

Challenges at the Waste Isolation Pilot Plant (WIPP) & Impacts on DOE sites

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Also present:

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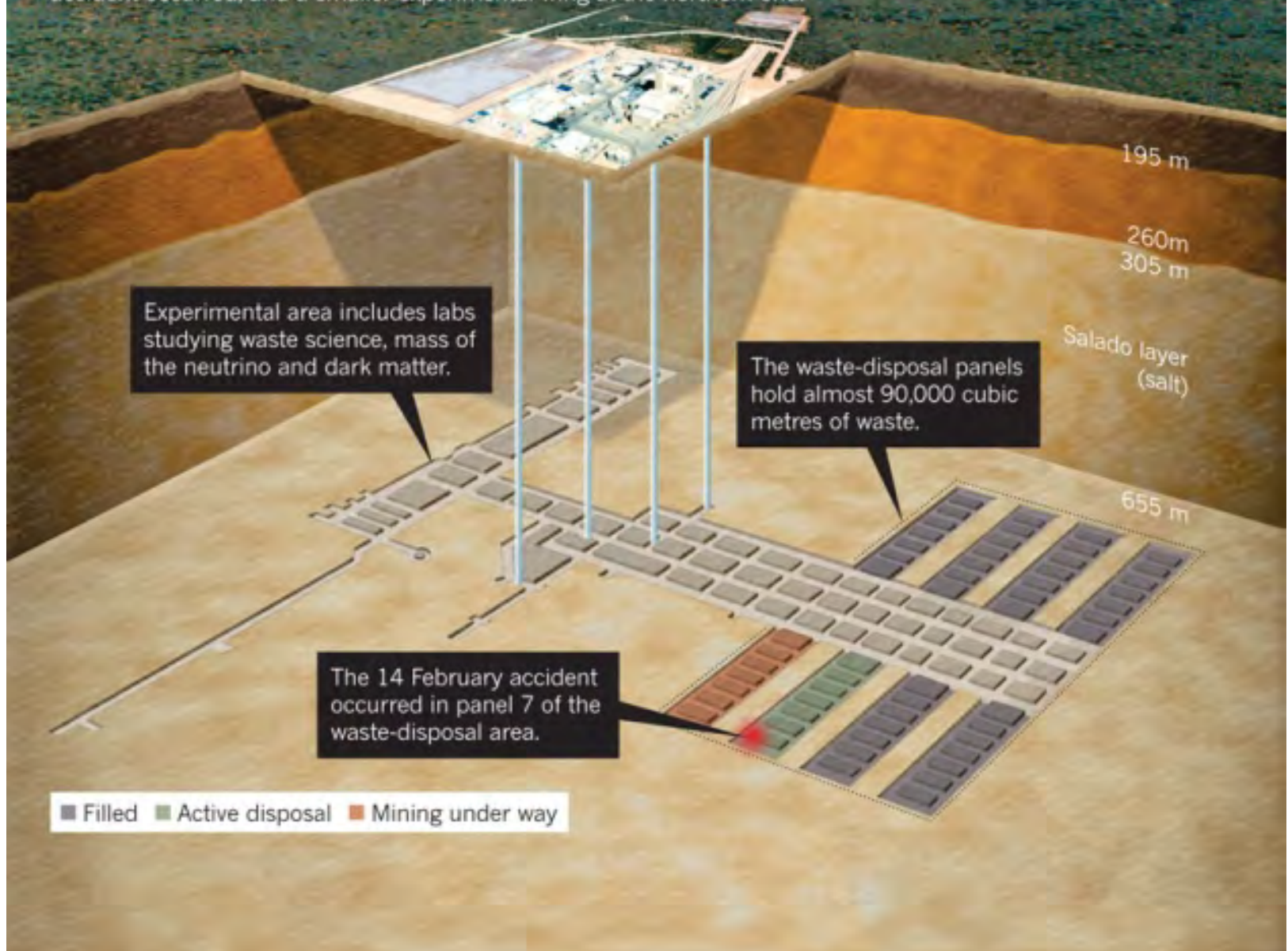
Additional funding from:

Community Involvement Fund

of the New Mexico Community Foundation

DEEP TROUBLE

The Waste Isolation Pilot Plant is carved out of a layer of salt that will eventually encapsulate the stored low- and medium-level nuclear waste. It consists of eight waste-disposal panels at the southern end, where the accident occurred, and a smaller experimental wing at the northern end.



WIPP's Mission

- “Start Clean, Stay Clean” to dispose of up to 175,564 m³ of defense transuranic (TRU) waste
- Safely transport TRU waste through more than 20 states without serious accidents or releases
- Safely clean up TRU waste at DOE sites
- Safely close, decontaminate, and decommission the WIPP site beginning in about 2033 or earlier

WIPP - 3/26/1999 - 2/5/2014

- 11,894 truck shipments from 12 sites
(1,654 from SRS or 14%)
- 2 shipments returned (INL and LANL)
- 90,627 m³ of CH waste emplaced
(SRS 17,507 m³ or 19%)
- 641 m³ of RH waste emplaced
(SRS 38.3 m³ or 6%)
- 171,064 waste containers emplaced
- Panels 1-6 filled; Panel 7 - 276 containers
- 19 shipments from LANL, SRS, INL;
145 m³ of CH waste on surface

Fire on February 5, 2014



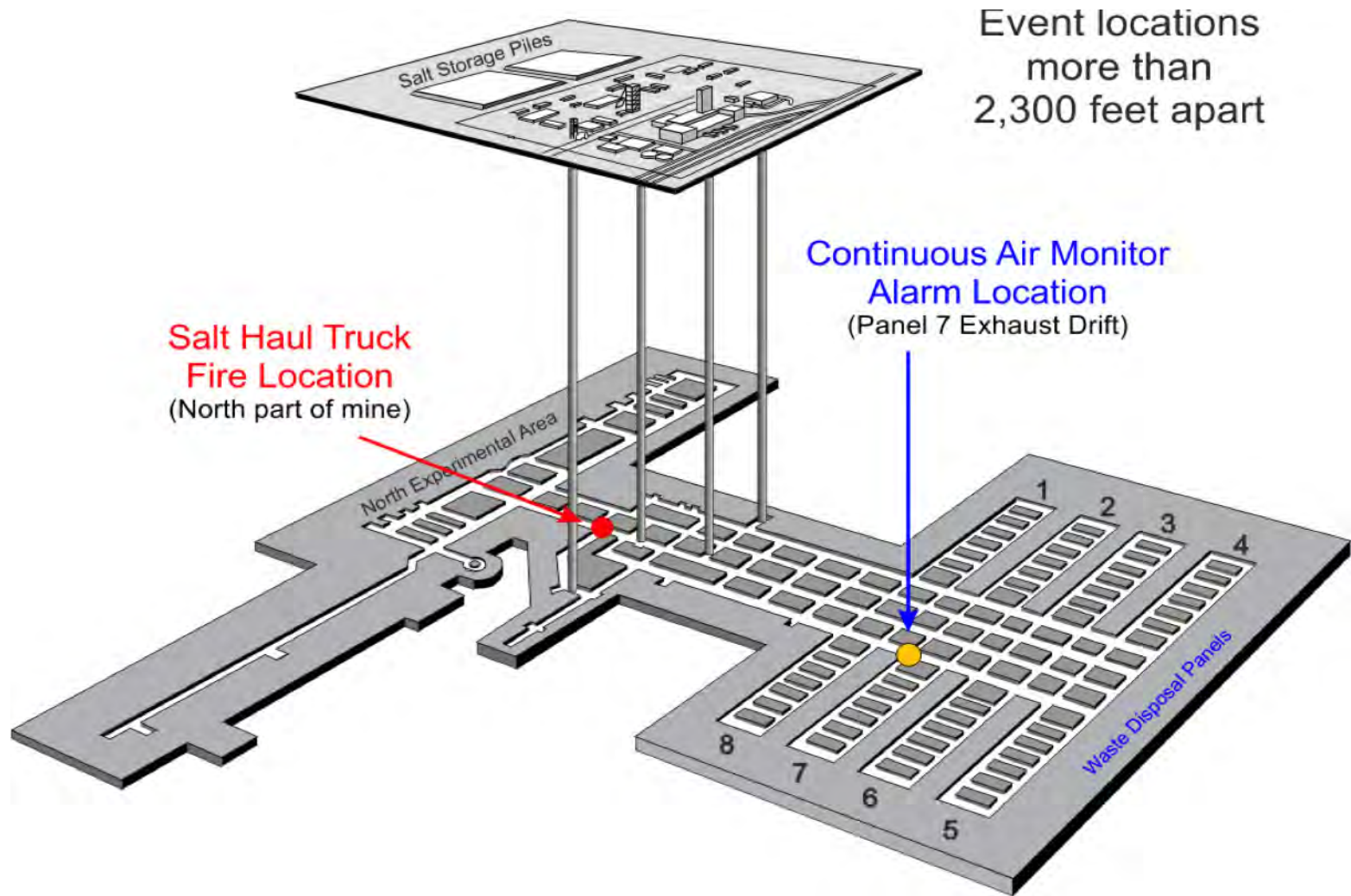
Feb. 5.
2014
Smoke
comes
out the
Salt
Shaft



Fire Results

- 13 workers treated for smoke inhalation of 86 underground
- At least 1 worker still being treated; disabled & suing the contractors
- Waste Hoist out of service because of soot; 11 months+ to clean
- Pervasive lack of maintenance, equipment replacement, worker training, emergency response, and mine safety practices

Radiation release



DOE stated

- “No personnel contamination has been identified”
- 2/15 at 2:49 pm
- “No contamination has been found on any equipment, personnel, or facilities” - 2/15 at 9:17 pm
- “No surface contamination has been found on any equipment, personnel or facilities” - 2/16 at 6:32 pm
- “DOE emphasizes there is no danger to human health or the environment” - 2/16 at 6:32 pm

Night Workers on Valentine's Day

- 13 on the surface - all internally contaminated
- Bioassay testing requested on February 19;
Workers notified of contamination on February 26
- No more urine, fecal, and whole body count testing
- Apparently, no medical treatment being provided
- No screening of vehicles, homes, family members

Workers on February 15

- More than 135 reported for work
- Four were notified of contamination on March 9
- Four others were notified on March 27
- On May 15, DOE announced that 22 workers were contaminated as determined by fecal tests (21) and urine sampling (1) with < 10 millirem
- Apparently no medical treatment being provided
- No screening of vehicles, homes, family members

Room 7, Panel 7 in May 2014



Breached drum LA68660 in Room 7, Panel 7



All workers in contaminated areas must wear full personal protection equipment (PPE)



Among the many things unknown

- What caused the release
- What caused some contaminants to travel more than 1.5 miles
- What radionuclides and what toxic chemicals in what amounts were released
- What decontamination is needed of the underground if WIPP is to re-open
- How would workers be protected in the contaminated underground
- How would future releases be prevented

Volume Discrepancies of TRU Waste at SRS to go to WIPP

537 m³ of TRU legacy waste stored

3,980 m³ (estimated) of newly generated TRU = **4,497 m³ total**

- Olsen Presentation to SRS CAB, January 27, 2015

842.1 m³ of TRU legacy waste stored

7,516.6 m³ TRU waste projected = **8,358.7 m³ total**

which includes:

3,948.7 - SR-T001-WSB-1

2,729.4 - SR-W026-MFFF-1

515.4 - SR-W026-WSB-2

- WIPP Annual TRU Waste Inventory Report - 2014

(Data as of December 31, 2013)

CH-TRU Waste at other DOE sites

INL - ID	24,100 m ³	
Hanford - WA	19,800 m ³	
Los Alamos - NM	6,520 m ³	
Oak Ridge - TN	1,150 m ³	
Livermore - CA	996 m ³	
Knolls - TN	771 m ³	
Argonne - IL	175 m ³	
Nevada NSS	143 m ³	
Sandia - NM	51 m ³	
Material & Fuels - IL	31 m ³	
NRD - NY	3 m ³	
Lawrence Berkeley - CA	<1 m ³	Total = 53,740 m ³

- WIPP Annual TRU Waste Inventory Report - 2014

(Data as of December 31, 2013)

RH-TRU Waste at other DOE sites

Hanford - WA	2,860 m ³	
Oak Ridge - TN	432 m ³	
Idaho National Lab	208 m ³	
Material & Fuels - IL	93 m ³	
Argonne - IL	84 m ³	
Los Alamos - NM	79 m ³	
Knolls - NY	15 m ³	
Sandia - NM	9 m ³	
Bettis - PA	5 m ³	Total = 3,785 m ³

- WIPP Annual TRU Waste Inventory Report - 2014 (Data as of December 31, 2013)

WIPP Capacity in Panels 7 & 8

Panel 7

CH-TRU = ~ 16,000 m³

RH-TRU = 0 in canisters

Panel 8

CH-TRU = 18,750 m³

RH-TRU = 650 m³ in canisters

Total CH-TRU = 34,750 m³

Capacity shortfall = 27,310 m³

Total RH-TRU = 650 m³

Capacity shortfall = 2,971 m³ or 4,941 m³

Idaho TRU waste dumping - 1954-1970



Idaho TRU Waste Complex



Idaho Digging up Waste



WIPP New Mexico Regulator

New Mexico Environment Department (NMED)

Operating Permit issued to the DOE and Contractor
Washington TRU Solutions [now Nuclear Waste
Partnership] on October 27, 1999

Renewal Permit approved on November 30, 2010

“The Permittees shall not accept shipments of any off-site
generated waste until normal operating status of the
Facility is resumed.... Under no circumstances will the
Permittees commence normal operating status without
prior inspection and approval of the Department.”

Order, 2/27/2014, #12a & 17. _____

WIPP Permit

Waste Characterization Requirements:

- “The Permittees shall not manage, store, or dispose TRU mixed waste at WIPP which fails to meet the characterization requirements..., as specified by this Permit.” Part 2.3.1.
- “The Permittees shall require that generator/storage sites implement applicable waste characterization requirements of the WAP, ... prior to the Permittees’ receipt of TRU mixed waste at WIPP.”
- “The Permittees or the co-Permittee DOE shall implement applicable waste confirmation requirements of the WAP, ... prior to shipment of TRU mixed waste from generator/storage sites to WIPP.” Part 2.3.1.1.(i & ii)

New Mexico Proposed Fines

- December 6, 2014 - Gov. Martinez hand-delivers Compliance Order to DOE Secretary Moniz
- More than a dozen permit violations assessed at \$17,746,250
- January 9, 2015 - DOE/NWP refuse to pay fines, state that New Mexico does not have authority, and that the Order “unconstitutionally discriminates against the United States.”
- Hearing is scheduled from July 27-31, 2015

- DOE Recovery Plan includes on-going permit violations for several years

Recovery Plan Schedule

<u>Activity</u>	<u>Schedule</u>	<u>Contract Bonus</u>	<u>Actual</u>
Panel 6 initial closure	12/31/14	8/30/15	???
EPA re-certification	3/31/15		???
Re-open for on-site waste	4/1/16		???
Re-open for off-site waste	7/1/16		???
Full operations	2/15/18		???

Cost

“Also, it is too early to estimate the total cost of reopening WIPP to once again receive shipments of transuranic waste.”

- DOE FY 2016 Budget Request, p. 6, 2/2/2015

FY 2013 WIPP Budget = \$197.838 million

FY 2014 WIPP Budget = \$221.170 million

FY 2015 WIPP Budget = \$324.455 million

FY 2016 WIPP Request = \$248.178 million

- DOE FY 2016 & FY 2015 Budget Requests

What You Can Do

Request accurate, timely information about:

- the schedule for SRS waste to go to WIPP
- the amounts of “newly generated” TRU waste, including from plutonium disposition
- whether NNSA or EM “owns” TRU waste generated by the MOX program
- on-site disposal of any TRU waste from the MOX program by reclassifying such waste as “low level waste”

Website Information Sources

DOE WIPP Recovery:

<http://www.wipp.energy.gov/WIPPRecovery/Recovery.html>

NM Environment Dept. WIPP Documents:

<http://www.nmenv.state.nm.us/NMED/Issues/WIPP2014.html>

EPA WIPP webpage:

<http://www.epa.gov/radiation/wipp/index.html>

SRIC website:

<http://www.sric.org>

Snake River Alliance website:

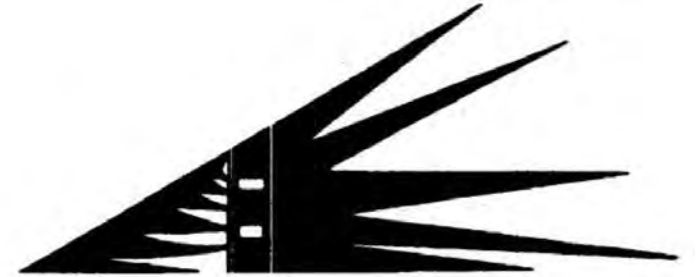
<http://www.snakeriveralliance.org>

SRS Watch website:

<http://www.srswatch.org>

Contact Information

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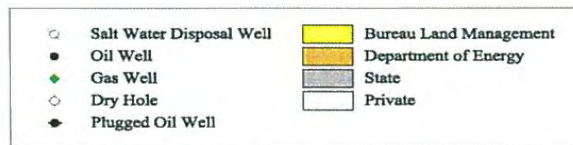
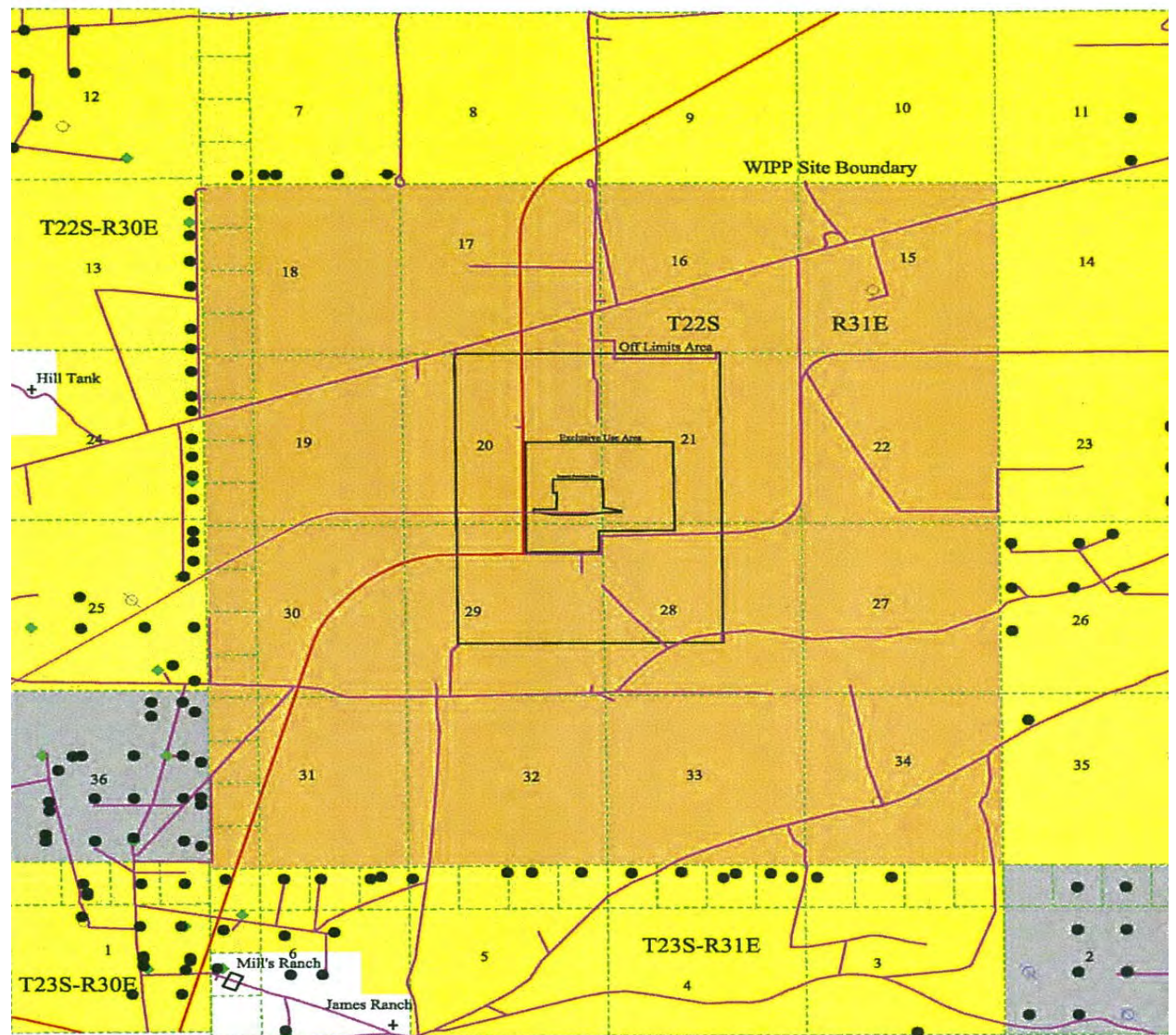
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WIPP Capacity Limits

WIPP PERMITTED VS. ACTUAL CAPACITY							Chart 1
(in cubic meters) - As February 5, 2014							
	CH-Permitted	Actual	% Used	RH-Permitted	Actual	% Used	
Panel 1	18,000	10,497	58.32%	0			
Panel 2	18,000	17,998	99.99%	0			
Panel 3	18,750	17,092	91.16%	0			
Panel 4	18,750	14,258	76.04%	356	176	49.44%	
Panel 5	18,750	15,927	84.94%	445	235	52.81%	
Panel 6	18,750	14,468	77.16%	534	214	40.07%	
Panel 7	18,750	387		650	16		
Panel 8	18,750			650			
Totals	148,500	90,627		2,635	641		
Panels 1-6	111,000	90,240	81.30%	1,335	625	46.82%	
Panels 1-8**	148,500	127,740	86.02%	2,635	1,925	73.06%	
Legal Capacity	168,485			7,079			
Panel 9*	18,750			650			
Panel 10*	18,750			650			
Panels 9-10***	186,000	165,240	98.07%	3,935	3,225	45.56%	

Notes: *Panels 9 and 10 proposed capacities. ** If Panels 7-8 are filled to capacity.
 ***Total capacity if Panels 9 and 10 filled to proposed capacities.
 "CH" is Contact-Handled waste; "RH" is Remote-Handled
 "Permitted" refers to the capacity limits in the New Mexico WIPP permit

There are more than 100 active oil and gas wells within one mile of the WIPP Site



STATUS OF HYDROCARBON ACTIVITY
 WITHIN ONE MILE OF THE WIPP SITE
 September 1, 2012

WIPP Permit Modification Process

Draft modification distributed

Pre-submittal meeting held

Modification request submitted to NMED

60-day public comment

NMED makes a decision in 30 or 60 days (class 2)

NMED issues draft permit for public comment (class 3)

Negotiations with NMED, DOE, NWP, NGOs

Settlement agreement or not

Public hearings - expert testimony, cross-examination

Hearing Officer recommended decision

NMED Secretary issues Final Order

CH-TRU Waste at Waste Control Specialists

39 shipments from LANL to WCS from April 2
to May 8, 2014

372 m³ of waste

Apparently, first priority for waste to be
shipped to WIPP, when it re-opens.