From: Haagenstad, Mark P

Sent: Tuesday, January 13, 2015 4:57 PM

To: Ryan.Flynn@state.nm.us; Jeff.Kendall@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; butch.tongate@state.nm.us; Cobrain, Dave, NMENV; kathryn.roberts@state.nm.us

Cc: Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Torres, Enrique; Woitte, Deborah Kay; Clemmons, Steve; Allen, Don; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; 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; Haagenstad, Mark P

Subject: Daily Technical Submission - January 13, 2015

Attached is the written daily technical submission for today. The Permittees are submitting the attached information pursuant to: Section 19 of the May 19, 2014, *Administrative Order;* the July 10, 2014 letter from NMED regarding *Modification to May 19, 2014, Administrative Order;* and Section IX of the September 19, 2014, *LANL Nitrate Salt-Bearing Waste Container Isolation Plan, Revision 2.*

Please contact me if additional information would be helpful.

Mark Haagenstad Environmental Protection Division Compliance and Permitting Group Los Alamos National Laboratory

Office: (505) 665-2014 Mobile: (505) 699-1733

NMED / LANL Technical Summary

January 13, 2015

Participants:

- New Mexico Environment Department: Tim Hall, Siona Briley and Greg Lauer.
- LANL Los Alamos Field Office: Gene Turner
- LANL Los Alamos National Security: Randy Erickson, Don Allen, Alison Dorries, Tony Grieggs, Mark Haagenstad 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 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.
 - January 13, 2015 HSG data attached.
 - o H₂, CO, CO₂ and N₂O
- Other containers
 - A minimum of once per month HSG sampling will be conducted.
 - To date in January, LANL has conducted HSG sampling on 39 SWBs.
 - January 13, 2015 HSG data attached.

Additional measures currently underway

- o 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:

- 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.
 - Repair of multiple sprinkler heads inside Dome 231 is being planned and will be executed upon completion of planning. Notifications to NMED will be provided prior movement of any un-remediated nitrate salts from the Permacon in Dome 231.

Next Call: Thursday, January 15, 2015

Summary Chart - Requested Information / Pending Issues:

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

	Requested Information	Actionee	Status	Completion Date
12.	Follow-up with Tim Hall regarding LANL Hazardous Waste Facility Permit and procedures that LANL is developing for possible future sampling of empty parent containers and unremediated nitrate 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.	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 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.	literature review of LANL Literature review pre-decisional draft/working document for external re-		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 401-500 containers on October 27, 2014. Submitted documentation for 501-586 containers on November 12, 2014. Submitted RTR Videos 101-150 on November 12, 2014. Submitted RTR Videos 151-200 on November 20, 2014. Submitted RTR Videos 201-250 on December 1, 2014. Submitted RTR Videos 251-300 on December 19, 2014.
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
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED		Complete November 20, 2014

	Requested Information	Actionee	Status	Completion Date
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.	

68685			SB50522			68430						
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N₂O ppm
01/13/15	149	399	9647	2608	1654	407	34812	841	178	254	3451	664

	68507			68631			68638					
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N₂O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
01/13/15	98	0	1271	64	12	0	588	37	4	0	298	0

	69568			94227			SB50442					
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N₂O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N₂O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
01/13/15	90	109	368	419	29	0	160	416	201	324	3759	784

	SB50559							
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm				
01/13/15	709	193	3176	222				

Document No.: EWMO-AREAG-FO

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 1.12.15 to 1.18.15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: 0819	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:	_ Start Time:
TA-54-231							
Calibrated Infrared	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 561	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date:7/29/15	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
Ambient Temperature (6.[7])	47.0 45.5 °F JR 1-12-15	°F	°F	ob	°F	oF	or
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])				
S818435	47-6						
S802833	47.7		,				
S801676	48-1			•			
S816810	52.8						
70069	52.8						
S822844	53.1						
S825879	52.4						
S793724	52.5						
S813545	51.9						
S822713	50.7						
S802739	49.3						
69907	48.7						
S804995	49.2						
S816434	49.8						

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Document No.: EWMO-AREAG-FC

Revision:

Effective Date: 11/03/14

Page:

26 of 38

ATTACHMENT 2 Page 2 of 3

6.[6] Date: From 1.12.15 to 1.18.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-231 (continue	d)						
S805289	49.3						
S862888	48.9						
70072	49.6						
S823184	50.7						
S822599	51.0						
69904	51.9						
S805051	52.6						
S864213	52.2						
S853714	51.6						
S803078	52.1						
S825878	52.4						
S823124	51.7						
S804948	49.8						
S813385	49.2						
S842446	49.6						
Ambient Temperature (6.[12])	44.2 °F	ol_	°F	°F	oĿ	°F	°F
End Time (6.[13])	0834						
6.[13]	Operator: JR	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator: JR Operator: EC	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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Document No.: EWMO-AREAG-FO-

Revision:

Effective Date: Page:

11/03/14 27 of 38

ATTACHMENT 2 Page 3 of 3

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Document No.: EWMO-AREAG-FO

Revision:

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 1-12-15 to 1-18-15

	Monday 6.[6] Start Time: <u>내식</u> 고	Tuesday 6.[6] Start Time:	Wednesday 6.[6] Start Time:	Thursday 6.[6] Start Time:	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-375 Cell 1							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Flake Model: School Cal. Due Date: G1215 File Number 10 115	Brand: Model: Cal. Due Date: File Number	Brand:	Model:	Model:	Model:	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	_50.2 °F	ols.	°F	ok	oF	oF	oF
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
68685	52.7						
LA00000070503 68553	\$3.1 \$1.0						
69445 69618	52.2						
69013	51.6 53.0						
LASB50522	54. Y						
LASB50452	54.2						
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LASB50069	53.4						
LASB50073	52.9						
69636 69616	54.3						
69417	53.7 53.6						

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Document No.: EWMO-AREAG-FO-

Revision:

Page:

Effective Date: 11/03/14 29 of 38

ATTACHMENT 3 Page 2 of 3

6.[6] Date: From 1.12.15 to 1.18.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 1 (con	tinued)						
69620	53.7						
69520	53.8						
69641	54.5						
69298	54.2						
LASB02203	55.0						
Ambient Temperature (6.[12])	419.9 oF	012	oF	oF	°F	ог	°F
End Time (6.[13])	1147,						
6.[13]	Operator: Operator:	Operator:	Operator:Operator:	Operator:Operator:	Operator:	Operator:Operator:	Operator:Operator:

6.[2] Comments:			

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

Revision:

11/03/14

Effective Date: Page: 30 of 38

ATTACHMENT 3

Page 3 of 3

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

Revision:

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 1.1215 to 1.1815

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	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1148	Start Time:	_ Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2							
Calibrated Infrared	Brand: Flake	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: SCI	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 6 115	Cal. Due Date:		Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 161412	File Number					
Ambient Temperature (6.[7])	54.2 °F		oF	eF	°F	or	oF.
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])					
LASB02198	S3.5						(-(-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-
68638	34.9						
69615	55.6						
69635	55.8						
69642	54.7						
69630	54.4						
69633	55.0						
68430	55.4						
68631	5B. 1						
69634	55.7						
68567	52.7						
94227	54.4						
LASB50442	54.)						
69644	54.1						
LASB50443	53.4						
69638	53.7						

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Z# 1/4188

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Document No.: EWMO-AREAG-FO-_ JP-1246

Revision:

5

Effective Date: Page:

11/03/14 32 of 38

ATTACHMENT 4

Page 2 of 3

6.[6] Date: From 1.1215 to 1.1815

	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 2 (cor	ntinued)						
68624	54.6						
68507	53.8						
69568	52.4						
69553	53.1						
69598	\$1.7						
LASB50559	52.8						
69015	54.3						
69639	55.2						
69637	54.3						
Ambient Temperature 6.[12])	<u>51.7</u> °F	°F	oF	°F	oF	°F	°F
End Time (6.[13])	1155						
6.[13]	Operator:	Operator:	Operator:	Operator:Operator:	Operator:Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:				 	 	
	ā					
			¥3	 	 	
		-		 	 	

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Signature

Document No.: EWMO-AREAG-FO

Revision:

Effective Date: Page:

11/03/14 33 of 38

ATTACHMENT 4 Page 3 of 3

6.[17] Performed by:	+ V7	12X2/	المرابل المرابات		/	/	/	/
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature /	Z#	Initials	Da:
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature /	Z# /	Initials	Da
Operator (print)	Signature /	/	Initials Date	Operator (print)	Signature /	Z# /	Initials	Da /
Operator (print)	Signature	/ Z#	Initials Date	Operator (print)	Signature /	Z# /	Initials	Dai
Operator (print)	Signature /	Z#	Initials Date	Operator (print)	Signature /	Z# /	Initials	Dat /
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature /	Z# /	Initials	Dat /
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	Z#	Initials	Dat

Initials Date

Document No.: EWMO-AREAG-FC

Revision: 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 1.12.15 to 1.18.15

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: 1157	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: AUKe Model: Stall No. 100 No. 1	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])	53. \ °F		°F	oF.	oF	oF.	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])
69519	53,0						
69645	53.8						
94068	53.4						
93605	54.7						
69548	55.0						
69604	54.9						
LASB50529	54.5						
LASB50418	53.9						
69036	5y.0						-
LASB50451	54.7						
69559	55.3						
LASB50448	55.0						
Ambient Temperature (6.[12])	52.6°F		oF	oF	oF	°F	°F
End Time (6.[13])	1141						
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator: Operator:	Operator:

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Z# 114188

UET

Document No.: EWMO-AREAG-FO-_ JP-1246

Revision:

5

Effective Date: Page:

11/03/14 35 of 38

ATTACHMENT 5

Page 2 of 2

6.[6] Date: From	12.15 to 1.18.15					
6.[2] Comments:						
)J	32		
6.[17] Performed by:	· + 1	12682/ tr/1/12/15		/	/	/ /
operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
Joslin Joel		-116248 AD 1011912	Operator (print)	/ Signature	/	/ / / Initials Date
Operator (print)	Signature	Z# Initials Date	operator (print)	/	/	/ / /
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials Date
Organitar (print)	/ C:		Operator (print)	/ Signature	/_ Z#	/ / / Date
Operator (print)	Signature	Z# Initials Date	- (p)	/	/	/ /
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#	/ /
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z #	Initials Date
8.1[2] Reviewed by:						
on [2] Reviewed by.	,	, , , , , , , , ,				
SOM or designee (print)	/ Signature	Z# Initials Date				
bom of designee (print)	Signature	Z# IIIIIIais Date				

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

Revision:

5 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 1.12.15 to 1.12.15 Location: Dane 375 Coll 1

	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6] . 1 422	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Model: Cal. Due Date: File Number	Model. Cal. Due Date: File Number	Model: Capitue Vate: File Number	Brand: Model: Cal Due Date: File Number	Brand: Model: Cala Due Dale: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Vate: File Number	Brand: Model: Col. Due Vate File Number	Brand:	Model: Cal Due Pate: File Number	Model: Cal Due Fale: File Number	Brand: Model: Cal. Due Date: File Number	Model: Cal Due Date: File Number	Model Cal Due Date File Number
Ambient Temperature (6.[7])	48,91°F	48.76	48.89	49.93	5089	5639	52.1°F	54.32	51.5°F	31.93	51.40	51.11°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])
68685 TT	50.80	50.81	50.93	51.94	52.92	53.19	53,62	52.48	52.62	53.23	52.81	52.66		
68685 TZ	50.01	50.01	50,17	51.16	52.1	52.36	52.85	51.28	51.7	52.41	52.08		11 7	VN
5052274	50.48	50.44	50.51	5621	51,97	52.24	52.54	51.99	52.27	52.44	52.09	51.98	V	AIT
50502 15	50.12	50.03	50.04	5025	51.5	51.8	52.21	51.63	51.87	52.14	51.73	51,59	1	1/17
						\ ,								
						100	K							$\overline{}$
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Z# 114188	
INITIAL Ec	DATE 1.12.15

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

Revision:

Effective Date: 11/03/14

Page:

37 of 38

ATTACHMENT 6
Page 2 of 3

6.[6] Date: From 1.12.15 to 1.12.15 Location: Down 375 cell 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])										
													1	
							1	A P						
							1						1	I D
													P	/11
													,	
Ambient Temperature (6.[12]) 15	48,91°F	48.2%	48.89	49.94	50.99	51,39	52.15	51.41°F	31.5°F	51.92	51.42	51.11	°F	ol:
	0631	0725	0826	0928	1026	1124	1223	1322	1423	1522	1622	1722		
6 [13]	Operator:	Operator:	Operator:	Operator:	Operato	Operator:	Operator:	Operator.	Operator	Operator:	perator:	Operator:	Operator:	Operator:
9	Operator:	Operator	Operator:	Operator	Operator:	Operator	Operator	Operator '	Operator:	Operates.	Operator:	Operator:	Operator:	Operator:

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

Revision:

Page:

Effective Date: 11/03/14

38 of 38

ATTACHMENT 6

			Page 3 o	of 3		
6.[6] Date: From /-/	2.15 to 1.12.15	Location: 1)cm 375	ce111			
6.[2] Comments:	ps takes	ter Permacon	n due t	to Stan	ding Drder 1247-1	2.2
T.			1			
	·		D			
			TY	}		
				1		
						<u> </u>
6.[17], Performed by:		2014221 MT/1-15-18	Operator (print)	// Signature	Z# Initials Date	
Operator (print)	Signature	Z# Initials Date NSNO(A+) 1-(2-18)		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	Operator (mint)	Signature /	Z# Initials Date	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z# Initials Date	
8 1[2] Reviewed by	4					

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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 01-12-15 to 01-13-15 Location: Dome 375

										10-10				10
	Start Time: 6.[6] 1828	Start Time: 6,[6] /929	Start Time: 6.[6] 2027	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6,[6] 2325	Start Time: 6.[6]	Start Time: 6,[6]	Start Time: 6.[6] 0274	Start Time: 6.[6] 0324	Start Time 6.[6]	Start Time: 1-13-15[6]	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Mobel: A Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: A Cal. Dur Date: File Number	Brand: Model: Cal. Dua Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Mood: Cal. Due Date: File Number	Brand: Mood: A Cal, Due Oate: File Number	Model: A Cal. Due Date: File Number	Brand: Model: A Cal. Due Date: File Number	Brand: Model: Cal. Dua Date: File Number	Brand: Model: A Cal. Due Date: File Number	Brand: Model: A Cal. Due Date: Fife Number	Brand: Model: Cal. Due Date: File Number	Hrand: Mpdel: Cal Due Date: File Number
Ambient Temperature (6.[7])	51.47°F	50,57°F	50.76°F	50.68°F	50.63°F	50.3 °F	50.05 _{°F}	49.7/°F Temp (°F)	<u>49.53</u> °F	49.26°F Temp (°F)	49.18°F	49.04°F	Temp (°F)	Temp (°F)
(6.[8]/6.[9]) 68685 (T2)	(6.[8]/6.[9]) 52.83 52.18	(6.[8]/6.[9]) 52.43 51.59	(6.[8]/6.[9]) 52.65 51.86	(6.[8]/6.[9]) 52.68 51.78	(6.[8]/6.[9]) 52,63 51,74	(6.[8]/6.[9]) 52.34 51.46	(6.[8]/6.[9]) 52.08 51.20	(6.[8]/6.[9]) 57.8 50.93	(6.[8]/6.[9]) 5/. 59 50.73	(6.[8]/6.[9]) 51.34 50.50	(6.[8]/6.[9]) 51.21 50.36	(6.[8]/6.[9]) 51.17 50.29	(6.[8\(\frac{1}{6}\)(-[9])	(6.[8 V 6.[9]
50522(T4) 50522(T5)	52.17 52.06	51.87	51.95	51.98	51.94	51.74	51.08	51.33 50.88	51.17	50.96 50.50	50.87	50.86		
					٨	IIA								
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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>a1-12-15</u> to <u>01-13-15</u> Location: <u>Dome 3.75</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])										
													1	
					NE								NA	NA
Ambient	51.47 °F	50.57∘ _F	50,76°F	50.66F	50.63F	50.3_°F	50.04°F	49.7/°F	495	49.26F	49.18°F	49.04°F	or	0;
Temperature (6.[12]) End Time	_/828_	1928	2028	2130	22.28	2325	0029	0/25	0225	0324	0425	0529		
(6.[13])	Operator:	Operator:	Operator:	Operator: Operator:	Operator: Operator:	Operator:	Operator:	Operator:						
	Operator:	Operator:		TR_	7K_	Operator:								

Nitrate	Salt-Bearing	TRU	Waste	Container	Monitoring
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Initials Date

Z#

SOM or designee (print)

Signature

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

Revision:

5 Effective Date: 11/03/14

Page:

38 of 38

UET **ATTACHMENT 6** Page 3 of 3 6.[6] Date: From <u>01-17-15</u> to <u>01-13-15</u> Location: <u>Dome 375</u>

6.[2] Comments: Did not Enter permacon per Standing Order 1247 R2. All

are taken from Data logger in control room in Dome 375 6.[17] Performed by: Z# Initials Date Operator (print) Signature 117907460C O1-13-15 Z# Initials Date Operator (print) Signature Operator (print) Initials Date 234253-TRI01-13-15 Timmy Komera Initials Date Operator (print) Initials Date Operator (print) Signature Initials Date Z# Operator (print) Signature Initials Date Operator (print) Signature Initials Date Operator (print) Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Initials Date Z# Operator (print) Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature 8.1[2] Reviewed by: