

WIPP RADIATION RELEASE
July 25, 2014

SRIC has carefully followed information about the radiation release from the Waste Isolation Pilot Plant (WIPP) that was first identified at approximately 11:14 pm on Friday, February 14, 2014. The release triggered the HEPA filtration system at 11:16 pm so that the ventilated air would be filtered before it was released into the environment through the exhaust shaft. We have been actively asking questions and gathering additional information about the contamination event, and have responded to numerous requests for information from the public and media.

SRIC believes that the cause of the release must be known, there must be certainty that another radiation release could not occur, the contamination in the underground and on the surface must be completely cleaned up, and workers who were contaminated must receive adequate evaluation and treatment by medical personnel specifically trained to evaluate and treat anyone with internal radiation exposure.

The Department of Energy (DOE) WIPP website has a special section on the release and recovery. <http://www.wipp.energy.gov/WIPPRecovery/Recovery.html>

The New Mexico Environment Department (NMED) has established a website with background and current information about the release.
<http://www.nmenv.state.nm.us/NMED/Issues/WIPP2014.html>

The Environmental Protection Agency (EPA) had people temporarily at WIPP and its website provides some information about the release:
<http://www.epa.gov/radiation/wipp/index.html>

What we know with some confidence

1. At least one, and perhaps more, of the 258 contact-handled (CH) waste containers underground in Room 7 and Panel 7
<http://www.wipp.energy.gov/general/GenerateWippStatusReport.pdf> released radioactive and toxic chemicals. The location of the release is about 1,500 feet from the continuous air monitor (CAM) that triggered the filtration system. The release spread contaminants through more than 3,000 feet of tunnels, up the exhaust shaft (2,150 feet), into the environment, and to the air monitoring Station #107, approximately 3,000 feet northwest of the exhaust shaft. Thus, the release covered a distance of at least a mile and a half from the area of release to the Station #107. If the release came from Panel 6, which has more than 22,500 CH containers, it may be more difficult to determine many aspects of the release, though the distance that the contaminants would have traveled underground could have been greater.

2. In its modeling analysis of the release, DOE states: "The event took place starting at 2/14/14 at 23:14 and continued to 2/15/14 14:45."
<http://www.wipp.energy.gov/Special/Modeling%20Results.pdf>. Thus, the release lasted for 15.5 hours. The same DOE document states that the peak time of the release was from 10-15 hours after it started (from approximately 10 am to 3 pm on February 15).

See #6 below about later DOE sampling data. The same DOE modeling document also states: "A large shift in wind direction can be seen to occur around 8:30 AM on 2/15/14." Meteorological data are now posted at:

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/MeteorologicalDataFeb5_Mar9_2014.xls

3. The Station #107 filter, located about 0.6 mile from the exhaust shaft was removed on Sunday morning, February 16 at approximately 9:40 am. The Carlsbad Environmental Monitoring and Research Center (CEMRC) laboratory analyzed the filter and on Wednesday, February 19 reported that it found 0.64 becquerels (Bq) per cubic meter of air of Americium-241 and 0.046 Bq per cubic meter of air of Plutonium-239+240. <http://www.cemrc.org/2014/02/19/cemrc-detects-trace-amounts-radioactive-particles-air-sampling-station-near-wipp-facility/> Those measurements were consistent with waste in the WIPP underground. The DOE agrees that there was a release of radioactivity onto the surface.

4. CEMRC retrieved another filter from Station #107 on Tuesday, February 18. The laboratory analysis showed no detection of Plutonium 239+240 and 0.007 Bq of Americium-241. Samples from Station #106 (about 325 feet from the exhaust shaft) found 0.115 Bq of Plutonium 239+240 and 1.3 Bq of Americium-241. <http://www.cemrc.org/wp-content/uploads/2014/02/CEMRC-Ambient-Air-Sampling-Results-Following-2-14-14-Radiation-Detection-Event.pdf> On March 17, CEMRC reported: "the latest results show that the ²³⁹⁺²⁴⁰Pu activities have returned to previous background levels." <http://www.cemrc.org/2014/03/17/new-ambient-air-sampling-results-show-wipp-radiation-levels-continue-remain-low-levels/> CEMRC's most recent data (as of June 27), show non-detection of Plutonium 239+240 and Americium-241 at its three air monitoring stations. <http://www.cemrc.org/wp-content/uploads/2014/07/Hi-Vol-Activity-final-7-3-14.pdf>

5. On March 5, CEMRC reported results of the Exhaust Shaft Station A filter (ventilation air before the HEPA filtration) and the Station B filter (after filtration). The Station A filter removed on February 15 (the morning after the radiation alarm was triggered) showed 4,335.71 Bq per cubic meter of Am-241 and 671.61 Bq per cubic meter of Pu-239+240. Twenty-four hours after the event, the Station A filter measured 231.53 Bq/m³ of Am-241 and 18.07 Bq/m³ of Pu-239+240. (Note that the Am-241 amounts were increased from the levels earlier reported, based on more accurate alpha spectroscopy analysis.) By 12:50 am on February 22, the Station A filter was 0.15 Bq/m³ of Am-241 and 0.016 Bq/m³ of Pu-239+240. A Station B filter installed on the morning of February 14 was removed in the afternoon of February 18 and measured 2.3 Bq/m³ of Am-241 and 0.2261 Bq/m³ of Pu-239+240. As of the morning of February 22, the Station B filter was 2.52 Bq/m³ of Am-241 and 0.0045 Bq/m³ of Pu-239+240. <http://www.cemrc.org/wp-content/uploads/2014/03/Station-A-and-B-Activity-3-12-141.pdf> As of July 1, CEMRC reported results at Station A of 0.0002 Bq/m³ of Am-241 and 0.00003 Bq/m³ of Pu-239+240; while the measurements at Station B were 0.0001 Bq/m³ of Am-241 and 0.00001 Bq/m³ of Pu-239+240. <http://www.cemrc.org/wp-content/uploads/2014/07/Station-A-and-B-Activity-Cumulative-final.pdf>.

In response to an inquiry from SRIC regarding Station A and B measurements prior to February 14, CEMRC responded that it had never analyzed Station B filters. It did analyze a Station A filter that was in place on February 14 from 7:40 am until filtration started at 11:16 pm and measured 0.007 Bq/sample of Am-241, 0.002 Bq/sample of Pu-239+240, and 0.001 Bq/sample of Pu-238.

6. As of mid-day on Thursday, February 20, DOE WIPP Manager Jose Franco reported some amounts of radiation were continuously registered in the continuous air monitors for Panel 7, but that the amounts were three orders of magnitude lower than the highest levels of 4.4 million disintegrations per minute (dpm). The 4.4 million dpm is what DOE originally reported, however, subsequent laboratory analysis calculated the amount at 8.2 million dpm of alpha radiation. On Thursday, March 13 at 4:10 pm, the Station A filter showed 368 dpm of alpha radiation and 57 dpm of beta radiation, the highest levels since February 17. After March 13 through July 18 at 8:10 am, the highest levels at Station A were 79 dpm of alpha radiation, which occurred in the night of March 28 and 33 dpm of beta radiation, which occurred during the day on April 8.

<http://www.wipp.energy.gov/Special/Station%20A.pdf>

7. No workers were underground when the radiation leak was detected. As of Monday, February 24, the expectation was that workers could go underground in two to three weeks to investigate the release. In the meantime, plans are being developed for the underground recovery effort and to determine the extent of the above ground contamination. On Thursday, February 27, Farok Sharif, then-President of Nuclear Waste Partnership (NWP, the operating contractor), reported that re-entry and recovery plan(s) had been submitted to DOE, which was reviewing them. After DOE review and approval, the re-entry process would start with two probes being sent to the underground. On Friday, March 7 and Saturday, March 8, two probes were sent down the air intake and salt handling shafts and took measurements.

http://www.wipp.energy.gov/pr/2014/WIPP%20Updates_Underground%20Recovery%20Process%20Begins.pdf The plan was for workers to re-enter the underground through the salt handling shaft and to investigate the situation to try to determine the source of the radiation release during the week of March 24.

http://www.wipp.energy.gov/Special/WIPP%20Update%203_22_14.pdf On March 25, workers inspected the hoists on the salt and air intake shafts and determined that there were no safety or mechanical problems, so that the two shafts could be used for the initial underground investigations.

http://www.wipp.energy.gov/Special/WIPP%20Update%203_26_14.pdf The intent is for the salt shaft to be the entrance location, with the air intake shaft being the required back-up shaft. At the March 27 Town Hall, it was stated that the initial entrance and establishment of a base camp would occur during the week of March 31, with up to 16 workers involved, all wearing protective equipment and having self-breathing apparatus. Two teams of 8 workers each entered the underground on April 2, reported that they encountered no radiation and set up a base camp that would be used for further investigations. http://www.wipp.energy.gov/Special/WIPP%20Update%204_02_14.pdf

On April 4, workers entered the underground, reported that they encountered no

radiation, and established a base camp near the S-1600 underground drift.

http://www.wipp.energy.gov/Special/WIPP%20Update%204_04_14.pdf That location is 580 feet from the S-2180 drift, the area where contamination is expected to be found. On Saturday, April 12, two teams of workers moved to the S-1950 drift and established another “clean base of operations.”

http://www.wipp.energy.gov/Special/WIPP%20Update%204_14_14.pdf

On Wednesday, April 16, two teams of workers went underground for approximately five hours. Some details of the entry were discussed at the April 17 Town Hall meeting.

http://www.wipp.energy.gov/wipprecovery/Presentations/Town_Hall_Slides_4_17_14.pdf

During that entry, an additional “clean base” was established in the lunchroom on the S-2520 drift. Workers proceeded on that drift into Panel 7 where contamination was detected in increasing amounts while moving from room 1 to room 2 and approaching room 3. At the Town Hall, Tammy Reynolds stated that the highest levels were 800 to 1,000 dpm per 100 square centimeters.

On Wednesday, April 23, three teams of workers went into the underground, and three workers went into room 7 of Panel 7. They did not see any roof fall or otherwise visible evidence of the release. But they did detect 10,000 dpm of alpha and 3,000 dpm of beta/gamma radiation at the waste face. They detected 10,000 dpm of alpha and 6,000 dpm beta/gamma at the “slider” window in room 6 near that back (outlet air) side of the containers, which they calculated as 66 millirem/hour of activity. At the other end of room 6, approximately 300 feet away, they detected 16,000 dpm of alpha and 5,000 dpm of beta/gamma.

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/Rad%20Reading%20Diagram%20DOE.pdf A 30-second video of the waste face is at:

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_photos/UGWastemedium.mov

Some pictures are also posted in the Maps and Photos section at:

<http://www.nmenv.state.nm.us/NMED/Issues/WIPP2014Docs.html>

DOE is now planning for additional trips to room 7 with additional equipment, including telescopic extensions for cameras to obtain pictures of more of the 258 containers.

http://www.wipp.energy.gov/Special/WIPP%20Update%204_28_14.pdf

On Wednesday, April 30, three workers again went into room 7 of Panel 7. They took additional pictures and video and found that several magnesium oxide bags placed on top of stacked containers showed damage.

http://www.wipp.energy.gov/wipprecovery/photo_video.html

On Saturday, May 10, workers again went into room 7 of Panel 7. They took additional pictures and video that showed damaged magnesium oxide bags and signs of a “heat-producing event.” The workers measured from 10,000 dpm of alpha to 40,000 dpm throughout the room at the waste face. They detected 30,000 dpm of alpha in the S-2180 drift where the outlet ventilation flow takes the radioactivity in room 7 of Panel 7. On the bulkhead “slider” window in room 6 near that back (outlet air) side of the containers, they measured 10,000 dpm to 20,000 dpm. At the other end of room 6, approximately 300 feet away, they detected 12,000 dpm. In the S-2180 drift by room 1 of Panel 7, they measured 20,000 dpm. In room 1 of Panel 7, they detected 10,000 dpm in the middle of the room and 6,000 dpm near the S-2520 drift. All dpm values are at 100 square centimeters.

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/Radiation%20Contamination%20Map%20from%205-10-14.pdf

On Thursday, May 15, workers again went into room 7 of Panel 7. They took additional pictures and video, including of a 55-gallon drum that had its lid unsealed and heat discoloration.

On Monday, May 19, workers again went into room 7 of Panel 7. They took additional pictures and video of the damaged 55-gallon drum.

On Thursday, May 22, workers again went into room 7 of Panel 7. They took more pictures and video of the damaged 55-gallon drum.

The damaged 55-gallon drum is LA00000068660 [note the change from the May 26 update], which was emplaced in Row 16 Column 4 top on January 31, 2014 and is from the LA-MIN-2-V.001 waste stream.

<http://www.nmenv.state.nm.us/NMED/Issues/documents/DOCParentandSiblings.pdf>

The videography of that container, done at LANL, is at:

<https://www.youtube.com/watch?v=wV5KJjEOj8M&feature=youtu.be>

The seven-pack of 55-gallon drums also includes two dunnage (empty) drums and four other drums – LA00000068333, LA00000068607, LA00000068630, and LA00000068670 – from the same waste stream.

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/LA-MIN02-V.001%20shipped%20to%20Wipp%20and%20key.pdf

The seven-pack of 55-gallon drums was included in shipment LA140017 that arrived at WIPP on January 29, 2014.

On Friday, May 30, workers again went into room 7 of Panel 7. They took more pictures and video of the damaged 55-gallon drum and took six samples – five of magnesium oxide and one of waste on the drum lid – which will be analyzed at DOE laboratories.

There were also 15 samples taken in room 7 of Panel 7, two samples in room 6 of panel 7, and 13 samples taken in drift W-170 near Panel 7. Amounts measured closest to the waste face ranged from 2,000 dpm to 20,000 dpm at 100 square centimeters with the highest readings of 25,265 dpm and 26,290 dpm on the floor near the S-2520 drift, more than 300 feet from the waste face. Readings in room 6 of Panel 7 were 16,000 dpm and 20,000 dpm. Readings in drift W-170 ranged from less than 200 dpm to 600 dpm. Six samples taken in the Connex container near where the CAM that alarmed ranged from 2,000 dpm to 6,000 dpm.

http://www.wipp.energy.gov/library/Information_Repository_A/Responses_to_Administrative_Order/2014%20Admin%20Orders%20Bi-Weekly%20Report_06_13_14_All%20Attachments%20Final_Redacted.pdf (See page 196 of 197.)

Workers returned underground, but not to Panel 7, on July 18 and 24. Over the next several weeks, they will be working in underground zones to do further radiological surveys, restore underground communications, and monitor mine stability to prepare for more workers going underground.

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_photos_maps_diagrams/ZONE%20layout%20%2807-03-14%20rev1%29.pdf

8. On Wednesday, February 26, the 13 WIPP employees that had been at the WIPP site when the radiation was detected were notified that they had tested positive for

internal radiological contamination, “predominantly americium-241.”

http://www.wipp.energy.gov/Special/CBFO_Mgr_Letter.pdf Those workers are having additional bioassay (urine and fecal) analyses. The location(s) where the 13 workers were has not been disclosed. On Wednesday, March 5, DOE reported that the urine analysis was negative (no radiological contamination). On Thursday, February 27, Farok Sharif stated that other workers that came to work on the morning of February 15 are having bioassay testing, and some additional workers are requesting to be tested. All workers that want to be tested will be tested. All workers that want to have lung and whole body counts at CEMRC also will be allowed to do so. Laboratory analysis of bioassay samples take one to two weeks. Mr. Sharif also stated that as of that date no workers have received chelating agents that could help remove the internal contamination. On Sunday, March 9, DOE announced that four additional workers that worked on February 15 had tested positively for internal radiation.

http://www.wipp.energy.gov/pr/2014/WIPP%20Updates_Underground%20Recovery%20Process%20Begins.pdf

The statement also erroneously reported: “There has been no detectable contamination in urine samples, which indicates contamination was not inhaled into the lungs.” The next day that statement was “clarified.” On March 12, DOE reported: “Preliminary fecal sample results for 17 personnel, announced earlier, indicated the presence of trace amounts of radioisotopes.... All have been entered into the bioassay program and will undergo whole body counts to determine the presence of isotopes in the lungs. To date, about 135 personnel have been entered into the bioassay program, including those who have requested testing. The next set of bioassay data is anticipated March 19.”

http://www.wipp.energy.gov/Special/WIPP%20Update%203_12_14.pdf

Bioassay data on 148 workers are posted:

[http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/Event%20and%20Confirmatory%20Bioassay%20Schedule\(Names%20Excluded\)%20March%2029%202014.pdf](http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/Event%20and%20Confirmatory%20Bioassay%20Schedule(Names%20Excluded)%20March%2029%202014.pdf)

On March 27 and at the Town Hall, DOE reported that, because of a second opinion of the outside dosimetry expert, three of the fecal samples that had been reported as negative were now considered positive. In addition, one of the urine samples that had been considered negative was now considered to be positive. Thus, four additional workers – making a total of 21 – have been told that they have tested positive for internal contamination. Neither DOE nor NWP recommended that any of the workers seek medical treatment. On April 11, WIPP Manager Jose Franco stated that bioassay sampling is nearing completion and that the REAC/TS experts at Oak Ridge, TN are reviewing the samples.

http://www.wipp.energy.gov/pr/2014/4_11_14_CBFO_Manager_Ltr.pdf

On May 15, DOE announced that the bioassay sampling had been terminated and 22 workers had tested positive for internal contamination – one from urine samples and 21 from fecal samples. The explanation for terminating the program was that the maximum exposure was less than 10 millirem.

http://www.wipp.energy.gov/Special/WIPP%20Update%205_15_14.pdf

9. While Jose Franco of DOE has stated that hundreds of air, soil, and water samples have been taken, laboratory analysis of only some samples have been posted on the WIPP website. <http://www.wipp.energy.gov/wipprecovery/Images/Soil%20Sampling.pdf>

None of the laboratory analyses have detected any radioactivity, except what is considered to be background. On April 17, 2014, CEMRC collected soil samples and released the results on May 22. The highest measurements of Americium-241 were at Grid location A-1 northwest of Station #107 – 0.297 Bq/kilogram – and Grid location A-8 west of Station #107 - 0.156 Bq/kg. The previous highest measurements of Americium-241 were 0.11 Bq/kg in 1997 before WIPP opened. On June 9, CEMRC posted additional results based on additional analysis of more of the soil samples taken at those sites. <http://www.cemrc.org/2014-wipp-release/soil-data/>

NMED has not posted the laboratory analyses of the soil samples taken.

On June 6, EPA posted the results of the air sampling taken during April at three DOE air sampling sites. The results were non-detection for Americium-241, Plutonium-239+240, and Plutonium-241. <http://www.epa.gov/radiation/docs/wipp/WIPP-Air-Sampling-Data-April2014.pdf>

10. On Wednesday, March 12, DOE announced that continuous air monitoring (CAM) is being installed to sample the exhaust duct air by the end of the following week. According to the statement: "...an immediate alarm [would sound] in the Control Room and prompt notification to employees if protective actions are required....Once the CAM is installed, personnel will begin returning to the WIPP site."

http://www.wipp.energy.gov/Special/WIPP%20Update%203_12_14.pdf. The CAM was installed on March 26 and will be tested for approximately one week. According to Roger Nelson of DOE, workers in radiation protection areas are wearing dosimeters. On Friday, April 25, DOE announced that 90 contractor workers had returned to the site. http://www.wipp.energy.gov/Special/WIPP%20Update%204_25_14.pdf

11. Nineteen shipments of CH waste from LANL (4), INL (8), and Savannah River Site (SRS) (7) were initially being stored in the Parking Area Unit (PAU)(4 from INL and 4 from SRS), while other shipments and portions of those loads in the PAU are in the CH Bay of the Waste Handling Building. Those 41 packages have 5,137.4 cubic feet or 145.3 cubic meters of waste. Those shipments arrived at WIPP between January 24 and February 6, but were not taken to the underground because of the vehicle fire on February 5 and the radiation leak.

http://www.wipp.energy.gov/library/Information_Repository_A/Responses_to_Administrative_Order/14-1446_attchement_%20NMED_Wkly_Report_for_March_10_2014.pdf

On February 26, DOE requested that NMED modify the WIPP operating permit so that, among other things, all of those shipments could stay on the surface at WIPP for a longer period of time than allowed by the permit.

http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/14-1427.pdf On February 27, NMED approved the request.

http://www.wipp.energy.gov/library/Information_Repository_A/Directives_from_the_Secretary/NMED_AO_2_27_14.pdf

As a result of the NMED Administrative Order, DOE was allowed to move the shipments in the PAU into the Waste Handling Building for venting and storage, which occurred on March 26 and 27. See pages 14-15 of 67 of the large (2.9 MB) PDF at:

http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/14-

[1472%20%20%202014%20Admin%20Order%20Weekly%20Report%20and%20Letter%20for%204_07_14%20Rev%204_all%20attachments.pdf](http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/14-1497_letter_Redacted.pdf)

The NMED Administrative Order also required that DOE submit weekly reports that provide specific information. The Order provides that DOE must file for any additional extensions to keep the waste on the surface of WIPP by no later than May 7, 10 days before the current deadlines are reached. On May 6, DOE submitted a request for the storage time to be extended for one year with an interim evaluation after six months. http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/14-1497_letter_Redacted.pdf On May 16, NMED approved a 60-day extension so that all wastes can remain in the Waste Handling Building until July 15. http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/Letter_WIPP001.pdf On July 3, DOE submitted an additional request for the storage time to be extended until January 2016, the earliest date “that limited disposal operations can be resumed.” http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/14-1545_Redacted.pdf On July 14, NMED approved an additional 60-day extension. http://www.wipp.energy.gov/library/Information_Repository_A/Extensions_of_Time/NMED_Extension_7-14-2014.pdf

The February 27 Administrative Order also prevents WIPP from accepting off-site shipments and from returning to “normal operating status” without NMED’s prior inspection and approval. The DOE Weekly Reports of March 14, March 24, March 31, April 7, April 14, April 21, April 28, May 5, May 12, May 19, and May 27 are posted, along with bi-weekly reports of June 1, June 15, and June 29. http://www.wipp.energy.gov/library/Information_Repository_A/IR_2014.htm On March 21, Jose Franco signed a Supplement Analysis that would allow up to 20 shipments from WIPP, plus approximately 120 truckloads from LANL and 280 shipments from INL to be stored at Waste Control Specialists (WCS), near Andrews, Texas, while WIPP is not operating. <http://energy.gov/nepa/downloads/eis-0026-sa-09-supplement-analysis> The shipments of LANL waste to WCS began on April 1 and were expected to continue until around June 30. <http://www.wipp.energy.gov/pr/2014/First%20LANL%20Shipment%20Arrives%20at%20WCS.pdf> On April 9, in response to questions from SRIC, DOE stated that the agreement with WCS allows waste from WIPP and other DOE sites to go to WCS for storage so long as it meets the WCS Acceptance Criteria. The Agreement allows the wastes to be stored for up to one year, with extensions for a longer period, if needed.

On May 1, an internal DOE report stated that an “energetic chemical reaction” might have caused the radiation release. http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/5-2-14%20ORPS%20Report.pdf

Although that report did not identify either the site or the waste stream, the suspected containers were from LANL, which DOE did confirm on May 2. Further shipments from LANL to WCS were halted. http://www.wipp.energy.gov/Special/WIPP%20Update%205_02_14.pdf

The LANL waste stream is LA-MIN02-V.001, Absorbed Waste from TA-55.
http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/13-0697%20WSPF.pdf

From that waste stream, there are 116 containers at WCS.
http://www.nmenv.state.nm.us/NMED/Issues/WIPP_docs/Destination_WCS.pdf

From that waste stream, there are 55 containers in room 7, Panel 7 and 238 containers in Panel 6.

There are also 86 nitrate-salt containers still at Los Alamos. Pursuant to NMED's Order of May 19, actions are being taken to re-package and monitor those wastes.
<http://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-256725>

12. On Thursday, April 24, a 5-man DOE Accident Investigation Board released its 302-page phase 1 report of the radiation release related to surface activity.
http://www.wipp.energy.gov/Special/AIB_Final_WIPP_Rad_Release_Phase1_04_22_2014.pdf The Board plans to issue a phase 2 report once access to the underground occurs.

What we do not know (among many other things)

1. What caused the release.
2. What was the nature of the release that allowed some contaminants to travel more than a mile and a half.
3. What radionuclides in what amounts and what toxic chemicals in what amounts have been released.
4. What contaminants were released into the environment before the HEPA filtration system was triggered.
5. What contaminants in what amounts have been captured by the HEPA filters.
6. What contaminants in what amounts have not been captured by the HEPA filters.
7. Where all the contaminants that were not captured are, whether inside the WIPP boundary or outside the site area.
8. Whether the amount of the release and the location of all of the containments can be determined.
9. When radiation levels in the WIPP underground air will return to pre-release levels.
10. The amounts of contamination in the WIPP underground.
11. What underground decontamination will be done.
12. What amount of exposure to radiation and toxic chemicals the first workers going underground will receive.
13. What amount of exposure to radiation and toxic chemicals workers going underground will receive in the future.
14. What amount of exposure that workers on the surface have received.
15. What amount of exposure that workers on the surface will receive in the future.
16. What surface decontamination will be done.
17. What changes in the WIPP operation, monitoring, and safety culture will be implemented.