ESHID-600368

From: Haagenstad, Mark P
Sent: Thursday, April 16, 2015 4:28 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; epccat@lanl.gov
Subject: Daily Technical Submission - April 16, 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

April 16, 2015

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 16, 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 51 containers.
- **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.
        - April 16, 2015 HSG data attached.
          - H_2, CO, CO_2 and N_2O
- **Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, re-packaging)**
  - Currently, no further movements or re-packaging are occurring.

Other:

- There was no telephone call today Thursday April 16, 2015, due to a scheduled technical meeting with the NMED-HWB in Santa Fe.

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	Partially complete. Email follow-up requested by NMED-HWB.	Discussed during technical meeting on April 16, 2015.
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	---	Completed during technical meeting on April 16, 2015.

	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	---	Complete April 16, 2015.

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				69553				69615			
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**
04/16/15	125	340	8182	1944	193	503	11910	1548	65	231	4692	227

Remediated Nitrate Salt Container Headspace Gas Analysis

	69616				SB50069				SB50452			
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**
04/16/15	346	656	14794	2789	471	804	17154	2154	648	629	11977	2075

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50522				87823				87825			
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**
04/16/15	2494	398	31222	921	181	210	5840	801	171	241	7822	1146

Remediated Nitrate Salt Container Headspace Gas Analysis

	87826				87827			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
04/16/15	230	332	11532	1345	34	93	2890	286

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: 0935	Wednesday 6.[6] Start Time: 0939	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: FLUKE Model: 561 Cal. Due Date: 7/29/15 File Number 101974	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
Ambient Temperature (6.[7])	71.0 °F	53.4 °F	59.6 °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	54.7	57.1				
S802833	69.8	54.5	56.9				
S801676	69.6	54.3	57.1				
S816810	69.5	56.0	57.0				
70069	69.0	55.6	56.6				
S822844	69.5	56.1	56.6				
S825879	70.2	56.1	56.9				
S793724	70.1	56.0	56.9				
S813545	69.2	55.6	56.9				
S822713	70.8	55.4	57.1				
S802739	70.3 ~~70.2~~	54.7	56.8				
69907	70.2	54.3	56.6				
S804995	70.3	54.5	56.8				
S816434	70.7	55.2	57.4				

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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	55.5	57.2				
S862888	70.1	54.7	57.3				
70072	70.2	54.7	57.5				
S823184	71.2	55.0	57.3				
S822599	70.8	55.7	57.4				
69904	69.5	55.6	56.8				
S805051	69.4	55.6	56.7				
S864213	69.1	55.8	56.7				
S853714	69.4	55.8	56.5				
S803078	70.7	56.0	56.4				
S825878	70.2	56.3	56.8				
S823124	70.0	56.2	56.9				
S804948	70.1	55.9	57.1				
S813385	70.6	55.8	57.1				
S842446	70.3	56.4	57.3				
Ambient Temperature (6.[13])	70.2 °F	54.0 °F	60.4 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1422	0938	1043				
6.[14]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	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	Thomas Vigil	223382	TV	4/13/15
Joshua Lopez	Joshua Lopez	116598	JLL	04/13/15
Alfredo Aguilar	Alfredo Aguilar	293178	AA	4/14/15
Thomas Vigil	Thomas Vigil	223382	TV	4/14/15
Alfredo Aguilar	Alfredo Aguilar	293178	AA	4/15/15
Joshua Lopez	Joshua Lopez	116598	JLL	04/15/15

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: 1058	Wednesday 6.[6] Start Time: 0950	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: Fluke Model: 561 Cal. Due Date: 061215 File Number 101915	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
Ambient Temperature (6.[7])	64.7 °F	59.9 °F	56.8 °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	58.8	57.2				
LA00000070503 68540	63.3	58.6	57.1				
LA00000070503 68553	63.2	59.0	57.1				
69445	63.2	59.0	57.3				
69618	63.7	58.7	56.8				
69013	63.1	59.0	57.3				
LASB50522	63.3	59.7	58.0				
LASB50452	63.4	59.2	57.8				
LASB50431	63.0	59.0	57.6				
LASB50069	63.0	59.0	57.2				
LASB50073	62.7	58.9	57.4				
69636	62.7	58.9	57.3				
69616	62.9	59.3	57.5				
69417	62.8	58.8	57.3				

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ATTACHMENT 3
Page 2 of 3

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	58.9	57.3				
69520	62.8	59.0	57.6				
69641	63.0	59.3	57.8				
69298	62.8	59.6	57.9				
LASB02203	62.6	59.1	57.7				
Ambient Temperature (6.[13])	63.6 °F	59.2 °F	57.7 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1118	1103	1002				
6.[14]	Operator: EG Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
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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
Eloy D. Cardona		1141188	EC	4.13.15
Joshua Lopez		116598		041315
Rick Montoya		163216		041415
Joshua Lopez		116598		041415
Rick Montoya		163216		041515
Joshua Lopez		116598		041515

Operator (print)	Signature	Z#	Initials	Date

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 041315 to 041915

	Monday 6.[6] Start Time: 1119	Tuesday 6.[6] Start Time: 1035	Wednesday 6.[6] Start Time: 1003	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: 061215 File Number 101912	Brand: Fluke Model: 561 Cal. Due Date: 061215 File Number 101912	Brand: Fluke Model: 561 Cal. Due Date: 061215 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
Ambient Temperature (6.[7])	61.9 °F	59.0 °F	57.7 °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	59.1	58.3				
68638	62.2	59.1	58.2				
69615	62.4	59.2	57.7				
69635	62.8	59.6	57.7				
69642	62.8	59.5	57.8				
69630	62.8	59.5	58.2				
69633	63.2	59.5	58.2				
68430	62.7	59.7	58.0				
68631	62.5	59.2	57.9				
69634	62.4	59.4	58.0				
68567	61.9	59.8	57.6				
94227	62.2	59.7	58.8				
LASB50442	62.7	59.1	58.7				
69644	62.6	58.7	58.2				
LASB50443	62.2	59.3	57.7				
69638	62.5	59.4	57.8				

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INITIAL RM DATE 041315

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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 2 (continued)							
68624	62.8	59.6	58.2				
68507	62.7	59.4	59.0				
69568	62.4	59.6	57.9				
69553	62.2	58.8	57.8				
69598	61.9	58.7	57.8				
LASB50559	62.7	59.2	57.8				
69015	62.7	59.8	58.5				
69639	62.6	60.0	58.6				
69637	62.4	59.9	58.0				
Ambient Temperature (6.[13])	62.7 °F	59.3 °F	58.2 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1126	1042	1007				
6.[14]	Operator: EC Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 4
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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. Collazo	E D C	114186	EC	4.13.15
Joshua Lopez	Joshua Lopez	116598	JL	041315
Rick Martinez	R M	163216	RM	041415
Joshua Lopez	Joshua Lopez	116598	JL	041415
Rick Martinez	R M	163216	RM	041515
Joshua Lopez	Joshua Lopez	116598	JL	041515

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: 1045	Wednesday 6.[6] Start Time: 1008	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: Fluke Model: 561 Cal. Due Date 061215 File Number 101916	Brand: Fluke Model: 561 Cal. Due Date: 061215 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
Ambient Temperature (6.[7])	63.6 °F	58.9 °F	58.1 °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	60.0	58.5				
69645	63.2	60.1	58.7				
94068	63.3	59.8	58.8				
93605	63.6	60.0	58.8				
69548	63.3	59.6	58.6				
69604	63.3	59.6	58.7				
LASB50529	63.3	59.8	58.7				
LASB50418	63.3	59.9	58.5				
69036	64.1	59.0	58.3				
LASB50451	63.3	59.6	58.3				
69559	63.0	59.6	58.4				
LASB50448	63.0	59.4	57.2				
87823	62.5	59.0	57.9 from 041515				
87825	63.0	59.1	~~56.1~~ 57.6				
87826	61.8	58.7	57.9				
87827	62.5	58.5	57.9				

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INITIAL SC DATE 4·13·15

ATTACHMENT 5
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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	59.2 °F	57.9 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[14])	1113	1052 04/14/15	1012				
6.[14]	Operator: EC Operator: [signature]	Operator: [illegible] Operator: [signature]	Operator: [signature] Operator: [signature]	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
Elet J. Cordova	[signature]	114188	SC	4.13.15
Joshua Lopez	[signature]	116598	JJL	041315
Rick Montoya	[signature]	116326	RM	041415
Joshua Lopez	[signature]	116598	JJL	041515
Rick Montoya	[signature]	116326	RM	041515
Joshua Lopez	[signature]	116598	JJL	041515

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 04/15/15 to 04/15/15 Location: 375

	Start Time: 6.[6] 0645	Start Time: 6.[6] 0732	Start Time: 6.[6] 0832	Start Time: 6.[6] 0932	Start Time: 6.[6] 1032	Start Time: 6.[6] 1132	Start Time: 6.[6] 1232	Start Time: 6.[6] 1332	Start Time: 6.[6] 1432	Start Time: 6.[6] 1532	Start Time: 6.[6] 1632	Start Time: 6.[6] 1720	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: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	53.05 °F	52.11 °F	52.09 °F	55.37 °F	58.37 °F	60.57 °F	61.77 °F	63.05 °F	61.76 °F	60.8 °F	60.22 °F	59.64 °F	NA °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 (T1)	53.53	52.55	53.14	55.71	58.48	60.34	61.51	63.06	62.28	61.54	60.87	60.19		
68685 (T2)	53.22	52.10	52.84	55.28	57.94	59.57	60.70	62.14	61.67	61.01	60.52	59.90		
50522 (T4)	54.27	53.52	53.89	55.7	57.83	59.26	60.14	61.33	60.41	59.73	59.37	58.87		
50522 (T5)	54.23	53.4	53.84	55.93	57.92	59.26	60.12	61.35	60.59	59.99	59.61	59.16		

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INITIAL DM DATE 4-15-15

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6.[6] Date: From 041515 to 041515 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])
							NA							
Ambient Temperature (6.[13])	53.05 °F	52.12 °F	52.89 °F	55.37 °F	58.37 °F	60.57 °F	61.77 °F	63.05 °F	61.76 °F	60.8 °F	60.22 °F	59.64 °F	°F	°F
End Time (6.[14])	0645	0732	0832	0932	1032	1132 041515	1232	1332	1432	1532	1632	1720		
6.[14]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 041515 to 041515 Location: 375

6.[2] Comments: NA

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Rick Martinez	[signature]	163216	[initials]	041515
Joshua Lopez	[signature]	116598	JJL	041515
NA				

Operator (print)	Signature	Z#	Initials	Date
NA				

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Gary Malley	[signature]	226235	[initials]	4-15-15

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

6.[6] Date: From 4-15-15 to 4-16-15 Location: Dome 375

	Start Time: 6.[6] 1828	Start Time: 6.[6] 1930	Start Time: 6.[6] 2029	Start Time: 6.[6] 2128	Start Time: 6.[6] 2227	Start Time: 6.[6] 2332	Start Time: 6.[6] 0027	Start Time: 6.[6] 0126	Start Time: 6.[6] 0227	Start Time: 6.[6] 0329	Start Time: 6.[6] 0427	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: NA Cal. Due Date: File Number	Brand: Model: N/A Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model Cal. Due Date File Number	Brand Model Cal. Due Date File Number
Ambient Temperature (6.[7])	57.84 °F	59.02 °F	58.42 °F	57.72 °F	56.92 °F	55.54 °F	54.16 °F	53.11 °F	52.31 °F	51.52 °F	51.85 °F	51.55 °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	58.10	59.00	58.25	57.50	56.69	55.43	54.15	53.17	52.67	52.31	52.93	52.91		
T(2) 68685	57.99	58.53	57.76	56.99	56.20	54.97	53.65	52.71	52.36	51.79	52.51	52.48		N/A
T(4) 50522	57.76	58.49	58.11	57.54	56.95	56.04	54.99	~~53.71~~ 54.23	53.62	53.52	53.83	53.62		
T(5) 50522	57.87	58.56	58.04	57.45	56.81	55.78	54.78	53.88	53.46	53.26	53.63	53.43		
						N/A								

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INITIAL [illegible] DATE 4-15-15

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6.[6] Date: From 4-15-15 to 4-16-15 Location: Dome 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])	Temp (°F) (6.[8]/6.[9])
							N/A								N/A	
Ambient Temperature (6.[13])	57.95 °F	59.05 °F	58.42 °F	57.72 °F	~~2227 °F~~ 56.92 °F	55.51 °F	54.13 °F	53.07 °F	52.31 °F	51.52 °F	51.85 °F	51.55 °F	°F	°F		
End Time (6.[14])	1829	1930	2029	2128	~~2227~~	2333	0027	0127	0228	0329	0427	0524				
6.[14]	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: JH Operator: WJC	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: JH Operator: WJC	Operator: WJC Operator: JH	Operator: Operator:	Operator: Operator:		

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6.[6] Date: From 4-15-15 to 4-16-15 Location: Dome 375

6.[2] Comments: N/A

6.[18] Performed by:

Operator (print)	Signature	Z#	Initials	Date
John Quintana	[signature]	119055	JQ	4-15-15
William J. [illegible]	[signature]	11[illegible]	[illegible]	4-15-15
N/A				

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

9.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Garry Maez	[signature]	206235	[illegible]	4-16-15