From: Haagenstad, Mark P

Sent: Thursday, February 05, 2015 3:53 PM

To: Ryan.Flynn@state.nm.us; Jeff.Kendall@state.nm.us; John Kieling; steve.pullen@state.nm.us; Timothy.Hall@state.nm.us; siona.briley@state.nm.us; ricardo.maestas@state.nm.us; Gregory.Lauer@state.nm.us; steve.holmes@state.nm.us; coleman.smith@state.nm.us; butch.tongate@state.nm.us; Cobrain, Dave, NMENV; kathryn.roberts@state.nm.us

Cc: Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Torres, Enrique; Woitte, Deborah Kay; Clemmons, Steve; Allen, Don; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Diaz, Tammy; Juarez, Catherine L; Robinson, Bruce Alan; Lansing, Michael Alan; Tymkowych, John M; Haagenstad, Mark P Subject: Daily Technical Submission - February 5, 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

February 5, 2015

Participants:

- New Mexico Environment Department: Tim Hall and Siona Briley.
- LANL Los Alamos Field Office: Gene Turner.
- LANL Los Alamos National Security: Alison Dorries, Bruce Robinson, Don Allen, 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.
 - February 5, 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 February, LANL has conducted HSG sampling on 23 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.

- February 5, 2015 HSG data attached.
- Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, repackaging)
 - O Currently, no further movements or re-packaging are occurring.

Other:

Next Call: Tuesday, February 10, 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.	LANL	Literature review is a pre-decisional draft/working document not for external release	August 25, 2014
34.	LANL requested to schedule a meeting with NMED on remediation planning and schedules.	LANL / NMED		Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED		Complete October 20, 2014

	Requested Information	Actionee	Status	Completion Date
36.	NMED request regarding LANL Causal Analysis associated with processing of nitrate salt-bearing waste at WCRRF – when document is Final.	LANL	Document is currently Draft.	
37.	NMED requested a diagram illustrating the current locations within the 375 Permacon of the 55 SWBs that contain the 57 remediated nitrate salt-bearing waste containers. NMED also requested a list of these 55 SWBs and the waste drums within each SWB (including the container numbers and waste stream type).	LANL		Complete October 27, 2014 (Diagram submitted) November 3, 2014 (Table submitted) November 20, 2014 (Revised table submitted)

	Requested Information	Actionee	Status	Completion Date
38.	NMED requested documentation regarding CIN01.001 waste containers that are not part of the September 19, 2014 Nitrate Salts-Bearing Waste Container Isolation Plan, Revision 2.	LANL	In Progress LANL will submit this documentation in batches as it is becomes available.	Submitted 100 out of 586 RTRs and documentation on October 3, 2014. Submitted documentation for 101-200 containers on October 10, 2014. Submitted documentation for 201-300 containers on October 16, 2014. Submitted documentation for 301-400 containers on October 23, 2014. Submitted documentation for 401-500 containers on October 27, 2014. Submitted documentation for 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. Submitted RTR Videos 301-312 on January 15, 2015.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL		Complete October 27, 2014
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED		Complete November 3, 2014

	Requested Information	Actionee	Status	Completion Date
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED		Complete November 20, 2014
44.	Schedule a sixth update on LANL efforts – including teams.	LANL/ NMED		Complete December 9, 2014
45.	NMED requested documentation regarding CIN01 drums.	LANL	Email sent February 3, 2015. Letter to follow.	
46.	NMED requested documentation regarding duplicate drum number.	LANL	In Progress	
47.	NMED requested the ESS plan for temperature control and sampling once finalized.	LANL	Document is currently in Draft.	
48.	Schedule a seventh update on LANL efforts – including teams.	LANL/ NMED	Meeting is scheduled for January 29, 2015.	
49.	Fire suppression repair plan for Dome 231	LANL		This repair plan is no longer necessary because drum movement will not occur during the repair process.
50.	NMED requested information regarding solution packages 36, 37, 57 and 78.	LANL	In Progress	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685					69!	553			69615		
Date	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
02/05/15	125	312	6948	1802	191	475	14172	1895	110	276	6229	296

Remediated Nitrate Salt Container Headspace Gas Analysis

	69616				SB50	0069			SB50452			
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm
02/05/15	309	552	14185	2811	446	707	15898	2004	633	519	11405	2080

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50522					
Date	H ₂ ppm	CO ppm	CO ₂ ppm	N ₂ O ppm		
02/05/15	1865	483	35436	1076		

Document No.: EWMO-AREAG-FO

Revision:

Effective Date: 11/03/14

5

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 2.2.15 to 2.8.15

UET

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: <u>08/9</u>	Start Time: 0910	Start Time: 1044	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-231							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 56 l Cal. Due Date7/29/15 File Number / 01974	Brand: Floko Model: Sch Cal. Due Date: 7 24 3 File Number 10 91 9	Brand: Fluck Model: Stel Cal. Due Date 2 29 15 File Number 10 974	Brand:	Brand: Model: Cal. Due Date: File Number	Brand:	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	44.4 or	53.3 °F	51.4 °F	°F	ºF	ol:	oL.
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	49.3	49.6	54.0				
S802833	48.6	49.2	533				
S801676	49.6	49.1	31.1		•		
S816810	52.9	34.8	550				
70069	52.9	54.2	24.9		110		
S822844	53.2	55.9	554			•	
S825879	52.6	54.1	54.6	2000 00			
S793724	52.9		NS 55-4585				
S813545	51.8	S3.3	54.5				
S822713	52.1	52.7	55.4				
S802739	50.4	31.6	54.9				
69907	49.8	51.)	54.8				
S804995	50.5	51.4	54,4				
S816434	51-1	51.8	545				

WORKING COPY

Z# 1/4188

INITIAL 50

DATE 2-2-15



Document No.: EWMO-AREAG-FC

Revision:

11/03/14

Effective Date: Page:

26 of 38

ATTACHMENT 2 Page 2 of 3

6.[6] Date: From 2.2.15 to 2.8.15

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°1 ⁻) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])				
FA-54-281 (continue	d)						
S805289	50.7	51.6	54.6				
S862888	50.4	51.4	54.5				
70072	50-8	5).7	54.5				
S823184	51.1	S2.7	55.2				
S822599	51.7	53.6	54.7				
69904	51.8	53.8	55.0				
S805051	52.3	5110	54,0				
S864213	52.3	54.3	56.1				
S853714	53.2	54.7	56.1				
S803078	52.2	54.)	55.2				
S825878	52.0	24.4	54.7				
S823124	51.8	54.)	55.0				
S804948	50.3	52.0	54.7				
S813385	49.9	51.2	54.2				
S842446	50.7	52.	54.6				
Ambient Temperature	45.6 °F	54.7 °F	5(.1°F	aE	oF	°F	°F
6.[12])							
End Time (6.[13])	0826	0930	1052.				
6.[13]		Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator: <u>EC</u>	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

Document No.:

EWMO-AREAG-FO

Revision:

Page:

27 of 38

Effective Date:

11/03/14

UET

ATTACHMENT 2 Page 3 of 3

6.[6] Date: From 2.2.15 to 2.8.15 6.[2] Comments: 6.[17] Performed by: 1187066 IJK Operator (print) Signature Z#Operator (print) Initials Date Z#Initials Date Eloy D. CordovA 1880 Cm 1114188186 12.2.15 Operator (print) Operator (print) Signature Signature Z#Initials Date Initials Date Operator (print) Signature Z# Initials Date Operator (print) Ζ# terator (print) Signature Initials Date Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Operator (print) Initials Date gnature Operator (print) Operator (print) Signature Z# Initials Date Signature Z# Initials Date 8.1[2] Reviewed by: SOM or designee (print) Signature Initials Date



Document No.: EWMO-AREAG-FO

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 2.2.15 to 2.8.15

		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
		Start Time: 1116	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 1								
Calibrated Infrared Thermometer (4.2.1[1][B])		Brand: Fluke Model: 561 Cal. Due Date: 51215 File Number 1011	Brand: Flake Model: SG1 Cal. Due Date: G1215 File Number 101915	Brand: Auke Model: Gal Cal Due Date: Coll 5 File Number 151915	Brand Model: Cal_ Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand:	Model:
Ambient Temperatur (6.[7])	re	50.0 or	\$1.5°F	53.6°F	oF;	oF.	-l:	cL
Container ID #	1	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		53.6	54.2	55.0				
 -	68540 68553	53.3 53.5	53.7 52.7	55.3				
69445	00333	53.3	53.0	54.9	*			
69618		52.9	55/2	54.8				
69013		53.7	53.8	54.4				
LASB50522		54.8	34.7	55.1				
LASB50452		54.8	54.0	55.9				-
LASB50431		55.0	54.2	54.0				
LASB50069		54.)	54.2	34.9				
LASB50073		53,7	54.	55.4				
69636		54.4	549	56.0				
69616 69417		53.7 53.7	\$5.0 \$4.7	55.7				

WORKING COPY

Z# 119188

DATE 2.2.15 INITIAL &C

Document No.: EWMO-AREAG-FO.

Revision:

Effective Date: Page:

11/03/14 29 of 38

ATTACHMENT 3 Page 2 of 3

6.[6] Date: From 2.2.15 to 2.8.15

	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])				
TA-54-375 Cell 1 (co	ntinued)						
69620	53.9	54.4	55.6				
69520	54.3	53-	Slevi				
69641	54.3	54.7	56.3				
69298	53,9	54.6	563				
LASB02203	54.7	54.5	SUR				
Ambient Temperature (6.[12])	50.9°F	51.9 °F	53/7°F	F	°F	<u> </u>	- F
End Time (6.[13])	1116	1043	11756				
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:Operator:	Operator:

6.[2] Comments:				



· Z#

Initials Date

UET

SOM or designee (print)

Signature

Document No.:

EWMO-AREAG-FO

Revision:

5 11/03/14

Effective Date: Page:

30 of 38

ATTACHMENT 3 Page 3 of 3

6.[6] Date: From 2 · 2	1.15 to 2.8.15						
6.[17] Performed by:	, Lila	1731384 + 1 2/2/15	· .	/	/	/	/
Operator (print)	Signatuje	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
() of us Lopez	I was to the	/1165981 SR 1620065		/	/	/	/
Operator (print)	Signature / /) Z# Initials Date	Operator (print)	Signature	Z# .	Initials	Date
HOMOS LEGIC	1 4-12	23/382 1 / 2/3/15			/	/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Pancha Migra	win 5	_ 235765 ts) 12-3-15			/	/	/
Operator (print)	Signature	7# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Isaphine Truca	ni Slovas	157971 N 12/4/15		/	/	_/	/
Operator (print)	SignatArd	/# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Joshual sooz	Allando	116578 8 1020415		/	/	/	/
Operator (print)	Signature	/ Infrais Date	Operator (print)	Signature	Z#	Initials	Date
	/ -0	/		/	/	_/	/
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
	- 11						
8.1[2] Reviewed by:							

Document No.: EWMO-AREAG-FO-

5

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 2.2.15 to 2.8.15

UET

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time:	Start Time: 1044	Start Time: 127	Start Time:	_ Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2						WELL SERVICE	
Calibrated Infrared Thermometer	Brand: Fluke	Brand: Fluke Model: S61,	Brand: Fluck Model: Tel	Brand:	Brand:	Brand:	
(4.2.1[1][B])	Model: 561 Cal. Due Date: Clzis File Number 61917	Cal. Due Date: GDZ 19	Cal. Due Date: 1215 File Number 10 912	Model:	Model: Cal. Due Date: File Number	Cal. Due Date:	Model: Cal. Due Date: File Number
Ambient Temperature 6.[7])	55.4°F	55.5 of	5e4°F	ા	. oF	°F	्र
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	53.6	54.6	54.8				
68638	\$5.6	54,5	56.4				
69615	56.0		57.2				
69635	56.6	55.9 56.7	58.0				
69642	56.)	56.5	57.1				
69630	55.6	56.\	57.2				
69633	55.8	56.7	57.5				
68430	56.0	56.13	57.1				
68631	55.4	55.0	De. 7				
69634	56.	54.2	57.2		•		
68567	53.6	547	55-8				
94227	2255	54.4	56.5				
LASB50442	55,9	54.4	57.5				
69644	55.8	54.4	57-1				
LASB50443	56.2	55.6	57.0				
69638	54.7	55.6	57.4				

WORKING COPY

Z# 114188

INITIAL EC





Document No.: EWMO-AREAG-FC

Revision: Effective Date:

5 11/03/14

Page:

32 of 38

ATTACHMENT 4

Page 2 of 3

6.[6] Date: From 2.2.15 to 2.8.15

	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 (°I²) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 2 (con	tinued)						
68624	55.3	56.2	59.3				
68507	\$\$.3	35.9	58.8				
69568	54.7	55.3	54.4				
69553	53.9	53.8	57.1				
69598	52.4	53.)	55.6				
LASB50559	54.4	55.7	56.8				
69015	56.3	56.1	58.0				
69639	56.60	\$6.7	58.7				
69637	55,7	56.0	58.8				
Ambient Temperature 6.[12])	54.3 °F	55.4 op	505°F	्र	or	or	oF.
End Time (6.[13])	1123	1048	1135				
6.[13]	Operator:	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	
AT AN	

UET

Document No.: EWMO-AREAG-FO Revision: 5

Effective Date: 11/03/14

Page:

33 of 38

ATTACHMENT 4 Page 3 of 3

6.[6] Date: From 2.2.15 to 2.8.15 6.[17] Performed by:						
	123638/ 4/12/2/15		/	/	/	/
Sperator (print)	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Dat
Joshua Loper Jalux J	X1165981 XM 00015		/	/	/	/
Operator (print) Signature	/# Initials Date	Operator (print)	Signature	Z#	Initials	Dat
THOMAS YEAR	26XC1 + 12315			/		/
Operator (print) Signature	7# Initials Date	Operator (print)	Signature	Z#	Initials	Dat
Kancho Miera / Lyns	235765 T7 12-3-15	O-20040-1 (i-t)	Ciamatana	/ 7.11	1	/ D-4
Operator (print) Signature	/# Initials Date	Operator (print)	Signature	Z#	Initials	Date,
Sephulluran Souras	- 157971 N 12/4/15	Operator (print)	Signature	/ Z#	// Initials	/ Date
Operator (print) Signature	/# Initials Date /// 14518 88 / 020416	- (h	/	/	/	/
Operator (print) Signiture	/# Initials Date	Operator (print)	Signature	Z#	Initials	Date
Signature 5	/		/	/	/ ,	/
Operator (print) Signature	Z# Initials Date	Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:						
8.1[2] Reviewed by.						
	7 / /					
SOM or designee (print) Signature	Z# Initials Date					



Document No.: EWMO-AREAG-FO

Revision: Effective Date:

5 11/03/14

Page:

34 of 38



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 2.2.15 to 2.8.15

UET

	Monday 6.[6] Start Time: \\04	Tuesday 6.[6] Start Time: 03C	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 3	Start Time. 1101	Start Time. 1-35	Start Times (1)				
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Flack Model: Glack Cal Due Date: Glack File Number 101916	Brand: Fluke Model: 56) Cal, Due Date: Clic IS File Number 09%	Brand: Fluid Model: Scol Cal. Due Date: (1) 175 File Number Olythop	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>53.3</u> °F	54.0 of	535°F	or	or	oF	oĿ
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	55.4	548	56.3				
69645	55.0	54.8	Stell				
94068	54.7	54.0	Se. 1				
93605	53.7	53.4	55.5				
69548	54.0	23.)	55.7				
69604	54.4	53.5	55.8				
LASB50529	55.1	54.2	56.3				
LASB50418	55.6	54.)	564				
69036	54.5	54.5	569			·	
LASB50451	\$3.5	54.1	55.8				
69559	53.7	53.3	55.0			- Prince of the second	
LASB50448	53.2	53.3	54.9				
Ambient Temperature 6.[12])	53.9 °F	53.2 °F	54.6 °F	°F	or	Γ	oF
End Time (6.[13])	1109	1039	1121-				
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

WORKING COPY

Z# 114188 INITIAL EC

DATE 2.2.15

UET

Document No.: EWMO-AREAG-FO

Revision:

5

11/03/14

Effective Date: Page:

35 of 38

ATTACHMENT 5 Page 2 of 2

6.[6] Date: From 2.	2.15 to 2.4.15							
6.[2] Comments:								
					_			1961
								Helia.
6.[17] Performed by:			A					
IHOMOS VZ	25-4 H-1	12682/4/	2/2/15 -		/	/	/	/
Operator (print)	Signature	Z# Initials Dat	te l	Operator (print)	Signature	Z#	Initials	Date
Joshuloger	1 sulue to	11659811111	120213 -		/	/	/	_/
Operator (print)	Signature, \	Z# IMitjals Dat	te	Operator (print)	Signature	Z#	Initials	Date
THO IMAS /IC		12638214112	2/3/15 -		/	/	/	/
Operator (print)	Signature	Z# Initials Dat	L Co	Operator (print)	Signature	Z#	Initials	Date
Yancho Miera	1/4 ms	735765/17/12-	3-15 -	Operator (print)	/	/		/
Operator (prifit)	Signature	Z# Initials Date	chil —	operator (print)	Signature	Z#	Initials	Date
Isophy of June		1157971 DU 12	<u> 14/18 </u>	Operator (print)	Signature	/ 	/ Initials	/
perator (print)	Signature	Z# Initials Date	e	operator (print)	Signature /	Z _a tt	/	Date
Operator (print)	Signature	/116598/ Sed / 03 Z# Invials Date	30412 -	Operator (print)	Signature	/	_/ Initials	/ Date
Operator (print)	Signature	Z# InVials Date	e	(1	/	/	/	/
Operator (print)	Signature	Z# Initials Date	e (Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:								
44-9-1		//						
SOM or designee (print)	Signature	Z# Initials 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 1-4-15 to 1-4-15 Location: 375 Start Time: 0634 0825 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 6.[6] 0922 1022 1123 1420 Calibrated Brand: Brand: Brand: Brand: Infrared Thermometer Model Model: Cal Due Date: (4.2.1[1][B]) Cal Due Date: Cal Due Date: Cal Due Date: Cal. Due Date: Cal. Due Date: File Number File Number File Number File Number File Numbe File Number File Number File Numbe File Number File Number File Number Ambient 49.43 49.99 49.59 51.89 52.92 54. UF Temperature 55.1ºF 56.VA 57.18 54.5F 56,90F 56.59 (6.[7])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]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (**ß**.[8]/6.[9]) 67685TL 51,39 51.4 51.8 5493 55.88 56.22 68 685 12- 50.53 50,65 52,54 54.15 55.01 5052274 53.65 54.17 51,36 55.44 55.7 55.4 5052275 50.99 50.73 50:12 52-17 53.59 54.14 54.89 55.41 52.62 55.7 55.36

WORKING COPY	
Z# 226 235	
INITIAL Sem	DATE 2-4-5

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 1-4-15 to 2-84-15 Location: 375

Container ID # (6,[8]/6,[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9]												
													-	
						1								
						A)								1
						T	1							Q-
													//	1
mbient														
mperature .[12])	49.54	49.44	49.99	51.9°F	52.99	54.4	55.1ºF	56.19	56,90	57.18	56.59	54.51	°F	
nd Time .[13])	0635	0730	0826	0923	1023	1124	1226	1321	1421	1527	1626	1729		
6 [13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator: (Operator	Operator:	Operator:	Operato A	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

Page:

Z#

Initials Date

38 of 38

ATTACHMENT 6 Page 3 of 3 6.[6] Date: From 1-4-15 to 1-4-15 Location: 375 6.[17] Performed by: Jesse Chave 214978 JC 12-4-15 Operator (print) Signature Initials Date 4121977 9X12-4-15 Operator (print) Signature Z# Initials Date Operator (print) Signature Initials Date 201458 -7-2-4-15 Operator (print) Z# Initials Date Operator (print) Signature Initials Date Operator (print) Signature Initials Date Operator (print) Initials Date Signature Z# Operator (print) Signature' Initials Date Operator (print) Signature Initials Date Operator (print) Initials Date Signature Z# Operator (print) Signature Initials Date

Operator (print)

Signature

8.1[2] Reviewed by:

Operator (print)

UET

SOM or designee (print)

Signature

Initials Date

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 24-15 to 1=5-15 Location: 375 Start Time: Start Time: Start Time: Start Time Start Time Start Time: 1834 1928 6 [6] 2228 6,[6] 6 [6] 6.[6] 6.[6] 6.[6] 6.[6] 6 [6] 6.[6] 0778 2129 2030 2330 0130 0733 9540 Calibrated Brand Brand Brand Brand: Brand Brand Brand: Brand Infrared Thermometer Cal Due Date Model Model: Cal Due Date Cal Due Date Cal Due Date (4.2.1[1][B]) Cal Due Date Cal Due Date Cal Due Date Cal Due Qate Cal Due Date Cal Due Date File Number Ambient 53.04°F 52.02°F 51.42°F 50.66F 50,13°F 51.90 F 51.17 °F 50.35 °F 49.77 52.41 °F 50,20°F 50.25°F Temperature °F (6.[7]) **T(3)** Container ID # Temp (°F) (6.[8/6.[9]) Temp (°F) (6.[8]/6.[9]) Temp (°F) Temp (°F) Temp (F) (6.[8]/6.[9]) (6 [8]/6 [9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6 [8]/6 [9]) (6.[8]/6.[9]) (6.[8]/6.[9]) (6.[8]/6.[9]) 53.46 53.03 52.30 51.86 51.85 52.00 51.83 48485(TI) 53.25 51.81 52.01 51.60 52.00 52.94 51.23 5242 51.72 51.19 51.34 52.46 51.23 68685(TZ) 51.06 51, 28 52.90 52.57 52.09 S0522(T4) 52.18 51.97 52.86 51.76 51.61 51.57 51.71 51.70 50522(75) 51.98 51.66 52.44 52.33 51.84 57.48 51,30 51.12 51.37 51.35 51.04

WORKING COPY

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 14-15 to 1-05-15 Location: 375

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6,[8]/6,[9])	Temp (°F) (6.[8]/6.[9])											
											-			
						IA_								
					N									Na
													NK	NY
Ambient Temperature (6.[12])	<u>5187</u> °F	53.07	<i>51.23</i> °F	52.40°F	52.02°F	51.42°F	50.66°F	50.22°F	5013°F	50.35°F	50.22°F	49.77F		F
End Time (6.[13])	1836	1929	2031	2130	2228	2331	_0030	0131	0228	0334	0430	0531		
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator: Operator:	Operator:	Operator:	Operator	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	08/	Operator:	Operator:	Operato:	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 o	of 3						
6.[6] Date: From 1	4-15 10/25-13	Location: 315					-1 E			
6.[2] Comments: 7	oid not Ent	er permacon po Data logger in con	er Standi	ng order 1	247, -	R,5	R,2	AII .	temps	
are +	aken from	Data logger in con	trol room	n Dome 375						
					N	VI.				
6.[17] Performed by: Sommy Barel Operator (priht)	Signature	/ 114444 / 12-5-15 Z# Initials Date	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date			
Operator (print) Obla Quinte	Signature	-1234253 TR 2-5-15 Z# Initials Date / 19057 TO / 2-5-15	Operator (print)	/ Signature	/ /	/ 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# Imitals Date	Operator (print)	Signature	Z#	Initials	Date			
Operator (print)	/ Signature	Z# Initials Date	Operator (print)	Signature	Z#	/ Initials	Date			
8.1[2] Reviewed by:	1 12 11	42								

UET

SOM or designee (print) Signature Z# Initials Date