From: Juarez, Catherine L

Sent: Thursday, March 19, 2015 4:02 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; Haagenstad, Mark P

Subject: Daily Technical Submission - March 19, 2015

Sent on behalf of Mark Haagenstad.

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 19, 2015

Participants:

- New Mexico Environment Department: Tim Hall and Siona Briley.
- LANL Los Alamos Field Office:
- LANL Los Alamos National Security: Don Allen, Bruce Robinson, Mark Haagenstad, 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.
- 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

o No abnormal conditions were observed.

• Monitoring – headspace gas (HSG)

- o Containers (SWBs) 68685 and SB50522.
 - Continue daily head space gas (HSG) sample collection.
 - March 19, 2015 HSG data attached.
 - o H₂, CO, CO₂ and N₂O
- 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.
 - o March 19, 2015 HSG data attached.
- 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: Tuesday, March 24, 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 saltbearing 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 (Twelfth submittal in response to item 5) October 23, 2014 (Thirteenth submittal in response to item 5) October 23, 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 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	Email sent February 17, 2015. Letter to follow.	
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

		680	685			69!	553			696	515	
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
03/19/15	142	357	8960	2223	181	453	12032	1592	110	297	6743	358

Remediated Nitrate Salt Container Headspace Gas Analysis

		690	616		SB50069			SB50452				
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
03/19/15	343	782	17259	3399	500	918	19295	2452	712	670	13376	2435

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50522					
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm		
03/19/15	2341	503	36743	1110		

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

6.[6] Date: From 3-16-15 to 3-22-15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 0906	Start Time: <u>D938</u>	Start Time: <u>D928</u>	Start Time:	_ Start Time:	_ Start Time:	Start Time:
TA-54-231							
Calibrated Infrared	Brand: Fluke	Brand: Flute	Brand: Fluce	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 561	Model: 561.	Model: 501	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date:7/29/15	Cal. Due Date: 07/29/15			Cal. Due Date:	Cal. Due Date:	
	File Number 101974	File Number 101974	File Number 10/974	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	56.0 °F	55.9°F	<u>55.5</u> °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])				
S818435	54.8	55.1	54.2				
S802833	54.2	55.0	53.9				
S801676	54.5	54.6	<i>5</i> 3.5				
S816810	58.6	55.1	57.7				
70069	58.7	55.	56.9				
S822844	58.8	56.1	57.8				
S825879	58.6	56.4	013157.1				
S793724	58.6	<i>5</i> 5,8	57.56.7				
S813545	57.9	55.7	54.3				
S822713	56.2	55.3	<i>5</i> 5.1				
S802739	55.6	54.6	54.4				
69907	55.0	54.4	53.9				
S804995	55.7	54.4	54.3				
S816434	56.1	<i>5</i> 5.5	55.8				

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6.[6] Date: From 3-16-15 to 3-22-15

	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])
A-54-231 (continue	d)						
S805289	55.6	56.6	55./				
S862888	55.9	55.2	54.8				
70072	55.4	54.7	54.7				
S823184	56.2	55.4	550				
S822599	57.4	56.1	65.7				
69904	57.4	53.8	56.5				
S805051	58.0	3M525.656.2	56.6				
S864213	58.0	di7155.9 55.6					
S853714	58.1	3H15335559	57.0				
S803078	58.0	3555 4 ASS	57.2				
S825878	57.9	anliste 0 55.4	56.6				
S823124	57.4	411956.356.D	54.3				
S804948	56-0	54.3	55.3				
S813385	55.7	55.4	54.8				
S842446	56-2	54.3	55.4				
mbient Temperature	<i>5</i> <u>3</u> . 3 °F	<u>55.</u> ∘F	<u>55.7</u> °F	°F	°F	°F	°F
5.[12])							
nd Time (6.[13])	0913	0947	0940				
6.[13]		Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator: 26	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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6.[6] Date: From 3-16-15 to 3-22-15 6.[2] Comments: 6.[17] Performed by: Jackie Komero Jackie Komero 1187046 / JR 13-16-15 Operator (print) Operator (print) Signature Initials Date Initials Date 58 Jh Eloy J. Lostos A 11/41881 5- 13-16-15 Operator (print) Operator (print) Initials Date Signature Initials Date Signature Josephine Duran 1151971 N 13/17/15 Operator (print) Signature Operator (print) Z# Signature Z# Initials Date 126382/ 4_13/17/15 HOME FICE Operator (print) Signature Z# Initials Operator (print) Z# Date Signature. Initials Date Isomul Duran 1151971/DL 13/18/15 ran Operator (print) Signature Z# Operator (print) Initials Date Signature 1236382 lidalo Operator (print) Signature Z# Initials Date Operator (print) Signature Initials Date Operator (print) Signature Z# Operator (print) Z# Initials Date Signature Initials Date 8.1[2] Reviewed by: SOM or designee (print) Signature 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>3-16-15</u> to <u>3-22-15</u>

		Monday 6.[6]	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		Start Time: 0	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:
TA-54-375 Cell 1								
Calibrated Infrared Thermometer (4.2.1[1][B])		Brand: FUKe Model: 56 Cal. Due Date: 62K File Number 1075	Brand: Fluke Model: SG Cal. Due Date: G 12 15 File Number 10 9 5	Brand: Fluke Model: 500 Cal. Due Date: Glielis File Number 101915	Brand:	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Tempera	ture	56.7 °F	\$6.3 °F	<u>\$7.5</u> ∘F	°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])
68685		36.9	36-6	57.5				
LA00000070503	68540 68553	56.8 56.8	56.1 56.3	57.7 58.2				
69445		56.6	568	57.8				
69618		265	56.0	57.1				
69013		56.9	56.8	57.7				
LASB5052		57.4	57.3	58.3				
LASB5045		\$7.3	57.2	58.2				
LASB5043	-	57.3	57.0	57.5				
LASB5006		57.3	56.7	57.6				
LASB5007	3	56.9	57.0	57.3				
69636		57.3	57.2	57.0				
69616		S7.4	56.8	58.2				
69417		57.5	56.9	566				

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6.[6] Date: From <u>3-16-15</u> to <u>3-22-15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])					
TA-54-375 Cell 1 (con	tinued)						(4.[6], 6.[5])
69620	57.2	57.0	57.7				
69520	57.2	57.3	57.9				
69641	57.6	57.4	58.Z				
69298	57.4	57.8	58.3				
LASB02203	57.3	57.1	58.0				
Ambient Temperature 6.[12])	<u>56.5</u> °F	SGG oF	\$7.5 °F	°F	°F	°F	°F
End Time (6.[13])	1106	1028,	1139,				
6.[13]	Operator:	Operator:	Operator: Operator:	Operator:	Operator:	Operator:Operator:	Operator:

	U	0 9			
6.[2] Comments:					

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SOM or designee (print)

Signature

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6.[6] Date: From <u>3-/6-</u>	-15 to <u>3-22-15</u>						
6.[17] Performed by:	1 1-1-	1232382 / 4 / 3/16/15		/	/	/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
() (shual-oper	1 Julie Jors	1116581 DAI 03165		/	/	/	/
Operator (print)	Signature ()	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
- HHART VEGI	-1 14 17	1268/ 1/3/17/15		/	/	/_	/
Operator (print)	Signature /	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Joshaloper	Menafor	116598/2/ 1031715			/	/	/
Operator (print)	Signature	Z# Imitials Date	Operator (print)	Signature	Z#	Initials	Date
al Homos Goots	14-17	174382 / 4/13/18/15		/	/	/	/
Operator (print)	Signature .	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Ossura oper	Notice on 12	/16598/ X-1031815		/	/	/	/
Operator (print)	Signature ()	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
	/ 0	//			/		/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:							

Initials 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 3-14-15 to 3-22-15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday	Saturday	Sunday
	Start Time: 1107	Start Time: 1029	Start Time: 1140	Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:
TA-54-375 Cell 2						July 1 mo.	
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluxe Model: Sol Cal. Due Date: 425 File Number 10112	Brand: Flyke Model: 56 Cal. Due Date: 6 12 15 File Number 101912	Brand: Fluke Model: Sol Cal. Due Date: G 12 15 File Number 101 912	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])		57.3 °F	<u>58.5</u> ∘F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
LASB02198	37.4	57.2	57.7				
68638	57.7	57.9	57.9				
69615	58.)	57.2	58.				
69635	58.5	57.7	58.4				
69642	28.)	\$7.2 \$1.5	58.3				
69630	28.0	57.7	58,3				
69633	58.4	57.8	584				
68430	58.2	S8.6	58.6				
68631	58.2	57.5	58.9			,	
69634	S8. 5	S7.6	58.2				
68567	57.4	56.9	58.0				
94227	57.7	57.5	58.9				
LASB50442	51,4	57.9	28.7				
69644	58.1	57.8	58.7				
LASB50443	58.1	57,5	58.3				
69638	58.6	38,8	59.4				

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6.[6] Date: From 3-16-15 to 3-22-15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])					
A-54-375 Cell 2 (con	tinued)						(-,[-],-,[-])
68624	58.3	58.4	59.5				
68507	58.3	58.8	59.4				
69568	57.8	57.)	58.2				
69553	57.3	57.0	57.8				
69598	37.1	57.6	57.7				
LASB50559	37.7	57.3	58.6				
69015	58.6	58.)	59.1				
69639	59.2	58.4	59.2				
69637	58.8	58.0	59.3				
mbient Temperature .[12])	≤7.6 °F	57.5 °F	<u>\$8,0</u> °F	°F	°F	°F	°F
nd Time (6.[13])	1113	1035	1146				
6.[13]	Operator: V	Operator:	Operator:	Operator:	Operator:Operator:	Operator:	Operator:

F:			 	 	
F:			 	 	
F:			 	 	
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6.[6] Date: From <u>3-/6</u>	-15 to 3-22-15				
6.[17] Performed by:	1 -12	12365821 to 13/16/15		/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#
) oshua haper	Xolia for	11/65/8/1/103/45	O	/	/
Operator (print)	Signature	Z# Mitials Date	Operator (print)	Signature	Z#
Operator (print)	Signature	/3 17 15 Z# Initials Date	Operator (print)	Signature	/ /
Joshea Loper	Je eve s	3/14598/ W /03/15		/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#
THOUSE GGA	14-17	1236382 / 1 /3/18/5		/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#
Costra (mint)	1 Here of	X 1116518 80 031815	Operator (print)	/ Signature	/_ Z#
Operator (print)	Signature (Z# Indials Date	operator (print)	/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	
8.1[2] Reviewed by:					
į j	/	/ / /			
SOM or designee (print)	Signature	7# Initials Date			

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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 3-16-15 to 3-22-15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: 1055	Start Time: 1014	Start Time: 113	Start Time:	Start Time:	Start Time:	_ Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Flyke Model: 56 Cal. Due Date: G1215 File Number 601916	Model: School Plane State Stat	Model: 561 Cal. Due Date: 612)15 File Number 101916	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])	57.7 °F	56. 9. of	<u>≤8.7</u> °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	57.3	58.3	59,3				
69645	38.6	58.3	59.60				
94068	56.3	57.7	59.0				
93605	57.9	57.9	59.1				
69548	57.3	58.0	58.8	-			
69604	57.8	\$7.4	5.92				
LASB50529	57.8	58.2	54.2				
LASB50418	58.3	58.7	59.4				
69036	57.7	57.3	59.2				
LASB50451	57.5	57.1	58.7				
69559	58.2	57.6	28.8				
LASB50448	57.3	57.1	58.7				
Ambient Temperature 6.[12])	57.2 °F	57.7 °F	58.7°F	°F	°F	°F	°F
End Time (6.[13])	1100	1023	1134				
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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6.[6] Date: From <u>3-/6-/5</u>	to <u>3-22-15</u>		C					
6.[2] Comments:		2 S S						
								•
								_
6.[17] Performed by:	1 2/1							
House two	4-17	123/282/ +	/ 31615	Operator (print)	/ Signature	/ Z#	/ Initials	/ Data
Operator (print) Si	ignature	Z# Initials	Date Date	Operator (print)	/	Z# /	/ / / / / / / / / / / / / / / / / / /	Date
	ignature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Homas Gara		123602 1 to	13/17/15			/	/	/
operator (print) Si	ignature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Jostera spez >	Julius Jopes	16598-121	103715				/	/
Operator (print) Si	ignature /	Z# Initials		Operator (print)	Signature	Z#	Initials	Date
HOMOS VIOTE	4-17	23638Z/ X	13/18/15		/	_ /	/	/
Z \ \ I	ignature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
(165) was of 02		116598, Ser	The state of the s	Operator (print)	Cionatura	/	/ / / / / / / / / / / / / / / / / / /	/
Operator (print) Si	ighature	Z# Initials	Date	Operator (print)	Signature	Z #	Initials	Date
Operator (arint)	·	/ /	/	Operator (print)	Signature	/ 	_// Initials	/ Date
Operator (print) Si	ignature	Z# Initials	Date	operator (print)	Signature	Z_1T	mitiais	Date
0 1521 Decision 11								
8.1[2] Reviewed by:		,	/					
SOM or designee (print) Si	ignature /	Z# Initials	Date					

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

6.[6] Date: From 3.18.15 to 3.18-15 Location: 3.75

	Start Time: $\delta_{6,[6]}^{6,[6]}$	Start Time: 6.[6] 5	Start Time: 6.[6] 97.5	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]
Calibrated Infrared Thermometer	Brand:	Brand: Model:	Model	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:
(4.2.1[1][B])	Cal. Due Para File Number	Cal. Due Date:	Cal. Due Date; File Number	Cal. Dua Date: File Number	Cal. Due Date: File Number	Cal. Due Date:	Cal. Dua Date: File Number	Cal. Due Date	Cal. Due Date:	Cal. Due Date:	Cal. Due Data:	Cal. Dec Oat	Cal. Due Date:	Cal Due Date:
Ambient Temperature (6.[7])	52.AZF	51.53F	52.83F	5193F	93,85°F	S6.14°F	58,64	60.92°F	63.04F	63.71°F	62.83	6).29F	*	°F
Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
68685 TI	53.59	52.16	53.57	52.33 51.73	53,99 53.46	55.69	58.63	59.70	62,54	83.48	61.56	61.14	4) A
50522 TY 50522 TS	53.62	52.98	53.65	5295	54.63	55.74	57.6	59.11	61.57	61.60	61.12	60.07	1	
),,,,,	3 2. 7 0	73.65	52.78	V 7.1 C	33.81	51.65	59.16	61.06	61,49	60.93	59.31		\
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6.[6] Date: From 31815 to 3.18-15 Location: 375

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F (6.[8]/6,[9												
							1							
							N							
							17							
														A
													P	1,
mbient														
emperature .[12])	SZ, 95°F	51.48°F			53.87°F	56.19 °F	58.08	6002 F	63.05°F	63,71°F	62.82	81.29°F	°F	°F
nd Time .[13])	0628	8550	2280		1029	1125	1229	1324	1427	1527	1625	1723		
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	Operator:	Operator	Operator:	Operator	Operator	Operator:	Operator:	Operator:
	Operator:	Operator	Operator:	Operator:										

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			Page 3 01 3						
6.[6] Date: From 3-1815	5 to 3-18-15	Location: 375							
6.[2] Comments: d,d	47 R 2	ender permanente perma	mere	taking 1	nea m	<u>C.</u>	leda	logger	
21			N. A.						
Operator (print) Signature //	ignature ignature ignature ignature ignature ignature	2#	Operator (print)	Signature / Signature / Signature / Signature / Signature / Signature / Signature / Signature	/ Z# / Z# / Z# / Z#	/ Initials	Date / Date / Date / Date / Date / Date / Date /		

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

6.[6] Date: From 3-18-15 to 3-19-15 Location: 375

	Start Time:	Start Time:	Start Time:	Cr TP1	G T.	0	0 7	T 0 =:						
	6.[6]		6.[6]	Start Time: 6.[6]	Start Time: 6,[6]	Start Time: 6,[6]	Start Time: 6.[6]	Start Time: 6,[6]						
	1832	6.[6]	2031	2131	2229	2330	0031	0/30	0231	0330	0428	0523	0.[0]	0,[0]
Calibrated	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Infrared Thermometer	Model:	Model:	Model: / A	Mollel:	Modul:	Model:	Model: . \a.	Model:	Mod I:	Model	Model:	Model n/	Model:	Model:
(4.2.1[1][B])	Cal Du Date:	Cal. Due Qate:	Cal. Due Date:	Cal Du Data	Cal. Due Date:	MH	1/1/2	nA	A	A	MIG			
	Cal. Due Date:	N		Cal. Due Date:	N	Cal. Due Date:	Cal. Dut Date:	Cal. Due Date:	Cal. Due Date:	Cal Due Date:	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	File Number	File Number	File Number	File Number	File Number	File Number	File Number
Ambient		<i>C</i> 2	-1 37		E4. 00				C-0.00					
Temperature (6.[7]) T3	59.78°F	58.44 °F	56,37F	55.6/°F	54.89°F	54.27°F	23.90°F	53.50F	52.89 of	5 <u>2.36</u> °F	5 <u>2.03</u> °F	53.18°F		A°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])
68685TI	59.31	58.03	56.07	55.42	54.65	54.13	53.75	53.44	52.90	52.39	52.08	53.58	\	
68685 T2	58.55	57.28	55,35	54.80	54.11	53.59	53.24	52.96	52.36	51.88	51.606	53.17		
50522 TY	58.70	57.77	56.23	55.48	55, 12	54.64	54.37	54.10	53.65	53. 24	52.93	53.85		
50522 TS	58.49	57.54	55,97	55.03	54.95	54.53	54.24	53.97	53.49	53.09	52.79	53.88		
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6.[6] Date: From 3-18-15 to 3-19-15 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])	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				

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						NA								A
													/1/	114
													1	1
Ambient Temperature (6.[12])	59.76 °F	58.42°F	56.35°F	55.61°F	54.89 °F	54.27 °F	53.89 °F	53.50 _F	52.88°F	52.34°F	52.03°F	53.18°F	°F	•F
End Time (6.[13])	1833	1931	2032	2131	2230	2331	0031	0130	0232	0331	0428	0523		
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	Operato	Operator:	Operator:
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6.[6] Date: From 3-	18-15 10 3-19	7-15 Loc	ation: 375							
6.[2] Comments: Di	U Not ent	r perma	- con Per s	Some 375	er Aren G-r	247 R.S	All	temps	are	taken
			03mono fu	the water	20130 2					
				161			- 34	11290	7	
6.[17] Performed by:	- Oulk	11905	71 520 13-18-15		1		/	/		
Operator (print) Operator (print)	Signature Signature	Z# 1/1/2h Z#	Initials Date HIOR / 3-18-15 Initials Date	Operator (print) Operator (print)	Signature / Signature	Z# / Z#	Initials / Initials	/		
Operator (print)	Signature	/ 	/ / Initials Date	Operator (print)	Signature MA	/ 	/ Initials	Date /		
Operator (print)	Signature K	Z#	Initials Date	Operator (print)	Signature /	Z#	Initials	Date /		
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	2.#	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:	San Ma	elly 22624	Jan 13-19-15							

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Signature Z# Initials Date