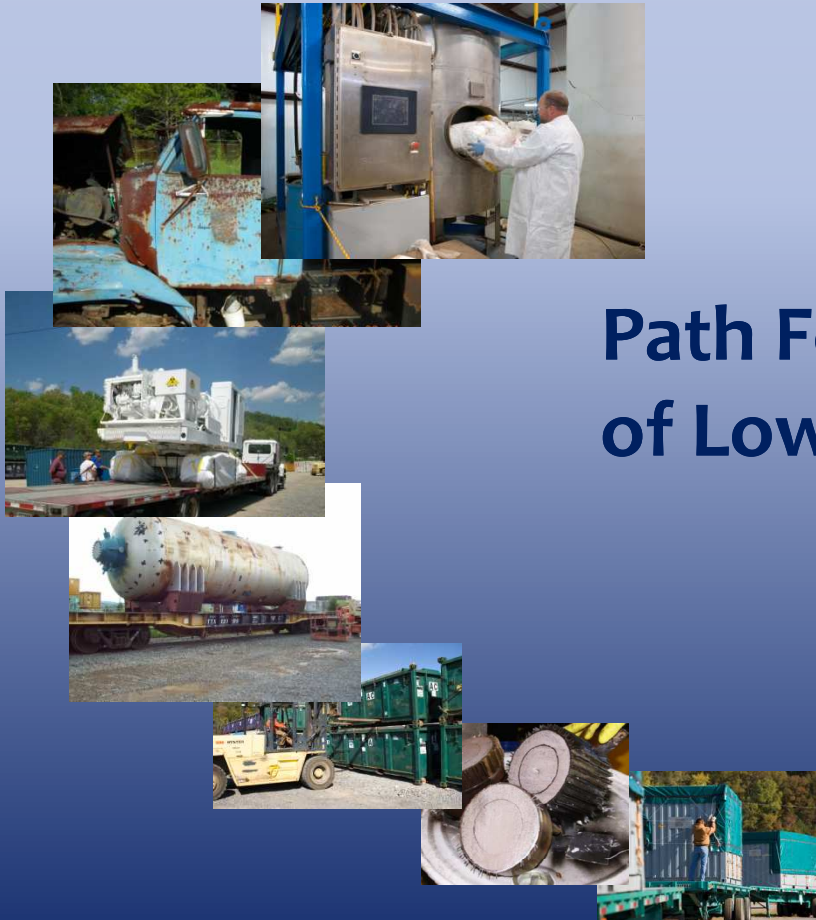
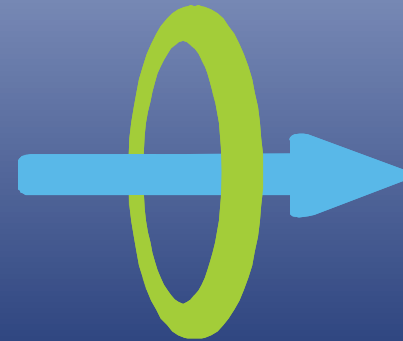




**SAFE COMPLIANT EFFICIENT COST
EFFECTIVE**



**Path Forward, Volume Reduction
of Low-Level Radioactive Waste**





Who Are We?

- **Radioactive waste processing company**
- **Owned by Southpaw Asset Management, LP**
- **Headquartered in Oak Ridge, Tennessee, USA**
- **Provide waste treatment processes geared toward volume reduction and recycling**
- **Experienced and Successful with Commercializing New Technology**

Heritage Center Processing Facility at ETTP Site

- DOECAP approved
- License R-73024-E17 include R&D
- On-site rail spur and material handling capability of up to 48,000 lbs
- Unconventional Waste Streams
- Over 18 million lbs and 1.4M ft³ processed to date



Heritage Center Processing Facility Service Lines

- **Volumetric Clearance for Alternative Disposal**
(also known as Bulk Survey for Release)
 - ✓ *Radioactive Material License Amendment 40*
 - ✓ *Increased Uranium and Tc capability*
 - ✓ *Soil, building rubble/debris, decontaminated metals are candidates*
 - ✓ *Disposal at Chestnut Ridge Landfill*
- **Sorting and Segregation (Sort/Seg)**
 - ✓ *Disposal capability at Clive, NTS, local landfill, DOE Hanford & EMWMF*
 - ✓ *Ensure compliant disposal shipments*



Heritage Center Processing Facility Service Lines

- **Pyrolysis – Honua Technology**
 - ✓ *2 combustion chambers*
 - ✓ *Capable of processing 2,000 lbs of DAW per 24-hour day*
 - ✓ *Up to 95% volume reduction*
 - ✓ *Volume reducing 150,000 ft³ per year*



Heritage Center Processing Facility Service Lines

OREX[®] Processing – Eastern Technology Inc.

- Dissolves contaminated PPE and filter residues virtually eliminating volume
- Regulatory Determination as Decontamination
- Gen 2 OREX unit to be installed in Spring 2012



Large Components

- Segmentation and recycle for large components
- Sample and measure to ensure activity meets license requirement for Free Release or BSFR
- Disposal path determined by activity levels





Large Components



Large Components



GeoMelt® Vitrification

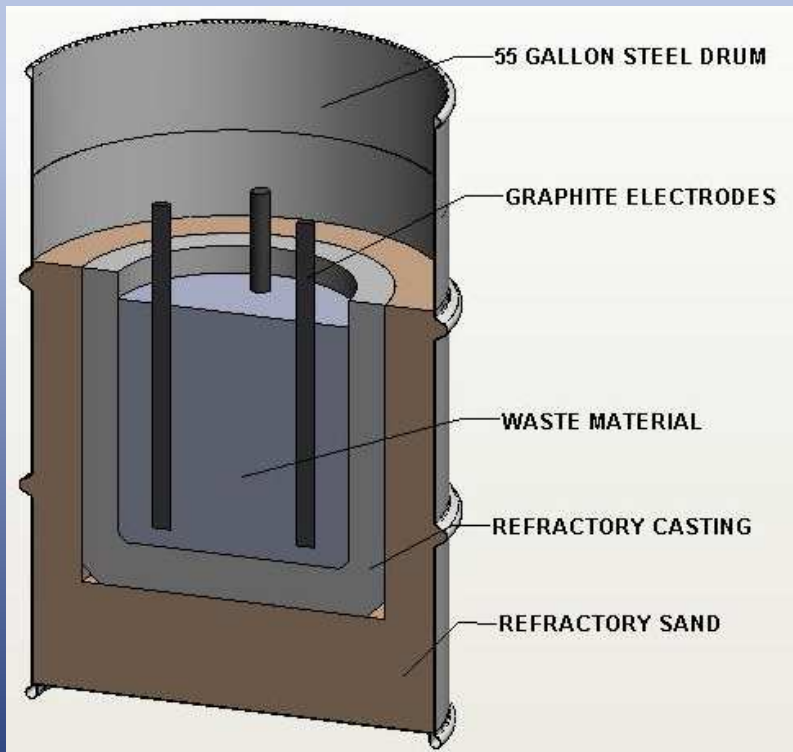
- **GeoMelt® has been licensed for use at our ETTP site**
- **Approved for Sealed Sources and B/C filters**
- **End product is high-integrity glass monolith**
- **Wastes will be disposed as Class A waste**
- **First melt for Diablo Canyon Filters completed**



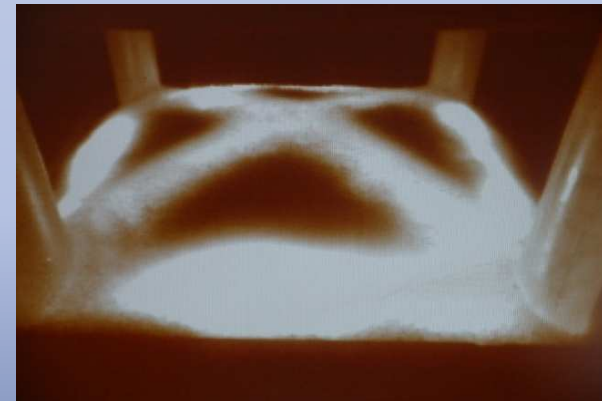
GeoMelt® Vitrification



GeoMelt® Vitrification



Cut-away of 5-gal ICV container



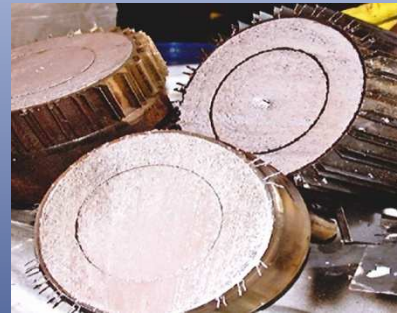
Beginning the melt



Melt in progress

Reactive Metals

- Recycling of radioactive contaminated alkali metals using the AMANDA (ammonia-based) process
- Component waste is sectioned and treated in the SET system pioneered by Commodore Advanced Sciences.



- Processed components are sodium free and disposed



Special Project Highlights: Sodium and Lithium Hydride



**Accessing a sealed vessel
containing Sodium**



**Sodium-filled interior of
sealed vessel**

Special Project Highlights: Sodium and Lithium Hydride



Special Project Highlights: Sodium and Lithium Hydride



Special Project Highlights: Sodium and Lithium Hydride

