From: Juarez, Catherine L
Sent: Tuesday, April 14, 2015 4:15 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; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Robinson, Bruce Alan; Lansing, Michael Alan; Tymkowych, John M; Diaz, Tammy; Branch, Yvette S; Guffee, Debi; Juarez, Catherine L; Armijo, Karen (CONTR); Saladen, Michael Thomas; Haagenstad, Mark P; epccat@lanl.gov
Subject: Daily Technical Submission - April 14, 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.

Cathy Juarez for
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

April 14, 2015

Participants:

- New Mexico Environment Department: Tim Hall, Siona Briley and Ricardo Maestas.
- LANL – NNSA- Los Alamos Field Office: Gene Turner.
- LANL – Los Alamos National Security: Mark Haagenstad, Don Allen, John Tymkowych, Luciana Vigil-Holterman and Cathy Juarez.

LANL Technical Update:

- **Location of Nitrate Salt-Bearing Wastes**
    - Remediated nitrate salt-bearing waste containers.
        - All containers remain in the 375 Permacon.
    - Unremediated nitrate salt-bearing waste containers.
        - All containers remain in the 231 Permacon.
    - Suspect nitrate salt-bearing waste containers.
        - Containers are located in the 375 Permacon.
- **Monitoring - Daily Temperature**
    - Temperatures remain below 90°F.
        - Previous day's temperature data attached.
- **Monitoring – Visual Inspections**
    - No abnormal conditions were observed.
- **Monitoring – headspace gas (HSG)**
    - Containers (SWBs) 68685 and SB50522.
        - Continue daily head space gas (HSG) sample collection.
            - April 14, 2015 HSG data attached.
                - H_2, CO, CO_2 and N_2O
    - Other containers:
        - A minimum of once per month HSG sampling will be conducted.
            - To date in April, LANL has conducted HSG sampling on 43 containers.
                - April 14, 2015 HSG data attached.
                    - H_2, CO, CO_2 and N_2O
- **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 other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste) and four suspect nitrate salt-bearing waste POCs.
            - Twice-weekly HSG sample collection.

- **Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, re-packaging)**
    - Currently, no further movements or re-packaging are occurring.

Other:

- There will be no telephone call on Thursday April 16, 2015 due to a scheduled technical meeting with the NMED-HWB in Santa Fe.
- The Permitees will verify empty parent containers from WCRRF nitrate-salt sort and segregation activities through Real Time Radiography and/or visual inspection when the current wall to wall inventory of waste containers is complete at TA-54, Area G. Containers will be characterized, labeled and managed accordingly.

Next Call: Tuesday, April 21, 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 on-going 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. WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action.	LANL	---	Complete July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request) July 17, 2014 (Letter sent with updated spreadsheet) August 7, 2014 (First submittal in response to item 5) August 14, 2014 (Letter addressing items 2 & 8 - Second submittal in response to item 5) August 18, 2014 (Third submittal in response to item 5) August 21, 2014 (Fourth submittal in response to item 5) August 27, 2014 (Fifth submittal in response to item 5) September 4, 2014 (Sixth submittal in response to item 5) September 9, 2014 (Seventh submittal in response to item 5) September 11, 2014 (Eighth submittal in response to item 5) September 22, 2014 (Ninth submittal in response to item 5) September 23, 2014 (Tenth submittal in response to item 5) October 1, 2014 (Eleventh submittal in response to item 5) October 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 (3rd Q 2008).	LANL	---	Complete July 21, 2014
29.	NMED requested a copy of lessons learned	LANL	---	Complete August 11, 2014
30.	NMED request regarding empty drum sampling presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
31.	Respond to NMED email request dated 8/12/2014 for information associated with the nitrate salt-bearing waste containers.	LANL	---	Complete September 11, 2014
32.	NMED request regarding technical presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
33.	NMED request regarding literature review of catalytic reactions.	LANL	Literature review is a pre-decisional draft/working document not for external release	August 25, 2014
34.	LANL requested to schedule a meeting with NMED on remediation planning and schedules.	LANL / NMED	---	Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED	---	Complete October 20, 2014

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

	Requested Information	Actionee	Status	Completion Date
38.	NMED requested documentation regarding CIN01.001 waste containers that are not part of the September 19, 2014 Nitrate Salts-Bearing Waste Container Isolation Plan, Revision 2.	LANL	In Progress LANL will submit this documentation in batches as it is becomes available.	Submitted 100 out of 586 RTRs and documentation on October 3, 2014. Submitted documentation for 101-200 containers on October 10, 2014. Submitted documentation for 201-300 containers on October 16, 2014. Submitted documentation for 301-400 containers on October 23, 2014. Submitted documentation for 401-500 containers on October 27, 2014. Submitted documentation for 501-586 containers on November 12, 2014. Submitted RTR Videos 101-150 on November 12, 2014. Submitted RTR Videos 151-200 on November 20, 2014. Submitted RTR Videos 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	---	Complete Email- February 3, 2015 Letter- February 19, 2015
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	---	Complete January 29, 2015
49.	Fire suppression repair plan for Dome 231	LANL	---	This repair plan is no longer necessary because drum movement did not occur during the repair process. Repair is complete.
50.	NMED requested information regarding solution packages 36, 37, 57 and 78.	LANL	---	Complete. Email – February 17, 2015. Letter- March 19, 2015.
51.	NMED requested copies of any procedures regarding cementation in bags.	LANL	---	March 19, 2015 Confirmation that no specific procedure can be located for cementation in bags.
52.	NMED requested information on the percentage of the 55 SWBs that, based on SWB HSG data, appear to have chemical reactions occurring within the waste.	LANL	In progress	
53.	NMED requested the document "TA-55 Cement Fixation Drum Logbook" referenced in the CCP AK document.	LANL	In progress	
54.	NMED requested summary sheet for HSG data.	LANL	---	Complete April 9, 2015.
55.	NMED requested additional discussion on engineering options for cooling in Summer months.	LANL	In progress	

	Requested Information	Actionee	Status	Completion Date
56.	NMED requested references in Technical Assessment Team report Waste Isolation Pilot Plant (WIPP): Chemical Reactivity and Recommended Remediation Strategy for Los Alamos Remediated Nitrate Salt (RNS) Wastes.	LANL	---	Complete April 9, 2015.
57.	Schedule an eighth LANL update meeting to continue technical discussions associated with remediation options, planning and other topics of interest.	LANL/ NMED	In Progress	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				SB50522				68430			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
04/14/15	143	354	8695	2069	2864	487	36438	1085	169	211	3399	635

Remediated Nitrate Salt Container Headspace Gas Analysis

	68507				68631				68638			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
04/14/15	91	65	1069	49	13	0	494	41	13	0	280	20

Remediated Nitrate Salt Container Headspace Gas Analysis

	69568				94227				SB50442			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
04/14/15	93	137	384	427	30	55	147	377	233	366	4274	852

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50559			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
04/14/15	854	205	3499	185

ATTACHMENT 2
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TA-54 AREA G TA-54-231 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 4/13/15 to 4/19/15

	Monday 6.[6] Start Time: 1413	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-54-231							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 7/29/15 File Number: 101974	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])	71.0 °F	°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])
S818435	71.2						
S802833	69.8						
S801676	69.6						
S816810	69.5						
70069	69.0						
S822844	69.5						
S825879	70.2						
S793724	70.1						
S813545	69.2						
S822713	70.8						
S802739	70.3 ~~70.2~~						
69907	70.2						
S804995	70.3						
S816434	70.7						

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ATTACHMENT 2
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6.[6] Date: From 041315 to 041915

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	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	70.8						
S862888	70.1						
70072	70.7						
S823184	71.2						
S822599	70.8						
69904	69.5						
S805051	69.4						
S864213	69.1						
S853714	69.4						
S803078	70.7						
S825878	70.2						
S823124	70.0						
S804948	70.1						
S813385	70.6						
S842446	70.3						
Ambient Temperature (6.[13])	70.2 °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
End Time (6.[14])	1422	_____	_____	_____	_____	_____	_____
6.[14]	Operator: [signature] Operator: [signature]	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____

ATTACHMENT 2
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6.[6] Date: From 4/13/15 to 4/14/15

6.[2] Comments: _____

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL	[signature]	223382	[initials]	4/13/15
Joshua Lopez	[signature]	116598	[initials]	041315

Operator (print)	Signature	Z#	Initials	Date

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

ATTACHMENT 3
Page 1 of 3

TA-54 AREA G TA-54-375 CELL 1 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 4.13.15 to 4.19.15

	Monday 6.[6] Start Time: 1114	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: Fluke Model: 561 Cal. Due Date: 061215 File Number 101915	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])	64.7 °F	°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])
68685	63.4						
LA00000070503 68540	63.3						
LA00000070503 68553	63.2						
69445	63.2						
69618	63.7						
69013	63.1						
LASB50522	63.3						
LASB50452	63.4						
LASB50431	63.0						
LASB50069	63.0						
LASB50073	62.7						
69636	62.7						
69616	62.9						
69417	62.8						

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INITIAL EC DATE 4.13.15

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6.[6] Date: From 4.13.15 to 4.19.15

Container ID #	Monday Temp (°F) (6.[8]/6.[9])	Tuesday Temp (°F) (6.[8]/6.[9])	Wednesday Temp (°F) (6.[8]/6.[9])	Thursday Temp (°F) (6.[8]/6.[9])	Friday Temp (°F) (6.[8]/6.[9])	Saturday Temp (°F) (6.[8]/6.[9])	Sunday Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 1 (continued)							
69620	62.7						
69520	62.8						
69641	63.0						
69298	62.8						
LASB02203	62.6						
Ambient Temperature (6.[13])	63.6 °F	____ °F	____ °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1118						
6.[14]	Operator: EC Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
Page 3 of 3

6.[6] Date: From 4.13.15 to 4.19.15

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Elroy D. Gradon A	ED On	1141881	EC	4.13.15
Joshua Lopez	Joshua Lopez	1116598	JL	041315
		/	/	/
		/	/	/
		/	/	/
		/	/	/
		/	/	/
		/	/	/

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

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
		/	/	/

ATTACHMENT 4
Page 1 of 3

TA-54 AREA G TA-54-375 CELL 2 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 4.13.15 to 4.19.15

	Monday 6.[6] Start Time: 1119	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 2							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 6/2/15 File Number 101912	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])	61.9 °F	°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])
LASB02198	62.0						
68638	62.2						
69615	62.4						
69635	62.8						
69642	62.8						
69630	62.8						
69633	63.2						
68430	62.7						
68631	62.5						
69634	62.4						
68567	61.9						
94227	62.2						
LASB50442	62.7						
69644	62.6						
LASB50443	62.2						
69638	62.5						

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INITIAL EC DATE 4.13.15

ATTACHMENT 4
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6.[6] Date: From 4·13·15 to 4·19·15

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	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 (continued)							
68624	62.8						
68507	62.7						
69568	62.4						
69553	62.2						
69598	61.9						
LASB50559	62.7						
69015	62.7						
69639	62.6						
69637	62.4						
Ambient Temperature (6.[13])	62.7 °F	____ °F	____ °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1126						
6.[14]	Operator: EC Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

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6.[6] Date: From 4.13.15 to 4.19.15

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Elvy D. Cobian	E D R	1114186	EC	4.13.15
Joshua Lopez	Joshua Lopez	1116581	JL	104315
		/	/	/
		/	/	/
		/	/	/
		/	/	/
		/	/	/
		/	/	/

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

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
		/	/	/

ATTACHMENT 5
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TA-54 AREA G TA-54-375 CELL 3 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 4·13·15 to 4·19·15

	Monday 6.[6] Start Time: 1106	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 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 6-12-15 File Number 101916	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])	63.6 °F	°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	63.1						
69645	63.2						
94068	63.3						
93605	63.6						
69548	63.3						
69604	63.3						
LASB50529	63.3						
LASB50418	63.3						
69036	64.1						
LASB50451	63.3						
69559	63.0						
LASB50448	63.0						
87823	62.5						
87825	63.0						
87826	61.8						
87827	62.5						

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INITIAL EC DATE 4·13·15

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6.[6] Date: From 4.13.15 to 4.19.15

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	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 3 (continued)							
Ambient Temperature (6.[13])	63.7 °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F	_____ °F
End Time (6.[14])	1113						
6.[14]	Operator: EC Operator: [signature]	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____	Operator: _____ Operator: _____

6.[2] Comments:

ATTACHMENT 5
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6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Eliot J. Gardea	Eliot J. Gardea	1114188	SC	4.13.15
Joshua Lopez	Joshua Lopez	1165981	JL	041315

Operator (print)	Signature	Z#	Initials	Date

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

ATTACHMENT 6
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TA-54 AREA G NITRATE SALT TRU WASTE CONTAINER HOURLY TEMPERATURE DATA SHEET

6.[6] Date: From 4.13.15 to 4.13.15 Location: 375

	Start Time: 6.[6] 0645	Start Time: 6.[6] 0730	Start Time: 6.[6] 0829	Start Time: 6.[6] 0929	Start Time: 6.[6] 1029	Start Time: 6.[6] 1130	Start Time: 6.[6] 1239	Start Time: 6.[6] 1338	Start Time: 6.[6] 1427	Start Time: 6.[6] 1533	Start Time: 6.[6] 1634	Start Time: 6.[6] 1724	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Model: NA Cal. Due Date: File Number:	Brand: Model: NA Cal. Due Date: A File Number:	Brand: Model: NA Cal. Due Date: A File Number:	Brand: Model: NA Cal. Due Date: File Number:	Brand: Model: NA Cal. Due Date: File Number:	Brand: Model: NA Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: N Cal. Due Date: A File Number:	Brand: Model: Cal. Due Date: File Number:	Brand: Model: Cal. Due Date: File Number:
Ambient Temperature (6.[7])	55.17 °F	54.97 °F	55.99 °F	58.14 °F	60.51 °F	62.8 °F	62.35 °F	64.24 °F	64.77 °F	63.67 °F	63.39 °F	61.96 °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 T_1	55.14	54.97	56.11	58	60.24	62.52	63.14	65.13	65.77	64.41	63.84	62.66		
68685 T_2	54.72	54.57	55.82	57.58	59.63	61.76	62.00	63.66	64.58	63.71	63.30	62.25		
50522 T_4	55.7	55.5	56.23	57.6	59.33	60.94	60.79	62.11	62.84	62.16	61.74	60.97		
50522 T_5	55.51	55.39	56.25	57.66	59.36	61.05	60.95	62.19	62.87	62.26	61.9	61.15		

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INITIAL EC DATE 4.13.15

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6.[6] Date: From 041315 to 041315 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])	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])
							N A							
Ambient Temperature (6.[13])	55.17 °F	54.97 °F	56.05 °F 0930	58.14 °F	60.51 °F	62.82 °F	62.35 °F	64.24 °F	64.77 °F	63.67 °F	63.39 °F	61.96 °F	°F	°F
End Time (6.[14])	0645	0730	0930 041315	0930	1030	1131	1240	1339	1428	1534	1635	1725		
6.[14]	Operator: EC Operator:	Operator: Operator: EC	Operator: Operator: EC	Operator: EC Operator:	Operator: EC Operator:	Operator: EC Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

ATTACHMENT 6
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6.[6] Date: From 041315 to 041315 Location: 375

6.[2] Comments:

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Joshua Lopez	Joshua Lopez	111598	JM	041315
Elov D. Gordon	Elov D. Gordon	1124188	EDG	14/13/15
Chris Carmen		1206052	CC	14/13/15
	/	/	/	/
	/	/	/	/
	/	/	/	/
	/	/	/	/
	/	/	/	/

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

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Corey Mowry		D6335		4-13-15

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

6.[6] Date: From 04-13-15 to 04-14-15 Location: Dome 375

	Start Time: 6.[6] 1827	Start Time: 6.[6] 1926	Start Time: 6.[6] 2030	Start Time: 6.[6] 2131	Start Time: 6.[6] 2228	Start Time: 6.[6] 2327	Start Time: 6.[6] 0031	Start Time: 6.[6] 0128	Start Time: 6.[6] 0227	Start Time: 6.[6] 0328	Start Time: 6.[6] 0433	Start Time: 6.[6] 0524	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model N/A / Cal. Due Date / File Number	Brand / Model / Cal. Due Date / File Number	Brand / Model / Cal. Due Date / File Number
Ambient Temperature (6.[7])	60.19 °F	58.87 °F	58.82 °F	57.26 °F	56.49 °F	55.24 °F	53.38 °F	52.61 °F	51.96 °F	53.38 °F	52.68 °F	51.75 °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])
T(1) 68685	60.60	58.95	58.67	57.08	56.34	55.18	53.44	52.75	52.14	53.99	53.26	52.58		
T(2) 68685	60.48	58.60	58.15	56.57	55.85	54.70	52.94	52.32	51.80	53.67	53.11	52.04		N/A
T(4) 50522	59.64	58.58	58.56	57.39	56.81	55.92	54.52	53.96	53.42	54.62	54.01	53.69		
T(5) 50522	59.85	58.58	58.47	57.21	56.41	55.68	54.33	53.74	53.24	54.60	53.98	53.41		
					N/A									

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INITIAL VGL DATE 4-13-15

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6.[6] Date: From 041315 to 04-14-15 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])	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])
						N/A								
Ambient Temperature (6.[13])	60.19 °F	58.93 °F	58.80 °F	57.26 °F	56.49 °F	55.24 °F	53.36 °F	52.61 °F	51.96 °F	53.58 °F	52.76 °F	51.75 °F	____ °F	____ °F
End Time (6.[14])	1827	1927	2038	2131	2228	2328	0031	0129	0227	0328	0434	0524		
6.[14]	Operator: WJC Operator: JH	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: WJC Operator: JH	Operator: WJC Operator: JH	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 041315 to 0414-15 Location: 375

6.[2] Comments:

N/A

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
John Wintucu		1190557		4/13/15
Willie J. Corbett		1129074	WJC	4-13-15
	N/A			

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

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Casey Mason		224235		4-14-15