Texas Custodial Trust Activities Update

Presented for

Community Meeting

October 19, 2010
Presentation Agenda

- Past Ten Months
- Community Outreach
- Site Characterization
- Demolition
- Parker Brothers Arroyo
- Q&A
Past Ten Months

- Site Stabilization and Inventory
  - Utility re-sizing
  - 24/7 Security
  - Asset Inventory

- Asset Sales
  - Rail and rail ties
  - Slag pots
  - Cryogenic Tanks
  - Oxygen Plant (in negotiation)
  - Concentrate and matte (in negotiation)

- Historical Artifact and Document Preservation

- Management Plan Preparation
Avenues for Community Input

■ **Website:**
  - The website is aimed at providing the public with current site information and activities.
  - There a number of Work Plans on the website ready for public review. These documents can be downloaded online or there are hardcopies in 2 library repositories: Main Library and Armijo Library.

■ **Blog:** There is a Blog section on the website, which gives the community a forum to post their opinions and input. We have received a lot of community ideas and feedback and we work to try and answer everyone in a timely manner.

■ **Access to media:** Interfaced with much of the national and local media, including: National Public Radio (NPR), Wall St Journal, El Paso, Inc., El Paso Times, Il Diario and KVIA.com
El Paso Based Contractors – We Have Utilized Local Labor & Resources As Much As Possible

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>Services</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AnE Consulting</td>
<td>Asbestos Survey</td>
<td>$117,000</td>
</tr>
<tr>
<td>B&amp;M Machinery Co.</td>
<td>Pump Repairs</td>
<td>$3,615.98</td>
</tr>
<tr>
<td>Burton Hydro-Vac Services, Inc.</td>
<td>Decon for rail removal</td>
<td>$32,815.77</td>
</tr>
<tr>
<td>Consolidated Electrical Distributors, Inc.</td>
<td>Electrical components for re-route</td>
<td>$152.17</td>
</tr>
<tr>
<td>dmDickason Personnel Services</td>
<td>Site Personnel and Site Security</td>
<td>$282,432.29</td>
</tr>
<tr>
<td>Essco Environmental, Inc.</td>
<td>Diesel No. 2- Operation Monitoring Report</td>
<td>$3,850.00</td>
</tr>
<tr>
<td>El Paso Electric</td>
<td>Electric</td>
<td>$72,210.53</td>
</tr>
<tr>
<td>El Paso Water</td>
<td>Water</td>
<td>$52,248.75</td>
</tr>
<tr>
<td>Five Star Automatic Fire Protection</td>
<td>Test/certification of hydrant system</td>
<td>$2,305.73</td>
</tr>
<tr>
<td>GCR Tire Centers</td>
<td>Tire, Auto Maintenance</td>
<td>$1,885.27</td>
</tr>
<tr>
<td>EPIK EPA Productions</td>
<td>Commercial location</td>
<td>$500.00</td>
</tr>
<tr>
<td>Heist Disposal, Inc.</td>
<td>Trash Disposal</td>
<td>$259.80</td>
</tr>
<tr>
<td>Malcolm-Pirnie</td>
<td>Environmental Engineering</td>
<td>$264,014.34</td>
</tr>
<tr>
<td>Maser Security Alarms, Inc.</td>
<td>Security Alarms</td>
<td>$509.61</td>
</tr>
<tr>
<td>Moreno Cardenas, Inc.</td>
<td>Storm water Analysis</td>
<td>$1,400.00</td>
</tr>
<tr>
<td>Montoya PR</td>
<td>Public Relations</td>
<td>$4,475.00</td>
</tr>
<tr>
<td>Reliance Maint. &amp; Testing, LLC</td>
<td>Tested transformers, stations disconnected</td>
<td>$975.00</td>
</tr>
<tr>
<td>State Farm – used local Agent</td>
<td>Insurance</td>
<td>$1,965.30</td>
</tr>
<tr>
<td>Sunstate Equip. Co.</td>
<td>Equipment Rental</td>
<td>$10,088.65</td>
</tr>
<tr>
<td>Trace Analysis, Inc.</td>
<td>Lab/Environmental Analysis</td>
<td>$5,501.84</td>
</tr>
<tr>
<td>Western Refining Wholesale</td>
<td>Gas</td>
<td>$3,839.44</td>
</tr>
<tr>
<td>WorldWide Printing</td>
<td>Printing, site signage</td>
<td>$2,268.92</td>
</tr>
</tbody>
</table>

Total to date: $864,314.39
Outreach with UTEP

1. Internships: We have developed 3 UTEP Student Internships with UTEP’s Center for Environmental Resource Management (CERM)

2. Archive Donation
   - Donations to the UTEP Special Collections Department (Additional donations to: El Paso Historical Commission and El Paso Museum of History)
   - Materials include: old records, payroll ledgers, photographs, maps, blueprints, and equipment manuals.

3. Faculty Forum
   - To exchange ideas and potential technologies for the Site
   - To provide an avenue for research at the site for UTEP students, (i.e. if the geology department would like to take samples)
   - Forums will be held every quarter
Discussion Topics

- Large Volume of Historical Data
  - Review/Validate
  - Develop New Database
  - Develop Data Visualization Materials

- Data Gap Analysis
  - Smelter Processes
  - Secondary Smelting and Recycled Materials
  - Former Employee Information

- Future Data Collection
  - Analytes of Interest
  - Sampling Locations and Analyses
Current Data – Data Quality

- Samples collected using accepted practices
- Samples properly handled by field personnel and laboratories
- Certified laboratories performed the requested analyses
- Laboratory data validated by an independent third party
- Existing database streamlined and available to project team and public
- Database quality is sufficient for decision making
# Current Data – Database Summary

## Number of Results in El Paso Smelter Database
(as of September 2010)

<table>
<thead>
<tr>
<th>Matrix</th>
<th># of Locations</th>
<th># of Samples</th>
<th># of Results</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water</td>
<td>19</td>
<td>735</td>
<td>9189</td>
<td>2/12/1990 – 8/17/2009</td>
</tr>
</tbody>
</table>
Industrial/Commercial Soil Standards

- Based on Risk Reduction Rules Standard 2, Medium-Specific Concentrations
- Industrial/Commercial land use
- Pathway based on Inhalation, Ingestion and Dermal Contact
- Will conduct a baseline risk assessment once additional sampling efforts are complete
3-Dimensional Site Model

- Model presentation
Smelter Data Gap Evaluation

- Reconstruct historical smelting processes
- Document Inputs to the processes
  - Ores and Concentrates
  - ENCYCLE materials
  - Information from Former Employees
- Recognize chemical reactions and products
- Document Outputs
  - Metal products, Slag, Trace metals
- Recommend future investigations
  - Define Analytes of Interest
  - Define potential pathways and sampling locations
Smelting Process

Copper Concentrate

UNLOADING
- Washing

BEDDING
- Fugitive Gas and Dust

SMELTER
- Fugitive Gas and Dust
- Slag

ANODE CASTING
- Fugitive Dust

CONVERTER
- Matte
- SO2

ACID PLANT
- SO2
- Water Treatment
- Leaked

Offsite Refinery

Recyle Water
- Landfill
- Recycle Material

Dust
- Leaching
- Weahtering

Slag Dump

www.RecastingtheSmelter.com
Inputs

Chalcopyrite, CuFeS$_2$

Galena, PbS

Sphalerite, ZnS
Primary Copper Smelting (415,000 tons/year)

\[ \text{CuFeS}_2 (\text{Sb, As, Bi, Cd, Co, Cr, Mo, Ni, Pb, Zn, Fe}) + \text{SiO}_2 + \text{heat} (>2730° F) + \text{O}_2 \]

\[ \rightarrow \]

\[ \text{Cu(metal)} + \text{Fe}_2\text{SiO}_4(\text{crystalline slag, containing trace metals(Sb, As, Bi, Cd, Co, Cr, Mo, Ni, Pb, Se, Ag, Zn}) + \text{dust(Containing trace metals)) + flue gas (SO}_2 \) \]
Secondary Smelting & Additional Inputs

- Records of Inputs
  - USEPA Region 6 Website
    - ENCYCLE Records (46,486 tons, 1992-1997)
    - 300 Manifests, 2176 pages
  - Get the Lead Out Website
    - No additional records
  - Smelter Records
    - 37 Files
      - One Manifest (14.9 tons, April 1998)
  - Former Employees
    - Hydrazine
## Primary vs. Secondary Smelting

### Waste Codes Shipped to ENCYCLE (Majority)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description/Contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>D001</td>
<td>Ignitable</td>
</tr>
<tr>
<td>D002</td>
<td>Corrosive</td>
</tr>
<tr>
<td>D003</td>
<td>Reactive</td>
</tr>
<tr>
<td>D005</td>
<td>Barium</td>
</tr>
<tr>
<td>D006</td>
<td>Cadmium</td>
</tr>
<tr>
<td>D007</td>
<td>Chromium</td>
</tr>
<tr>
<td>D008</td>
<td>Lead</td>
</tr>
<tr>
<td>D010</td>
<td>Selenium</td>
</tr>
<tr>
<td>D011</td>
<td>Silver</td>
</tr>
<tr>
<td>F006</td>
<td>Wastewater treatment sludge, electroplating</td>
</tr>
<tr>
<td>F039</td>
<td>Leachate from waste treatment</td>
</tr>
<tr>
<td>K002</td>
<td>Wastewater treatment sludge, chromium</td>
</tr>
<tr>
<td>K046</td>
<td>Wastewater treatment sludge, lead</td>
</tr>
</tbody>
</table>

2,500,000 tons

ENCYCLE Material

46,486 tons shipped to El Paso, 1992-1997
Secondary Smelting

Rocky Mountain Arsenal - Waste Codes Shipped to ENCYCLE

<table>
<thead>
<tr>
<th>Code</th>
<th>Description/Contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>F039</td>
<td>RMA Leachate/Brine</td>
</tr>
<tr>
<td>F001</td>
<td>Spent halogenated solvent</td>
</tr>
<tr>
<td>F002</td>
<td>Spent halogenated solvent</td>
</tr>
<tr>
<td>F003</td>
<td>Spent non-halogenated solvent</td>
</tr>
<tr>
<td>K033</td>
<td>Wastewater and scrub water, chlordane</td>
</tr>
<tr>
<td>K097</td>
<td>Vacuum stripper discharge, chlordane</td>
</tr>
<tr>
<td>P051</td>
<td>Endrin</td>
</tr>
<tr>
<td>P071</td>
<td>Methyl Parathion</td>
</tr>
<tr>
<td>U130</td>
<td>Hexachlorocyclopentadiene</td>
</tr>
</tbody>
</table>

Total Rocky Mountain Arsenal wastes, approximately 4,200 tons
Constituents of Concern

From RCRA Facility Investigation and Agreed Order

- Arsenic;
- Cadmium;
- Copper;
- Chromium;
- Iron;
- Lead;
- Selenium; and
- Zinc.
Analytes of Interest (Metals)

- Antimony;
- Barium;
- Cobalt;
- Mercury;
- Molybdenum;
- Nickel;
- Silver; and
- Hexavalent chromium (in select areas)
Analytes of Interest (Organics)

- Chlordane, endrin, hexachlorocyclopentadiene, methyl parathion,
- Tetrachloroethylene, trichlorethylene, methylene chloride,
- 1,1,1-Trichloroethane, 1,1,2-trichloroethane, carbon tetrachloride,
- Chlorobenzene, ortho-dichlorobenzene, trichlorofluoromethane,
- 1,1,2-Trichloro-1,2,2-trifluoroethane, dichlorodifluoromethane,
- Xylene, acetone, ethyl acetate, ethyl benzene,
- Ethyl ether, methyl isobutyl ketone,
- n-Butyl alcohol, cyclohexanone, and methanol,
- Hydrazine
## Work Plan – Summary of Proposed Work (Soil)

<table>
<thead>
<tr>
<th>Location</th>
<th>Investigation Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unloading/Bedding (Pre-process)</td>
<td>7 – 5 ft borings 3 surface samples</td>
<td>31 samples analyzed for COCs, AOIs</td>
</tr>
<tr>
<td>Contop-Reverb-Converter Process Areas</td>
<td>10 – 5 ft borings 6 surface samples</td>
<td>38 samples analyzed for COCs, AOIs (metals only)</td>
</tr>
<tr>
<td>East Property (Across I-10)</td>
<td>22 grab samples</td>
<td>12 samples analyzed COCs, AOIs (metals only) 10 samples analyzed for COCs, AOIs</td>
</tr>
<tr>
<td>Geotechnical (proposed landfill locations and borrow areas)</td>
<td>13 borings</td>
<td>Samples collected at 5 ft intervals</td>
</tr>
</tbody>
</table>

- The need for additional soil samples below the buildings will be evaluated once demolition is complete
## Work Plan – Summary of Proposed Work (Water)

<table>
<thead>
<tr>
<th>Location</th>
<th>Investigation Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>34 monitoring locations&lt;br&gt;10 new monitoring wells</td>
<td>Metals, Cations, Anions, Water Quality</td>
</tr>
<tr>
<td>Surface Water</td>
<td>11</td>
<td>Metals, Cations, Anions, Water Quality</td>
</tr>
<tr>
<td>Aquifer Tests</td>
<td>4</td>
<td>Determine hydraulic conductivity</td>
</tr>
<tr>
<td>Geophysical Surveys</td>
<td>3 lines (3,000 ft)</td>
<td>9 borings to confirm geophysical testing results</td>
</tr>
<tr>
<td>Survey (American Dam and Canal)</td>
<td></td>
<td>Update vertical datum</td>
</tr>
</tbody>
</table>

- Groundwater and Surface Water will be collected twice per year
RA Work Plan Sampling – Plant Site
RA Work Plan – East Side Property

LEGEND
- Property boundary
- Proposed soil boring location
- Proposed soil sampling location (surface)
- Previous soil sampling location
- Area of interest
- Building

See Figure 7-1 for details

Scale: 1" = 500'
RA Work Plan – Groundwater Sampling
RA Work Plan – Aquifer Testing and New Wells
Demolition Video
Parker Brothers Arroyo Status

- Currently slag filled arroyo located north of the main plant site
- No money allocated in the budget to address rehabilitation
- Objectives are:
  - remove the slag,
  - create surface water conveyance,
  - make the arroyo more natural in appearance
- Add hike and bike trails
- Currently working with Dover Kohl to facilitate City Master Plan
- Seeking additional funding sources to accomplish full redevelopment vision
Current Condition of Parker Brothers Arroyo

Before
End Vision from Paisano Drive

After
End Vision of Remediated Site
Questions