

W a s t e   I s o l a t i o n   P i l o t   P l a n t

# WIPP Status Update

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## National Transportation Stakeholder Forum

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U.S. Department of Energy  
Carlsbad Field Office



# The WIPP Team



## U.S. Department of Energy Carlsbad Field Office

- Leads the Transuranic Waste Program
- Science Program



Nuclear Waste Partnership LLC

*A URS-led partnership with B&W and AREVA*

### Nuclear Waste Partnership LLC

- Manages and operates the WIPP facility
- Manages transportation logistics and packages
- Manages waste retrieval, characterization and certification



### Los Alamos National Laboratory

- Scientific advisor for waste characterization
- Mobile loading (Celeritex)



### Ma-Chis Lower Creek Indian Tribe Enterprises, Inc. – TRANSCOM

- Satellite Tracking



### Visionary Solutions

- Transportation carrier



### Sandia National Laboratories

- Scientific advisor for repository recertification



### CBFO Technical Assistance Contractor

- Technical and Quality Assurance support for the Carlsbad Field Office



Specialty Transportation, Inc.

### CAST Specialty Transportation

- Transportation carrier

# Safest shipping containers on the road



Nuclear Regulatory  
Commission certified

- TRUPACT-II
- TRUPACT-III
- HalfPACT
- RH-72B

Proven leak tight after  
rigorous testing

- 30-foot drop
- Puncture bar test
- 30 minutes in 1,475-degree  
jet fuel fire



# TRUPACT/HalfPACT

- Amendment to Safety Analysis Report
  - Revision 23 and 6
- Addition of new authorized payload container (Criticality Control Overpack [CCO])
  - For shipments of increased fissile content waste
- Change designation of Outer Containment Vessel to Outer Confinement Vessel
  - Inner Containment Vessel will provide primary (single) layer of containment
- Expect Approval in May 2013



# HalfPACT Shipping Package

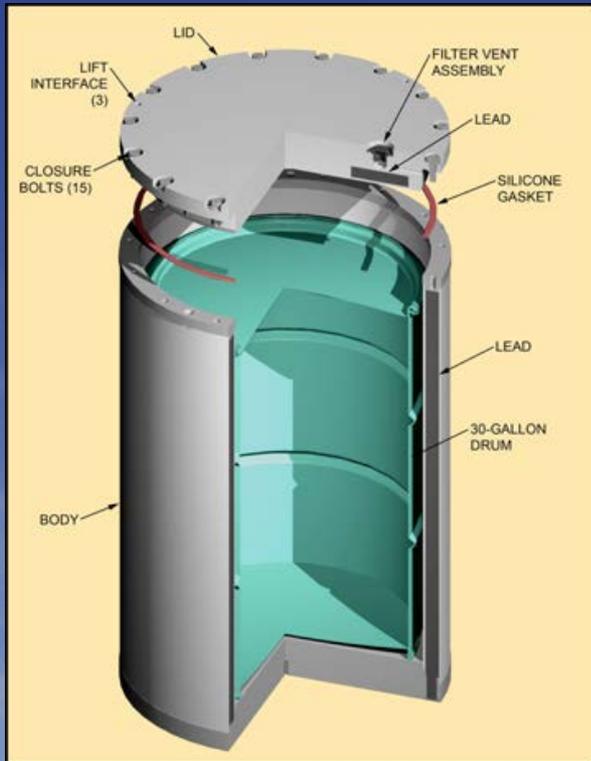


## HalfPACT Facts

Maximum Weight: 18,100 pounds

Empty Weight: 10,500 pounds

# Shielded Container



- Used to ship remote-handled TRU waste in contact-handled shipping packagings (HalfPACT)

Height (inches)	Inside-29 <sup>3</sup> / <sub>4</sub> Outside-35 <sup>3</sup> / <sub>4</sub>
Diameter (inches)	Inside-20 <sup>3</sup> / <sub>4</sub> Outside 23
Maximum Gross Weight	2,260 pounds
Empty Weight	1,726 pounds
Lid	3-inch thick carbon steel
Bottom	3-inch thick carbon steel
Outer shell	11 gauge carbon steel
Inner shell	7 gauge carbon steel
Shielding	1-inch nominal lead casting
Inner Payload	30-gallon drum

# Transportation Routes



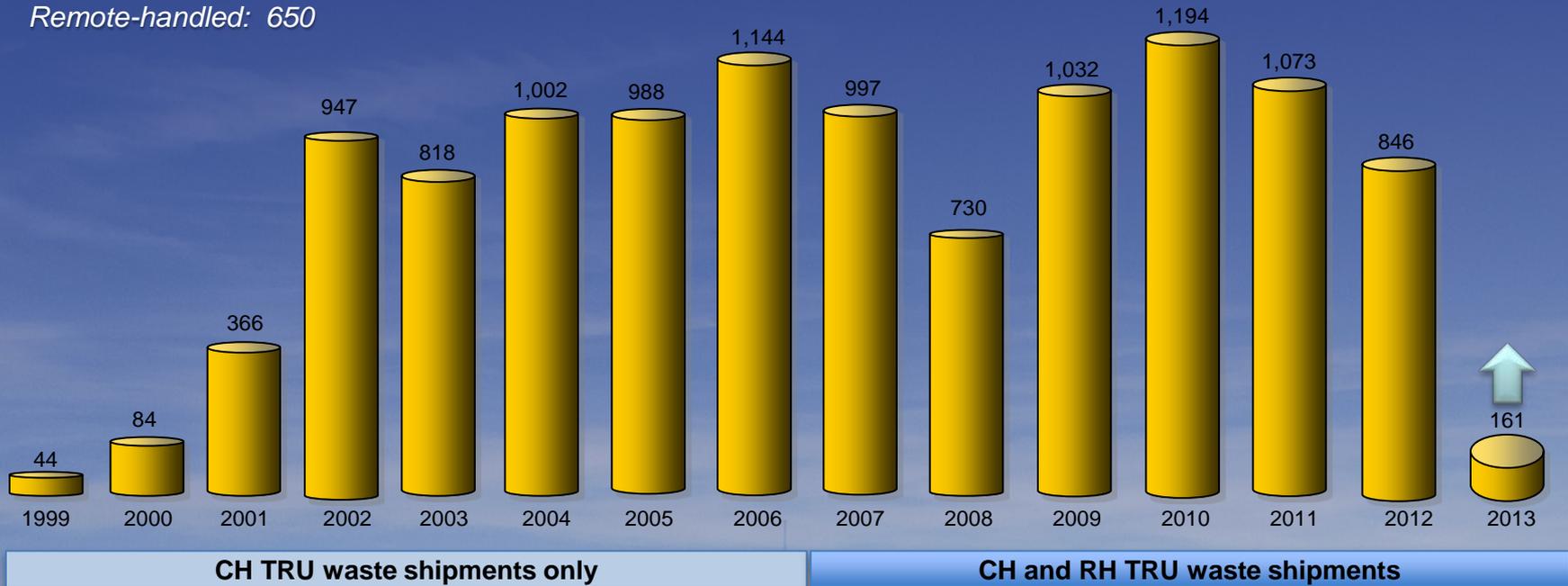
- US Interstate (Open)
- US Highway (Open)
- State Highway (Open)
- Route Not Open
- Route Closed



# Shipments Summary

Shipments received  
at WIPP as of April 29, 2013: 11,244

Contact-handled: 10,594  
Remote-handled: 650



**Total Shipments Received by Calendar Year**  
(Including intersite shipments)

# Transportation Incidents/Accidents

(September 2012 – March 2013)

- Broken Windshield 1
- Tractor Mechanical 5
- Tire Problem 1
- Trailer Problem 1
- Inspection Violation 1 (reflective tape on trailer)



# Shipments tracked by satellite



Fully automated, nation-wide tracking

Five-minute updates

States and tribes have access to password-protected Web site

Drivers in constant communication with WIPP's Central Monitoring Room



# TRANSCOM Update Highlights of Version 3.0

- Access application from computer or from mobile devices such as Androids, iPhones and iPads



Active	Inactive	Shipment ID	VID	S	Actual Departure	Latitude	Longitude	ETA
		INTE302	C21	5	05/01/2012 11:13	34.647222	-105.88872	05/01
		INTE305	C10	5	05/01/2012 09:32	43.794889	-112.36416	5/1/12
		TECCE302	TU1	7	04/11/2012 16:52	32.371203	-104.25817	2/12

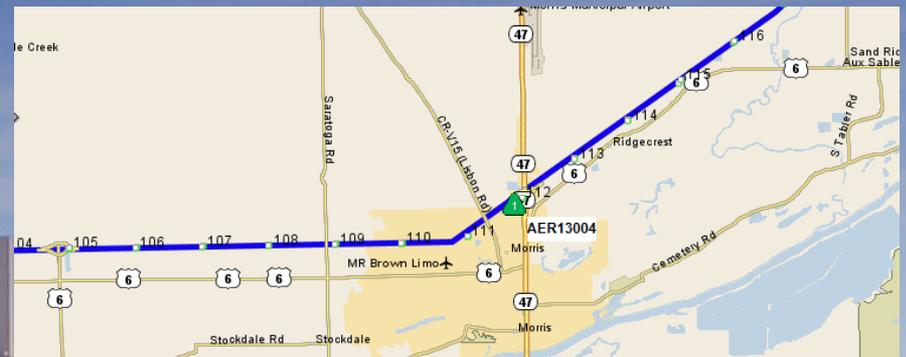
Status Board on Droid operating system



Map screen on IPAD

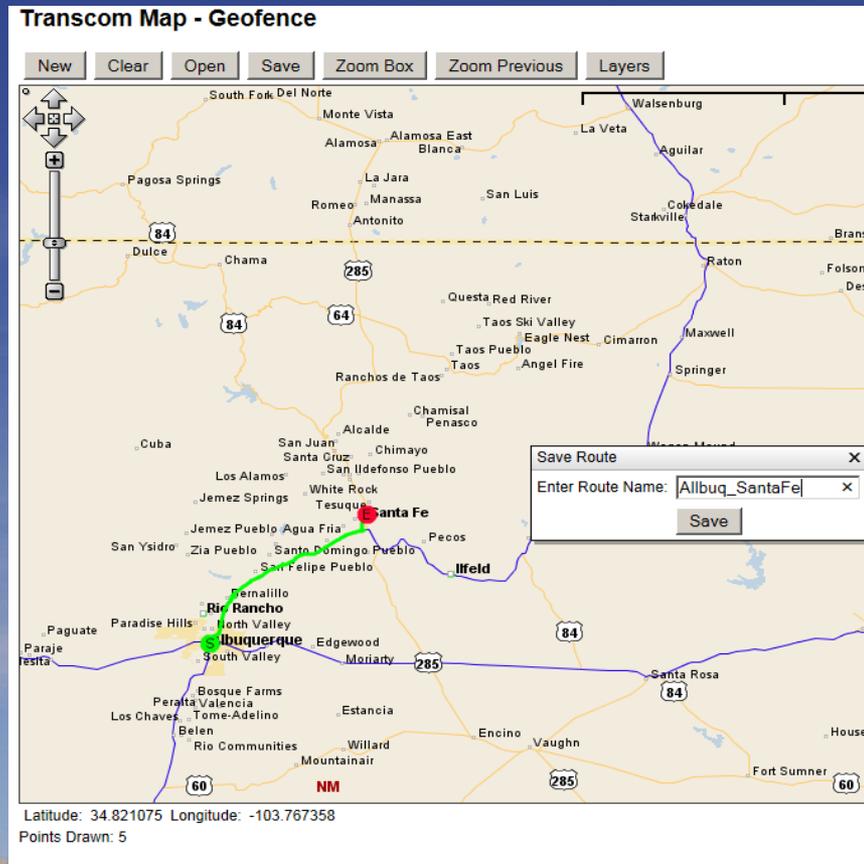
# Highlights of Version 3.0 (cont.)

- Maps have optional layers that can be set on or off (Ex. Military bases, Hazmat Routes)
- New map displays highway mile markers



# Highlights of Version 3.0 (cont.)

Create shipment geofence routes adhoc:



This route example was created from Albuquerque to Santa Fe NM. Lat/Longs are saved as a route in the TRANSCOM database. Shipments will alert when a position deviates from the saved route

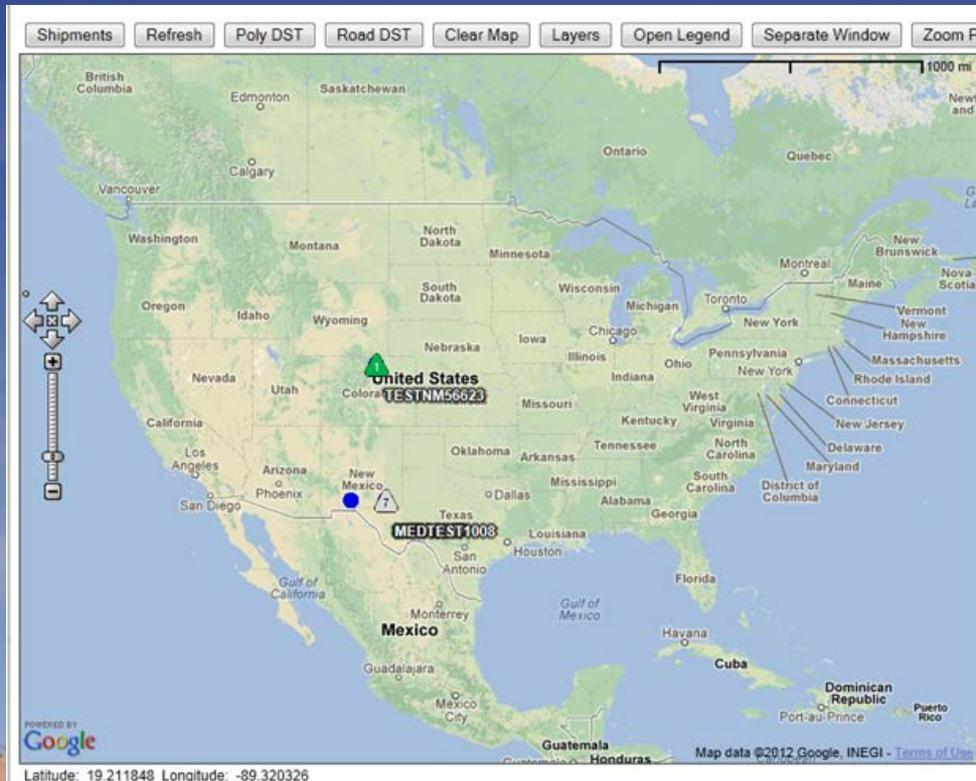
## Highlights of Version 3.0 (cont.)

- System generated email or text to users when shipment status changes or alerts
- Re-design of the entire system user interface
- New mapping data using Navteq from Homeland Security
- New module for Carriers to enter vehicle and driver information
- Improved security and user accountability



# Highlights of Version 3.0 (cont.)

Soon to come – Integration of a Google Map into TRANSCOM



Estimated  
Completion  
JUNE 2013

# Emergency responders trained along pre-approved routes

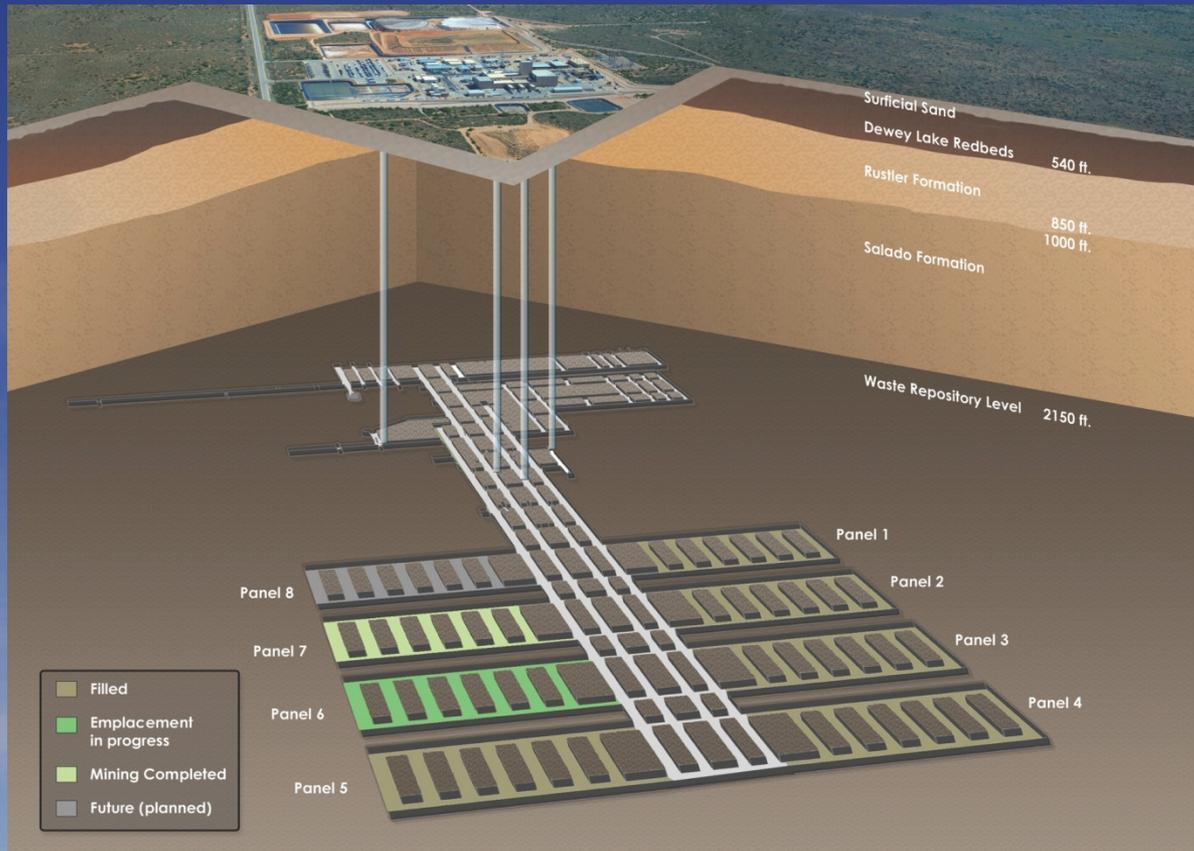


Since 1988, WIPP has trained more than 32,000 first responders

- Exercises
- State, tribe and hospital personnel training
- Outreach
- WIPPTREX
  - Texas



# The Underground



# Salt Disposal Investigations to Study Effects of Heat on Salt

- **Location:** Proposed SDI project is for testing and experimentation at WIPP
- **Purpose:** Investigate use of salt formations for disposal of thermally elevated waste types
- **Involves:** Data compilation, laboratory and field testing
- **Status:** Mining in experimental area began December 2011 with estimated completion in 2014



# SDI Timeline and Expected Results

## FY12 – FY14

Mining, preparation of test area(s), developing test plans, starting laboratory tests

## FY14

Installing field heaters and instrumentation

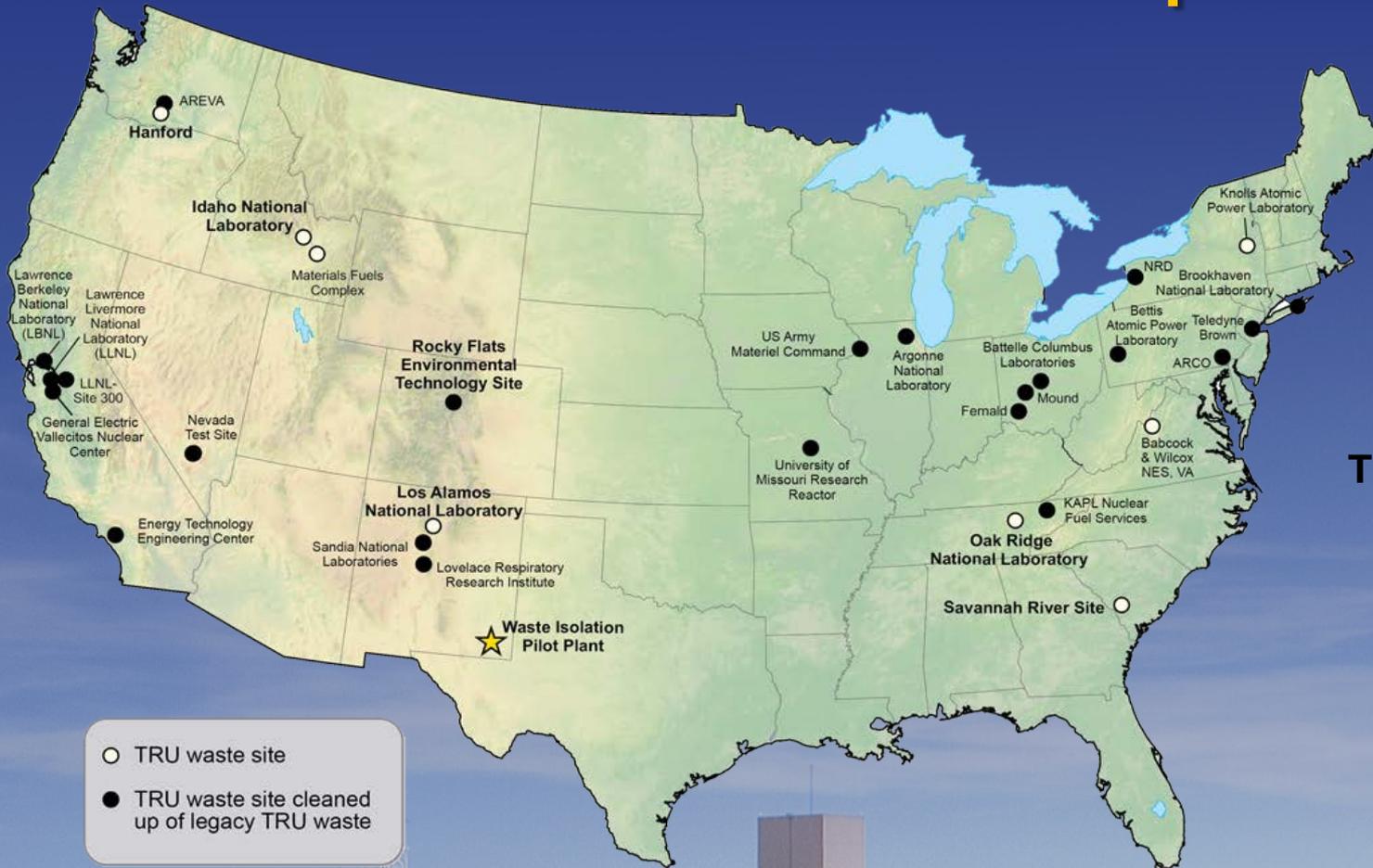
## FY15 – FY20

Field heater test and post-test forensics

**Expected Results:** Will expand knowledge, could confirm earlier studies regarding some aspects of heat effects on salt, and will provide foundation for future salt repositories for heat-generating nuclear waste.



# National cleanup



Total number  
TRU waste sites  
cleaned up of  
legacy TRU  
to date:

22

# Contact Information



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