



**Allen, Pam, NMENV**

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**From:** Maestas, Ricardo, NMENV  
**Sent:** Wednesday, December 17, 2014 4:28 PM  
**To:** Allen, Pam, NMENV  
**Subject:** FW: Info on LA-MIN02-V.001 Waste Stream

May

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**From:** Chavez, Rick - RES [mailto:Rick.Chavez@wipp.ws]  
**Sent:** Friday, May 02, 2014 4:47 PM  
**To:** Maestas, Ricardo, NMENV  
**Cc:** Kliphuis, Trais, NMENV; Stone, Anthony - DOE; Kehrman, Bob - RES; Basabilvazo, George - DOE; Urquidez, Ashley - RES  
**Subject:** RE: Info on LA-MIN02-V.001 Waste Stream

Ricardo:

I have a rough distribution, but our WDS expert is not here today either. I will get you some confirmed values on Monday.

The container numbers I gave you yesterday were primarily 55 gallon drums.

- WCS = 115 55-gallon drums are in 72 SWBs, 1 is in a direct loaded SWB
- WHB = 0
- Panel 6 = 313 55-gallon drums, some are in over packs
- Panel 7 = 54 55-gallon drums and 1 55-gallon drum in a SWB

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**From:** Maestas, Ricardo, NMENV [mailto:Ricardo.Maestas@state.nm.us]  
**Sent:** Friday, May 02, 2014 12:48 PM  
**To:** Chavez, Rick - RES; Kehrman, Bob - RES; Stone, Anthony - DOE; Basabilvazo, George - DOE  
**Cc:** Kliphuis, Trais  
**Subject:** FW: Info on LA-MIN02-V.001 Waste Stream

Good afternoon gentlemen,

I was hoping you could help me with a clarification.  
Rick I believe you helped Trais with the numbers below.



Could you help me answer John's question; "Can you clarify the numbers in the four bullets below. What type and size of containers? What is amount is "313" and "55"? ...and the "26" remaining at LANL?"

Steve Holmes is our WDS expert and is not in today.

Thank you!

**Important Fact:**

- Amount of this waste stream already shipped to WCS? 115 containers
- There are not any containers of this waste in the Waste Handling Building.
- Amount of this waste stream already shipped to WIPP? 313 in Panel 6, 55 in Panel 7
- Amount this waste stream remaining at LANL? 26

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**From:** Kliphuis, Trais, NMENV  
**Sent:** Friday, May 02, 2014 11:59 AM  
**To:** Maestas, Ricardo, NMENV  
**Cc:** Kieling, John, NMENV  
**Subject:** FW: Info on LA-MIN02-V.001 Waste Stream

If you have time to work on John's request, that would be great. Thanks.

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**From:** Kieling, John, NMENV  
**Sent:** Friday, May 02, 2014 10:26 AM  
**To:** Kliphuis, Trais, NMENV  
**Subject:** RE: Info on LA-MIN02-V.001 Waste Stream

Trais,

Can you clarify the numbers in the four bullets below. What type and size of containers? What is amount is "313" and "55"? ...and the "26" remaining at LANL?

Thanks, John

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**From:** Kliphuis, Trais, NMENV  
**Sent:** Thursday, May 01, 2014 5:02 PM  
**To:** Flynn, Ryan, NMENV; Kendall, Jeff, NMENV

WIPP is tentatively identifying the source of the release to be Waste Stream LA-MIN02-V.001. As a precautionary measure, they are not shipping anymore of that waste from LANL. The waste stream is an absorbed liquid homogeneous solid waste.

Below is more than you probably really want to know about it:

NMED was notified that the waste stream was approved for shipment on August 14, 2013 (attached). It was added to the Acceptable knowledge (AK) Summary Document (also attached) in Nov 2007.

The waste stream consists of approximately 266 55-gallon drums and 73 85-gallon drums, totaling an estimated 79.2 cubic meters of waste and equivalent to approximately 377 55-gallon drums. The containers in this waste stream were characterized using Real Time Radiography (RTR) and not Visual Examination (VE) because “the waste was previously packaged”.

**Important Fact:**

- Amount of this waste stream already shipped to WCS? 115 containers
- There are not any containers of this waste in the Waste Handling Building.
- Amount of this waste stream already shipped to WIPP? 313 in Panel 6, 55 in Panel 7
- Amount this waste stream remaining at LANL? 26

**Waste Stream Description:**

Waste stream LA-MIN02-V.001 consists primarily of inorganic particulate waste generated in TA-55. The waste is largely comprised of TRU waste such as liquids and solids absorbed or mixed with absorbent (e.g., Ascarite, diatomaceous earth, kitty litter, vermiculite, Waste Lock 770, and/or zeolite). Examples of absorbed liquids include acids (e.g., hydrochloric acid, hydrofluoric acid, and nitric acid); carbon tetrachloride; ethylene glycol; kerosene; methanol; methylene chloride; silicone based liquids (e.g., silicone oil); tetrachloroethylene; tributyl phosphate; trichloroethylene; and various types of oils including hydraulic, vacuum pump, grinding, and lapping (mixture of mineral oil and lard). Solids mixed with absorbents are typically evaporator salts (i.e., nitrate salts). The waste is also expected to contain heavy metals such as cadmium, chromium, and lead. Liquids and solids not absorbed or mixed with absorbent are often cemented and disposed of separately in waste stream LA-CIN01.001. A small fraction of debris waste (mainly plastic packaging, metal packaging, PPE, and secondary waste from repackaging [refer to Section 7.4.4.2]) and metal fines may also be present. Any payload container consisting of more than 50 percent by volume of heterogeneous debris will be excluded from this waste stream.

On a waste stream basis, the two predominant isotopes by mass for waste stream LA-MIN02-V.001 are Pu-239 and U-238 while over 95 percent of the total activity is from Pu-239, Pu-240, and Pu-241. The radiological characterization information is presented in Section 7.4.2.

**Exerpts from the Waste Stream Profile Form (WSPF):**

“The waste stream consists of approximately 266 55-gallon drums and 73 85-gallon drums, totaling an estimated 79.2 cubic meters of waste and equivalent to approximately 377 55-gallon drums. The containers in this waste stream were characterized using Real Time Radiography (RTR) and not Visual Examination (VE) because the waste was previously packaged.”

“Based on the review of container documentation and documented waste management practices, no prohibited items are specifically identified in the waste stream. However, the presence of prohibited quantities of liquid due to dewatering or incomplete absorption is possible. Procedures also allowed containers greater than four liters, sealed with tape, to be used for waste packaging until Los Alamos National Laboratory (LANL) Waste Isolation Pilot Plant (WIPP)-approved procedures were implemented. Lead shielding is often used to increase handling safety, and thick shielding can

obscure real-time radiography (RTR) observations. Additionally, based on interviews with site personnel performing visual examination (VE) and prohibited item disposition repackaging, internal cans (both shielded and unshielded) have been measured for dose rate during repackaging and found to contain waste with radiation levels exceeding 200 mrem/hr. Waste packages containing prohibited items identified during characterization activities will be segregated then dispositioned appropriately and/or repackaged to remove the items prior to certification and shipment.”

“Waste packaging procedures for LANL waste streams have been modified several times since the beginning of recovery operations and containers in this waste stream include a variety of configurations with up to four layers of confinement. RTR will confirm TRUCON code LA212.”

“The minimum inert absorbent material to nitrate salts mixture ratio is 1.5 to 1. LANL has determined that nitrate salts, when mixed with inert absorbent material, would further support the managing of the waste as non-ignitable. This determination is based on the results of oxidizing solids testing performed by the Energetic Materials Research and Testing Center. The materials in the waste stream are therefore not ignitable wastes.”

“The homogeneous waste in waste stream LA-MIN02-V.001 does not meet the definition of reactivity as defined in 40 CFR 261.23. Reactive chemicals (e.g., perchloric acid, sodium metal) are used or present in the facility and operations potentially contaminating this waste stream. However, D003 (reactivity) does not apply because the waste is stable and will not undergo violent chemical change without detonating. The waste will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The waste does not contain reactive cyanide or sulfide compounds. There is no indication that the waste contains explosive materials, and it is not capable of detonation or explosive reaction. The materials in the waste stream are therefore not reactive wastes.”

“Controls have also been in place to ensure the exclusion of ignitable, corrosive, and reactive constituents. In addition, the absence of prohibited items is verified through RTR of each waste container.”

Trais Kliphuis  
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