From: Haagenstad, Mark P

Sent: Wednesday, January 28, 2015 4:23 PM

**To:** Ryan.Flynn@state.nm.us; Jeff.Kendall@state.nm.us; John Kieling; steve.pullen@state.nm.us; Timothy.Hall@state.nm.us; siona.briley@state.nm.us; ricardo.maestas@state.nm.us; Gregory.Lauer@state.nm.us; steve.holmes@state.nm.us; coleman.smith@state.nm.us; butch.tongate@state.nm.us; Cobrain, Dave, NMENV; kathryn.roberts@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; 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, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Diaz, Tammy; Juarez, Catherine L; Robinson, Bruce Alan; Lansing, Michael Alan; Tymkowych, John M

Subject: Daily Technical Submission - January 28, 2015

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

# **January 28, 2015**

### **LANL Technical Update:**

- Location of Nitrate Salt-Bearing Wastes
  - o Remediated nitrate salt-bearing waste containers.
    - All containers remain in the 375 Permacon.
  - o Unremediated nitrate salt-bearing waste containers.
    - All containers remain in the 231 Permacon.
- Monitoring Daily Temperature
  - o Temperatures remain below 90°F.
    - Previous day's temperature data attached.
- Monitoring Visual Inspections
  - o No abnormal conditions were observed.
- Monitoring headspace gas (HSG)
  - o Containers (SWBs) 68685 and SB50522.
    - Continue daily head space gas (HSG) sample collection.
      - January 28, 2015 HSG data attached.
        - o 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 January, LANL has conducted HSG sampling on 55 SWBs.
- 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.
- Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, repackaging)
  - o Currently, no further movements or re-packaging are occurring.

### Other:

- Verbal and written notifications were provided to NMED-HWB's Steve Pullen on December 29, 2014 regarding the Fire Watch that was established within Dome 231 at 2:30 am on December 29, 2014 after a nitrogen leak was discovered in the dry pipe suppression system located within the Permacon in Dome 231. The Fire Watch will be in effect until the system can be repaired.
  - The repair of multiple sprinkler heads inside Dome 231 is being conducted one sprinkler head at a time and no drum movement is occurring or anticipated. Permitees will keep NMED-HWB apprised of progress.
- There will be no phone call Thursday January 29, 2015 due to a meeting in Santa Fe with the NMED-HWB.

Next Call: Tuesday, February 3, 2015

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

	Requested Information	Actionee	Status	Completion Date
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 ongoing 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

	Requested Information	Actionee	Status	Completion Date
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		Complete  Empty Parent June 16, 2014  Unremediated August 14, 2014 (Supplemental information discussed on sampling of parent containers)
				August 26, 2014 (Letter on applicability of LANL HWFP for opening waste containers)

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

	Requested Information	Actionee	Status	Completion Date
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)

	Requested Information	Actionee	Status	Completion Date
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 Response to Request for Information on Management of Waste at LANL.	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		Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED		Complete October 20, 2014

	Requested Information	Actionee	Status	Completion Date
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)

	Requested Information	Actionee	Status	Completion Date
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 is 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 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. Submitted RTR Videos 251-300 on December 19, 2014. Submitted RTR Videos 301-312 on January 15, 2015.
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

	Requested Information	Actionee	Status	Completion Date
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED		Complete November 20, 2014
44.	Schedule a sixth update on LANL efforts – including teams.	LANL/ NMED		Complete December 9, 2014
45.	NMED requested documentation regarding CIN01 drums.	LANL	In Progress Additions to original questions added during technical phone call December 9, 2014.	
46.	NMED requested documentation regarding duplicate drum number.	LANL	In Progress	
47.	NMED requested the ESS plan for temperature control and sampling once finalized.	LANL	Document is currently in Draft.	
48.	Schedule a seventh update on LANL efforts – including teams.	LANL/ NMED	Meeting is scheduled for January 29, 2015.	
49.	Fire suppression repair plan for Dome 231	LANL		This repair plan is no longer necessary because drum movement will not occur during the repair process.
50.	NMED requested information regarding solution packages 36, 37, 57 and 78.	LANL	In Progress	

### **Remediated Nitrate Salt Container Headspace Gas Analysis**

	68685					SB50	0522	
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
01/28/15	135	387	10214	2744	1506	427	36016	951

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## **ATTACHMENT 2**

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

6.[6] Date: From 1-26-15 to 2-1-15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday	Thursday	Friday	Saturday	Sunday
	Start Time: 1022	Start Time: <u>1910</u>	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:
TA-54-231							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluky Model: 56/ Cal. Due Date: 7/28/15 File Number 1019 74	Brand: Pluf Model: TO Cal. Due Date: Mall5 File Number 101974	Brand:  Model:  Cal. Due Date:  File Number	Brand: Model: Cal. Due Date: File Number			
Ambient Temperature (6.[7])	56.9 °F	<i>56.</i> 0°F	°F	oF	oF	°F	oF.
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	54.6	51.6					
S802833	54.1	52.0					
S801676	52.9	51.8					
S816810	59.1	56.9					
70069	58.1	55.9					
S822844	58.4	57.7					
S825879	58.7	56.3					
S793724	57.9	55.4					
S813545	56.4	54.7					
S822713	56.4	54.3					
S802739	55.5	53.3					
69907	54.8	52.8					
S804995	55.3	52.9					
S816434	55.7	53.5					

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6.[6] Date: From 1.26.15 to 2.1.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container 1D #	Temp (°F) (6.[8]/6.[9])						
ΓA-54-231 (continue	d)						
S805289	55.8	53.3					
S862888	550	53.5					
70072	54.8	53.4					
S823184	54.8	54.7					122
S822599	56.7	55.5					
69904	56.5	55.2					
S805051	57.0	54.3					
S864213	57.9	55.8					
S853714	57.4	57.1					
S803078	58.0	56.3					
S825878	57.9	53.8					
S823124	57.4	55.6					
S804948	56.9	53.4					
S813385	55.5	53.0					
S842446	55.2	54.0					
Ambient Temperature (6.[12])	54.9 °F	53.5 °F	oF	°F	°F	°F	oF.
End Time (6.[13])	1625	0916					
6.[13]	Operator:						
	Operator:						

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o.[o] Date. From <u>r</u>	26:15 to 2:1:15						
6.[2] Comments:	· · · · · ·		065				
6.[17] Performed by:		ae 17931081 Ab 11-26-15		/	/	/	/
Operator (print)	Signature S	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Homas V3	6-1	1736382 / 4/ /1/26/15	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date
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### **ATTACHMENT 3**

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

6.[6] Date: From 1.26.15 to 2.1.15

	N 1	T. 1	***	7771	77.11	1 0 1	7 1
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1436	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
		1-2HSP 12+1139					
TA-54-375 Cell 1							
Calibrated Infrared	Brand: Tluke	Brand: Fluce	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 561	Model: 501	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 6 12 15	Cal. Due Date: 6/12/15	Cal. Due Date;	Cal. Due Date:		Cal. Due Date:	Cal. Due Date:
	File Number	File Number	File Number	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	55.9°F	55. Per 55. Per	°F	oF	0]7	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])				
68685	57.7	50 7551					
68540		50.4 54.7					
LA00000070503 68553		55.2					
69445	\$7.3	550 545					
69618	56.8	12 FU 7 5U 7					
69013	57.2	PARS 1 55.0					
LASB50522	\$7.4	Van 4 55.6					
LASB50452	57.3	22 24 555					
LASB50431	57.7	55.8					
LASB50069	57.0	55.3					
LASB50073	56.8	55.3					
69636	51.3	55.7					
69616	57.)	55.2					
69417	4.72	50.7					

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6.[6] Date: From <u>1-26-15</u> to <u>2-1-15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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])
TA-54-375 Cell 1 (con	itinued)						
69620	51.4	55,5					
69520	576	55.8					
69641	57.9	54.0				T. C.	
69298	87.7	54.0					
LASB02203	57.6	56.1					
Ambient Temperature (6.[12])	58.Z°F	53.9°F	°F	°F	oF	°F	oF
End Time (6.[13])	1435	134142					
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	
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6.[6] Date: From <u>1.26</u>	15 to 2.1.15							
6.[17] Performed by:	, <del>1</del> -1-1	1 2363821	tri ilrelis		/	/	/	/
Operator (print)	(Signatuje		Initials Date	Operator (print)	Signature	Z#	Initials	Date
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Operator (print)	Signature		Initials Date	Operator (print)	Signature	Z#	Initials	Date
Joseph Dez	Julya Sor	1114589	081/02715		/	/	/	/
Operator (print)	Signature		Initials Date	Operator (print)	Signature	Z#	Initials	Date
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Operator (print)	Signature	Z# 1	Initials Date	Operator (print)	Signature	Z#	Initials	Date
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8.1[2] Reviewed by:								
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### TA-54 AREA G TA-54-375 CELL 2 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 1.26.15 to 2.1.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1435	Start Time: 1143	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2							
Calibrated Infrared	Brand: Fluke	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model:	Model: 561	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 61415	Cal. Due Date: 6/12/5	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 181912	File Number 101912	File Number	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	<u>57.5</u> °F	<u>55.2</u> ∘ <sub>F</sub>	°F	ol;	oF	°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	57.0	56.7					
68638	58.2	54.7					
69615	58.5	57.3					
69635	58.1	57.6					
69642	58.6	57.2					
69630	58.9	57.0					
69633	58.7	57.3					
68430	58.8	<b>a.</b> 1					
68631	59.3	de.6					
69634	57.2	54.7					
68567	56.3	55.				-	
94227	57.6	de.4					
LASB50442	57.8	50.4					
69644	58.6	54.6					
LASB50443	58.1	M 57.545					
69638	59.2	57.2					

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6.[6] Date: From 1.26.15 to 2.1.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container 1D #	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])
TA-54-375 Cell 2 (con	tinued)	FORMER				, all the carry	
68624	59.0	58.9					
68507	58.7	58.2					
69568	57, Z	56.2					
69553	57.3						
69598	56.3	55.1 51.9					
LASB50559	57.8	Soil		100			
69015	59.0		11				
69639	59.3	57.7					
69637	39.4	58.					
Ambient Temperature (6.[12])	57.9 of	559°F	°F	°F	oF	°F	°F
End Time (6.[13])	1442	1151					
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:Operator:	Operator:	Operator:

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Effective Date: Page:

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# ATTACHMENT 4 Page 3 of 3

6.[6] Date: From 1.26.15 to 2.1.15 6.[17] Performed by: 1236XZ/ Operator (print) Signature Z# Operator (print) Operator (print) Z# Signature Operator (print) -Signature osephiae Duran Operator (print) Signature  $\mathbb{Z}^{\#}$ Operator (print) Signature 1116918 Den Here Operator (print) Signature Z# Operator (print) Signature Initials Z# Operator (print) Signature Operator (print) Z# Initials Signature Date Z# Operator (print) Signature Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Operator (print) Signature Z# Initials Date 8.1[2] Reviewed by: SOM or designee (print) Z# Signature Initials Date

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## **ATTACHMENT 5**

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### TA-54 AREA G TA-54-375 CELL 3 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 1.26.15 to 2.1.15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: 1425		Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluxe Model: Sol Cal. Due Date: Coll 15 File Number 101916	Brand: Full Model: Scal Due Date: 6 12 15 File Number 10 19 10	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>\$8.0</u> °F	55,4°F	oF	°F	°F	°F	oF
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])
69519	c8.7	56.6					
69645	59.0	567					
94068	390	50.3					
93605	28.1	55.8					
69548	58.1	55.8					
69604	V.82	55.1					
LASB50529	58.7	55.4					
LASB50418	SE. 9	554					
69036	28.7	50.0					
LASB50451	58.7	55.6					
69559	58.2	554					
LASB50448	\$7.8	54.9					
Ambient Temperature 6.[12])	78.7 °F	55.2°F	°F	°F	oF	°F	°F
End Time (6.[13])	1429	434					
6.[13]	Operator: Operator:	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

UET

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6.[6] Date: From 1.26.15 to 2.1.15 6.[2] Comments: 6.[17] Performed by: 1236382 THOMAS GOLL Operator (print) Signature Z# Initials Date Operator (print) Initials Signature 116598 Operator (print) Signature Z# Initials Date Initials Operator (print) Signature Z# Date to sephon to 15191 Operator (print) Signature Z#Initials Date Operator (print) Initials Date Signature 111658221012715 Operator (print) Signature  $\mathbb{Z}^{\#}$ Initials Date Operator (print) Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Initials Date Operator (print) Z# Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Initials Date Operator (print) Z# Signature Initials Date 8.1[2] Reviewed by: SOM or designee (print) Z# Signature Initials Date

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ATTACHMENT 6
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## TA-54 AREA G NITRATE SALT TRU WASTE CONTAINER HOURLY TEMPERATURE DATA SHEET

6.[6] Date: From 1-27-15 to 1-21-15 Location 375

		T												
	Start Time: 6.[6]	Start Time:	Start Time: 6.[6]	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
	0626	0728	0830	0.[6]	1028	1127	1234	1328	1427	1258	1628	1723	6.[6]	6.[6]
Calibrated	Rrand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Parand:	Brand:	Brand:	Brand:	Brand	Brand:
Infrared Thermometer	Model:	Model:	Modal:	Model:	Midel:	Model:	Model	Model	1			1		
(4.2.1[1][B])									Model:	Model:	Model:	Model:	Model.	Model:
	Cal, Dul Date:	Cal. Dua Date:	Cal. Due Due:	Cal. Die Date:	Cal. D. A Flate:	Cal. Due Data	Cal. Due Dar	Cal. Due Liter	Cal. Due Data	Cal. Dua Date:	Cal. Due DAe:	Cal. Dut Dut	Cal. Duc Date:	Cal. Due Date:
	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number						
Ambient							•		-	-				
Temperature	44.62 of	49.34°F	50.06 °F	5201°F	51.56°F	53,91°F	55.20°F	56.36 °F	57.56°F	58,18°F	57.34°F	S5,48°F	JE.	oF
(6.[7]) <b>T3</b>												30, 10		
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)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)				
	51.43	31.19	31.08	53.47	52,23	54.30	6 -	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])
68685 TZ	50.58	50.32	51.04	52.75	-		55.09	56.09		\$7.81	87.15	55.41		<del>\</del>
					\$1.55	53,48	54.24	55.26	56.25	56.89	56.24	54.53	N	A
	-	50-84	51.21	5254	51.93	53,36	54.08	54.89	55.83	56.42	56.04	34.79	., 4	3/1-
50522 TS	30.87	50.47	50.83	52.05	51.72	53,24	54.06	54.89	55.80	56.36	55.92	54.78		
									<b>N</b>					
								P						
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6.[6] Date: From 1-2745 to 1-21-15 Location: 375

Container 1D # (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)	Temp (°F) (6.[8]/6.[9])	Temp (6.[8]/6					
												1			
							N								
							4								
														1	
														10	Y.
Ambient	-	Lan													
6.[12])	44.63°F				51.56°F	53.91°F	55.20F		57.58F	58.18°F	57.34°F	55.48 <sub>F</sub>	°F		°F
0.[12])	0627	0729		0928	1029	1128	230	1329	1428	1528	1629	1723			7
6.[13]	Operator:	Operator:	Operator	Operator:	Operator:	Operator	Operator	Operator	Operator	Operator:	Operator:	Operator:	Operator:	Operator	
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	r: ——

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### **ATTACHMENT 6**

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6.[6] Date: From 1-27-15 to 1-27-15 Location: 37 \$

6.[2] Comments:

6.[17] Performed by: 201458/ 0-11-27-15 Operator (print) Jess Chavez 211/6/8 JC 11-27-15 Operator (print) Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Initials Date Operator (print) Signature Initials Date

	,	,	, ,
	/	/	
Operator (print)	Signature	Z#	Initials Date
	/	/,	1
Operator (print)	Signature	JT/Z#	Initials Date
	/	PV -	/ /
Operator (print)	Signature	HZ#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	1	/	/ /
Operator (print)	Signature	Z#	Initials Date
	1	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date

8.1[2] Reviewed by:

GAM MAIM SOM or designee (print)

Signature

Operator (print)

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

6.[6] Date: From 1-27-15 to 1-28-15 Location: Dome 375

			T	1					mi	0	Q	0	N a	0 70
	Start Time: 6.[6]	Start Time: 6.[6]	Start Time:	Start Time: 6 [6]	Start Time: 6,[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6 [6]	Start Time: 6.[6]	Start Time: 6 [6]	Start Time: 6.[6]	Start Time 6 [6]	Start Time: 6.[6]	Start Time 6 [6]
	1830	1928	2030	2130	2230	2330	0029	0130	0226	0330	0428	0522	0.[0]	0,[0]
Calibrated Infrared	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand	Brand
Thermometer	Model	Model	Modelna	Model	Model	Model	Model 14	Model	Model:	Model	Model	Model NA	Model	Model
(4.2.1[1][B])	Cal Que Date	Cal Due Date	Cal Due Qate	Cal Due Pate;	Cal, Due Date:	Cal Due Date	Cal Due Date	Cal Due Date	Cal Due Date	Cal Dua Date	Cal Due Date	Cal Die Date	Cal Due Date	Cal Due Date
	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number				
Ambient Temperature (6.[7])	51.90°F	57.66°F	53.0/°F	51.36 °F	51.15°F	51.57°F	<i>51.75</i> °F	<i>51.41</i> °F	<i>51.09</i> °F	<i>51.39</i> °F	<i>51.84</i> °F	<b>50.86</b> °F	F	eF
Container 1D # (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])				
TU 68685	52.10	51.80	53.57	51.99	52.17	52.64	52.8	52.48	52.28	52.63	53.08	51.96		
1(2)68685	51.70	51.13	53.02	51.44	51.35	51.92	52./9	51.83	51.56	51.91	52,39	51.39		
TC4) 50522	52.22	51.95	53.0	51.94	52.06	52.33	52.33	5204	51.91	52.09	52.44	51.83		
115) 50522	51.90	51.71	52.88	51.67	51.74	52.07	52.11	51.78	51.64	51.80	52.21	51.54		
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6.[6] Date: From 1-27-15 to 1-28-15-

UET

Location: Dome 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)	Temp (°F) (6,[8]/6,[9])
				(3,[3], 3,[3],	(3.[5]-5.[5])	(6.[6], 6.[5])	(6.[6]/6.[7])	(0.[0],0.[7])	(0.[0]/0.[7]/	(8,6,6,6,7)	(0.[0]/0.[2]/	(0.[0]/0.[2])	(0:[8](0:[2])	(0,[8]70,[9])
							MA							
							14							
Ambient Temperature (6.[12])	<i>51.90</i> °F	57.66°F	53.0 °F	<i>51.</i> 36°F	51.09°F	51.57°F	<i>51.75</i> °F	51.41 °F	51.09°F	51.39 °F	51.84°F	<u>5093</u> ∘F	°F	°F
End Time (6.[13])	1830	1928	2031	2130	2231	<i>Z330</i>	0029	0/3/	0226	0331	0428	0522		
6,[13]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Be	Operator:		08	Operator:	08	Operator:		08	Operator:	Operator:	Operator:		252000

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#### ATTACHMENT 6

			Page 3 o						
6.[6] Date: From <u>0/-</u>	27-14 to 01-28-14	Location: Dome 375							
6.[2] Comments: 1)	d not enter	dome 375 Permas	ion de stan	ding Order 1.	147 Rev	. 2. Tem	vatures to	tra toon	
			no feether ?						
				1-18-49 L	QCK_				
6.[17] Performed by:		7							-
Operator (print)	Signature		Operator (print)	/ Signature /	/ Z# /	/ / Initials Dat	<u> </u>		
Operator (print)	Signature / Signature	Z# Initials Date / / / Z# Initials Date	Operator (print)	Signature Signature	Z# / Z#	Initials Dat / / Initials Dat	_		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature /	Z#	Initials Dat	2		
Operator (print)	Signature /	Z# Initials Date	Operator (print)	Signature /	ZH	Initials Dat	3		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature /	Z# /	Initials Dat	<del>-</del>		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials Dat			
8.1[2] Reviewed by:	4								

SOM or designee (print)