From: Haagenstad, Mark P

Sent: Tuesday, November 25, 2014 5:08 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; Diaz, Tammy; Juarez, Catherine L; Haagenstad, Mark P; Robinson, Bruce Alan Subject: Daily Technical Submission - November 25, 2014

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

## **November 25, 2014**

#### **Participants:**

- New Mexico Environment Department: Tim Hall, Greg Lauer, and Ricardo Maestas.
- LANL Los Alamos Field Office:
- LANL Los Alamos National Security: Alison Dorries, 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.
- 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.
      - November 25, 2014 HSG data attached.
        - o H<sub>2</sub>, CO, CO<sub>2</sub> and N<sub>2</sub>O
  - o Other containers
    - A minimum of once per month HSG sampling will be conducted.
      - To date in November, LANL has conducted HSG sampling on 55 SWBs.

#### Additional measures currently underway

- As a conservative measure, LANL is currently conducting additional monitoring. This additional monitoring includes:
  - Containers (SWB) 68685 and SB50522.
    - LANL continuing solid phase micro-extraction.
    - Hourly temperature measurements are currently being performed on SWB 68685 and SB50522.

- Five (5) other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste).
  - Continue twice-weekly HSG sample collection.

# Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, repackaging).

o Currently, no further movements or re-packaging are planned.

#### • Other:

- o There will be no daily technical submissions Thursday, November 27, 2014 or Friday, November 28, 2014 due to the Thanksgiving holiday. Submissions will resume December 1, 2014 with HSG data and temperature monitoring from the holiday and weekend.
  - All required visual inspections, temperature monitoring and HSG sampling will be conducted through the holiday weekend.
- o Proposed meeting with NMED scheduled for December 1, 2014 will be rescheduled for the week of December 8, 2014.

Next Call: Tuesday, December 2, 2014

# ${\bf Summary\ Chart\ -\ Requested\ Information\ /\ Pending\ Issues:}$

	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)

	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.	LANL		Complete July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request)
	WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in			July 17, 2014 (Letter sent with updated spreadsheet)
	Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action.			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 8, 2014 (Twelfth submittal in
				response to item 5)
				October 16, 2014 (Thirteenth submittal in
				response to item 5) October 23, 2014
				(Fourteenth 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)
				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 <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		Complete October 27, 2014 (Diagram submitted) November 3, 2014 (Table submitted) November 20, 2014 (Revised table submitted)
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.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL		Complete October 27, 2014

	Requested Information	Actionee	Status	Completion Date
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
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED		Complete November 20, 2014
44.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED	In progress: Site visit to be scheduled for week of December 8, 2014.	

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

		686	585			SB50	0522	
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
11/25/14	116	448	12843	3665	2782	474	46483	980

Document No.: EWMO-AREAG-FO-7 -1246 5

Revision: Effective Date: 11/03/14

Page:

25 of 38

### **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 //- 24-14 to 11-30-14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: <u>D925</u>	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:
TA-54-231					Annual Control of the		- P
Calibrated Infrared	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 510	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Dat 07/29/15	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 101974	File Number	File Number	File Number	File Number	File Number	_ File Number
Ambient Temperature (6.[7])	31.5 °F	°F	oF	°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	32.8						
S802833	31.8						
S801676	31.3						
S816810	29.9						
70069	29.2						
S822844	29.9						
S825879	29.5						
S793724	29.1						
S813545	29.5						
S822713	31.4						
S802739	31.7						
69907	31.5						
S804995	31.8						
S816434	32.4						

WORKING COPY	
Z# 114188	The second secon
INITIAL 20	DATE 11-24-14

Document No.: EWMO-AREAG-FO-1 1-1246

Revision: 5

Effective Date: 11/03/14

Page:

26 of 38

#### **ATTACHMENT 2**

Page 2 of 3

6.[6] Date: From 11-24-14 to 11-30-14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-231 (continued							
S805289	33.4						
S862888	32.9						-
70072	31.8						
S823184	321						
S822599	31.7						
69904	30.3						
S805051	30.2						
S864213	30.4						
S853714	30.5						
S803078	30.3						
S825878	30.9						
S823124	31.0						
S804948	32.9						
S813385	33.0						
S842446	34.4						
Ambient Temperature (6.[12])	32.1 °F	°F	°F	°F	°F	°F	°F
End Time (6.[13])	0931						
6.[13]	Operator: Ol	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

Document No.:

EWMO-AREAG-FO-5

Revision: Effective Date:

Page:

11/03/14

27 of 38

UET

# ATTACHMENT 2 Page 3 of 3

6.[6] Date: From 11-24-14 to 11-30-14							
6.[2] Comments:							
	new sector a sec						
6.[17], Performed by:							
18 suchura Duran	115797100	Maulus		/	/	/ /	
Operator (print) (Signature)	Z# Initials	Date \	Operator (print)	Signature	Z#	Initials Da	ite
Indas tes		11/24/14		/	/	/ /	
Operator (print) Signature	/ 23.582 / -/ Z# Initials		Operator (print)	Signature	Z#	Initials Da	ite
/	1 1	/					20
Operator (print) Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials Dat	ite
	/ /	/		/	/	/ /	
Operator (print) Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials Da	ite
1	/ /	/		/	/		
Operator (print) Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials Dat	ite
1	/ /	/			/		
Operator (print) Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials Dat	ite
1	/ /	/			/	/ /	
Operator (print) Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials Dat	te
8.1[2] Reviewed by:							
J. Teviewed by.	, ,	1					
SOM or designee (print) Signature	Z# Initials	Date					

Document No.: EWMO-AREAG-FO-I

Revision: 5

Effective Date: 11/03/14

Page:

28 of 38

#### **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 11-24-14 to 11-30-14

				T	T			
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
		Start Time: 1038	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
	TA-54-375 Cell 1							
	Calibrated Infrared	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
	Thermometer	Model: 56)	Model:	Model:	Model:	Model:	Model:	Model:
	(4.2.1[1][B])	Cal. Due Date: 61215	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	24 9000 500	File Number 101915	File Number	File Number	File Number	File Number	File Number	File Number
	MI II							
	Ambient Temperature	51.6 oF	°F	°F	°F	°F	°F	°F
	(6.[7])			THE RESERVE TO SERVE THE PARTY OF THE PARTY	- '			
	Container ID #	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)
	Container 1D #	(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])
	68685	53.2						
П	68540	53.3						
I	LA00000070503 68553	520						
Ш	69445	53.5						
1	69618	51.8						
	69013	52.9				-		
	LASB50522	58.4						
	LASB50452	54.7						
	LASB50431	34.5		-				
1	LASB50069	54.7						
	LASB50073	54.2						
	69636	22.8	- W - C					
	69616	54.3						
	69417	55.6						
. *								

WORKING COPY	
Z# 114188	
INITIAL EC	DATE IL a Vad

Document No.: EWMO-AREAG-FO-F

Revision: Effective Date:

11/03/14

Page:

29 of 38

#### **ATTACHMENT 3**

Page 2 of 3

6.[6] Date: From 11.24.14 to 11.30.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 1 (con	tinued)						
69620	54.0						
69520	54.3						
69641	56.0						
69298	55.2						
LASB02203	55.0						
Ambient Temperature (6.[12])	52.0 of	°F	°F	°F	°F	°F	oF
End Time (6.[13])	1046						
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	 		
		5150	

UET

Document No.: EWMO-AREAG-FO-F

Revision: Effective Date:

11/03/14

Page:

30 of 38

# ATTACHMENT 3 Page 3 of 3

6.[6] Date: From //-2	4.14 to 11.30.14						
6.[17] Performed by:	4-14	1236382/ AV / 11/24/14		/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
Joshua Loper		11165981201117419		/	/	_//	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
	,0	/ / /			/	_//	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
* ** *	/	/ / /		/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
-1 (1 )	1	/ / /		/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
-1	1	/ / /		/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
1 4 7	/	/ / /		/	/	/ /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials I	Dat
9 1[2] Daviousd hu							
8.1[2] Reviewed by:	i i						
001/1-1	/	7" / /					
SOM or designee (print)	Signature	Z# Initials Date					
	and Compared to the compared t						

Document No.: EWMO-AREAG-FO-I

Revision:

5 Effective Date: 11/03/14

Page:

31 of 38

#### **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 /1.24.14 to 11.30.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1047	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2							
Calibrated Infrared Thermometer	Brand: Fluke Model: 56)	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
(4.2.1[1][B])	Cal. Due Date: 6 12 15 File Number 101912	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
Ambient Temperature (6.[7])	<u>54.6</u> °F	°F	oF	oF	°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	52.6						
68638	55.0						
69615	55.4					*	
69635	55.8						
69642	55.7						
69630	55.4						
69633	55.1						
68430	55.8		3				
68631	53.2						
69634	52.3						
68567	52.4						
94227	54.7						
LASB50442	54,0						
69644	54.3						
LASB50443	53.3						
69638	54.6						

WORKING COPY	
Z# 114188	31
INITIAL &C	DATE_11-24.14

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

Revision: Effective Date:

Page:

11/03/14 32 of 38

# ATTACHMENT 4 Page 2 of 3

6.[6] Date: From 11.24.14 to 11.30.14

	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 2 (con	tinued)						
68624	54.3						
68507	54.6						
69568	53.0						
69553	51.8						
69598	52.0						
LASB50559	53.4						
69015	55.2						
69639	55.4						
69637	54.5						
Ambient Temperature 6.[12])	<u>53.5</u> ∘ <sub>F</sub>	°F	°F	°F	°F	°F	°F
End Time (6.[13])	1055						
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	 			
			3,000	
		=======================================		
				1000000

Document No.: EWMO-AREAG-FO-.

Revision: Effective Date:

Page:

5 11/03/14

33 of 38

# **ATTACHMENT 4**

Page 3 of 3

	. 1				
6.[17] Performed by:	. 1	_		L	1
Totomas VSG		1	1 23y		111 24 111
Operator (print)	Signature	0	Z#	Initials	Date
Josheahoper	1 place ox	2/	11165		147419
Operator (print)	Signature ()	7)	Z#	Initials	Date
	/ 0		/	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
	/		/	/	/
Operator (print)	Signature		Z#	Initials	Date
0 1[0] D ' 1]					
8.1[2] Reviewed by:					
			_/	/	/
SOM or designee (print)	Signature		Z#	Initials	Date

6.[6] Date: From 11.24.14 to 11.30.14

	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date

Document No.: EWMO-AREAG-FO-F

Revision: 5

Effective Date: 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 //-24.14 to 11-30-14

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: 1030	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: TUP  Model: SC  Cal. Due Date: 9 12 15  File Number 11916	Brand:  Model:  Cal. Due Date:  File Number	Brand:  Model:  Cal. Due Date:  File Number	Brand:  Model:  Cal. Due Date:  File Number	Brand:  Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	<u> </u>	°F	°F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
69519	54.7						
69645	54.6						
94068	54.5						
93605	54.0						
69548	53.4		21				
69604	5).8						
LASB50529	54.1						
LASB50418	55.5						
69036	55.5						
LASB50451	52,5						
69559	53.8						
LASB50448	52.8						
Ambient Temperature (6.[12])	S2.4 °F	oF	°F	°F	°F	°F	°F
End Time (6.[13])	1037						
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

WORKING COPY	
Z# 114188	
INITIAL EC	DATE 11-24-14

Document No.: EWMO-AREAG-FO-Γ

Revision: Effective Date:

5 11/03/14

Page: 35 of 38

UET

# ATTACHMENT 5 Page 2 of 2

6.[6] Date: From _//	.24.14 to 11.30.14							
6.[2] Comments:								
			1.4	200	*			
		242				×		
		NO.67						
6.[17] Performed by:	1 1/1-							
THOUSE TO	C/ T-VI	123384 +	H/rela 1)		/	. /	/ /	
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Ostuntope	2 Ablus 2	116598180	1112414	0 ( . : 1)	/	/	/ / / Initials	D-7-
Operator (print)	Signature 01	Z# Initials	Date	Operator (print)	Signature	Z#	initials	Date
	/ -	//	/	Operator (print)	/ Signature	/ Z#	/ / / Initials	Date
Operator (print)	Signature	Z# Initials	Date	орогитот (ріппе)	/	/	/ /	Duto
Operator (print)	/ Signature	Z# Initials	/ Date	Operator (print)	Signature	Z#	Initials	Date
Operator (print)	/	Z# Illitials	/		/	/	/ /	
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
· Prince (Prince)	/	/ /	/		/		/ /	
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
· · · · · · · · · · · · · · · · · · ·	/	/ /	/	0	/	/	/ /	D.
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		9			

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

Revision:

Effective Date: 11/03/14 Page:

36 of 38

# ATTACHMENT 6 Page 1 of 3

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

6.[6] Date: From 11-24-14 to 11-24-14 Location: Down 375 call 1

	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 0.82.6	Start Time: 6.[6]	Start Time: 6.[6]	Start Time:	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared	Brand: Model:	Brand:	Brand:	Brand:	Brand:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model	Brand:	Brand:	Model: 1	Brand: Model:	Brand:
Thermometer (4.2.1[1][B])	Cal Due Date:	Model: A	Qal. Due Qate:	Cal. Due Date	Gal. Due Date:	Cal. Due Date	Cal. Due Date:	Cal Due Date:		Cal Due Date:		Gal. 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.[7])	44.14	44,14	45.82	48,40	50.96	51,44	53.16	56.84	52.32	51,64	5649	50.89	-\rightarrow r	°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 (°R) (6.[8]/6.[9]	Temp (°F) (6.[8]/6.[9])					
68685 TI	46,52	46.47	47.15	50.22	52.59	52.75	54,22	× 52,23	53.21	51.82	52,43	52,21		$\Lambda$
68885 Ti	45,20	45,69	47.28	49.28	52.09		53,5130	51,33	52.50	5104	51.37	5653		
50522 TY	42,43	47.33	48,29	50.16	51,93	52.34	53.34	5126	52.80	52	52,37	52.03	h .	
505U 15	42,22	4203	48104	49480	57.61	52,03	53.16	5211	52.68	51.9	52.17	51,76		
													1, 4	
					1/									
					1									
							1-1							
		***************************************					1							
	CONTRACTOR OF THE PARTY OF THE													

WORKING COPY	
Z# 114188	
INITIAL EC	DATE_//-24/14

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

Revision:

5

Effective Date: 11/03/14

Page:

37 of 38

# ATTACHMENT 6 Page 2 of 3

6.[6] Date: From 11.24.14 to 11.24.14 Location: Done 375 Will 1

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								
					1									
						1								
						1								
						1							1	1
							4 4							1
														<del>                                     </del>
Ambient Femperature 6.[12]) 13	44.5	44.17	45.84	48.44	51.04	51.44	53.36	51.84	52.29	51.64	51.40	50,897	°F	o <sub>F</sub>
End Time 6.[13])	0629	0729	0827	0926	1027	1127	1229	1329	1430	1528	1628	125		
6.[13]	Operator:	Operator	Operator:	Operator	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator.	Operator:	Operator:	Operator	Operator:	Operator:	Operator	Operator:	Operator:	Operator	Operator	Operator:	Operator:

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

Revision:

5

Effective Date: 11/03/14 38 of 38

Page:

**ATTACHMENT 6** 

	Page 3 of 3			
6.[6] Date: From 11-24-14 to 11-24-14 Location: Jone 375 Call	11			
6.[2] Comments: Did not enter Permaco all temps were taken Data La	agger Comp	Standing	Λ . –	Area G 1247 R.5
	1			
6.[17], Performed by:	Operator (print)	Signature  Signature  Signature  Signature  Signature  Signature  Signature	/ / / Z# Initials / / Initials	Date  / Date / Date / Date / Date / Date / Date
8.1[2] Reviewed by:				

UET

SOM or designee (print)

UET

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

Revision:

Effective Date: 11/03/14 Page:

36 of 38

#### **ATTACHMENT 6**

Page 1 of 3

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

6.[6] Date: From 1/-24-14 to 11-25-14 Location: 3 75 Start Time: 2029 0529 6.[6] 6.[6] 6.[6] 0429 6.[6] 6.[6] 1831 1928 2131 Calibrated Brand: Brand: Brand: Infrared nA Model: Model: Model: no Thermometer Cal. Due Date: Cal. Due Date: (4.2.1[1][B]) Cal. Due Date: Cal. Due Nate: Cal Due Date: Cal. Due Date: Cal. Due Date: Cal. Due Date: Cal. Due Bate: Cal. Due Date Cal. Due Date: File Number File Number File Numbe File Number File Number File Number File Number File Numbe File Number File Number File Number File Number File Number Ambient 46.43F 46.21°F 45.65°F 45.18F 44.62°F 43.49°F 43.52°F 43.67°F 47,45°F 46.85°F 49.72F 48.29F Temperature oF (6.[7])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]) Container ID# Temp (°F) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (4.[8]/6.[9]) 46.00 45.32 49.48 48.89 45.91 14 68685 51.53 50.38 45.19 48.56 45,10 45.12 TW 68685 48.05 49.27 46.64 46.73 14 50522 49.05 48,73 46.49 705) 50522 51.12 49.53 50.23

WORKING COPY

Z# 226235 INITIAL SOU DATE 11-14-14

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

Revision:

5 Effective Date: 11/03/14

Page:

37 of 38

# ATTACHMENT 6 Page 2 of 3

6.[6] Date: From <u>//-24-/4</u> to <u>//-25-/4</u> Location: <u>3</u> 75

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])
						14								
					^									
					145000						(F)		AA	NA
													M	
Ambient Temperature (6.[12])	49.68°F	48.22F	47.43°F	<u>46.8</u> °F	46.43 <sub>F</sub>	46.2F	45.65	45,24	44.60°F	4352F	43.66F	43.68F	→ °F	oF
End Time (6.[13])	1832	1930	2030	2132	2229	2327	0028	0130	0229	6330_	0430	0530		
6.[13]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator: Operator:	Operators Operators	Operates: Operator:	Operator: TR Operator:	Operator: Operator:	Operator:	Operator:	Operator:	Operator:

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

Revision:

5 Effective Date: 11/03/14

Page:

38 of 38

#### ATTACHMENT 6

			Page 3 of 3	1_0					
6.[6] Date: From //-25	1-14 to 11-25-14	Location: 375							
6.[2] Comments: Defallen from I	id not Enter	- Permacon due	to Standing	Order Aren	- G	1247	R5.	all Ten	eps Were
			NA						
6.[17] Performed by:  Oliver S. Communication  Operator (print)  Operator (print)	Signature Signature		Operator (print) Operator (print)	Signature Signature	/ Z# / Z#	/ Initials Initials	Date /		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z# /	Initials	Date /		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature /	Z# /	Initials	Date /		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date /		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date		

UET

8.1[2] Reviewed by:

SOM or designee (print)