From: Juarez, Catherine L Sent: Thursday, January 29, 2015 4:03 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; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Diaz, Tammy; Juarez, Catherine L; Robinson, Bruce Alan; Lansing, Michael Alan; Tymkowych, John M **Subject:** Daily Technical Submission - January 29, 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 at (mph@lanl.gov) if additional information would be helpful.

Catherine Juarez, CHMM, REM Los Alamos National Laboratory Environmental Compliance Group cjuarez@lanl.gov 505-667-4961

NMED / LANL Technical Summary

January 29, 2015

LANL Technical Update:

- Location of Nitrate Salt-Bearing Wastes
 - Remediated nitrate salt-bearing waste containers.
 - All containers remain in the 375 Permacon.
 - Unremediated nitrate salt-bearing waste containers.
 - All containers remain in the 231 Permacon.
- Monitoring Daily Temperature
 - Temperatures remain below 90°F.
 - Previous day's 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.
 - January 29, 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 January, LANL has conducted HSG sampling on 55 SWBs.

• Additional measures currently underway

- As a conservative measure, LANL is currently conducting additional monitoring. This additional monitoring includes:
 - Containers (SWB) 68685 and SB50522.
 - LANL continuing *solid phase micro-extraction*.
 - Hourly temperature measurements are currently being performed on SWB 68685 and SB50522.
 - Five (5) other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste).
 - Continue twice-weekly HSG sample collection.
 - January 29, 2015 HSG data attached.
- Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, repackaging)
 - Currently, no further movements or re-packaging are occurring.

Other:

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

Next Call: Tuesday, February 3, 2015

Summary Chart - Requested Information / Pending Issues:

	Requested Information	Actionee	Status	Completion Date
1.	NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g., 24 hour potions)	NMED		Complete
2.	24 hour notices). Keep NMED informed on the status of on- going chemistry / analytical work.	LANL		June 5, 2014 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 salt- bearing containers at LANL.	LANL		Complete Empty Parent June 16, 2014 Unremediated August 14, 2014 (Supplemental information discussed on sampling of parent containers) August 26, 2014 (Letter on applicability of LANL HWFP for opening waste containers)

	Requested Information	Actionee	Status	Completion Date
13.	Respond to NMED email request for information associated with the nitrate salt- bearing parent and daughter waste containers. 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	Status	
				response to item 5)
				October 27, 2014 (Fifteenth submittal in response to item 5) October 28, 2014 (Sixteenth submittal in response to item 5)
				November 3, 2014 (Seventeenth submittal in response to item 5)

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

	Requested Information	Actionee	Status	Completion Date
24.	NMED requested the procedure for sampling empty parent drums that previously contained nitrate salt-bearing waste.	LANL	EP-AREAG-WO-DOP- 1245 is included in Enclosure 1 to LANL's July 3, 2014 Response to Request for Information on Management of Waste at LANL.	Complete July 8, 2014
25.	NMED requested an additional discussion on a future technical call regarding CO 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 251-300 on December 1, 2014. Submitted RTR Videos 301-312 on January 15, 2015.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL		Complete October 27, 2014
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED		Complete November 3, 2014

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

		68	685			69!	553			696	515	
Date	Date H ₂ ppm CO ppm CO ₂ ppm N ₂ O ppm			H ₂ ppm	CO ppm	CO₂ ppm	N₂O ppm	H₂ ppm	CO ppm	CO₂ ppm	N ₂ O ppm	
01/29/15	137	325	7937	2124	179	426	12607	1704	76	211	4668	230

	69616				SB5(0069		SB50452				
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
01/29/15	340	733	18253	3685	447	739	15462	1981	626	448	10331	1922

	SB50522					
Date	H ₂ ppm CO ppm CO ₂ ppm N ₂ O p					
01/29/15	1605	375	30647	760		



ATTACHMENT 2 Page 1 of 3

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

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

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time: <u>1022</u>	6.[6] Start Time: <u>0910</u>	6.[6] Start Time: 1113	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] _ Start Time:
TA-54-231				A TRANSPORTER STATE			
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: $f/UK-$ Model: $56/$ Cal. Due Date: $5/28/5$ File Number 101974	Brand: HULL Model: Du Cal. Due Date: 01/21/5 File Number 10/974	Brand: <u>Fluit</u> Model: <u>Su</u> Cal. Due Date: <u>DIP</u> File Number <u>10</u>	Brand: Model: Cal. Due Date: File Number			
Ambient Temperature (6.[7])	56.9 oF	<u>56.0</u> °F	55.1 °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	54.6	51.6	54.4				
S802833	54.1	52.0	54.	·			
S801676	52.9	51.8	54.8				
S816810	59.1	54.9	54.3				
70069	58.1	55.9	55.1				
S822844	58.4	57.7	56.1				
S825879	58.2	56.3	55.9				
S793724	57.9	55.4	558		· ·		
S813545	56.4	54.7	36.2				
S822713	56.4	54.3	56.0				
S802739	55.5	53.3	55.8				
69907	54.8	52.8	55.3				
S804995	55.3	52.9	53.9				
S816434	55.7	53.5	55.8				

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ATTACHMENT 2

Page 2 of 3

6.[6] Date: From <u>1.26.15</u> to <u>2.1.15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
FA-54-231 (continue	d)						
S805289	55.8	53.3	54.3				
S862888	55.0	53.5	55.7				
70072	54.8	53.4	55.4				
S823184	54.8	54.7	55.0				
S822599	56.7	55.5	54.5				
69904	56.5	55.2	54.7				
S805051	57.0	54.3	56.6				
S864213	57.9	53.8	56.9				
S853714	57.4	57.1	54.				
S803078	58.G	56.3	Ju.4				
S825878	57.9	55.8	510.7				
S823124	57.4	55.6	54.8				
S804948	56.9	53.4	54.5				
S813385	55.5	53.0	56.3				
S842446	55.Z	54.0	57.2				
Multion Temperature	54.9 °F	53.5 °F	56.5 °F	°F	°F	°F	°F
6.[12])							
End Time (6.[13])	1625	0916	1119.				
6.[13]	Operator:						
	Operator:						

Nitrate Salt-Bearing TH	RU Waste Container Monnoring		Document No.: Revision: Effective Date: Page:	EWMO-AR 5 11/03/14 27 of 38	EAG-FO	1246
	ATTACHMENT Page 3 of 3	2				
6.[6] Date: From <u>1.26.15</u> to <u>2.1.15</u>						
6.[2] Comments:		<u>.</u>				
6.[17] Performed by:	217931281 AG11-26-15 -		/	,	, ,	/
Altredo Aquilar Altrado Aquilar Operator (print) Signature	Z# Initials Date	Operator (print)	Signature		Z# Initials	Date
Operator (print) Signatures	$\frac{7736382 / 42 / 1 2615}{Z\#}$	Operator (print)	/ Signature	/	Z# Initials	/ Date
Operator (print) Signature	<u>/157971/02/127/15</u> Z# Intials Date	Operator (print)	/ Signature		Z# Initials	/ Date
Operator (print) Signature	17120 / R / 1 1 1 -	2	/	/	/	/
Operator (print) - Signature	Z# Initials Date 5 01,2815	Operator (print)	Signature	,	Z# Initials	Date
Operator (print) Signature		Dperator (print)	Signature	/	Z# Initials	Date
TEAMS KOTL T-VI	12363821 + 11/28/15 -	Dperator (print)	/ Signature	/	/ Z# Initials	/ Date
Operator (print) Signature	Z# Initials Date		/	/	25π InitialS	/
Operator (print) Signature	Z# Initials Date	Operator (print)	Signature		Z# Initials	Date

8.1[2] Reviewed by:

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 SOM or designee (print)
 Signature
 Z#

 Initials
 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 <u>1.26.15</u> to <u>2.1.15</u>

		100 100 100 100 100 100 100 100 100 100					
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: <u>1436</u>	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
		1-27-151 12-1139	1430			ļ	
TA-54-375 Cell 1		Charles and a final					
Calibrated Infrared	Brand: Lluke	Brand: Fluke	Brand: Fluke	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 5611	Model: 50	Model: S6)	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 6 12 15	Cal. Due Date: 6/12/15	Model: 561 Cal. Due Date: 61215	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number <u>101915</u>	File Number [0]915 55 1	File Number	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	<u>55.9</u> °F	J. TREF	<u>51.0</u> °F	¢F	°F	¢Ŀ	°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	ET3	50-551	58.2				
68540	57.0	54.7	58.0				
LA0000070503 68553	57.3	46.3 55.2	55.4				
69445	57.3	55.0 54.5	58.5				
69618	56.8	5.7 5H.Z	57.9				
69013	57.2	1055T 55.0	58.3				
LASB50522	57.4	125.4 55.6	58.6				
LASB50452	57.3	55.5	58.2				
LASB50431	57.5	155.8	58.1				
LASB50069	57.0	550 55.3	57.9				
LASB50073	56.8	55.3	57.5				
69636	51.3	55.7	57.9				
69616	57.)	55.2	57.8				
69417	57.4	510.7	57.9				

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ATTACHMENT 3

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6.[6] Date: From <u>1.26.15</u> to <u>2.1.15</u>

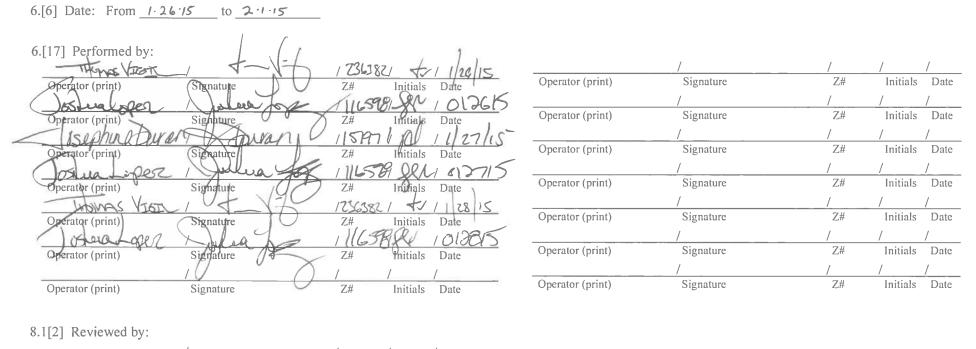
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
TA-54-375 Cell 1 (con	ntinued)						
69620	51.4	55,5	57.9				
69520	576	55.8	58.2				
69641	57.4	54.0	S8. Z				
69298	87.7	5(2.0	58.0				
LASB02203	57.6	56.1	58.2				
Ambient Temperature (6.[12])	58.2 °F	53.9 °F	<u>57.2</u> °F	oF	°F	oŁ	°F
End Time (6.[13])	1435	1341142	1435				
6.[13]	Operator:	Operator:	Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:

		Document No .:	EWMO-AREAG-FO- '-1246
\subseteq	Nitrate Salt-Bearing TRU Waste Container Monitoring	Revision:	5
		Effective Date:	11/03/14
UET		Page:	30 of 38
		t).	

ATTACHMENT 3

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 SOM or designee (print)
 Signature
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 Initials
 Date



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>1.26.15</u> to <u>2.1.15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time: <u>1435</u>	6.[6] Start Time: 1143	6.[6] Start Time: <u>1436</u>	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:
TA 64 255 (1.11.2		Start Time. <u>11-15</u>	Start Time. 1926				
TA-54-375 Cell 2	D. I. Tuiles	D. J. Fluka	M.).				
Calibrated Infrared Thermometer	Brand: Fluke Model: 561	Brand: Full	Brand: Fluke	Brand: Model:	Brand: Model:	Brand: Model:	Brand:
(4.2.1[1][B])	Cal. Due Date: 61215	Model: $5(a)$ Cal. Due Date: $(a/12)5$	Model: <u>S</u> Cal. Due Date: <u>S</u>	Cal. Due Date:	Cal. Due Date:		Model: Cal. Due Date:
	File Number 101912	File Number 101912	File Number 161912	File Number	File Number		File Number
Ambient Temperature (6.[7])	<u>57.5</u> °F	<u>55.2</u> °F	59.0 °F	°F	oF	oE	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])
LASB02198	570	56.7	58.1				
68638	58.2	Jui	58.9				
69615	58.5	57.3	59.3				
69635	58.1	57.6	59 6				
69642	58.6	51.2	59.4				
69630	58.7	51.0	59.1				
69633	58.7	57.3	59.3				
68430	58.5	51.1	60.0				
68631	58.3	de.le	58.9				
69634	57.2	34.7	59.)				
68567	56.3	05.	57.0				
94227	57.6	de.y	58.0				
LASB50442	57.8	510.4	58.5				
69644	58.6	54.5	58.4				
LASB50443	58.1	13 57.545	58.1				
69638	59.2	57.2	58,6				



ATTACHMENT 4

Page 2 of 3

6.[6] Date: From <u>1.26.15</u> to <u>2.1.15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])						
TA-54-375 Cell 2 (cor	ntinued)						
68624	59.0	58.9	59.4				
68507	58.7	58.2	58.7				
69568	57, Z	56.2	58.6				
69553	57.3	55.1	56.2				
69598	56.3	54.9	56.0				
LASB50559	57.8	Steel	57.5				
69015	59.0	57.7	58.8				
69639	59.3	38.0	59.2				
69637	59.4	58.	59.0				
Ambient Temperature (6.[12])	57.9 oF	55.9°F	<u>58.6</u> °F	oF	ol:	°F	of:
End Time (6.[13])	1442	1151	1441				
6.[13]	Operator:	Operator: Operator:	Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:



ATTACHMENT 4 Page 3 of 3

6.[6] Date: From 1.26.15 to 2.1.15

6.[17] Performed by:	4			
1236-8Z/ V/ 1/26		/	/	_ /
Operator (print) Signature (Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
	15	/	/	/ /
Operator (print) Signature Z# Initials, Date	Operator (print)	Signature	Z#	Initials Date
Susphiae Duran Duran 1151911 N/2	7/15-	/	/	/ /
Operator (print) (Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
Obsera Looper Jutura for 116981 Per 100	1715	/	/	/ /
Operator (print) Signature [] Ż# Initials Date	Operator (print)	Signature	Z#	Initials Date
- 151/200 YIGEL / F-VF (123638-1 +1 / 12)	8/15	/	/	_ / /
Operator (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
) dualsper the wards 1116578 the 1012	815	/	/	/ /
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

\bigcirc	Nitrate Salt-Bearing TRU Waste Container Monnoring	Document No.: Revision: Effective Date:	: EWMO-AREAG-FO- '-1246 5 11/03/14
		Page:	34 of 38

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>1.26.15</u> to <u>2.1.15</u>

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1425	Start Time: 1124	Start Time: 1443	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 3							
Calibrated Infrared	Brand: Fluke	Brand: Flull	Brand: Fluk	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: Sol	Model: <u>Scal</u>	Model: 561	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 611 15	Cal. Due Date: 0 12 15	Cal. Due Date: G 12 15	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 101916	File Number 101910	File Number 101916	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	<u>\$8.0</u> °F	55.4 °F	<u>59.6</u> °F	o£	o£	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])						
69519	c8.7	56.6	60.0				
69645	59.0	567	60.1				
94068	590	50.3	59.5				
93605	28.1	55.8	59.5				
69548	58.1	55.8	59.6				
69604	58.4	55.1	59.2				
LASB50529	58.7	55.4	59.7				
LASB50418	58.9	554	60.3				
69036	58.7	50.0	39.9				
LASB50451	58.2	55.6	59.4				
69559	58.2	55 <u>H</u>	59.3				
LASB50448	S1.8	51.9	58.6				
Ambient Temperature (6.[12])	583 °F	55.2°F	<u>59.5</u> °F	oF	oF	oF	°F
End Time (6.[13])	1429	1134	1448				
6.[13]	Operator:						
	Operator:						

	Nitrate Salt-Bearing TRU Waste Container Monnoring	Document No.: Revision:	EWMO-AREAG-FO
		Effective Date:	11/03/14
UET		Page:	35 of 38

ATTACHMENT 5 Page 2 of 2

6.[6] Date: From 1.26.15 to 2.1.15

6.[2] Comments:

6.[17] Performed by:		/	/	_ / /
Operator (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
Costualoper Lahue tor 116590, Sel 1012615		/	/	/ /
Operator (print) Signature Z# Initial Date	Operator (print)	Signature	Z#	Initials Date
Josephie breat Shuren 15191 N 1157/15		/	/	/ /
Operator (print) Stggature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
		/	/	/ /
Operator (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
THOMAS ISOL / J-V- 121382 / +/ 128/15		/	/	/ /
Operator (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
(Heal sper & blue for 11658 the 1012815		/	/	/ /
Operator (print) Signature Z# Unitials Date	Operator (print)	Signature	Z#	Initials Date
		/	/	/ /
Operator (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date

8.1[2] Reviewed by:



Nitrate Salt-Bearing TRU Waste Container Monitoring	Document No.: Revision: Effective Date: Page:	EWMO-AREAG-FO-DOP-1246 5 11/03/14 36 of 38
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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 1-28-15 to 1-28-15 Location: 375

	Start Time: 6.[6] 862.8	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6] /929	Start Time: 6.[6]	Start Time: 6.[6] 11 2.6	Start Time: 6.[6] 12-29	Start Time: 6.[6] 1329	Start Time: 6.[6]	Start Time: 6.[6] 528	Start Time: 6.[6]	Start Time: 6.[6] 1725	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared	Brand:	Brand:	Brand:	Rrand:	Brand:	Brand	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer (4.2.1[1][B])	Model:	Molel:	Model:	Model	Modul	Model: Cal. Que Date:	Mox. Cal. Due Date:	Model	Model:	Madel:	Model:	Motel:	Model:	Model:
(1991)	Cal. Dae Due:		Cal. Due Date:	Cal. Due Date:	Cal. Dua Dare:	Cal. Que Date:	Cal. Due Date:	Cal. Due Duta	Cal. Due Date:	Cal. Die Hate:	Cal. P. De-	Cal. Du Due	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 Temperature (6.[7])	50.60 °F	50.84 °F	51.09 °F	5 <u>7.35</u> °F	52.66°F	5 <u>4,24</u> °F	56.5 °F	57.29°F	57.84 °F	58,01 °F	5 <u>7.25</u> °F	55.23°F	•F	°F
Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
68685TI	51.94	52.24	52.41	53,24	52.87	54.19	56.25	57.09	57.71	\$1.74	56.92	55.11		
68655 TZ		51.55	51.64	52.47	52.02	53.48	55,57	56.24	56.83	56.82	56.10	54.31		A
20522 74		51.90	52.01	52.71	52.52	53,46	55.22	55,87	56.42	56.56	56.04	54.75		plr
50522 +5	51.49	51.60	51.74	52,50	52.44	53,46	55.27	55,84	56.39	56.48	55.95	54.47		
								K						
ļ							4							<u> </u>

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Z# 216235 INITIAL 20m DATE 1-28-15

UET			Nit	rate Salt-Bear	ing TRU Was	ste Container	Monitoring				Revision:	No.: EWM 5 Date: 11/03/ 37 of 3	14)-DOP-1246
6.[6] Date:	From <u>(~2 %</u> ·	15 to 1-2	815	Location:	375	<u>A</u> ^	TACHMEN Page 2 of 3	<u>T 6</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])					
						- · · · · · · · · · · · · · · · · · · ·								
														NA
							p	·						
														/
Ambient Temperature (6.[12]) T3	50.61 °F	50-84 °F	51.09 °F	<u>52,35</u> °F	57.66 ·F	<u>54.24</u> .F	56.5 °F	<u>57.29</u>	57.84°F	58.0) ·F	57.25°F	5518°F	F	•F
End Time (6.[13]) 6.[13]	0630 Operator:	0730	0827	0929	1029	1126	1230	1330	1428	1528	1626	1726		
0.[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:

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Nitrate Salt-Bearing TR	U Waste Container Monitori	ng		Document No.: Revision: Effective Date: Page:	EWMO-AREAG-FO-DOP-1246 5 11/03/14 38 of 38
6] Date: From 1.28-15 to 1-28-15 Location: 375	ATTACHM Page 3 o				
	Macon due takin From		rea 6 logger	- shandi Computer	ng order in 375
		NA			
7] Performed by: 1/174 June / Hellon 201458/ 27/12 perator (print) Signature M/4 Z# Initials Date	Operator (print)	/ Signature	// Z#	/ / Initials Date	
perator (print) Signature Z# Initials Date	Operator (print)	/ Signature	1	Initials Date	
reator (print) Signature Z# Initials Date		Signature	Z#	Initials Date	
rentor (print) Signature Z# Initials Date	Operator (print)	Signature	Z#	Initials Date	
perator (print) / / / / / / / / / / / / / / / / / / /	Operator (print)	Signature	Z#	Initials Date	
erator (print) Signature Z# Initials Date	Operator (print)	Signature	/ Z#	Initials Date	
perator (print) Signature Z# Initials Date	Operator (print)	/ Signature	/ 	Initials Date	
8] Reviewed by: <u> O'Grach / C. O'Stale //51355 5ACI / - 3</u> OM or designee (print) Signature Z# Initials Date	28-15				

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		Document No.:	EWMO-AREAG-FO-DOP-1246
]	Nitrate Salt-Bearing TRU Waste Container Monitoring	Revision:	5
		Effective Date:	11/03/14
UET		Page:	36 of 38

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

6.[6] Date: From <u>1-28-15</u> to <u>1-29-15</u> Location: <u>375</u>

	Start Time: 6.[6] 1830	Start Time: 6.[6] /925	Start Time: 6.[6] 2030	Start Time: 6.[6] 2130	Start Time: 6.[6] 2230	Start Time: 6.[6] 2325	Start Time: 6.[6] 0026	Start Time: 6.[6] 0129	Start Time: 6.[6] 02277	Start Time: 6.[6]	Start Time: 6.[6] 0.429	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Motel: Cal. Dhe Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand:	Brand: Model:1A- Cal. Duo Date: File Number	Brand:	Brand: Model: 14 Cal. Duo Date: File Number	Brand:	Brand: Motel: Cal. Dub Date: File Number	Brand: Model: A Cal. Due Date: File Number	Fild Number	Hrand Model Cal. Due Date File Number			
Ambient Temperature (6.[7])	<u>51.93</u> •F	<u>53.03</u> °F	57.29°F	<u>51.48</u> °F	<u>50.76</u> °F	<u>57.57</u> °F	<u>51.88</u> °F	52.0CF	52.10F	51.48F	50.74F	51.32		°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])
TU) 68685 TU 68685	52.19 51.43	53.52 53.03	53.27 52.66	52.33 51.83	51.80	52.65 52.01	52.95 52.32	53.07 52.47	53.07	52.36	51.76	52.43 51 .7 5	AA	NA
Ter) 50572 Tis) 50522	52.44 52.07	53.12 52.94	52.87 52.63	52.21 57.97	51,92 51.63	52.39 52.12	57.57 57.32	52.60 52.37	52.65	52.24	51.93	52.20		
						IA								
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Z# _22 62 35 INITIAL Jem_ DATE 1-28-15

Nitrate Salt-Bearing TRU Waste Container Monitoring	Document No.: Revision: Effective Date: Page:	EWMO-AREAG-FO-DOP-1246 5 11/03/14 37 of 38
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ATTACHMENT 6 Page 2 of 3

6.[6] Date: From <u>1-28-15</u> to <u>1-29-15</u> Location: <u>375</u>

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])													
						S	A							
						1							A	ALA
Ambient														
Temperature (6.[12]) End Time	<u>57.93</u> °F	<u>53.03</u> °F	<u>52.29</u> °F	<u>51.48</u> °F	<u>50.76</u> °F	<u>57.57</u> °F	<u>51.87°</u> F	<u>52.02</u> °F	<u>52.10</u> °F	<u>51.46</u> F	50,74F	<u>51.32</u> F	°;	F
(6.[13])	1830	1925	2030	2130	2230	2325	0027	0129	0228	0329	0429	_05.30		
6.[13]	Operator:													
	Oper Oor:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator: Operator:	Operator:	Operator	Operator	Operator	Operator:	Operator:

ſ		Nitrate Salt-Bearing TRU Waste	Container Monitori	ū		Document N Revision: Effective Da Page:	No.: EWMO-AREAG-FO-DOP- 5 ate: 11/03/14 . 38 of 38
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			Page 3 o				
] Date: From /-28-15	to 1-29-15	Location: 375					
			0 -		1	- 2	
Comments: Drol	not enter 1	Dome 375 ferman Room Using Date	con Per S;	anding Or	der 124	+ Rev-2. Te	ingratures are to
m Dome 375	Control	Cooper Using Date	2 Lagger.	0			¢*
)					
7] Performed by:							
7] Performed by: Di Uitz 5. Conferment perator (print)		///2807416/2_1/-28-75- 2# Initials Date	Operator (print)	/ Signature	/ 	/ / Initials Date	
perator (print) Si	- 	Z# Initials Date			/	/ /	
perator (print) Si perator (print) Si		Z# Initials Date / 19059-070 / 1.28.15 Z# Initials Date		/ Signature / Signature	/ Z# Z#	/ / Initials Date / / Initials Date	
perator (print) Si Dhn Quistury perator (print) Sig mmu Romeror	gnature Callon	Z# Initials Date / 19055-070 / 1 - 2 8.15 Z# Initials Date -234255 TR/ 01-29-15			/	/ /	
perator (print) Si Dhn Quintur (perator (print) Sig mma Rome O	Sillo	Z# Initials Date / 19059-070 / 1.28.15 Z# Initials Date	Operator (print)	/ Signature /	/ Z# /	/ / Initials Date / /	
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