From: Juarez, Catherine L

Sent: Friday, October 24, 2014 2:27 PM

To: Ryan.Flynn@state.nm.us; Jeff.Kendall@state.nm.us; tom.blaine@state.nm.us; John Kieling; steve.pullen@state.nm.us; Kliphuis, Trais, NMENV; 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

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; Roberts, Kathryn
Margaret; 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;
Beard, Carl Allen; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici,
Dave; Haagenstad, Mark P

Subject: Daily Technical Submission - October 24, 2014

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 Mark at <a href="mph@lanl.gov">mph@lanl.gov</a> or 505-665-2014 if additional information would be helpful. Thank you.

Catherine Juarez ENV-CP cjuarez@lanl.gov Schedule "A" 7-4961

## NMED / LANL Technical Summary

## October 24, 2014

#### **LANL Technical Update:**

- Location of Nitrate Salt-Bearing Wastes
  - o Remediated nitrate salt-bearing waste containers.
    - All containers remain in the 375 Permacon.
  - o Unremediated nitrate salt-bearing waste containers.
    - All containers remain in the 231 Permacon.
- Monitoring Daily Temperature
  - o Temperatures remain below 90°F.
    - Previous day's daily 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.
      - October 24, 2014 HSG data attached.
        - o H<sub>2</sub>, CO, CO<sub>2</sub> and N<sub>2</sub>O
  - Other containers
    - A minimum of once per month HSG sampling will be conducted.
      - To date in October, LANL has conducted HSG sampling on 55 SWBs.
      - Note: LANL previously conducted HSG sampling on each of the 55 SWBs that contain 55-gallon drums of remediated nitrate salt-bearing waste (under Section I of the Isolation Plan).

#### • 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 planned.
- Other:

Next Call: Tuesday, October 28, 2014

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

	Requested Information	Actionee	Status	Completion Date
1.	NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g., 24 hour notices).	NMED		Complete June 5, 2014
2.	Keep NMED informed on the status of ongoing chemistry / analytical work.	LANL		Complete June 9, 2014
3.	On upcoming daily call, provide additional discussion on the potential for liquids in the 350 post-1991 cemented containers (including a discussion of the review of RTR tapes).	LANL		Complete  July 6, 2014 (Discussion on call)  July 18, 2014 (Meeting held)
4.	On upcoming call, provide additional discussion on why 231 and 375 Permacon fire suppression systems are not part of the LANL RCRA Hazardous Waste Facility Permit Contingency Plan.	LANL		Complete June 5, 2014
5.	Send copy of June 4, 2014 written daily submission to Trais Kliphuis. Also, include her on future daily submissions.	LANL		Complete June 5, 2014
6.	Provide LANL procedures and example records associated with post-1991 TA-55 cementation process discussed on June 6.	LANL		Complete July 3, 2014
7.	Provide information on numbers of containers in the post-1991 cemented waste streams from the TA-55 process discussed on June 6. This should include numbers regarding RTR status (RTR'd, meet WIPP criteria, requiring remediation).	LANL		Complete  June 17, 2014  (Supplemental Info provided July 3)
8.	Provide RTR video and pre-screening information associated with those containers requiring remediation from the post-1991 cemented waste streams from the TA-55 process discussed on June 6.	LANL		Complete July 3, 2014
9.	Provide copy of CCP/LANL Interface Document.	LANL		Complete June 9, 2014
10.	Provide a list of the analytes for which LANL is sampling HSG (CO <sub>2</sub> and LFL analytes).	LANL		Complete June 11, 2014
11.	Discuss potential sampling of HSG for NO <sub>x</sub> .	LANL		Complete June 16, 2014

	Requested Information	Actionee	Status	Completion Date
12.	Follow-up with Tim Hall regarding LANL Hazardous Waste Facility Permit and procedures that LANL is developing for possible future sampling of empty parent containers and unremediated nitrate 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)

13. Respond to NMED email request for	LANL	т	
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.		In progress – remaining are portions of item 5	Partially 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 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 (Thirteenth submittal in response to item 5) October 3, 2014 (Twelfth submittal in response to item 5) October 16, 2014 (Thirteenth submittal in response to item 5) October 23, 2014 (Tourteenth submittal in response to item 5)

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

	Requested Information	Actionee	Status	Completion Date
24.	NMED requested the procedure for sampling empty parent drums that previously contained nitrate salt-bearing waste.	LANL	EP-AREAG-WO-DOP- 1245 is included in Enclosure 1 to LANL's July 3, 2014 Response to Request for Information on Management of Waste at LANL.	Complete July 8, 2014
25.	NMED requested an additional discussion on a future technical call regarding CO <sub>2</sub> , including data.	LANL		Complete August 14, 2014 (Meeting held)
26.	NMED requested additional discussion on CIN-01 waste containers and absorbent, including confirmation and extent of use.	LANL		Complete  July 18, 2014 (Meeting held)
27.	NMED requested historic analytical information on pH of liquids associated with gypsum cemented waste.	LANL		Complete August 7, 2014
28.	NMED requested link to pdf of Actinide Quarterly edition (3 <sup>rd</sup> Q 2008).	LANL		Complete July 21, 2014
29.	NMED requested a copy of lessons learned	LANL		Complete August 11, 2014
30.	NMED request regarding empty drum sampling presentation.	LANL	Presentation is a pre- decisional draft/working document not for external release	August 25, 2014
31.	Respond to NMED email request dated 8/12/2014 for information associated with the nitrate salt-bearing waste containers.	LANL		Complete September 11, 2014
32.	NMED request regarding technical presentation.	LANL	Presentation is a pre- decisional draft/working document not for external release	August 25, 2014
33.	NMED request regarding literature review of catalytic reactions.	LANL	Literature review is a pre-decisional draft/working document not for external release	August 25, 2014
34.	LANL requested to schedule a meeting with NMED on remediation planning and schedules.	LANL / NMED	In Progress Meeting scheduled for Monday September 29th	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	In progress	
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.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL	In progress	
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	In progress	

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

	68685			SB50522				SB50451				
Date	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm
10/24/14	128	726	16887	5117	4069	462	47369	913	193	146	2198	158



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

Revision:

Effective Date: 9-11-2014

Page:

24 of 37

#### **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 10.20.14 to 10-26.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time: <u>0928</u>	6.[6] Start Time: <i>0937</i>	6.[6] Start Time: 1)26	6.[6] · Start Time: <u>0923</u>	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:
TA-54-231				ount time. Dito	Start Time.	Start Time.	Start Time.
Calibrated Infrared Thermometer (6.[7])	Brand: Five Model: 50   Cal. Due Date: 72915 File Number 101974	Brand: Fluck  Model: 50  Cal. Due Date: 12915  File Number 101974	Brand: Floke Model: SL) Cal. Due Date: 1 29 35 File Number 101974	Brand: Fluke Model: Stell Cal. Due Date: 7/29/14 File Number 10/5/14	Brand:  Model: Cal. Due Date: File Number	Brand:  Model:  Cal. Due Date:  File Number	Brand:  Model:  Cal. Due Date:  File Number
Ambient Temperature (6.[9])	64.2 °F	55.4°F	<u>33.6</u> °F	<i>53.</i> 8 °F	°F	°F	or
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
S818435	54.0	56.8	61,2	54.1			
S802833	53.8	56.4	60.3	52.8			
S801676	53.4	54.8 54.8	1.0.0	52.4			
S816810	52.)	54.8	59.9	51.4			
70069	51.5	54.3	59,2	50.8			
S822844	52.0	54.7	60.0	50.9			
S825879	52.1	54.4 11314	60.460.3	51.6			
S793724	52.2	54.7 113314	60.359-20	50.1			
S813545	52.2	54.8 (03)	59-2 61-1	50.5			
S822713	53.6	56.1 Wast	61.1 60.4	<b>50.</b> 2			
S802739	53,7	56.3	60.8	57.4			
69907	53,9	36.4	60,8	52.Z			
S804995	540	56.8	61.0	52.3			
S816434	54.9	57.5	60.9	52.9		,	



Document No.: EWMO-AREAG-FO-OP-1246 4

Revision:

9-11-2014

Effective Date: Page:

25 of 37

## **ATTACHMENT 2**

Page 2 of 3

6.[6] Date: From 10-20-14 to 10-26-14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])					
A-54-231 (continued	))						
S805289	54.8	57.4	61.6	55.4			
S862888	54.4	56.8	60,6	54.			
70072	53.8	56.4	607	52.3			
S823184	54.0	56.7	64.0	52.4			
S822599	53.5	55.	60,9	52.3			
69904	526	25.0	59.5	59.1			
S805051	52.3	55.	59.4	_ 53.Z			
S864213	52.3	54.9	59.6	51.4			
S853714	52.3	55.0	59.8	50.9			
S803078 \$ 5.20	1452.5 52.4	55.1	60.9	50.3			
S825878 \$0.20	1527 52.5	55.3	60.3	51.7			
S823124 10-20	540 527	<b>ゴ</b> 0.5	60.1	50.8			
S804948 %.2	54.4 540	56.9	60.8	50.8			
S813385 10-1	10°155-6 54.4	56.8	60.9	57.8			
S842446	55-6	58.8	6/-9	53.6			
nbient Temperature	56.7°F	TO.Z °F	6/0°F	54.1 °F	°F	°F	oF.
[14])	_						
d Time (6.[15])	0927	0943.	1135	093/			
6.[15]	Operator: &C	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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Document No.: EWMO-AREAG-FC OP-1246

Revision:

4 9-11-2014

Effective Date: Page:

26 of 37

### **ATTACHMENT 2** Page 3 of 3

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5.[2] Comments:							<del></del>		
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				70-201					
		227						<u> </u>	
[19] Performed by:					111 11 11 11	10 1			
Eloyd Cordua	16631	111418	8186	110.20.14	Alfredo Agul	Alle	171317		110/23/1
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Ínitials	Date'
Operator (print)	Cignatura	<u>191520</u> 7.#	Initials	110-20-14	Operator (print)	Signature	/_ Z#	/ Initials	/ Date
Deschus Durar	Signature		Initials	110/21/14	(2-1-1-)	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date 1	Operator (print)	Signature	Z#	Initials	Date
Homas Vigil				1102114		/	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL	-1 t-Vh	173638	21 tv	1102214		/	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Joshua Lope ?	* when I	1165	18, 180	Date / 10)214			/	/	/
Operator (print)	Signature 7	Z#	Irritals	Date / 72/11	Operator (print)	Signature	Z#	Initials	Date
asephine Duras	19	) 1/579	71 Me	1-151 Date 10/13/14			/	/	/
Operator (print)	Signature	Z#	Irritials	Date 10/13/14	Operator (print)	Signature	Z#-	Initials	Date
.1[2] Reviewed by:									
	/	/	1	/					
SOM or designee (print)	Signature	Z#	Initials	Date					



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

Revision:

4

Effective Date: 9-11-2014

Page:

27 of 37

# 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 10.20.19 to 10.2619

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time: <u>0854</u>	6.[6] Start Time: 1166	6.[6] Start Time: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	6.[6] Start Time: 1050	6.[6] Start Time:	6.[6] Start Time:	6.[6]
m + 54 955 G W 1	Start Time. 0007	Start Time. 1166	Start Time. 1212	Start Time. 1050	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 1		1 1 10					
Calibrated Infrared	Brand: Fluke	Brand: Flyke	Brand: Fluke	Brand: Fluke	Brand:	Brand:	Brand:
Thermometer	Model: 56/ Cal. Due Date: 6/2/5	Model:	Model: SG1	Model: 50	Model:	Model:	Model:
(6.[7])	File Number /0/915	File Number /6/9/S	Cal. Due Date: 6 1215 File Number 10 915	Cal. Due Date: 6 17/15 File Number 10/9/5	Cal. Due Date: File Number	Cal. Due Date:	Cal. Due Date:
	riie Number <u>701773</u>	rile Number 761915	File Number 101412	File Number 10915	File Number	File Number	File Number
Ambient Temperature (6.[9])	54.5 °F	58.4 °F	65.6°F	58.5°F	°F	oF.	oF
Container ID#	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)
Container 15 #	(6.[10]/6.[11])	(6.[10]/6.[11])	(6.[10]/6.[11])	(6.[10]/6.[11])	(6.[10]/6.[11])	(6.[10]/6.[11])	(6.[10]/6.[11])
68685	54.0	28.3	64.1	58.6		,	
68540	54.2	58.7	63.9	58.4			
68553	54.3	58.7	64.5	58.4			
69445	54.6	8.85	64.3	59.0			
69618	54.8	58.7	64.1	58.8			
69013	55.1	58.9	63.8	58,8			
LASB50522	55.6	59.1	64.1	59.1			
LASB50452	55.4	39.0	63.9	59.0			
LASB50431	55.4	59.1	63.5	58.9			
LASB50069	55.2	59.1	63.7	589			
LASB50073	55.5	59.2	64.3	59.3			
69636	55.4	59.2	C3 · Z	58.b			
69616 /01014	151-55.1	59.1	63.7	59.1			
69417	55.2	58.7	63.9	59.0			

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

Revision:

4

Effective Date: 9-11-2014

Page:

28 of 37

# ATTACHMENT 3 Page 2 of 3

6.[6] Date: From 10.2014 to 10.2614

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
TA-54-375 Cell 1 (con	tinued)						
69620	55.6	51.0	63.7	59.0			
69520	55.9	59.4	63.8	59.			
69641	55.9	59.9	64.1	59.1			
69298	56.1	59.7	63.8	59.7			
LASB02203	55.7	59.3	63.4	59.0			
Ambient Temperature (6.[14])	54.7 °F	59.0 °F	64.9°F	59.2°F	oF	°F	oF
End Time (6.[15])	0859	1112	1226	1100			
6.[15]	Operator:	Operator:	Operator: Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:		
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	1.1.2	4

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Document No.: EWMO-AREAG-FC OP-1246

Revision: 4 Effective Date:

9-11-2014

Page:

29 of 37

# ATTACHMENT 3 Page 3 of 3

6.[6] Date: From 10-20-14	to 10.26.14							
6.[19] Performed by:	) // ///s nature	SV / EC Initials	1 10.20.14 Date	Operator (print)	Signature	_/ <b>!!65</b> 7&	Hitials	Mo23
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Operator (print) Sign	natune Z#	Initials	/ 10/21/14 / 10/21/14	Operator (print)	Signature /	Z# /	Initials	Date /
Thomas Voca	7.343		10/22/14	Operator (print) Operator (print)	Signature / Signature	Z# / Z#	Initials / Initials	Date  / Date
Joshalsee	ature Z#	Initials Initials	/ 102314 Date	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date
Isephine Durang	1519 hature Z#		/ 10/23/14 Date	Operator (print)	/ Signature	Z#	/ Initials	/ Date
8.1[2] Reviewed by:								
SOM or designee (print) Sign:	ature Z#	/ Initials	/ Date					

Document No.: EWMO-AREAG-F

Revision:

Effective Date: 9-11-2014

Page:

30 of 37

### **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 10.20.14 to 10.26.14

	Monday	Tuanday	317-dd	T1 1	73		
	6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday	Friday	Saturday	Sunday
	Start Time: 0900	Start Time: 1/13	Start Time: 1242	6.[6] Start Time: 1100	6.[6]	6.[6]	6.[6]
The state of the	Start Time: 9700	Start Time. 1113	Start Time, TOPE	Start Time: 1100	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2	T. I.			1.10			
Calibrated Infrared Thermometer	Brand: Fiske Model: 561	Brand: Fluke	Brand: Fluke	Brand: Fluid	Brand:	Brand:	Brand:
	Cal. Due Date: 6 12 15	Model: 56) Cal. Due Date: 61215	Model: 56	Model: 50el	Model:	Model:	Model:
(6.[7])	File Number 101912	File Number 101917	Cal. Due Date: 6 12/15 File Number 10/9/2	Cal. Due Date: (a 17215	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
Ambient Temperature			rile Number 101412	File Number 101912	File Number	File Number	File Number
(6.[9])	562°F	<u></u>	62.4 °F	58.3°F	°F	oF	
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
LASB02198	56.0	59.9	C2.6	58.4		(-([], -([])	(0.[10],0.[11])
68638	55.6	59.5	62.8	58.5			
69615	55.9	59.7	63.3	58.8			
69635	56.8	60.0	63.8	59.1			
69642	55.6	59.6	63.7	39.0			
69630	55.9	59.7	64.4	59.2			
69633	56.3	Co.0	63.8	59.2			
68430	55.7	60.1	(63.)	194159.5 Sq.1			
68631	55.3	59.5	62.8	10×18-6-595			
69634	56.0	39.7	61.9	1996 533-58.6			
68567	56.0	59.5	42.4	10 58.7 58.3			
94227	55.7	60.0	67.6	19415 <del>59.2</del> 58.7			
LASB50442	56.5	Sa.8	63.2	10 18 59.1 59.2			
69644	56.5	59.7	63.4	59.]			
LASB50443	56.0	59.7	63.3	59.0			
69638	56-3	59.9	63.5	58.7			

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Document No.: EWMO-AREAG-FC OP-1246

Revision: Effective Date:

4 9-11-2014

Page:

31 of 37

## **ATTACHMENT 4**

Page 2 of 3

6.[6] Date: From 10.20.14 to 10.26.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
A-54-375 Cell 2 (cor	ntinued)						
68624	56.2	60.0	63.4	59.2			
68507	56.7	66.0	63.7	59.2			
69568	57.0	60.0	62.3	58.4			
69553	56.0	39.5	62.4	58.7			
69598	56.2	59.8	62.7	59.2			
LASB50559	56.2	59.9	63.2	59.0			
69015	56.7	60.3	63.6	59.5			
69639	57-1	20.2	67.6	59.2			
69637	57.2	59.8	63.5	59.2			
mbient Temperature .[14])	56.0 of	59.6°F	62.4°F	59.4°F	°F	°F	oF_
nd Time (6.[15])	0905	1119	1245	11070			
6.[15]	Operator: SC	Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	 		
552			

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Document No.:

Effective Date:

EWMO-AREAG-FC OP-1246

Revision:

Page:

4

9-11-2014

32 of 37

## ATTACHMENT 4

Page 3 of 3

6.[6] Date: From 10.2014 to 10.26.14	_					
6.[19] Performed by:  [107 D. 612 A 1 SD N	1114188   EC   10.20.14	Josheelso	roles	11(60	ta fee	1107
Operator (print) Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
been mentoya 1 /20	19526 12 110-20-14	Operator (print)	Signature	/ 	/ Initials	/ Date
Operator (print) Signature	Z# Initials Date	Operator (print)	/	/	/	/
Operator (print) Signature	/231382 / V / 10 21 14 Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Joshue lake lestura of	116598 DRV / 102/14		/	/	/	/
Operator (print) Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Homes Vicin	13082 to 110 22 14	Operator (mint)	Cion atum	7.11	/	/
Operator (print) Signature	Z# Initials Date	Operator (print)	Signature	Z# /	Initials	Date /
Operator (print) Signature	Z# Initials, Date	Operator (print)	Signature	Z#	Initials	Date
(Asophing) VIVA	15197/ 0/10/23/14		/	/	/	/
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					



Document No.: EWMO-AREAG-FC

Revision:

4

Effective Date: 9-11-2014

Page:

33 of 37

### **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 10.20.14 to 10.26.14

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	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time: \$249	6.[6]	6.[6]	6.[6] —	6.[6]	6.[6]	6.[6]
	Start Time:	Start Time: 1100	Start Time: 1207	Start Time: 1038	Start Time:	Start Time:	_ Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer	Brand: Fluke Model: 561	Brand: Ruke	Brand: Flyke	Brand: Flull	Brand:	Brand:	Brand:
(6.[7])	Cal. Due Date: 6 12 15	Model: 361 Cal. Due Date: 6/12/15	Model: Soluzia	Model: 501 Cal. Due Date: 0125	Model:	Model: Cal. Due Date:	Model:
(0.[/])	File Number /01914	File Number 141916	File Number 16/ 016	File Number 10/01/0	File Number	File Number	Cal. Due Date: File Number
Ambient Temperature (6.[9])	56.4 °F	60.2°F	64.0°F	59.5°F	oF	°F	°F
Container ID#	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
69519	57.2	59.7	64.5	59.8			
69645	57.2	61.2	64.5	60.1			
94068	57.8	60.9	64.7	60.3			
93605	57.6	61.0	65 7	60.7			
69548	57.4	8.00	64.9	60.3			
69604	57.3	607	64.8	60.2			
LASB50529	56.9	60.6	C4.4	00.2			
LASB50418	56.9	60.4	64.6	(00.1			
69036	56.6	66.1	64.8	59.9			
LASB50451	57.0	GO .3	64.7	59.7			
69559	57.6	60.8	64.8	60.2			
LASB50448	57.2	60.7	64.8	(00.)			
Ambient Temperature 6.[14])	56.7°F	Co. 1 °F	G4.9°F	60.1°F	°F	°F	°F
End Time (6.[15])	0852	1105	1212	10491			
6.[15]	Operator: 5C Operator: 5C	Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator:	Operator:

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Document No.: EWMO-AREAG-FC OP-1246 4

Revision:

9-11-2014

Effective Date: Page:

34 of 37

# ATTACHMENT 5 Page 2 of 2

6.[6] Date: From 10.2	to 10.26.14								
6.[2] Comments:									
-									
				198					
							- G		
	The state of the s								
6.[19] Performed by:				(	TI	14	1116	<i>ای د</i>	/
Eloy S. Coldev A Operator (print)	12804	111418	8/5c //0·Z	0.14	Operator (print)	Signature Signature	/[(65°	Initials	1660)11
Lun Mont exe	Signature	Z# <b>19152</b> 0	Initials Date	20-14	operator (print)	ingrintare .	<i>&gt;</i> /	/	Date /
Operator (print)	Signature	Z#	Initials Date	1	Operator (print)	Signature	Z#	Initials	Date
HOMAS VIGI	1 T-V-		2/ 4/ /10/21	14	Operator (print)	/	/	/	/
Operator (print)	Signature	/ Z# /11/59	Initials Date	עונ	Operator (print)	Signature	Z#	Initials	Date /
Operator (print)	Signature	Z#	Invitials Date	7 1 1	Operator (print)	Signature	/ Z#	Initials	Date Date
Thomas Vior	1 1 1	17363KL	1 to / 10/23	2/14			/	/	/
Operator (print)	Signature	Z#	_ Initials Date	1	Operator (print)	Signature	Z#	Initials	Date
Operator (print).	Signature	/((७)। - 7#	77	7514	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date
< /osephuspur	U	1519		= lK/	1 (1)	/	/	/	/
Operator (print)	Signature	Z#	Initials Date	11.7	Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:									
SOM or designce (print)	/ Signature	Z#	Initials Date						

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

Revision:

Effective Date: 9-11-2014

Page:

35 of 37

## ATTACHMENT 6 Page 1 of 3

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

6.[6] Date: From 10-23-14 to 10-23-14 Location: 375

	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:	Start Time: 6.[6]	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
	0630	731	0930	0932	1033	1131	6.[6]	1330	1429	1529	1630	1729	6.[6]	6.[6]
Calibrated Infrared	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model:
(6.[7])	Cal. Dua 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 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 Temperature (6.[9]) T 3	52.64	52.2Y <sub>°F</sub>	52,15F	54.33°F	5721°F	60.54	62.7]°F	62.78	64.68°F	\$37 ·	64.29°F	62.44	°F	°F
Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6, 10]/6.[11])	Temp (°F) (6. 10]/6.[11])					
68685	5277	52.33	52.66	54.26	57.05	59.84	62.06	63.17	65.38	65.88	65.09	62.94		-\
58685	52,39	52.04	52.44	54.02	56.51	59.31	61.35	62,45	64.42	64.90	64.41	62,63		
5052274	53.42	53.56	53.71	54.86	56.95	59.91	60.67	61.03	62.57	63.00	62.74	61.36		, la
50522 15	53.46	53.53	53.81	55.65	57.71	69.21	60.79	61.27	62.77	63.15	62.85	61-65	4/1	MI
													M	
						1.								-
	,					NA								

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

Revision:

Effective Date: 9-11-2014

Page:

36 of 37

ATTACHMENT 6
Page 2 of 3

6.[6] Date: From 1023-14 to 10-73-14 Location: 375

Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6,[10]/6,[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
NA	n A				10/19								MA	NA
Ambient T3 Temperature (6.[14]) End Time (6.[15]) 6 [15]	S2.64 °F  D631  Operator: Onerator:	52.24°F 0732 Operator: Operator:	52.65°F  O8 3    Operator:  Operator:	S4.39°F O9733 Operator: Operator:	S7.71 °F  1034  Operator: Onerator:	6054°F 1132 Operator: Operator:	62.71°F	62.18°F	64,68°F	65.37 <sub>F</sub> 1529 Operator: Onerator:	64.29 <sub>F</sub>	62.42 1730 Operator:	Operator:	Operator:

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

Revision:

Effective Date: 9-11-2014 Page:

37 of 37

## ATTACHMENT 6 Page 3 of 3

0.[0] Date. From 10-7 3.74 10	Location. 3				
6.[2] Comments: D. d not	go in to the	Permanon Der	stording order	- Area 6 - 1247	2.2
6.[2] Comments: D.d not	Laker From d	sta logger	in control	Room	A H
		0 /		e-1/-	
				P-47-7-1-1-1	
-					

[19] Performed by:									
William Scare	2 Harll	2014	58 w	10-23-14	•	/	/	/	/
Operator (print)	Signature			Date	Operator (print)	Signature	Z#	Initials	Date
Jesse Chav	ex longer	DH:	STOCC 1	10-23-H			/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	/	/	/ /			1	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	_ /	/						/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	Leta 1	/	/ /			1 UR	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	,	. /	/ /					/	/
Operator (print)	Signature	8HL	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	1	1	1			/		7	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

Aubert Wharder habt Whan 124931 MW 10-23-19

SOM or designee (print) Signature Z# Initials Date

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

Revision:

Effective Date: 9-11-2014

Page:

35 of 37

## ATTACHMENT 6 Page 1 of 3

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

6.[6] Date:	From <del>10-28</del> 7R 10/23	-14 to 10-	24-14	Location:	ome 37	5						0527		Name of the last o
	Start Time: 6.[6] 1834	Start Time: 6.[6]	Start Time: 6.[6] <b>2028</b>	Start Time: 6.[6] 2129	Start Time: 6.[6]	Start Time: w	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6] 0228	Start Time: 6.[6] 0329	Start Time: 6.[6] 0.428	Start Time:	Start Time: 6.[6]	Start Time: 6,[6]
Calibrated Infrared Thermometer (6.[7])	Brand Model Cal Due Date	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Modul:  Cal. Due Date:  File Number	Brand:  Model: Cal. Due Date: File Number	Model: A Cal. Due Oate: File Number	Brand:  Model:  Cal. Due Date:  File Number	Brand:  Model: Cal. Due Date: File Number	Brand:  Model:  Cal Due Date:  File Number	Model: Cal. Due Qate: File Number	Brand:  Model: A Cal. Due Date:  File Number	Model: Cal. Due Pate: File Number	Model: Cal. Due Qate:	Brand:  Model: Cal. Due Oate: File Number
Ambient Temperature (6.[9])	59.68°F	59.35°F	59,33°F	58.74 of	57,43°F	57.18 °F	56.76°F	56.01 °F	54.98 <sub>°F</sub>	5435 <sub>°F</sub>	53.96°F	5325°F		°F
Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11]) 59.[2	Temp (°F) (6.[10]/6.[11]) 58.42	Temp (°F) (6.[10]/6.[11]) 57.14	Temp (°F) (6.[10]/6.[11]) 56.94	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11]) 54,9[	Temp (°F) (6.[10]/6.[11]) 54.39	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6)[10]/6.[11])	Temp (°F) (6\[10]/6.[11])
68685(T) 68685(T2)		59.76 58.96	58.69	58.01	56.76	56.51	56.23 56.11	55.57	54.61	54.05	5368	53.04		
50522 (T4)		59.16	59.03 58.99	58.51 58.41	57.52 57.43	57.24	56.87 56.60	<i>5</i> 6.49	55.75 55.66	55.33 55.19	54.84	54.39 54.34	NA	MA
						. 11								
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Document No.: EWMO-AREAG-FO-DOP-1246

Revision:

Effective Date: 9-11-2014

Page:

36 of 37

## ATTACHMENT 6 Page 2 of 3

6.[6] Date: From <u>10 23-14</u> to <u>10-24-14</u> Location: <u>Dome 375</u>

Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])													
							<u></u>							
						N/A								
													ALA	MA
													10 11	IVII
											53.78			
Ambient Temperature (6.[14])	59.71 °F	59.42 <sub>F</sub>	59.33°F	58.74 <sub>F</sub>	5744°F	<i>57.</i> /6 °F	56.73°F	55.96 <sub>F</sub>	54.96°F	54.35F	53.72 TR 10/2414	533Z=F		
End Time (6.[15])	1835	1930	2029	2129	2231	2329	0029	0128	0229	0330	0428	0528		
6.[15]	Operator:	Operator	Operator:	Operator:	Operator:									
	Орегабр:	Operator:	Operant	Operator:										

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

Revision:

Effective Date: 9-11-2014

Page:

37 of 37

			ATTACHM Page 3 o					
6.[6] Date: From 10-2	23-14 to 10-24-14	Location: Dome 37		J 3				
6.[2] Comments: Didata Logge	d Not Enter	- Permacon per	Standing o	rder Are	a G1 124	7 R,2 A11	TEMPS	taken At
			10-449					
6.[18] Performed by: Operator (print)	Signature Bank	/1/474/ & / 10-24-14 Z# Initials Date	Operator (print)	/ Signature	/ / Z#	/ Initials Date		
Jimmy Romero Operator (print)		- 234253+7R / 10/24/14 Z# Initials Date	Operator (print)	/ Signature	Z#	Initials Date		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature /	- A / /	Initials Date		
Operator (print)	Signature /	Z# Initials Date / / / Z# Initials Date	Operator (print)	Signature /		Initials Date / Initials Date		
Operator (print)	Signature / Signature	/ / / / Z# Initials Date	Operator (print)	/ Signature		/ 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						