From: Juarez, Catherine L Sent: Tuesday, April 21, 2015 8:33 PM

To: <u>Ryan.Flynn@state.nm.us</u>; <u>Jeff.Kendall@state.nm.us</u>; John Kieling; <u>steve.pullen@state.nm.us</u>; <u>Timothy.Hall@state.nm.us</u>; <u>siona.briley@state.nm.us</u>; <u>ricardo.maestas@state.nm.us</u>; <u>Gregory.Lauer@state.nm.us</u>; <u>steve.holmes@state.nm.us</u>; <u>coleman.smith@state.nm.us</u>; <u>butch.tongate@state.nm.us</u>; Cobrain, Dave, NMENV; <u>kathryn.roberts@state.nm.us</u>

**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; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Robinson, Bruce Alan; Lansing, Michael Alan; Tymkowych, John M; Diaz, Tammy; Branch, Yvette S; Guffee, Debi; Juarez, Catherine L; Armijo, Karen (CONTR); Haagenstad, Mark P; Saladen, Michael Thomas; <u>epccat@lanl.gov</u>; Vigil-Holterman, Luciana R

Subject: Daily Technical Submission - April 21, 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 Mark if additional information would be helpful.

Catherine Juarez for Mark Haagenstad.

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

### April 21, 2015

### **Participants:**

- New Mexico Environment Department: Ricardo Maestas.
- LANL NNSA- Los Alamos Field Office: Gene Turner.
- LANL Los Alamos National Security: Mark Haagenstad, John Tymkowych, Luciana Vigil-Holterman and Cathy Juarez.

### 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.
  - Suspect nitrate salt-bearing waste containers.
    - Containers are located in the 375 Permacon.

### • Monitoring - Daily Temperature

- 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.
      - April 21, 2015 HSG data attached.
        - $\circ$  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 April, LANL has conducted HSG sampling on 59 containers.

### • 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 other SWB overpacks (containing 55-gallon drums of remediated nitrate saltbearing waste) and four suspect nitrate salt-bearing waste POCs.

- Twice-weekly HSG sample collection.
- Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, repackaging)
  - Currently, no further movements or re-packaging are occurring.

### Other:

Next Call: Thursday, April 23, 2015

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

	<b>Requested Information</b>	Actionee	Status	Completion Date
1.	NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g.,	NMED		Complete
2.	24 hour notices).	LANL		June 5, 2014 Complete
2.	Keep NMED informed on the status of on- going chemistry / analytical work.	LANL		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	LANL		Complete
7.	cementation process discussed on June 6. 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		July 3, 2014 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 ( $CO_2$ 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
Requested Information Respond to NMED email request for information associated with the nitrate salt- bearing parent and daughter waste containers. 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.	Actionee       I         LANL       I         I       I	Status	

	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 501-586 containers on Noteber 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 19, 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		Complete Email- February 3, 2015 Letter- February 19, 2015
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		Complete January 29, 2015
49.	Fire suppression repair plan for Dome 231	LANL		This repair plan is no longer necessary because drum movement did not occur during the repair process. Repair is complete.
50.	NMED requested information regarding solution packages 36, 37, 57 and 78.	LANL		Complete. Email – February 17, 2015. Letter- March 19, 2015.
51.	NMED requested copies of any procedures regarding cementation in bags.	LANL		March 19, 2015 Confirmation that no specific procedure can be located for cementation in bags.
52.	NMED requested information on the percentage of the 55 SWBs that, based on SWB HSG data, appear to have chemical reactions occurring within the waste.	LANL		Complete. Discussed during technical meeting on April 16, 2015. Email follow-up on April 20, 2015.
53.	NMED requested the document "TA-55 Cement Fixation Drum Logbook" referenced in the CCP AK document.	LANL	In progress	
54.	NMED requested summary sheet for HSG data.	LANL		Complete April 9, 2015.

	Requested Information	Actionee	Status	Completion Date
55.	NMED requested additional discussion on engineering options for cooling in Summer months.	LANL		Complete. Discussed during technical meeting on April 16, 2015.
56.	NMED requested references in Technical Assessment Team report Waste Isolation Pilot Plant (WIPP): Chemical Reactivity and Recommended Remediation Strategy for Los Alamos Remediated Nitrate Salt (RNS) Wastes.	LANL		Complete April 9, 2015.
57.	Schedule an eighth LANL update meeting to continue technical discussions associated with remediation options, planning and other topics of interest.	LANL/ NMED		Complete April 16, 2015.

#### Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				SB50522			
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
04/21/15	150	372	9029	2149	2817	454	35630	1073



### 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 <u>4-20-15</u> to \_\_\_\_\_

	Monday 6.[6] 11 <b>2.5</b>	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time:	1 6.3	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:
TA-54-231	Ar 4/28/15						
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: <u>- Uke</u> Model: <u>56</u> Cal. Due Date: <u>7/24/15</u> File Number <u>10/979</u>	Brand: Model Cal. Due Date <sup>.</sup> File Number	Brand <sup>.</sup> 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>57.2</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	57.4						
S802833	56.6						
S801676	56.3						
S816810	54.2						
70069	56.2						
S822844	56.2						
S825879	56.6						
S793724	56.4						
S813545	56.4						
S822713	56.4						
S802739	56.8				·		
69907	56.5						
S804995	57.2						
S816434	58.2						



# ATTACHMENT 2 Page 2 of 3

6.[6] Date: From to

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
TA-54-231 (continued	ł)						
S805289	58.0						
S862888	56.8						
70072	56.7						
S823184	57.2						
S822599	57.2	_					
69904	56.7						
S805051	56.4						
S864213	56.4						
S853714	54.4						
S803078	56.5						
S825878	56.7						
S823124	54.7						
S804948	57.2						
S813385	57.7						
S842446	57.8						
Ambient Temperature	<u>56.4</u> °F	°F	°F	°F	°F	°F	°F
(6.[13])	1127 N-4/20/15						
End Time (6.[14])	-5952						
6.[14]	Operator:						
	Operator:						

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Operator (print) Operator (print) Operator (print)	Signature	Z# Initials / 23(28 / Y Z# Initials / /	Date / 4/20-15 Date / 4/20/15 Date / - Date	Operator (print)	/ Signature /	/	/ Z# Ini / Z# Ini /	/ itials D / itials D /
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### 9.1[2] Reviewed by:

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 Date

# 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 642015 to 042615

	Monday 6.[6] 69 49 Start Time: 09 49	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:
TA-54-375 Cell 1							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: $Puke$ Model: 56 Cal. Due Date: 06 215 File Number $267975$	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Model:	Model:	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	<u>53.7</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	54,5						
68540           LA00000070503           68553	54.5						
69445	54.7						
<u>69618</u> 69013	S4,2 54,6						
LASB50522	55.6						
LASB50452	556						
LASB50431 LASB50069	55.5						
LASB50069 LASB50073	54.3						
69636	555						
69616	55.5						
69417	33,5						

#### Nitrate Salt-Bearing TRU Waste Container Monitoring

### ATTACHMENT 3 Page 2 of 3

6.[6] Date: From 042015 to 042615

	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 (cor	ntinued)		THE PARTY OF		- North Control of the		
69620	55.3						
69520	55-1						
69641	55.6						
69298	553						
LASB02203	55.7						
Ambient Temperature (6.[13])	<u>54.3</u> <sub>F</sub>	oF	°F	°F	°F	°F	°F
End Time (6.[14])	0955		· · · · · · · · · · · · · · · · · · ·				
6.[14]	Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:

$\bigcirc$	Document No.:	EWM
Nitrate Salt-Bearing TRU Waste Container Monitoring	Revision:	6
	Effective Date:	03/26

-1246

# ATTACHMENT 3 Page 3 of 3

6.[6] Date: From 042015 to 042615

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### 9.1[2] Reviewed by:

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#### **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 <u>4.20.15</u> to <u>4-26-15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 0955	Start Time:	Start Time:	Start Time:	_ Start Time:	_ Start Time:	_ Start Time:
TA-54-375 Cell 2							
Calibrated Infrared	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: <u><b>5</b>6</u>	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 6-12-15	Cal. Due Date:					Cal. Due Date:
	File Number 10192	File Number					
Ambient Temperature (6.[7])	<b>55.7</b> °F	°F	°F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])						
LASB02198	56.						
68638	56.6						
69615	55.4						
69635	56.0						
69642	55.8						
69630	56.4						
69633	56.3						
68430	564						
68631	550						
69634	557						
68567	55.9						
94227	55.7						
LASB50442	565						
69644	56.5						
LASB50443	561						
69638	56.9						

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6.[6] Date: From <u>042015</u> to <u>042615</u>

	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 (co	ntinued)						
68624	56.6						
68507	56.6						
69568	56.8						
69553	56.4						
69598	56.1						
LASB50559	56.1						
69015	56.8						
69639	57.3						
69637	56.9						
Ambient Temperature (6.[13])	ADDISSS.4 OF	°F	°F	oŁ	°F	°F	°F
chu Thile (0.[14])	P 011 P0-01	·					
6.[14]	Operator: 00015 Operator: 98	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:



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# ATTACHMENT 4 Page 3 of 3

6.[6] Date: From <u>047015</u> to <u>047615</u>

6.[18] Performed by:		- then	Sat	A-20-15		/	/	/ /
Operator print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date
Isshald	nor ale to	11/6	598 Ja	1042015		/	/	//
Operator (print)	Signature	) Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date
4 <b>1</b> 4 7	4 6		/	/		/	/	/ /
Operator (print)	Signature	, Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date
	/	/	/	/		/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date
a 'a '	/	/	/	/		/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date
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Operator (print)	Signature	Z#	, , Initials	Date	Operator (print)	Signature	Z#	Initials Date
	/	/	/ /	/	A	/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Date

### 9.1[2] Reviewed by:

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



# ATTACHMENT 5 Page 1 of 3

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

6.[6] Date: From 042015 to 047615

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 094	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:	_ Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer	Brand: Pluk-e Model: 561	Brand: Model:	Brand:	Brand:	Brand:	Brand:	Brand:
(4.2.1[1][B])	Cal. Due Date: 0/01215	Cal. Due Date:	Model: Cal. Due Date:	Model: Cal. Due Date:	Model: Cal. Due Date:	Model: Cal. Due Date:	Model: Cal. Due Date:
(,,,,,,[,][,,])	File Number 10 919	File Number	File Number	File Number	File Number		_ File Number
Ambient Temperature (6.[7])	<u>54.4</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])
69519	56.2						
69645	56,3					the second of th	
94068	56.4						
93605	56.1						
69548	56.1						
69604	56.3						
LASB50529	55.5 Or.	A <sup>S</sup>					
LASB50418	55.956.6						
69036	56. 59,15.						
LASB50451	55.9						
69559	55.9						
LASB50448	55.9						
87823	55.9						
87825	55.7						
87826	55.4						
87827	55.4						

### ATTACHMENT 5 Page 2 of 3

6.[6] Date: From 642015 to 042615

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
TA-54-375 Cell 3 (con							
Ambient Temperature (6.[13])		°F	°F	°F	°F	°F	°F
End Time (6.[14])	0942						
6.[14]	Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:



# ATTACHMENT 5 Page 3 of 3

Ding Agnire Operator (print)	Signature (	_ 17491 Z#	Initials	14-20-15 Date	Operator (print)	Signature	Z#	Initials Dat
bokia gen	Cheara he	-+1163	781 JUL	104205		/_	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat
		/	/	/		/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat
	/	/	/	/		/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat
	/	/	/	/		/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat
	/	/	/	/		/	/	/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat
	/	/	/	/		/	/	_/ /
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials Dat

### 9.1[2] Reviewed by:

		/	1	/
SOM or designee (print)	Signature	Z#	Initials	Date

( [10] D (

Page: 37 of 40 **ATTACHMENT 6** Page 1 of 3 TA-54 AREA G NITRATE SALT TRU WASTE CONTAINER HOURLY TEMPERATURE DATA SHEET 6.[6] Date: From 042015 to 042015 Location: 375 Start Time: Start Time Start Time: 11 1. 6.[6] 6.[6] 69315 6.[6] [28 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 1325 0826 1225 52 1630 0645 0730 1223 1026 142 Calibrated Brand Brand: Brand: Irand Brand and: Brand: Brand: Brand: and: Brand: Irand: Brand: Brand Infrared Model Mode Model: Mode Model Model Thermometer Model Model Mode Model Model A Cal Die Dite: Cal. Rue Mate: Can Dud Date: (4.2.1[1][B]) Ca Du Date Cal- us Qate: Cal. Due Date: Cal: Pue Date: Cal Due Date: Cal Die Date: Cal Die Date C Due Date: Call Due Date: Cal. Due Date Cal Due Date File Numbe File Number File Number File Number File Number File Numbe File Numb File Number File Numbe File Number File Number File Numbe File Number File Number Ambient 54,5F 62.2F 61, 5°F 62.8 °F 61.6 °F 52.7 57.0F 59.0°F 52.3 F 53.3F 51,9ºF 60.5ºF Temperature ٥F (6.[7]) Container ID # Temp (°F) (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]) (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]) (6.[9]/6.[9]) 6868511 53.54 52.84 61.98 61,45 54.95 58.99 61.04 53.13 57.4 6248 61.97 53.32 6968572 54.36 56.7 58.29 52.25 52.64 60.54 61.36 60.52 52.81 53.16 61.01 61.54 50522 74 53.65 53.39 53.52 54.76 56.63 57,94 60.03 60.03 60.D 60.26 59.37 53.7 60.32 5052275 53.47 53.4 54.84 56.66 57.93 60.14 59.9 60.73 53.48 53.1 59.55

> WORKING COPY Z# 226235 INITIAL 22m DATE 5-20-15

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Nitrate Salt-Bearing TRU Waste Container Monitoring

Document No.: EWMO-AREAG-FO-DOP-1246

6

Effective Date: 03/26/15

Revision:

UET	Nitrate Salt-Bearing TRU Waste Container Monitoring												Document No.:EWMO-AREAG-FO-DOP-1246Revision:6Effective Date:03/26/15Page:38 of 40					
6.[6] Date:	6] Date: From 042015 to 042015 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])				
		-					/											
	-					A	$X \mid \alpha$											
							M							/				
							/											
Ambient																		
Temperature (6.[13])	52.2°F	<u>52.5</u> °F	<u>51.9</u> °F	-5-2.7°F	54.4	57,0	59.0	62,2F	61.5°F	62.8°F	61, 6°F	60.5F	o£	•F				
End Time (6.[14])	0646	0731	0827	6931	1027	1129	1226	1329	1429	1528	1631	1724						
6.[14	Operator: Operator:	Operator: Operator	Operator: Operator:	Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator:		Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:				

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ET		Nitrate S	alt-Bearing TRU Waste	Container Monitoring	8 5			Document No.: Revision: Effective Date: Page:	EWMO-AREAG-FO-DO 6 03/26/15 39 of 40	)P-124
[6] Date: From	2215 to 04221	5 Loca	tion: <u>375</u>	ATTACHME Page 3 of	<u>ENT 6</u> 3					-
[2] Comments:										
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				/						
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[18] Performed by: Ting Agin			QA-14-20-15		/	/	/	/		
Operator (print)	Signature	7#	Initials Date	Operator (print)	Signature	Z#	Initials	Date		
) oshalige Operator (print)		<u>z 111657</u> 7 z#	BALIOYDO(5 Imials Date	Operator (print)	/ Signature	/ Z#	/ Initials	Date		
Operator (print)	Signature /	0 1	//			/	1	1		
Operator (print)	Signature	/. <sup>Z#</sup>	Initials Date	Operator (print)	Strenature	Z#	Initials /	Date /		
Operator (print)	Signature	// / Z#	/ / Initials Date	Operator (print)	Signature	Z#	Initials	Date		
0	1	AX	1 1	Operator (print)	Signature	/ 	/ Initials	Date		
Operator (print)	Signature /	/ They	Initials Date		/	/ \		r		
Operator (print)	Signature /	Z#	Initials Date	Operator (print)	Signature	Z# /	Initials	Date		
	/	/		Operator (print)	Signature	/ Z#	Initials			

SOM or designee (print) Signature Z# Initials Date

Nitrate Salt-Bearing TRU Waste Container Monitoring	Revision:	EWMO-AREAG-FO-DOP-1246 6 03/26/15 37 of 40
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#### ATTACHMENT\_6 Page 1 of 3

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

6.[6] Date: From <u>4-20-15</u> to <u>4-21-15</u> Location: <u>315</u>

		1000 C												
	Start Time: 6.[6]													
	1830	1927	2024	2126	2225	2324	0024	0126	0336	0328	0429	0525		
Calibrated Infrared	Brand:	Brand												
Thermometer (4.2.1[1][B])	Model: NA	Model	Moore		Modelin	Model NR	1010	Model:	Molel:	Model:	Model: NA	Model: NA	Model:	Model
(	Cal. Due Date:	Cal Due Date												
	File Number													
Ambient Temperature (6.[7])	<u>58.80</u> °F	57.50°F	58.20°F	56.80°F	55.50°F	<u>57.70</u> °F	53.70 °F	<u>53.0</u> °F	52.30°F	51.70 °F	52.90 °F	52.80°F	°F	°F
Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])													
68685 -11	59.20	57.80	58.20	56.80	55.60	54.70	53.80	53.10	52.50	51.90	53.60	53.50		
6868572		57.60	57.70	52.20	55.0	54.20	53.30	52.70	52.10	51.50	53.20	53.20		MA
50522 14		57.30	57.70	56.80	55.80	55.10	54.40	53.90	53.40	52.90	54.10	53.80		1
5052215	58.30	57.40	57.70	56.50	55160	54.90	54.20	53.70	53.20	5270	54.0	53.70		
					NA									
					- MA									
							5							$ \rightarrow $



UET	Nitrate Salt-Bearing TRU Waste Container Monitoring       Document No.:       EWMO-AI         Nitrate Salt-Bearing TRU Waste Container Monitoring       6       6         UET       03/26/15       9age:       38 of 40														
6.[6] Date:	6.[6] Date: From <u>4-20-15</u> to <u>4-21-15</u> Location: <u>3-5</u>														
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])						
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Ambient Temperature (6.[13])	58.9DF	57.50.F	58.20°F	<u>56.80</u> °F	55.5°0°F	<u>54.70</u> °F	<u>53.70</u> °F	<u>53.0</u> °F	<u>5230</u> °F	<u>51.70 °F</u>	52.80°F	52.80F	• °F	°F	
End Time (6.[14])	1831	1927	2026	2127	2225-	2324	0024	0126	0226	0378	0430	0525			
6.[14]	Operator	Operator:	Operator	Operator:	Operator:										
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	Operator:								

UET		Nitrate Salt-Bearing TRU Waste	Container Monitoring			F	Document No.: Revision: Effective Date: Page:	EWMO-AREAG-FO-DOP-1246 6 03/26/15 39 of 40
			ATTACHMEM Page 3 of 3	<u>NT 6</u>				
6.[6] Date: From <u>4-</u> 2	20-15 to 4-21-15	Location: 375						
6.[2] Comments:								
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			MA					
	17 - 1 - Takasil di Br		pe					
	Stater Svita	$\sim$						
6.[18] Performed by: Willies. Poo	E70	- 1 LICEPA LODO - 1 4-20-25		. /.	/	/ /		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials D	ate	
John Quintune Operator (print)	Signature	/190557 (1) / 4-26-6 Z# Initials Date	Operator (print)	Signature	Z#	Initials D	ate	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials D	ate	
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Operator (print)	/ Signature	Z# Initials Date	Operator (print)	Signature /	Z#	Initials D	ate	
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9.1[2] Reviewed by:	1							

Som or designee (print) Signature Z# Initials Date