brothers Arroyo is critical to the groundwater remedy. The Trust proposed remedy will remove and contain slag, create an aesthetic surface water conveyance, and reduce impacted groundwater flux.

January 2012

November 2012
Parker Brothers Arroyo: Time-Lapse Video

Click image to play movie
Parker Brothers Arroyo: Final Vision
Groundwater flow occurs primarily along former arroyos.

- Flux-based approach employed: Contaminant flux = discharge volume x discharge concentration. Areas of highest contaminant flux are primary remediation targets.

- The Parker Brothers arroyo has the largest drainage area and carries most flow.

- Flow from the arroyos discharges to the floodplain and ultimately to the Rio Grande River.

- The American Canal interacts with Site groundwater (gain/loss).

- Enhanced groundwater recharge occurs near unlined channels and ponds and from upgradient drainages east of I-10.
Revised Groundwater Treatment Remedy

Trust Proposed Remedy
- Create groundwater to surface water diversion (keeping clean water clean)
- Source removal and treatment
- In-situ groundwater treatment
- Rio Grande Floodplain – polishing of groundwater if necessary
## Remedy Planning: Expanded Scope

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<thead>
<tr>
<th>Original Scope</th>
<th>Expanded Scope</th>
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<tr>
<td><strong>Demolition</strong></td>
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| • Plant infrastructure demolition | • Plant infrastructure demolition  
| | • Asset Recovery |
| **Soils** | **Soils** |
| • Move material to landfill  
• Cap plant site with asphalt  
• Move Fines Pile to landfill  
• Limited or no removal of material from East Property (landfill material only) or Ephemeral Pond (none) | • Parker Bro’s Arroyo (soil/slag removal, interim channel construction)  
• Ephemeral Pond Removal  
• Expanded removal of material from East Property  
• Mono-fill cover (5 foot ET cover) to allow for potential redevelopment |
| **Groundwater** | **Groundwater** |
| • Pump and treat system along property boundary at Paisano | • Source removal (PBA, Ephemeral Pond, East Property)  
| | • Installation of at least two PRBs  
| | • In-situ treatment for all onsite arroyos |
Benefits of a Revised Remedy

- Removes the need to maintain long-term, energy intensive pumping and water treatment systems
- Decreases long-term Site stewardship
- Using as many onsite resources as possible to decrease energy footprint
- Reduces the amount of water that would be treated by keeping “clean water clean”
- Maintains more natural water flows to the Rio Grande
- Provides more redevelopment opportunities and works in conjunction with the City of El Paso’s Master Plan and SmartCode designed to increase city density and prevent urban sprawl
- Promotes environmental stewardship of Parker Brothers Arroyo east and west of I-10 by providing for more open spaces to the citizens of El Paso
Remedy Planning: Cost Estimates

Original Cost Estimates

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<thead>
<tr>
<th>2008 TCEQ Cost Estimate (in millions)</th>
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<td><strong>Total</strong></td>
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2013 Cost Estimates

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<td>Public Outreach</td>
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<td><strong>Total</strong></td>
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(1) Additional budget from asset recovery.
Project End Vision
End Vision of Remediated Site
Trust’s Vision
Questions