

**From:** Haagenstad, Mark P

**Sent:** Tuesday, December 02, 2014 5:19 PM

**To:** [Ryan.Flynn@state.nm.us](mailto:Ryan.Flynn@state.nm.us); [Jeff.Kendall@state.nm.us](mailto:Jeff.Kendall@state.nm.us); John Kieling; [steve.pullen@state.nm.us](mailto:steve.pullen@state.nm.us); Kliphuis, Trais, NMENV; [Timothy.Hall@state.nm.us](mailto:Timothy.Hall@state.nm.us); [siona.briley@state.nm.us](mailto:siona.briley@state.nm.us); [ricardo.maestas@state.nm.us](mailto:ricardo.maestas@state.nm.us); [Gregory.Lauer@state.nm.us](mailto:Gregory.Lauer@state.nm.us); [steve.holmes@state.nm.us](mailto:steve.holmes@state.nm.us); [coleman.smith@state.nm.us](mailto:coleman.smith@state.nm.us); [butch.tongate@state.nm.us](mailto:butch.tongate@state.nm.us)

**Cc:** Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Torres, Enrique; Woitte, Deborah Kay; Clemmons, Steve; Allen, Don; Roberts, Kathryn Margaret; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Sandra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Beard, Carl Allen; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Diaz, Tammy; Juarez, Catherine L; Robinson, Bruce Alan

**Subject:** Daily Technical Submission - December 2, 2014

Attached is the written daily technical submission for today. The Permittees are submitting the attached information pursuant to: Section 19 of the May 19, 2014, *Administrative Order*; the July 10, 2014 letter from NMED regarding *Modification to May 19, 2014, Administrative Order*; and Section IX of the September 19, 2014, *LANL Nitrate Salt-Bearing Waste Container Isolation Plan, Revision 2*.

Please contact me if additional information would be helpful.

Mark Haagenstad  
Environmental Protection Division  
Compliance and Permitting Group  
Los Alamos National Laboratory  
Office: (505) 665-2014  
Mobile: (505) 699-1733

# NMED / LANL Technical Summary

**December 2, 2014**

## **Participants:**

- New Mexico Environment Department: Tim Hall, Coleman Smith, Steve Holmes, Ricardo Maestas and Siona Briley.
- LANL – Los Alamos Field Office: Gene Turner and Dave Nickless.
- LANL – Los Alamos National Security: Alison Dorries, Don Allen, Bruce Robinson, Tony Grieggs, Mark Haagenstad and Cathy Juarez.

## **LANL Technical Update:**

- **Location of Nitrate Salt-Bearing Wastes**
  - Remediated nitrate salt-bearing waste containers.
    - All containers remain in the 375 Permacon.
  - Unremediated nitrate salt-bearing waste containers.
    - All containers remain in the 231 Permacon.
- **Monitoring - Daily Temperature**
  - Temperatures remain below 90°F.
    - Previous day's daily temperature data attached.
- **Monitoring – Visual Inspections**
  - No abnormal conditions were observed.
- **Monitoring – headspace gas (HSG)**
  - Containers (SWBs) 68685 and SB50522.
    - Continue daily head space gas (HSG) sample collection.
      - December 2, 2014 HSG data attached.
        - H<sub>2</sub>, CO, CO<sub>2</sub> and N<sub>2</sub>O
  - Other containers
    - A minimum of once per month HSG sampling will be conducted.
      - To date in December, LANL has conducted HSG sampling on 15 SWBs.
      - December 2, 2014 HSG data attached.

## **Additional measures currently underway**

- As a conservative measure, LANL is currently conducting additional monitoring. This additional monitoring includes:
  - Containers (SWB) 68685 and SB50522.
    - LANL continuing *solid phase micro-extraction*.

- Hourly temperature measurements are currently being performed on SWB 68685 and SB50522.
- Five (5) other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste).
  - Continue twice-weekly HSG sample collection.
  - Typographical error was found on yesterday's HSG data.
    - The correct H<sub>2</sub> value for SWB 69553 was 185ppm not 1885 ppm.

**Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, re-packaging).**

- Currently, no further movements or re-packaging are planned.
- **Other:**
  - Remove Tom Blaine from distribution of daily updates to the NMED-HWB and add Butch Tongate ([butch.tongate@state.nm.us](mailto:butch.tongate@state.nm.us)) to the daily distribution.
  - The high energy real time radiography (HERTR) machine is down for a mechanical issue. Expectations are the machine will be down about 2 weeks.

**Next Call:** Thursday, December 4, 2014

### Summary Chart - Requested Information / Pending Issues:

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
1.	NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g., 24 hour notices).	NMED	---	Complete June 5, 2014
2.	Keep NMED informed on the status of on-going chemistry / analytical work.	LANL	---	Complete June 9, 2014
3.	On upcoming daily call, provide additional discussion on the potential for liquids in the 350 post-1991 cemented containers (including a discussion of the review of RTR tapes).	LANL	---	Complete July 6, 2014 (Discussion on call) July 18, 2014 (Meeting held)
4.	On upcoming call, provide additional discussion on why 231 and 375 Permacon fire suppression systems are not part of the LANL RCRA Hazardous Waste Facility Permit Contingency Plan.	LANL	---	Complete June 5, 2014
5.	Send copy of June 4, 2014 written daily submission to Trais Kliphuis. Also, include her on future daily submissions.	LANL	---	Complete June 5, 2014
6.	Provide LANL procedures and example records associated with post-1991 TA-55 cementation process discussed on June 6.	LANL	---	Complete July 3, 2014
7.	Provide information on numbers of containers in the post-1991 cemented waste streams from the TA-55 process discussed on June 6. This should include numbers regarding RTR status (RTR'd, meet WIPP criteria, requiring remediation).	LANL	---	Complete June 17, 2014 (Supplemental Info provided July 3)
8.	Provide RTR video and pre-screening information associated with those containers requiring remediation from the post-1991 cemented waste streams from the TA-55 process discussed on June 6.	LANL	---	Complete July 3, 2014
9.	Provide copy of CCP/LANL Interface Document.	LANL	---	Complete June 9, 2014
10.	Provide a list of the analytes for which LANL is sampling HSG (CO <sub>2</sub> and LFL analytes).	LANL	---	Complete June 11, 2014
11.	Discuss potential sampling of HSG for NO <sub>x</sub> .	LANL	---	Complete June 16, 2014

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
12.	Follow-up with Tim Hall regarding LANL Hazardous Waste Facility Permit and procedures that LANL is developing for possible future sampling of empty parent containers and unremediated nitrate salt-bearing containers at LANL.	LANL	---	<p>Complete</p> <p>Empty Parent June 16, 2014</p> <p>Unremediated August 14, 2014 (Supplemental information discussed on sampling of parent containers)</p> <p>August 26, 2014 (Letter on applicability of LANL HWFP for opening waste containers)</p>

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
13.	<p>Respond to NMED email request for information associated with the nitrate salt-bearing parent and daughter waste containers.</p> <p>WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action.</p>	LANL	---	<p><b>Complete</b></p> <p>July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request)</p> <p>July 17, 2014 (Letter sent with updated spreadsheet)</p> <p>August 7, 2014 (First submittal in response to item 5)</p> <p>August 14, 2014 (Letter addressing items 2 &amp; 8 - Second submittal in response to item 5)</p> <p>August 18, 2014 (Third submittal in response to item 5)</p> <p>August 21, 2014 (Fourth submittal in response to item 5)</p> <p>August 27, 2014 (Fifth submittal in response to item 5)</p> <p>September 4, 2014 (Sixth submittal in response to item 5)</p> <p>September 9, 2014 (Seventh submittal in response to item 5)</p> <p>September 11, 2014 (Eighth submittal in response to item 5)</p> <p>September 22, 2014 (Ninth submittal in response to item 5)</p> <p>September 23, 2014 (Tenth submittal in response to item 5)</p> <p>October 1, 2014 (Eleventh submittal in response to item 5)</p> <p>October 8, 2014 (Twelfth submittal in response to item 5)</p> <p>October 16, 2014 (Thirteenth submittal in response to item 5)</p> <p>October 23, 2014 (Fourteenth submittal in response to item 5)</p> <p>October 27, 2014 (Fifteenth submittal in response to item 5)</p> <p>October 28, 2014 (Sixteenth submittal in response to item 5)</p> <p>November 3, 2014 (Seventeenth submittal in response to item 5)</p>

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
14.	NMED will review the Round Sheets (provided in June 11 summary) and inform LANL if these should be attachments to the Revised Plan, or if they fall under the provision in Section I of the Revised Isolation Plan and their identification during this technical call is sufficient.	NMED	NMED has reviewed Round Sheets – no comments / direction at this time. NMED will address any comments in their formal response to Revised Container Isolation Plan.	Complete  June 23, 2014
15.	NMED has requested ‘copies of any waste processing, treatment, characterization stop orders issued since Feb 14, 2014.’	LANL	---	Complete  June 13, 2014 (Included w/ daily summary)  June 16, 2014 (Discussed current TA-54 & WCRRF operations)
16.	NMED requested information on the location of drums 68327 and 68328. Request made June 14.	LANL	---	Complete  June 14, 2014
17.	Update on LANL efforts – including LANL teams. (On June 20 call, LANL offered to schedule an update meeting).	LANL / NMED	---	Complete  July 2, 2014
18.	Neutralizer use in association with container S855793 (parent of 68660 and 68685).	LANL	---	Complete  June 25, 2014
19.	List of nitrate salt-bearing waste containers that LANL records indicate contain absorbed liquids with the same neutralizer, as discussed during June 25 technical call.	LANL	---	Complete  September 30, 2014 (with August 26, 2014 response)
20.	Schedule follow-on update on LANL efforts – including teams.	LANL / NMED	---	Complete  August 14, 2014 (Meeting held)
21.	NMED requested information on document approval / review (as discussed on July 3 call).	LANL	---	Complete  July 29, 2014
22.	What analyses will be conducted on samples taken from empty drums that previously contained nitrate salt-bearing waste.	LANL	---	Complete  July 7, 2014
23.	NMED requested the following information on cemented waste containers generated from TA-55, that are currently stored above-ground at Area G: container id number; location; form (cans or monoliths); and type of concrete. Additionally, NMED requested information on pH adjustment during waste generation process, and information on anticipated pH of free liquids (and rationale).	LANL	---	Complete  July 17, 2014 (Letter sent w/ information)  July 18, 2014 (Meeting held)

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
24.	NMED requested the procedure for sampling empty parent drums that previously contained nitrate salt-bearing waste.	LANL	EP-AREAG-WO-DOP-1245 is included in Enclosure 1 to LANL's July 3, 2014 <i>Response to Request for Information on Management of Waste at LANL.</i>	Complete July 8, 2014
25.	NMED requested an additional discussion on a future technical call regarding CO <sub>2</sub> , including data.	LANL	---	Complete August 14, 2014 (Meeting held)
26.	NMED requested additional discussion on CIN-01 waste containers and absorbent, including confirmation and extent of use.	LANL	---	Complete July 18, 2014 (Meeting held)
27.	NMED requested historic analytical information on pH of liquids associated with gypsum cemented waste.	LANL	---	Complete August 7, 2014
28.	NMED requested link to pdf of Actinide Quarterly edition (3 <sup>rd</sup> Q 2008).	LANL	---	Complete July 21, 2014
29.	NMED requested a copy of lessons learned	LANL	---	Complete August 11, 2014
30.	NMED request regarding empty drum sampling presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
31.	Respond to NMED email request dated 8/12/2014 for information associated with the nitrate salt-bearing waste containers.	LANL	---	Complete September 11, 2014
32.	NMED request regarding technical presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
33.	NMED request regarding literature review of catalytic reactions.	LANL	Literature review is a pre-decisional draft/working document not for external release	August 25, 2014
34.	LANL requested to schedule a meeting with NMED on remediation planning and schedules.	LANL / NMED	In Progress Meeting scheduled for Monday September 29th	Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED	---	Complete October 20, 2014



	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
36.	NMED request regarding LANL Causal Analysis associated with processing of nitrate salt-bearing waste at WCRRF – when document is Final.	LANL	Document is currently Draft.	
37.	NMED requested a diagram illustrating the current locations within the 375 Permacon of the 55 SWBs that contain the 57 remediated nitrate salt-bearing waste containers. NMED also requested a list of these 55 SWBs and the waste drums within each SWB (including the container numbers and waste stream type).	LANL	---	Complete October 27, 2014 (Diagram submitted) November 3, 2014 (Table submitted) November 20, 2014 (Revised table submitted)
38.	NMED requested documentation regarding CIN01.001 waste containers that are not part of the September 19, 2014 Nitrate Salts-Bearing Waste Container Isolation Plan, Revision 2.	LANL	In Progress LANL will submit this documentation in batches as it becomes available.	Submitted 100 out of 586 RTRs and documentation on October 3, 2014. Submitted documentation for 101-200 containers on October 10, 2014. Submitted documentation for 201-300 containers on October 16, 2014. Submitted documentation for 301-400 containers on October 23, 2014. Submitted documentation for 401-500 containers on October 27, 2014. Submitted documentation for 501-586 containers on November 12, 2014. Submitted RTR Videos 101-150 on November 12, 2014. Submitted RTR Videos 151-200 on November 20, 2014. Submitted RTR Videos 201-250 on December 1, 2014.

	<b>Requested Information</b>	<b>Actionee</b>	<b>Status</b>	<b>Completion Date</b>
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL	---	Complete October 27, 2014
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED	---	Complete November 3, 2014
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED	---	Complete November 20, 2014
44.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED	In progress: Site visit to be scheduled for week of December 8, 2014.	

**Remediated Nitrate Salt Container Headspace Gas Analysis**

	<b>68685</b>				<b>SB50522</b>				<b>70503 (68540/68553)</b>			
<b>Date</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>
12/02/14	132	502	13366	3809	2231	405	40280	920	23	0	1266	93

**Remediated Nitrate Salt Container Headspace Gas Analysis**

	<b>69013</b>				<b>69417</b>				<b>69445</b>			
<b>Date</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>
12/02/14	29	0	1245	98	2	0	10	0	230	304	4909	384

**Remediated Nitrate Salt Container Headspace Gas Analysis**

	69520				69618				69620			
Date	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm
12/02/14	94	165	1432	412	25	0	697	94	337	334	3826	807

**Remediated Nitrate Salt Container Headspace Gas Analysis**

	<b>69641</b>			
<b>Date</b>	<b>H<sub>2</sub> ppm</b>	<b>CO ppm</b>	<b>CO<sub>2</sub> ppm</b>	<b>N<sub>2</sub>O ppm</b>
12/02/14	462	635	5407	1351

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 25 of 38

UET

ATTACHMENT 2

Page 1 of 3

TA-54 AREA G TA-54-231 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 12-1-14 to 12-7-14

	Monday 6.[6] Start Time: <u>0821</u>	Tuesday 6.[6] Start Time: _____	Wednesday 6.[6] Start Time: _____	Thursday 6.[6] Start Time: _____	Friday 6.[6] Start Time: _____	Saturday 6.[6] Start Time: _____	Sunday 6.[6] Start Time: _____
<b>TA-54-231</b>							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: <u>Fluke</u> Model: <u>561</u> Cal. Due Date: <u>7/29/15</u> File Number: <u>101974</u>	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____
Ambient Temperature (6.[7])	<u>38.6</u> °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
S818435	<u>39.3</u>						
S802833	<u>38.9</u>						
S801676	<u>38.5</u>						
S816810	<u>36.7</u>						
70069	<u>36.4</u>						
S822844	<u>36.6</u>						
S825879	<u>36.5</u>						
S793724	<u>36.9</u>						
S813545	<u>36.8</u>						
S822713	<u>38.4</u>						
S802739	<u>38.6</u>						
69907	<u>38.7</u>						
S804995	<u>39.4</u>						
S816434	<u>40.3</u>						





Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
Revision: 5  
Effective Date: 11/03/14  
Page: 27 of 38

UET

ATTACHMENT 2  
Page 3 of 3

6.[6] Date: From 12-1-14 to 12-7-14

6.[2] Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6.[17] Performed by:

<u>Jackie Romero</u>	<u>Jackie Romero</u>	<u>1187066</u>	<u>JK</u>	<u>12-1-14</u>
Operator (print)	Signature	Z#	Initials	Date
<u>Eliza Caldera</u>	<u>ELC</u>	<u>1114188</u>	<u>EC</u>	<u>12-1-14</u>
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/

/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
/	/	/	/	/

8.1[2] Reviewed by:

/	/	/	/	/
SOM or designee (print)	Signature	Z#	Initials	Date

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 28 of 38

UET

**ATTACHMENT 3**  
 Page 1 of 3

**TA-54 AREA G TA-54-375 CELL 1 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET**

6.[6] Date: From 12-1-14 to 12-7-14

	Monday 6.[6] Start Time: <u>1014</u>	Tuesday 6.[6] Start Time: _____	Wednesday 6.[6] Start Time: _____	Thursday 6.[6] Start Time: _____	Friday 6.[6] Start Time: _____	Saturday 6.[6] Start Time: _____	Sunday 6.[6] Start Time: _____
<b>TA-54-375 Cell 1</b>							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: <u>Fluke</u> Model: <u>567</u> Cal. Due Date: <u>6/2/15</u> File Number: <u>101915</u>	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____
Ambient Temperature (6.[7])	<u>52.4</u> °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
68685	<u>54.5</u>						
LA00000070503	68540	<u>55.7</u>					
	68553	<u>55.7</u>					
69445	<u>55.6</u>						
69618	<u>55.5</u>						
69013	<u>55.2</u>						
LASB50522	<u>56.6</u>						
LASB50452	<u>56.2</u>						
LASB50431	<u>56.5</u>						
LASB50069	<u>54.9</u>						
LASB50073	<u>54.8</u>						
69636	<u>55.6</u>						
69616	<u>55.3</u>						
69417	<u>56.3</u>						

IPC-1

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-L-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 29 of 38

UET

ATTACHMENT 3  
 Page 2 of 3

6.[6] Date: From 12-1-14 to 12-7-14

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
<b>TA-54-375 Cell 1 (continued)</b>							
69620	55.3						
69520	56.0						
69641	56.2						
69298	56.4						
LASB02203	55.0						
Ambient Temperature (6.[12])	53.0 °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
End Time (6.[13])	1019						
6.[13]	Operator: <u>[Signature]</u> Operator: <u>[Signature]</u>	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____

6.[2] Comments:

---



---



---



---



---



---

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 30 of 38


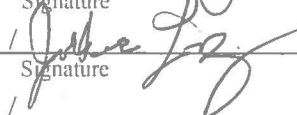
UET

ATTACHMENT 3

Page 3 of 3

6.[6] Date: From 12-1-14 to 12-7-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS LICAL		1236882	TL	12/1/14
Operator (print)	Signature	Z#	Initials	Date
John Lopez		1165981	JL	12/1/14
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-L-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 31 of 38

UET

ATTACHMENT 4

Page 1 of 3

TA-54 AREA G TA-54-375 CELL 2 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 12-1-14 to 12-7-14

	Monday 6.[6] Start Time: <u>1020</u>	Tuesday 6.[6] Start Time: _____	Wednesday 6.[6] Start Time: _____	Thursday 6.[6] Start Time: _____	Friday 6.[6] Start Time: _____	Saturday 6.[6] Start Time: _____	Sunday 6.[6] Start Time: _____
<b>TA-54-375 Cell 2</b>							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: <u>Fulce</u> Model: <u>S6</u> Cal. Due Date: <u>6/12/15</u> File Number: <u>15912</u>	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number: _____
Ambient Temperature (6.[7])	<u>55.9</u> °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
LASB02198	<u>55.6</u>						
68638	<u>56.7</u>						
69615	<u>57.1</u>						
69635	<u>57.5</u>						
69642	<u>56.8</u>						
69630	<u>56.8</u>						
69633	<u>57.3</u>						
68430	<u>57.0</u>						
68631	<u>56.6</u>						
69634	<u>56.8</u>						
68567	<u>56.0</u>						
94227	<u>56.8</u>						
LASB50442	<u>57.0</u>						
69644	<u>58.8</u>						
LASB50443	<u>57.0</u>						
69638	<u>57.4</u>						

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 32 of 38

UET

**ATTACHMENT 4**  
 Page 2 of 3

6.[6] Date: From 12-1-14 to 12-7-14

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
<b>TA-54-375 Cell 2 (continued)</b>							
68624	57.3						
68507	57.6						
69568	56.6						
69553	56.0						
69598	58.3						
LASB50559	58.3						
69015	58.2						
69639	56.9						
69637	56.9						
Ambient Temperature (6.[12])	55.8 °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
End Time (6.[13])	1028						
6.[13]	Operator: <u>[Signature]</u> Operator: <u>[Signature]</u>	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____

6.[2] Comments:

---



---



---



---



---



---

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 33 of 38

UET

**ATTACHMENT 4**

Page 3 of 3

6.[6] Date: From 12-1-14 to 12-7-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
-------------------------	-----------	----	----------	------





Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO- P-1246  
Revision: 5  
Effective Date: 11/03/14  
Page: 35 of 38

UET

ATTACHMENT 5  
Page 2 of 2

6.[6] Date: From 12-1-14 to 12-7-14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
<i>Thomas Vignone</i>	<i>[Signature]</i>	<i>12363821</i>	<i>[Initials]</i>	<i>12/1/14</i>
Operator (print)	Signature	Z#	Initials	Date
<i>Toshea Lopez</i>	<i>[Signature]</i>	<i>126598</i>	<i>[Initials]</i>	<i>12/01/14</i>
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-DOP-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 36 of 38

UET

ATTACHMENT 6  
 Page 1 of 3

TA-54 AREA G NITRATE SALT TRU WASTE CONTAINER HOURLY TEMPERATURE DATA SHEET

6 [6] Date: From 12-1-14 to 12-1-14 Location: Dom 375 Cell 1

	Start Time: 6.[6] <u>0630</u>	Start Time: 6.[6] <u>0730</u>	Start Time: 6.[6] <u>0831</u>	Start Time: 6.[6] <u>0929</u>	Start Time: 6.[6] <u>1031</u>	Start Time: 6.[6] <u>1131</u>	Start Time: 6.[6] <u>1229</u>	Start Time: 6.[6] <u>1329</u>	Start Time: 6.[6] <u>1428</u>	Start Time: 6.[6] <u>1631</u>	Start Time: 6.[6] <u>1628</u>	Start Time: 6.[6] <u>1729</u>	Start Time: 6.[6]	Start Time: 6.[6]	
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>	Brand: <u>NA</u> Model: <u>NA</u> Cal Due Date: <u>NA</u> File Number: <u>NA</u>
Ambient Temperature (6.[7]) <u>T3</u>	<u>50.46</u> °F	<u>50.47</u> °F	<u>50.47</u> °F	<u>53.75</u> °F	<u>54.25</u> °F	<u>55.02</u> °F	<u>56.35</u> °F	<u>56.86</u> °F	<u>57.21</u> °F	<u>56.95</u> °F	<u>55.27</u> °F	<u>52.63</u> °F	°F	°F	
Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	
<u>68685 T1</u>	<u>51.77</u>	<u>51.82</u>	<u>51.82</u>	<u>54.42</u>	<u>54.22</u>	<u>54.75</u>	<u>55.86</u>	<u>56.38</u>	<u>56.70</u>	<u>56.36</u>	<u>54.89</u>	<u>52.69</u>			
<u>68685 T2</u>	<u>51.13</u>	<u>51.10</u>	<u>51.10</u>	<u>53.83</u>	<u>53.46</u>	<u>54.08</u>	<u>55.14</u>	<u>55.56</u>	<u>55.89</u>	<u>55.63</u>	<u>54.16</u>	<u>51.92</u>			
<u>50522 T4</u>	<u>52.08</u>	<u>52.09</u>	<u>52.09</u>	<u>53.97</u>	<u>53.98</u>	<u>54.41</u>	<u>55.29</u>	<u>55.70</u>	<u>56.02</u>	<u>55.85</u>	<u>54.86</u>	<u>53.12</u>			
<u>50522 T5</u>	<u>51.80</u>	<u>51.82</u>	<u>51.82</u>	<u>53.91</u>	<u>53.94</u>	<u>54.44</u>	<u>55.35</u>	<u>55.74</u>	<u>56.05</u>	<u>55.90</u>	<u>54.77</u>	<u>52.91</u>	<u>NA</u>	<u>NA</u>	
					<u>NA</u>										

WORKING COPY  
 Z# 114188  
 INITIAL SC DATE 12-1-14



Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-DOP-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 38 of 38

UJET

ATTACHMENT 6  
 Page 3 of 3

6.[6] Date: From 12-1-14 to 12-1-14 Location: Dom 375 Cell 1

6.[2] Comments: did not enter permamon as per standing order 1247 RE  
all temps were taken from data logger computer in 375  
no further entries

NA

6.[17] Performed by:

<u>Seste Chavez</u>	<u>[Signature]</u>	<u>214579</u>	<u>SC</u>	<u>12-1-14</u>
Operator (print)	Signature	Z#	Initials	Date
<u>William Jones</u>	<u>[Signature]</u>	<u>251458</u>	<u>WT</u>	<u>12-1-14</u>
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

<u>Casey Mason</u>	<u>[Signature]</u>	<u>226735</u>	<u>BM</u>	<u>12-1-14</u>
SOM or designee (print)	Signature	Z#	Initials	Date



Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-DOP-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 37 of 38

UET

ATTACHMENT 6  
 Page 2 of 3

6.[6] Date: From 12-1-14 to 12-2-14 Location: 375

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
<i>na</i>														
Ambient Temperature (6.[12])	<u>53.24</u> °F	<u>52.61</u> °F	<u>52.35</u> °F	<u>52.48</u> °F	<u>50.72</u> °F	<u>50.62</u> °F	<u>50.78</u> °F	<u>50.84</u> °F	<u>51.09</u> °F	<u>50.70</u> °F	<u>50.68</u> °F	<u>50.33</u> °F	°F	°F
End Time (6.[13])	<u>1833</u>	<u>1931</u>	<u>2029</u>	<u>2127</u>	<u>2228</u>	<u>2329</u>	<u>0030</u>	<u>0127</u>	<u>0230</u>	<u>0331</u>	<u>0431</u>	<u>0525</u>	<i>na</i>	
6.[13]	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>TR</u> Operator: <u>LGC</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>TR</u> Operator: <u>TR</u>	Operator: <u>TR</u> Operator: <u>TR</u>	Operator: <u>TR</u> Operator: <u>LGC</u>	Operator: <u>TR</u> Operator: <u>LGC</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator: <u>LGC</u> Operator: <u>TR</u>	Operator:	Operator:

Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-DOP-1246  
 Revision: 5  
 Effective Date: 11/03/14  
 Page: 38 of 38

UET

ATTACHMENT 6

Page 3 of 3

6.[6] Date: From 12-1-14 to 12-2-14 Location: 375

6.[2] Comments: Did not Enter Dome 375 Permacon Per 50-1247 Rev 2. Temperatures were taken from  
Dome 375 Control room using Data Logger.

N/A

6.[17] Performed by:

<u>William S. Gordon</u>	<u>[Signature]</u>	<u>11290</u>	<u>WAG</u>	<u>12-2-14</u>
Operator (print)	Signature	Z#	Initials	Date
<u>Tommy Borch</u>	<u>[Signature]</u>	<u>11474</u>	<u>TB</u>	<u>12-2-14</u>
Operator (print)	Signature	Z#	Initials	Date
<u>Tommy Romero</u>	<u>[Signature]</u>	<u>234253</u>	<u>TR</u>	<u>12-2-14</u>
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date
Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

<u>Garrett M...</u>	<u>[Signature]</u>	<u>226225</u>	<u>GM</u>	<u>12-2-14</u>
SOM or designee (print)	Signature	Z#	Initials	Date