From: Haagenstad, Mark P
Sent: Thursday, October 30, 2014 4:13 PM
To: Ryan.Flynn@state.nm.us; Jeff.Kendall@state.nm.us; tom.blaine@state.nm.us; John Kieling; steve.pullen@state.nm.us; Kliphuis, Trais, NMENV; Timothy.Hall@state.nm.us; siona.briley@state.nm.us; ricardo.maestas@state.nm.us; Gregory.Lauer@state.nm.us; steve.holmes@state.nm.us; coleman.smith@state.nm.us
Cc: Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Torres, Enrique; Woitte, Deborah Kay; Clemmons, Steve; Allen, Don; Roberts, Kathryn Margaret; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Beard, Carl Allen; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Haagenstad, Mark P
Subject: Daily Technical Submission - October 30, 2014

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

Please contact me if additional information would be helpful. Thank you.

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

October 30, 2014

LANL Technical Update:

- New Mexico Environment Department: Siona Briley.
- LANL – Los Alamos Field Office: Gene Turner and Dave Nickless.
- LANL – Los Alamos National Security: Alison Dorries, Randy Erickson, Don Allen, Mark Haagenstad and Cathy Juarez.

- **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.

- **Monitoring - Daily Temperature**
  - Temperatures remain below 90°F.
    - Previous days' daily 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.
      - October 30, 2014 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 October, LANL has conducted HSG sampling on 55 SWBs.

Additional measures currently underway

- As a conservative measure, LANL is currently conducting additional monitoring. This additional monitoring includes:

  - Containers (SWB) 68685 and SB50522.
    - LANL continuing *solid phase micro-extraction*.
    - Hourly temperature measurements are currently being performed on SWB 68685 and SB50522.
  - Five (5) other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste).
    - Continue twice-weekly HSG sample collection.

- October 30, 2014 HSG data attached.

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

- **Other:**

Next Call: Tuesday, November 4, 2014

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)

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	In progress – remaining are portions of item 5	Partially 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)

	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	In Progress Meeting scheduled for Monday September 29th	Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED	---	Complete October 20, 2014

	Requested Information	Actionee	Status	Completion Date
36.	NMED request regarding LANL Causal Analysis associated with processing of nitrate salt-bearing waste at WCRRF – when document is Final.	LANL	Document is currently Draft.	
37.	NMED requested a diagram illustrating the current locations within the 375 Permacon of the 55 SWBs that contain the 57 remediated nitrate salt-bearing waste containers. NMED also requested a list of these 55 SWBs and the waste drums within each SWB (including the container numbers and waste stream type).	LANL	Partially complete.	October 27, 2014 Diagram submitted.
38.	NMED requested documentation regarding CIN01.001 waste containers that are not part of the September 19, 2014 Nitrate Salts-Bearing Waste Container Isolation Plan, Revision 2.	LANL	In Progress LANL will submit this documentation in batches as it is becomes available.	Submitted 100 out of 586 RTRs and documentation on October 3, 2014. Submitted documentation for 101-200 containers on October 10, 2014. Submitted documentation for 201-300 containers on October 16, 2014. Submitted documentation for 301-400 containers on October 23, 2014. Submitted documentation for 401-500 containers on October 27, 2014.
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	In progress	

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**
10/30/14	125	675	15264	4522	167	624	21345	3115	99	326	7475	427

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**
10/30/14	269	905	24867	5381	486	1040	24911	3867	592	771	20419	3929

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50522			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
10/30/14	3636	404	46661	929

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 10·27·14 to 11·2·14

	Monday 6.[6] Start Time: 0801	Tuesday 6.[6] Start Time: 0930	Wednesday 6.[6] Start Time: 0909	Thursday 6.[6] Start Time: 0955	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-231							
Calibrated Infrared Thermometer (6.[7])	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: 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
Ambient Temperature (6.[9])	55.8 °F	50.9 °F	45.6 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
S818435	57.2	51.2	48.3				
S802833	57.1	50.4	47.0				
S801676	56.7	50.3	46.7				
S816810	55.2	48.0	44.9				
70069	55.3	48.8	44.8				
S822844	55.2	48.4	44.9				
S825879	54.9	48.2	44.6				
S793724	55.4	48.2	44.7				
S813545	55.5	47.7	45.1				
S822713	56.6	49.4	46.4				
S802739	56.7	49.6	46.7				
69907	56.7	49.8	47.0				
S804995	57.0	50.4	47.1				
S816434	58.1	50.8	47.9				

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ATTACHMENT 2
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6.[6] Date: From 10-27-14 to 11-2-14

Container ID #	Monday Temp (°F) (6.[10]/6.[11])	Tuesday Temp (°F) (6.[10]/6.[11])	Wednesday Temp (°F) (6.[10]/6.[11])	Thursday Temp (°F) (6.[10]/6.[11])	Friday Temp (°F) (6.[10]/6.[11])	Saturday Temp (°F) (6.[10]/6.[11])	Sunday Temp (°F) (6.[10]/6.[11])
TA-54-231 (continued)							
S805289	57.8	57.3	48.1				
S862888	57.5	~~58~~ 50.8	47.8				
70072	57.2	50.3	47.2				
S823184	57.0	50.4	46.9				
S822599	56.6	49.9	46.4				
69904	55.7	48.1	45.3				
S805051	55.4	48.1	45.1				
S864213	55.5	48.2	45.0				
S853714	55.0	47.7	45.1				
S803078	55.0	47.6	45.0				
S825878	55.4	48.5	45.8				
S823124	55.6	48.9	46.1				
S804948	57.1	49.6	47.8				
S813385	57.4	50.5	48.5				
S842446	58.7	51.5	50.4				
Ambient Temperature (6.[14])	56.5 °F	52.0 °F	46.8 °F	°F	°F	°F	°F
End Time (6.[15])	0808	0937	0914				
6.[15]	Operator: JR Operator: EC	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

ATTACHMENT 2
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6.[6] Date: From 10·27·14 to 11·2·14

6.[2] Comments: _____

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jackie Romero	Jackie Romero	187066	JR	10/27/14
Eloy D. Cordova		114158	SC	10·27·14
Josephine Duran		159771		10/28/14
Joshua Lopez		116378	JR	10/29/14
Josephine Duran		159771		10/29/14
THOMAS VIGIL		236382	TV	10/29/14

Operator (print)	Signature	Z#	Initials	Date

8.1[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 10.27.14 to 11-2-14

	Monday 6.[6] Start Time: 1109	Tuesday 6.[6] Start Time: 1108	Wednesday 6.[6] Start Time: 0955	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 (6.[7])	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number: 101915	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number: 101915	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 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.[9])	63.4 °F	55.7 °F	53.3 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
68685	62.9	55.3	53.4				
68540	62.6	55.3	53.4				
68553	62.8	55.3	53.5				
69445	63.0	56.2	53.8				
69618	63.0	55.6	54.5				
69013	62.7	56.3	55.0				
LASB50522	62.8	56.6	54.8				
LASB50452	62.6	56.3	54.5				
LASB50431	62.5	56.1	54.5				
LASB50069	62.4	56.5	55.2				
LASB50073	62.4	56.3	55.1				
69636	62.3	56.3	55.1				
69616	62.5	56.4	55.1				
69417	62.4	56.5	55.6				

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ATTACHMENT 3
Page 2 of 3

6.[6] Date: From 10.27.14 to 11.2.14

Container ID #	Monday Temp (°F) (6.[10]/6.[11])	Tuesday Temp (°F) (6.[10]/6.[11])	Wednesday Temp (°F) (6.[10]/6.[11])	Thursday Temp (°F) (6.[10]/6.[11])	Friday Temp (°F) (6.[10]/6.[11])	Saturday Temp (°F) (6.[10]/6.[11])	Sunday Temp (°F) (6.[10]/6.[11])
TA-54-375 Cell 1 (continued)							
69620	62.6	56.7	55.2				
69520	62.6	56.7	55.3				
69641	62.6	56.7	55.5				
69298	62.6	~~57.8~~ 57.0	55.7				
LASB02203	62.3	56.4	55.1				
Ambient Temperature (6.[14])	63.5 °F	55.9 °F	53.6 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[15])	1113	1113	1000				
6.[15]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
Page 3 of 3

6.[6] Date: From 10.27.14 to 11.2.14

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Josephine Duran		151971	JD	10/27/14
Joshua Lopez		116598	JL	10/27/14
Josephine Duran		151971	JD	10/28/14
Joshua Lopez		116598	JL	10/28/14
THOMAS YATES		136362	TY	10/29/14
Joshua Lopez		116598	JL	10/29/14

Operator (print)	Signature	Z#	Initials	Date

8.1[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 10-27-14 to 11-2-14

	Monday 6.[6] Start Time: 1113	Tuesday 6.[6] Start Time: 1113	Wednesday 6.[6] Start Time: 1001	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 (6.[7])	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 101912	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 101912	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 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
Ambient Temperature (6.[9])	62.7 °F	57.3 °F	56.1 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
LASB02198	61.9	57.1	57.3				
68638	62.1	56.7	56.1				
69615	62.5	56.9	56.2				
69635	62.7	57.1	56.6				
69642	62.6	56.8	55.9				
69630	62.9	56.5	56.1				
69633	62.6	57.1	56.7				
68430	62.3	56.4	56.0				
68631	62.0	56.9	55.9				
69634	61.6	56.6	56.5				
68567	61.4	56.0	56.4				
94227	62.2	56.7	56.5				
LASB50442	62.0	56.7	56.6				
69644	62.0	57.1	56.7				
LASB50443	61.8	56.6	56.7				
69638	61.8	56.6	56.9				

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ATTACHMENT 4
Page 2 of 3

6.[6] Date: From 10-27-14 to 11-2-14

Container ID #	Monday Temp (°F) (6.[10]/6.[11])	Tuesday Temp (°F) (6.[10]/6.[11])	Wednesday Temp (°F) (6.[10]/6.[11])	Thursday Temp (°F) (6.[10]/6.[11])	Friday Temp (°F) (6.[10]/6.[11])	Saturday Temp (°F) (6.[10]/6.[11])	Sunday Temp (°F) (6.[10]/6.[11])
TA-54-375 Cell 2 (continued)							
68624	61.9	56.8	57.0				
68507	61.7	56.8	56.5				
69568	61.8	56.4	56.5				
69553	60.8	56.6	56.2				
69598	60.9	56.3	56.5				
LASB50559	61.6	56.6	56.8				
69015	61.9	57.2	57.0				
69639	61.7	57.3	57.7				
69637	61.7	56.9	57.4				
Ambient Temperature (6.[14])	61.9 °F	56.7 °F	55.9 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[15])	1119	1119	1005				
6.[15]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 4
Page 3 of 3

6.[6] Date: From 10.27.14 to 11.2.14

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Josephine Duran		157971	JD	10/27/14
Joshua Lopez		116598	JL	10/27/14
Josephine Duran		157971	JD	10/28/14
Josephine Duran		157971	JD	10/28/14
Joshua Lopez		116598	JL	10/28/14
Thomas Vigil		226386	TV	10/29/14
Joshua Lopez		116598	JL	10/29/14

Operator (print)	Signature	Z#	Initials	Date

8.1[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 10-27-14 to 11-2-14

	Monday 6.[6] Start Time: 1100	Tuesday 6.[6] Start Time: 1103	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 3							
Calibrated Infrared Thermometer (6.[7])	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number: 101916	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number: 101916	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:
Ambient Temperature (6.[9])	63.0 °F	57.8 °F	55.1 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
69519	62.6	57.8	56.6				
69645	62.8	58.2	56.3				
94068	63.3	58.6	56.3				
93605	63.2	58.4	56.0				
69548	63.3	58.2	56.1				
69604	63.2	58.2	56.4				
LASB50529	63.3	58.5	56.4				
LASB50418	63.3	58.0	56.0				
69036	63.3	57.9	55.5				
LASB50451	62.7	58.2	55.7				
69559	63.3	58.4	56.6				
LASB50448	63.3	58.4	56.1				
Ambient Temperature (6.[14])	63.5 °F	57.8 °F	56.3 °F	°F	°F	°F	°F
End Time (6.[15])	1109	1107	0951				
6.[15]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

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INITIAL [illegible] DATE 10-27-14

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6.[6] Date: From 10-27-14 to 11-2-14

6.[2] Comments:

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Josephine Duran		157971	JD	10/27/14
Joshua Lopez		116581	JL	10/27/14
Josephine Duran		157971	JD	10/28/14
Joshua Lopez		116581	JL	10/28/14
Thomas Vigil		123658	TV	10/29/14
Joshua Lopez		116581	JL	10/29/14

Operator (print)	Signature	Z#	Initials	Date

8.1[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 10-29-14 to 10-29-14 Location: 375

	Start Time: 6.[6] 0631	Start Time: 6.[6] 0730	Start Time: 6.[6] 0828	Start Time: 6.[6] 0931	Start Time: 6.[6] 1026	Start Time: 6.[6] 1129	Start Time: 6.[6] 1224	Start Time: 6.[6] 1326	Start Time: 6.[6] 1427	Start Time: 6.[6] 1523	Start Time: 6.[6] 1623	Start Time: 6.[6] 1725	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (6.[7])	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: N/A Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[9]) T3	52.45 °F	51.11 °F	52.58 °F	52.26 °F	54.44 °F	57.04 °F	60.02 °F	62.67 °F	62.73 °F	62.16 °F	61.91 °F	60.53 °F	°F	°F
Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
68685 T1	53.04	51.83	53.53	52.64	54.32	56.75	59.44	61.99	62.79	62.65	62.38	.61		
68685 T2	52.85	51.30	53.06	52.19	53.97	56.30	58.95	61.15	62.11	62.06	61.9	60.66		
50522 T4	53.82	53.09	54.68	53.57	54.25	56.58	58.76	60.58	61.09	60.58	60.43	59.71		
50522 T5	53.39	52.53	54.18	53.59	54.96	56.81	58.9	60.74	61.21	60.91	60.75	59.97		

N/A

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6.[6] Date: From 10-29-14 to 10-29-14 Location: 375

Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
Ambient Temperature (6.[14])	52.45 °F	51.05 °F	52.57 °F	52.26 °F	54.49 °F	57.04 °F	60.2 °F	62.69 °F	62.63 °F	62.58 °F	61.91 °F	60.53 °F	°F	°F
End Time (6.[15])	0632	0731	0829	0932	1027	1130	1225	1327	1427	1524	1624	1726		
6.[15]	Operator: WO Operator: JC	Operator: WO Operator: JC	Operator: DA Operator: WO	Operator: WO Operator: JC	Operator: DA Operator: WO	Operator: WO Operator: DA	Operator: DA Operator: WO	Operator: DA Operator: WO	Operator: WO Operator: DA	Operator: DA Operator: WO	Operator: DA Operator: WO	Operator: DA Operator: WO	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 10-29-14 to 10-29-14 Location: 375

6.[2] Comments: Did not enter permacon per standing order area G 1247 R2 all temps taken from data logger in Control Room

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Tina Aguirre	Tina Aguirre	1249770		10-29-14
Jose Chavez		1214937856		10-29-14
William Juarez		201458		10-29-14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Pat O'Grady		1151338	JPO	10-29-14

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

6.[6] Date: From 10-29-14 to 10-30-14 Location: Dome 375

	Start Time: 6.[6] 1834	Start Time: 6.[6] 1932	Start Time: 6.[6] 2041	Start Time: 6.[6] 2128	Start Time: 6.[6] 2224	Start Time: 6.[6] 2327	Start Time: 6.[6] 0023	Start Time: 6.[6] 0128	Start Time: 6.[6] 0228	Start Time: 6.[6] 0328	Start Time: 6.[6] 0430	Start Time: 6.[6] 0533	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (6.[7])	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: N/A Cal. Due Date: File Number	Brand: Model: N/A Cal. Due Date: File Number
Ambient Temperature (6.[9])	58.74 °F	57.68 °F	56.66 °F	56.10 °F	54.93 °F	53.74 °F	52.99 °F	52.34 °F	51.76 °F	52.96 °F	51.49 °F	51.79 °F	°F	°F
Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
T1 68685	58.68	57.47	56.43	55.89	54.82	53.66	53.02	52.41	51.90	53.43	51.84	52.32		
T2 68685	58.26	56.92	55.99	55.52	54.52	53.39	52.75	52.14	51.63	53.23	51.44	51.88		
T4 50522	58.33	57.61	56.85	56.45	55.61	54.71	54.21	53.65	53.19	54.13	53.12	53.37		
T5 50522	58.47	57.58	56.76	56.33	55.52	54.62	54.07	53.55	53.13	54.25	53.10	53.40		
													N/A	N/A
						N/A								

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Z# 226235
INITIAL LEM DATE 10-29-14

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6.[6] Date: From 10/29/14 to 10/30/14 Location: Dome 375

Container ID # (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])	Temp (°F) (6.[10]/6.[11])
						N/A							N/A	N/A
Ambient Temperature (6.[14])	58.77 °F	57.64 °F	56.63 °F	56.05 °F	54.93 °F	53.74 °F	52.99 °F	52.32 °F	51.72 °F	52.99 °F	51.47 °F	51.76 °F	°F	°F
End Time (6.[15])	1856	1933	2042	2128	2226	2328	0024	0128	0229	0329	0431	0534		
6.[15]	Operator: LOK Operator: TR	Operator: TR Operator: LOK	Operator: LOK Operator: TR	Operator: TR Operator: LOK	Operator: LOK Operator: TR	Operator: TR Operator: LOK	Operator: LOK Operator: TR	Operator: TR Operator: LOK	Operator: TR Operator: LOK	Operator: TR Operator: LOK	Operator: TR Operator: LOK	Operator: TR Operator: LOK	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 10-29-14 to 10-30-14 Location: Dome 375

6.[2] Comments: Did not Enter permacon per standing order Area G 1247 R,2, All Temps are taken from data logger in control room in dome 375

NA

6.[19] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Willie J. Carter		112507	LA	10-29-14
Timmy Romero		234253	TR	10-30-14
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8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Robert L Hardee		224938	MN	10-30-14