From: Haagenstad, Mark P

Sent: Wednesday, March 25, 2015 4:52 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; 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 Subject: Daily Technical Submission - March 25, 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

March 25, 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.
- o Newly suspect nitrate salt-bearing waste containers.
 - Two containers are located in Dome 232 and two containers are located Dome 153.
 - All entry into the domes is currently restricted.
 - Planning is underway to move the containers into the 375 Permacon.

• Monitoring - Daily Temperature

- o Temperatures remain below 90°F.
 - Previous day's temperature data attached.

• Monitoring – Visual Inspections

No abnormal conditions were observed.

• Monitoring – headspace gas (HSG)

- o Containers (SWBs) 68685 and SB50522.
 - Continue daily head space gas (HSG) sample collection.
 - March 25, 2015 HSG data attached.
 - o H₂, CO, CO₂ and N₂O
- o Other containers:
 - A minimum of once per month HSG sampling will be conducted.
 - To date in March, 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:

Next Call: Thursday, March 26, 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 ₂ and LFL analytes).	LANL		Complete June 11, 2014
11.	Discuss potential sampling of HSG for NO _x .	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 saltbearing 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. 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.	LANL		Complete July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request) July 17, 2014 (Letter sent with updated spreadsheet) 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 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 1, 2014 (Twelfth submittal in response to item 5) October 16, 2014 (Thirteenth submittal in response to item 5) October 23, 2014 (Thirteenth submittal in response to item 5) October 27, 2014 (Fifteenth submittal in response to item 5) October 27, 2014 (Fifteenth 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) October 28, 2014 (Sixteenth 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 ₂ , 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 rd 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 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 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		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	In progress	
53.	NMED requested the document "TA-55 Cement Fixation Drum Logbook" referenced in the CCP AK document.	LANL	In progress	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				SB50522			
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N₂O ppm
03/25/15	143	359	8170	2020	2466	477	36287	1072

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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>3-23-15</u> to <u>3-29-15</u>

	Monday 6.[6] Start Time: \$\int 815\$	Tuesday 6.[6] Start Time: 1/33	Wednesday 6.[6] Start Time:	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
TA-54-231	Start Time, Dovo	Start Time. 1125	Start Time.	Start Time:	Start Time:	Start Time:	Start Time:
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date:7/29/15 File Number 101974	Brand: Fluid Model: 50 Cal. Due Date: 77/915 File Number 1047	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Cal. Due Date:	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	52.4 °F	59.8°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	53.4	59.5					(2 3 2 3/
S802833	52.7	58.3					
S801676	52.6	58.4					
S816810	55.2	<i>5</i> 8.5					
70069	55.2	57.9					
S822844	55.3	58.3					
S825879	55.1	58.9					
S793724	55.4	58.7					
S813545	55.0	58.7					
S822713	53.6	59.5					
S802739	53.0	59.2					
69907	53.0	59.1					
S804995	53.4	60,0				,	
S816434	54.4	60.1					

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6.[6] Date: From <u>3-23-15</u> to <u>3-29-15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])					
TA-54-231 (continue	d)						
S805289	53-8	100.0					
S862888	53.7	59.6					
70072	53.3	59.4					
S823184	53.4	59.9					
S822599	54.1	59.3					
69904	54.7	58.6					
S805051	54.9	58.5					
S864213	55.1	58.4					
S853714	55.0	58.5					
S803078	54.8	59.0					
S825878	55.1	58.7					
S823124	549	59.2					
S804948	53.7	59.7					
S813385	53.7	60.6					
S842446	54.3	59.9					
Ambient Temperature	<i>5</i> 3.3 °F	59.9 °F	°F	°F	°F	oF.	°F
(6.[12])							
End Time (6.[13])	0820	1145					
6.[13]	Operator: TR	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator: {C	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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6.[6] Date: From <u>3-23</u>	-15 to 3.29-15							
6.[2] Comments:								
6.[17] Performed by:								
Jackie Romero	Gachie Romers	11870641 JR	13-23-15		/	/	/	/
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Elord. ColdorA	1500h	1/14188 5C	13.23.15		/	/		/
Operator (print)	Signature	Z# Initials		Operator (print)	Signature	Z#	Initials	Date
Josephule Duran	1 Aburah	1/5797/ PR	13/24/15		/	/		/
Operator (print)	Signature	Z# Initials	Date)	Operator (print)	Signature	Z#	Initials	Date
140ms VEGI	17/1	123638R/ t	13215		/	/	/	/
Operator (print)	Signature	7# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Josuphagee	1 wear To	145981 180	1637415			/		/
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	10	_/	/		/	/		/
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					

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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 <u>3-23-15</u> to <u>3-29-15</u>

		Monday 6.[6] Start Time: 1\50	Tuesday 6.[6] Start Time: _ 502	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			WIND SERVICE				
Calibrated Infrar Thermometer (4.2.1[1][B])	ed	Brand: Fluxe Model: Sol. Cal. Due Date: ePK File Number 161915	Brand: Fluke Model: 56) Cal. Due Date: 6/12/1S File Number 10/9/5	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand:	Brand: Model: Cal. Due Date: File Number
Ambient Temper (6.[7])	rature	58.6 °F	68.2°F	°F	°F	°F	oF	°F
Container I	D#	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		58.0	66.7					(L 3 E 3)
LA00000070503	68540	57.8 57.9 58.7	G6. S					
69618		57.4	65.S					
69013		58.2	66.0					
LASB505	22	58.5	65.7					
LASB504		58.3	65.8					
LASB504:		58.3	65.9					
LASB5000		58.3	5.22					
LASB500'	/3	58.8 58.3	65.8					
69616		58.3	65.4					
69417		58.ž	66.0					

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6.[6] Date: From <u>3-23-15</u> to <u>3-29-15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
TA-54-375 Cell 1 (con	tinued)						
69620	58.2	65.7					
69520	58.4	65.9					
69641	58.6	66.0					
69298	58.6	65.8					
LASB02203	58.3	4.9					
Ambient Temperature (6.[12])	<u>58.)</u> °F	67.4 °F	°F	oF	oF	°F	
End Time (6.[13])	1154,	1507					
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:Operator:	Operator:Operator:	Operator: Operator:

		<u> </u>		
6.[2] Comments:	 	 		

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6.[6] Date: From <u>3-23</u>	·15 to 3-29-15							
6.[17] Performed by:	4-17	1231312/	~ / 3/23/1S		/	/		/
Operator (print)	Signature	Z# Initi	7.	Operator (print)	Signature	Z#	Initials	Date
15 Wa Loper	1 yeller	1165981	1032313		/			
Operator (print)	Signature /	Z# Porti		Operator (print)	Signature	Z#	Initials	Date
THOMAS VIOLL	1 X V= V=	12XXX21 +	- 13/24/15			/_	_/	/
Operator (print)	Signature	Z#, Q Initia		Operator (print)	Signature	Z#	Initials	Date
156 WALDO	U JOHN UN OFF	11658	K10324K			/	/ /	/
Operator (print)	Signature	Z# Invi	als Date	Operator (print)	Signature	Z#	Initials	Date
	, ,	/ /	/		/	/	/ /	/
Operator (print)	Signature	Z# Initia	als Date	Operator (print)	Signature	Z#	Initials	Date
	/	/ /	/		/	/	/ /	/
Operator (print)	Signature	Z# Initia	als Date	Operator (print)	Signature	Z#	Initials	Date
	/	/ /	/		/	/	/ /	/
Operator (print)	Signature	Z# Initia	als Date	Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:								
	/	/ /	/					
SOM or designee (print)	Signature	Z# Initia	als Date					

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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 <u>3-23-/5</u> to <u>3-29-/5</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6] [508	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1155	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:	_ Start Time:
TA-54-375 Cell 2	THE WAR I WANTED	511113					
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: School Cal. Due Date: Fluk		Brand: Model: Cal. Due Date:	Brand: Model: Cal. Due Date:	Brand: Model: Cal. Due Date:	Model:	
Ambient Temperature (6.[7])	File Number 1135	File Number 101917	File Number°F	File Number°F	File Number°F	File Number°F	File Number°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	57.4	64.3					
68638	58.0	65,4					
69615	58.0	65.5					
69635	58.6	65.7					
69642	58.2	62.8					
69630	58.7	65.7					
69633	58 y	2.22					
68430	6.82	65.7					
68631	57.9	65.7					
69634	58.0	65.0					
68567	57.9	64.1					
94227	58.3	64.6					
LASB50442	57.4	65.7					
69644	57.3	65.3					
LASB50443	57.4	64.9					
69638	57.7	65.7					

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6.[6] Date: From 3-23-15 to 3-29-15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
A-54-375 Cell 2 (con	tinued)						(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
68624	57.8	65.8					
68507	57-7	64.8					
69568	56.9	64.5					
69553	56.8	63.9					
69598	57.7	63.8					
LASB50559	57.6	64.9					
69015	58.0	64.8					
69639	58.)	65.2					
69637	58.0	65.3					
nbient Temperature [12])	<u>57.7</u> ∘F	CY Y °F	°F	oF	°F	°F	o _F
d Time (6.[13])	1707	1515					
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:Operator:	Operator:Operator:	Operator:

0.[2] Comments.			
		-	

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6.[6] Date: From <u>3-23-1</u>	to 3-29-15								
6.[[17] Performed by:	1	173/382	· to	/ 3/23/15		/	/	/	/
_	Operator (print)	Signature	Z# /_L_576	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	105 lugi De	a bullet	1165%	3/ Jeg/	1037515		/	/	/	/
-	Operator (print)	Signature /-//	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	THOMAS VIGTI	10+11	123638L	1 4	/ 3/24/15		/	/	/	/
_	Operator (print)	Signature	Z#	Initials		Operator (print)	Signature	Z#	Initials	Date
(Josheen Loper	belea to	116318	2/1/1/	1032415		/	/	/	/
_	Operator (print)	Signature	Z#	Initials		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					

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ATTACHMENT 5 Page 1 of 2

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

6.[6] Date: From <u>3-23-15</u> to <u>3-29-15</u>

	Monday 6.[6] Start Time:	Tuesday 6.[6] Start Time: 1952	Wednesday 6.[6] Start Time:	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
TA-54-375 Cell 3	Start Time. 114)	Start Time. 1432	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: FINP Model: 56) Cal. Due Date: 61715 File Number 10 915	Brand: Fluke Model: SC1 Cal. Due Date: C12 15 File Number 10 116	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])	58.5°F	60.7 °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	58.1	65.8					
69645	58.6	66.0					
94068	58.5	66.0					
93605	S8. 9	(60.2					
69548	59.0	(60.)					
69604	58.5	66.4					
LASB50529	58.7	66.7					
LASB50418	58.9	65.8					
69036	58.9	65.0					
LASB50451	58.7	66.1					
69559	59.6	66.0					
LASB50448	59.4	(55.3					
Ambient Temperature 6.[12])	59.0 °F	67.6°F	°F	°F	°F	°F	oF
End Time (6.[13])	1149,	1457					
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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6.[2] Comments:						
				<u> </u>		
	1 1					
6.[17] Performed by:	1	, , , ,	1 1	,	,	
Operator (print)	Signature /	/ 23(30 / 1/ / 3 Z# Initials Date	Operator (print)	/ Signature	/	/ / / / / Initials Date
Mos Luga L	over Malia		32315	/	/	/ /
Operator (print)	Signature /	Z# Initials Date		Signature	Z#	Initials Date
THOMAS VA			24/15		/	//
Operator (print)	Signature	7# Initials Day	e Operator (print)	Signature	Z#	Initials Date
Ostera ha	Pr / Johns for		Operator (print)	Cianatana	/	/
Operator (print)	Signature	Z# Initials Date	e Operator (print)	Signature	Z#	Initials Date
Operator (print)	Signature	Z# Initials Date	Operator (print)	/ Signature	/ Z#	/ / / / / / / / Initials Date
(F)	/	/ / /		/	/	/ /
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:						
	/	/ / /				

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

6.[6] Date: From 3 2 4-1 5 to 3-24-15 Location: 375

	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:	Start Time: 6.[6]	Start Time:	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Moviel: Cal. Dua Defi:	Brand: Model: Cal De Pate:	Brand: Model: Cal. Due Data	Rrand: Model: Cal. Due Pate:	Brand: Modul: Cal. Due Date:	Brand: Model: Cal. Due Date:	Rrand: Model: Cal. Due Date:	Brand: Model: Cal. Due Date:	Arand: Modul: Cal. Due Date:	Brand: Model. Cal. Due Date	Rrand: Model: Cal. Due Date:	Brand: Model: Cal. Due Date:	Brund: Model: Cal. Die Date:	Brand: Model: Cal. Due Date:
Ambient Temperature (6.[7]) Container ID #	53113	52,4 F	S2.18°F Temp (°F)	File Number 52.93F Temp (°F)	File Number 54.81 Temp (°F)	File Number	bo. 43 Temp (°F)	File Number	64.3E	File Number 65.44 Temp (°F)		65.83	File Number	File Number
(6.[8]/6.[9]) 68685 TL 68685 TZ	(6.[8]/6.[9]) 53,75 53,25	(6.[8]/6.[9]) 53.05 52.74	(6.[8]/6.[9]) 52.97 52.37 53.58	(6.[8]/6.[9])	(6.[8]/6.[9]) 55. Lb 54.67	(6.[8]/6.[9]) 57.76 57.08	(6.[8]/6.[9]) 60.14 52.31	(6.[8]/6.[9]) 62.40 61.23	Temp (°F) (6.[8]/6.[9]) 64.03	(6.[8]/6.[9]) 65.24 64.U	Temp (°F) (6.[8]/6.[9]) 66.1	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) 6.[8]/6.[9])
56522 TY 30522 TS	54.01	53.47			55.04 55.1	51.05	58.79		61.88	62.77	63.59			
						10/	A							

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6.[6] Date: From 3-24-15 to 3-24-15 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])					
					1	1								
					1	1/								
													Z	7/
														2
													\	\
Ambient	C-2 : 0	22 60	<i>C</i> 2	Co. Co.	2	=	. 112			1 -	4110	1000		
Temperature (6.[12]) 73			52.15°F	52.93°F	54.85	57.LS		62,58			66.62	65.83	°F	°F
End Time (6.[13])	0630	- 1	0879	0927	1023	1126	1225	1327	1427	1526	1626	1724		$\overline{}$
6 [13]	Operator:													
	Operator:		Operator:	Operator:	Operator:	Operator:	كسا	100	Operator:	Optimal Control	Operand	Operator:	operator.	——————————————————————————————————————

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				Page 3 of	13					
6.[6] Date: From <u>3.2</u>	14-15 to 3.24-	Loc	ation: 375							
6.[2] Comments:	Len Da	the (e 5tan	ding or	Room i	in D	R2	- 375	Temp	5
			DA							
										_
6.[17] Performed by:	mule -	20145	8/ 27 3.29-15		/		/	/		
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	Z#	Initials	Date		
Operator (print)	Symature Symature	- 12145. Z#	79 J < 13-24-15	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date		
The Agur	DATE ADI	الكالكاريسة	Chaitials Date		10/	/	/	/		
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Sign ture	Z#	Initials	Date		
Operator (print)	/ Signature	/ /	/ / / Initials Date	Operator (print)	Signature	/ 	/ Initials	Date.		
Operator (print)	Signature	9 21	/ /				/	/		
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	ZH	Initials	Date		
Operator (print)	/ Signature	A Z#	Initials Date	Operator (print)	Signature	Z#	Initials	/ Date		
Operator (print)	/	/	/ /		/	/	/			
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	Z#	Initials	Date		
8.1[2] Reviewed by:	4	4								

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SOM or designee (print) Signature

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

6.[6] Date: From 3-24-15 to 3-25-15 Location: Down 315

											-		-	,
	Start Time: 6,[6]	Start Time: 6.[6]	Start Time 6 [6]	Start Time: 6,[6]	Start Time: 6.[6]	Start Time:								
	1831	1930	2030	2131	2228	2330	0027	0/30	0231	6.[6]	6.[6] 0427	6.[6]	6.[6]	6.[6]
Calibrated	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand	Brand:	Rrand:	O.5 2.5	Brand:	Brand:
Infrared			110	<u> </u>	<u></u>									
Thermometer (4.2.1[1][B])	Model:	Model:	Model MA	Model:	Model:	Model:	Model: n/A	Model: 114	Model:	Model: 114	Model ny	Model	Model:	Model:
(4.2.1[1][D])	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Rate:	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 Numbel	File Number						
							- The Transcer	riic ivamber	- THE TVUINGET	The (valide)	The Number	riie ivuinoei	riie Number	r ile inumber
Ambient Temperature	<u>63.34</u> °F	60.51 °F	58.14°F	56.27 °F	CCM	-11 10an	C7 70		50.00	e-3 (10-	c-27/	e-2 / 2	\	
(6.[7])(T3)	<u>(\$3,3,1,1,1</u>	(40.31 -1	08117	36.07	55.46°F	54.10°F	53.38 °F	53.04F	5257°F	52.45°F	52.76F	53./2F		°F
Container ID #	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	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.[8]/6.[9])
PAPAR 11	43.17	40.19	57.78	55.88	55.17	53.94	53,30	53.01	52.61	52.60	52.87	53.71		
59685 52	62.00	59. 29	57.03	22.22	54.40	53.47	52.87	52.55	52.17	52.35	52.61	53.40		MA
50522 TY	61.91	59. 43	57.79	56.33	55.72	54.76	54.21	53.92	53.61	53.37	53.44	54.03		
5052275		59.31	57.47	56.01	55.52	54.57	54.03	53.74	53.43	53.30	53.51	54.03		
					3.00		1100		30. 13	0 3.50	3,07	27103		$\overline{}$
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6.[6] Date: From 3-24-15 to 3-25-15 Location: Dome 325

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)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)				
	(2.[2] 3.[3])	(0,0,0,0,1)	(0.[0]/0.[5])	(0:[0]:0:[2])	(0.[0]/0.[9])	(0.[8]/0.[9])	(0.[8]/0.[9])	(0,[8]/0,[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])
							_							
													 	
														4
					-	MA							\ n	A
													 	
														\
														\
														 \
Ambient Temperature (6.[12])	63.27°F	6049°F	58.14°F	56.24°F	55.46°F	54.//°F	53.38°F	53.04°F	53.57°F	52.45°F	10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	53.12F	°F	•F
End Time (6.[13])	1832	1931	2030	2131	2229	2331	0027	0/30	0232	0329	COTE D	0525		
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:
	- TOPE	1		- Jago	-7	34		_54	00/	<u> </u>	sch	-4		\

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			ATTACHN Page 3				
6.[6] Date: From 3	-24-15 to 3.25-	Location: 325					
6.[2] Comments:)	ich not enter	dans 375 fermason	Per: Standing	order 1247 of duties to	Rev 2 Te	mprations tas	ten from dome
		3:540 no fundam					
			WAN TO BOTH				
				E Daisy	4-		
					116801		
6 [17] DC						-	
6.[17] Performed by:	1 - X	1/20-71-013211		/	,	/ /	
Operator (print)	Signature Z	Z# Initials Date	Operator (print)	Signature	Z#	Initials Date	
Operator (printi)	tun Del clot		<u>- </u>		/	/	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials Date	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Stepature	/ /	// Initials Date	
		/ / /		, nIA	r /	/ /	
Operator (print)	Signature 1	Z# Initials Date	Operator (print)	Signature	Z#	Initials Date	
0		/ / /	O()	/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	7.#	Initials Date	
Operator (print)	Signature	7# Initial Date	Operator (print)	Signature	Z#	Initials Date	

Operator (print)

Initials Date

Signature

Operator (print)