**From:** Haagenstad, Mark P
**Sent:** Thursday, September 11, 2014 3:52 PM
**To:** Hall, Timothy, NMENV; Kieling, John, NMENV; Briley, Siona, NMENV
**Cc:** Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Alison Beth; Schumann, Paul B; Vigil-Holterman, Luciana R; Turner, Gene E; Nickless, David J; Mousseau, Jeffrey David; George, Victoria A; Christensen, Davis V; Allen, Don; Woitte, Deborah Kay
**Subject:** RE: Questions
**Attachments:** Questions for LANL Update 08122014.docx; QA Response 08122014 Emal from NMED-HWB.docx

Hello John, Tim, and Siona:

Per NMED-HWB's request, attached for your review and consideration are the following:

- Tim Hall August 12, 2014 email questions
- LANL's responses to your August 12, 2014 questions

These questions were discussed during the August 12, 2014 NMED/LANL Technical Summary call. Please contact me if additional information would be helpful. Thanks!

Mark Haagenstad
(505) 699-1733

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**From:** Hall, Timothy, NMENV [mailto:Timothy.Hall@state.nm.us]
**Sent:** Tuesday, August 12, 2014 10:45 AM
**To:** Haagenstad, Mark P; Allen, Don
**Subject:** Questions

Mark and Don,

Here are the questions I asked during the call today.

Tim Hall
Environmental Scientist/Specialist
New Mexico Environment Department
Hazardous Waste Bureau
(505) 222-9555

Questions for LANL Update, 10:00 am, August 12, 2014

1. Yesterday's update states that parent container 69120 was sampled August 7. Is this correct? There is no container 69120 in the spreadsheet. Friday's update stated that empty parent container of 68660 was sampled – that parent container is S855793, and the "intermediate daughter" container is 68725.
2. Questions regarding remediation documentation received Friday:
    a. 10 of the 15 remediated daughters are still assigned to CIN01. Based on the records provided, these do not appear to be cemented waste. Why are these containers still assigned to CIN01?
    b. Are all the parent containers with remediated daughters empty?
    c. The waste descriptions in the remediation documentation are for the parent containers; how do you know what is in the daughters?
    d. Only one instance of pH being documented (Parent container S811834 – pH 5).
    e. Only one instance of documentation that "acid neutralizer" was added to the waste (Parent container S802641).
    f. No documentation of which absorbent was added, where it was added, or how much.
    g. Two instances of observable liquid in daughters (93980 and 93981) during RTR after remediation. Both are at WIPP in Panel 6. How much liquid was there? What was the pH of the liquid prior to remediation? After remediation? Was the liquid neutralized during remediation? Which absorbent was used?
    h. Why weren't the generator data and waste profile forms (for both parent and daughter containers) provided?
    i. When can we expect to get the documentation (including generator data and waste profile forms) for the remaining 258 parent containers (692 daughters)?
3. HSG measurements for SWBs:
    a. What are the levels for $H_2$ in SB50522?
    b. What are the actions to be taken if the $H_2$ level in a container reaches 35k ppm?
    c. Item 25 states that LANL will provide trending information for $CO_2$ on Thursday. Please bring trending data/charts for all HSG sampling to Thursday's meeting.
4. How many CIN01-Cans containers are at LANL that are not in isolation? Interested only in the ones generated by the process identified as TA-55-38 (nitrate salt processing at TA-55).
5. Still waiting for letter associated with number 12 (sampling parent containers). When will we get that?
6. Still waiting for list of containers that had Kolorsafe neutralizer added to them (#19).

**NMED Questions from LANL Update, 10:00 am, August 12, 2014**

1. *Yesterday's update [August 11] states that parent container 69120 was sampled August 7. Is this correct? There is no container 69120 in the spreadsheet. Friday's update stated that empty parent container of 68660 was sampled – that parent container is S855793, and the "intermediate daughter" container is 68725.*

LANL Response:

Drum number 69120 is the overpack container holding the empty parent drum of interest (S855793), which was sampled on August 7. NMED is correct that container number 69120 was not shown on the most recent spreadsheet provided to NMED on July 17, 2014 (letter no. ENV-DO-14-0179). The July 17, 2014 lists only the numbers of containers with waste, and does not include the empty and overpack container numbers. At the time of remediation of parent drum S855793, the waste was introduced into the WCRRF glovebox and remediated. The emptied parent was then placed into an 85-gallon overpack container (number 69120) and returned to storage at TA-54. Residues remaining in the empty 55 gallon parent drum, S855793, were sampled on August 7, 2014.

The complete genealogy of each parent container (i.e., the comprehensive listing of all daughter, empty, and overpack container numbers) is provided in the binder containing the remediation documentation for that parent container. The remaining binders are in the process of being assembled and delivered to the NMED-HWB.

2. *Questions regarding remediation documentation received Friday:*
   a. *10 of the 15 remediated daughters are still assigned to CIN01 [LA-CIN01-001]. Based on the records provided, these do not appear to be cemented waste. Why are these containers still assigned to CIN01?*

LANL Response:

The parents of the 10 daughter containers in question were assigned to waste stream LA-CIN01.001. Initial waste stream assignment of a remediated daughter is based on the process and the parent container information. The waste stream assignment of a remediated daughter is changed by CCP only if determined appropriate during the post-remediation certification process. In the case of these 10 containers, the RTR operators determined that the daughters should not be reassigned to another waste stream, based on CCP's evaluation criteria (i.e., they determined that more than 51% of the daughter drum contents still met the LA-CIN01.001 definition, as specified in CCP-AK-LANL-006). The waste stream assignment is documented for each daughter container on the *CCP Radiography Data Sheets* included in each document binder being provided to the NMED-HWB.

   b. *Are all the parent containers with remediated daughters empty?*

LANL Response:

Not all parent containers with remediated daughters are 100 percent empty. The original waste contents of parent containers are removed using practices commonly employed at the WCRRF for emptying that type of container, as described in the

WCRRF procedures provided to the NMED-HWB on July 29, 2014 (ref: ENV-DO-14-0178). In the case of nitrate salts drums, parent containers that have been emptied of nitrate salts waste to the maximum extent practicable may still contain a bag-out bag, an inner drum liner (if present) and/or, occasionally, de minimis quantities of waste residues. Emptied parent drums are "bagged off" the WCRRF glovebox, overpacked into an outer container, and returned to TA-54 for storage.

c. *The waste descriptions in the remediation documentation are for the parent containers; how do you know what is in the daughters?*

LANL Response:

The waste descriptions for the daughter containers are typically identified on page 3 of the *WCRRF WCG Waste Processing Data Sheet*, which is included in the binder containing the remediation documentation for that parent container. The WCRRF operators make comments and notes on pages 3 and 4 of this form to document their processing activity, which help to describe the contents of a given daughter container. As discussed above, the initial waste stream assignment of a remediated daughter is based on this processing information and the parent container information. RTR is then used to confirm the daughter container contents and the Waste Stream assignment. It is reevaluated, if necessary, as part of the certification process for the daughter container. The *CCP Radiography Data Sheets* for the daughter container were included in the document binder.

d. *Only one instance of pH being documented (Parent container S811834 – pH 5).*

LANL Response:

Some steps in the WCRRF procedure (EP-WCRR-WO-DOP-0233, WCRRF Waste Characterization Glovebox Operations) did not require the operator to document the results. This included the pH results for a container. Before the procedure was modified to address nitrate salts remediation, the procedure required the operators to check pH of any liquids found in order to determine the appropriate absorbent type to use. This was because prior to that time, the WCRRF remediation process frequently employed WasteLock for absorbing liquids, which is very pH-sensitive. When the procedure was modified to address nitrate salts remediation, it specified use of kitty litters that were generally not pH-sensitive; so documenting the pH measurement was not mandated.

e. *Only one instance of documentation that "acid neutralizer" was added to the waste (Parent container S802641).*

LANL Response:

As stated above, some steps in the WCRRF procedure (EP-WCRR-WO-DOP-0233, *WCRRF Waste Characterization Glovebox Operations*) did not require the operator to document the results. The procedure was changed when the absorbent type was

switched from WasteLock (which is very pH-sensitive) to kitty litters that were not pH-sensitive; so documenting neutralizer additions was not mandated.

*f. No documentation of which absorbent was added, where it was added, or how much.*

LANL Response:

The WCRRF procedure did not require the operator to document the type of absorbent added or the quantity. In addition, the procedure was changed when the absorbent type was switched from WasteLock (which is very pH-sensitive) to kitty litters that were not pH-sensitive. However, during this time period, the WCRRF remediation teams had Swheat available for their use.

g. *Two instances of observable liquid in daughters (93980 and 93981) during RTR after remediation. Both are at WIPP in Panel 6. How much liquid was there?*

LANL Response:

It appears that the WCRRF operator identified ~3 gallons in the parent container (S811812), the majority of which was placed (after absorption) into daughter container 93980, per page 3 of the *WCRRF WCG Waste Processing Data Sheet.* The post-remediation RTR video record for the two (2) daughters indicates that each daughter had significantly less than 1% liquid by volume. Specifically, drum 93980 had 10-15 ml of liquid, and drum 93981 had 25 ml of liquid. In this case, the information was recorded on the RTR video record, and not on the *CCP Radiography Data Sheets* that were included in the document binder.

*h. What was the pH of the liquid prior to remediation? After remediation?*

LANL Response:

Initial or final pH data was not recorded for these specific drums. As mentioned above, the operators were not required to document the pH results for every container.

*i. Was the liquid neutralized during remediation?*

LANL Response:

Neutralization data was not recorded for these specific drums. As mentioned above, the operators were not required to document neutralizer addition for every container.

*j. Which absorbent was used?*

LANL Response:

Absorbent data was not recorded for these specific drums. However, during this time period, the WCRRF remediation teams had Swheat available for their use.

*k. Why weren't the generator data and waste profile forms (for both parent and daughter containers) provided?*

LANL Response:

Some generator data forms for certain parent drums contain Unclassified Controlled Nuclear Information (UCNI) that will be discussed separately with the Department. CCP is to provide the Waste Profile Forms to NMED under separate cover.

*l. When can we expect to get the documentation (including generator data and waste profile forms) for the remaining 258 parent containers (692 daughters)?*

LANL Response:

The binders containing the remediation documentation for each parent container are in the process of being assembled and delivered to the NMED-HWB as quickly as possible. Each is delivered as soon as it is complete. As of September 11, 2014, eleven binders have been delivered to the NMED-HWB.

*3. HSG measurements for SWBs:*

*a. What are the levels for $H_2$ in SB50522?*

LANL Response:

Analysis of the headspace gas sample taken on 8/26/2014 indicates that the $H_2$ concentration in SB50522 was 8713 ppm. Since sampling of this container was initiated on 7/24/2014, the trend of $H_2$ has been toward a lower concentration. As of 8/26/2014, the average $H_2$ concentration of the samples from the previous seven days was 8434 ppm.

*b. What are the actions to be taken if the $H_2$ level in a container reaches 35k ppm?*

LANL Response:

Actions to be taken if the $H_2$ level in a container reaches 35,000 ppm will be the same set of actions to be taken if hydrogen concentrations reach 30, 000 ppm. Actions to be taken if hydrogen concentrations reach 30, 000 ppm will be incorporated into the revised LANL *Isolation Plan*, which is required to be provided no later than September 19, 2014, in response to item 5 of the August 29, 2014 NMED-HWB letter.

*c. Item 25 states that LANL will provide trending information for $CO_2$ on Thursday. Please bring trending data/charts for all HSG sampling to Thursday's meeting.*

LANL Response:

In response to item 3 of the August 29, 2014 NMED-HWB letter, $CO_2$ data and charts will be provided to the NMED-HWB no later than September 19, 2014.

4. *How many CIN01-Cans containers are at LANL that are not in isolation? Interested only in the ones generated by the process identified as TA-55-38 (nitrate salt processing at TA-55).*

LANL Response:

There are 586 TA-55-38 containers (LA-CIN01.001- Cans) that are not part of the *Isolation Plan*. The majority of these containers are in Domes 153 (265 containers) and Dome 229 (204 containers). The rest are in other domes throughout Area G.

5. *Still waiting for letter associated with number 12 (sampling parent containers). When will we get that?*

LANL Response:

This document, *Transmittal of Los Alamos National Laboratory Hazardous Waste Permit Applicability Associated with Waste Container Sampling* (ENV-DO-14-0218), was delivered to the NMED-HWB on August 26, 2014.

6. *Still waiting for list of containers that had Kolorsafe neutralizer added to them (#19).*

LANL Response:

This list is being finalized and will be provided to the NMED-HWB as part of LANL's response to the NMED-HWB's August 26, 2014 information request.