From: Haagenstad, Mark P
Sent: Friday, November 14, 2014 4:05 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; Diaz, Tammy; Juarez, Catherine L; Haagenstad, Mark P
Subject: Daily Technical Submission - November 14, 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.

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

November 14, 2014

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.
- **Monitoring - Daily Temperature**
  - Temperatures remain below 90°F.
    - Previous day's 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.
      - November 14, 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 November, LANL has conducted HSG sampling on 55 SWBs.
        - November 14, 2014 HSG data attached.

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.
    - November 14, 2014 HSG data attached for single container that was resampled to verify previous day's results.

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 18, 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)

	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	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	---	Complete October 27, 2014 (Diagram submitted) November 3, 2014 (Table 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. Submitted documentation for 501-586 containers on November 12, 2014. Submitted RTR Videos 101-150 on November 12, 2014.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL	---	Complete October 27, 2014

	Requested Information	Actionee	Status	Completion Date
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED	---	Complete November 3, 2014
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/NMED	In progress: Site visit scheduled for November 17, 2014 - postponed; Follow-up meeting scheduled for November 20, 2014 in Santa Fe.	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				SB50069				SB50522			
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**
11/14/14	138	662	15957	4705	496	1006	24452	3607	3472	423	46087	966

Remediated Nitrate Salt Container Headspace Gas Analysis

	69036				69548				69559			
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**
11/14/14	43	0	586	107	13	0	1858	540	241	564	8354	1820

Remediated Nitrate Salt Container Headspace Gas Analysis

	69604				SB50418				SB50448			
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**
11/14/14	256	230	3634	1386	408	491	7171	2330	851	659	9206	1215

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50451				SB50529			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
11/14/14	205	207	2406	227	203	290	2478	411

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 11·10·14 to 11·16·14

	Monday 6.[6] Start Time: 0751	Tuesday 6.[6] 0721 Start Time: ~~0728~~ 11/4/14	Wednesday 6.[6] Start Time: 0923	Thursday 6.[6] Start Time: 0943	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: 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.[7])	44.5 °F	42.0 °F	36.5 °F	32.1 °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	45.1	44.3	38.7	32.9			
S802833	44.6	43.7	38.5	32.5			
S801676	43.8	43.1	37.9	32.1			
S816810	42.4	40.8	36.0	29.8			
70069	41.7	40.8	35.9	29.8			
S822844	42.0	41.0	36.3	30.8			
S825879	41.9	40.7	35.9	29.8			
S793724	42.5	40.9	36.2	29.9			
S813545	42.3	41.5	36.3	29.6			
S822713	44.4	42.8	37.7	11/14/14 ~~31.7~~ 31.6			
S802739	44.2	43.1	37.8	11/13/14 ~~31.8~~ 31.8			
69907	44.3	41.4	38.0	31.7			
S804995	44.7	41.5	38.5	32.2			
S816434	46.2	41.8	39.4	33.8			

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ATTACHMENT 2
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6.[6] Date: From 11·10·14 to 11·16·14

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	46.5	44.5	39.6	33.3			
S862888	46.0	44.7	39.3	33.0			
70072	45.0	44.7	38.4	32.2			
S823184	44.6	43.1	38.0	32.3			
S822599	43.9	42.5	37.3	31.8			
69904	43.5	42.0	36.5	30.6			
S805051	42.7	41.3	36.5	30.5			
S864213	42.8	41.6	36.4	30.3			
S853714	42.3	40.7	36.0	30.1			
S803078	42.3	40.5	35.8	29.8			
S825878	42.9	41.3	36.4	30.5			
S823124	43.2	41.6	37.3	31.2			
S804948	45.2	43.9	38.8	32.6			
S813385	45.5	44.0	39.0	33.8			
S842446	47.5	41.7	41.0	34.9			
Ambient Temperature (6.[12])	45.0 °F	41.7 °F	36.7 °F	31.4 °F	°F	°F	°F
End Time (6.[13])	0757	0729	0929	0949			
6.[13]	Operator: JR Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: Operator:	Operator: Operator:	Operator: Operator:

ATTACHMENT 2
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6.[6] Date: From 11·10·14 to 11·16·14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jackie Romero	Jackie Romero	1870661	JR	11-10-14
Joshua Lopez	[illegible]	1116598	JL	11/10/14
Alfredo Aguilar	Alfredo Aguilar	1293178	AA	11/11/14
THOMAS VIGIL	[illegible]	1236382	[illegible]	11/11/14
Josephine Duran	[illegible]	1519771	JD	11/12/14
THOMAS VIGIL	[illegible]	1236382	[illegible]	11/12/14
Josephine Duran	[illegible]	1519771	JD	11/13/14
THOMAS VIGIL	[illegible]	1236382	[illegible]	11/13/14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

ATTACHMENT 3
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TA-54 AREA G TA-54-375 CELL 1 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 11-10-14 to 11-16-14

	Monday 6.[6] Start Time: 1049	Tuesday 6.[6] Start Time: 0829	Wednesday 6.[6] Start Time: 1057	Thursday 6.[6] Start Time: 1055	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: 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: 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
Ambient Temperature (6.[7])	64.0 °F	53.1 °F	51.4 °F	~~52.3~~ °F 51.1	°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	63.8	53.9	54.3	~~53.6~~ 52.9			
68540	63.7	54.1	53.6	~~53.6~~ 53.1			
LA00000070503 68553	64.2	53.4	53.1	~~52.8~~ 52.3			
LA00000070503 69445	63.9	54.0	53.7	~~52.1~~ 52.7			
69618	64.0	53.4	52.7	~~52.1~~ 52.0			
69013	64.0	54.8	54.2	~~52.7~~ 52.8			
LASB50522	63.9	55.3	54.6	~~52.5~~ 54.0			
LASB50452	63.7	55.6	54.8	~~53.6~~ 54.2			
LASB50431	63.5	55.2	54.7	~~53.6~~ 54.0			
LASB50069	63.7	54.3	55.0	~~52.0~~ 54.2			
LASB50073	63.4	55.4	54.3	~~52.6~~ 54.2			
69636	63.5	55.7	55.2	54.8			
69616	63.9	55.2	55.6	54.1			
69417	64.0	55.5	54.9	54.0			

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INITIAL EC DATE 11-10-14

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Page 2 of 3

6.[6] Date: From 11·10·14 to 11·16·14

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	63.7	55.2	54.7	54.7			
69520	63.7	55.6	54.7	53.8			
69641	63.4	56.0	55.6	54.4			
69298	63.4	56.1	55.6	54.7			
LASB02203	63.4	55.9	55.3	54.6			
Ambient Temperature (6.[12])	64.2 °F	55.2 °F	51.7 °F	51.3 °F	____ °F	____ °F	____ °F
End Time (6.[13])	1051	0835	1102	1100			
6.[13]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
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6.[6] Date: From 11-10-14 to 11-16-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil		236382	tv	11/10/14
Joshua Lopez		116598	JL	11/10/14
Thomas Vigil		236382	tv	11/11/14
Joshua Lopez		116598	JL	11/11/14
Thomas Vigil		236382	tv	11/12/14
Joshua Lopez		116598	JL	11/12/14
Thomas Vigil		236382	tv	11/13/14
Joshua Lopez		116598	JL	11/13/14

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 11·10·14 to 11·16·14

	Monday 6.[6] Start Time: 1055	Tuesday 6.[6] Start Time: 0836	Wednesday 6.[6] Start Time: 1103	Thursday 6.[6] Start Time: 1100	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: 6/12/15 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: 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
Ambient Temperature (6.[7])	57.5 °F	53.4 °F	50.4 °F	52.7 °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	57.0	53.7	48.6	51.0			
68638	57.1	53.9	50.0	52.5			
69615	58.0	53.7	50.6	53.4			
69635	58.5	54.3	51.6	53.9			
69642	59.0	55.4	54.6	53.9			
69630	58.5	53.7	50.3	53.6			
69633	58.3	53.1	49.5	53.0			
68430	57.8	52.4	48.0	53.0			
68631	56.8	53.4	48.6	51.9			
69634	56.7	53.1	48.3	51.0			
68567	56.4	52.9	47.5	50.6			
94227	56.7	52.2	48.0	51.5			
LASB50442	56.5	51.0	47.5	52.6			
69644	56.0	51.4	47.8	52.6			
LASB50443	56.6	53.5	50.2	51.8			
69638	57.6	52.4	48.7	52.0			

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6.[6] Date: From 11·10·14 to 11·16·14

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	57.4	51.8	47.8	53.4			
68507	56.6	50.3	45.6	52.6			
69568	56.5	51.1	45.8	51.0			
69553	56.5	52.5	47.4	51.0			
69598	56.7	52.2	47.7	50.4			
LASB50559	56.3	51.5	46.4	51.8			
69015	56.8	51.1	46.5	53.4			
69639	57.4	52.3	48.6	53.4			
69637	57.6	53.2	49.9	52.6			
Ambient Temperature (6.[12])	57.8 °F	52.9 °F	49.6 °F	52.6 °F	°F	°F	°F
End Time (6.[13])	1104	0842	1109	1105			
6.[13]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: Operator:	Operator: Operator:	Operator: Operator:

6.[2] Comments:

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6.[6] Date: From 11·10·14 to 11·16·14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil		236382	TV	11/10/14
Joshua Lopez		116598	JL	11/10/14
Thomas Vigil		236382	TV	11/11/14
Joshua Lopez		116598	JL	11/11/14
Thomas Vigil		236382	TV	11/12/14
Joshua Lopez		116598	JL	11/12/14
Thomas Vigil		236382	TV	11/13/14
Joshua Lopez		116598	JL	11/13/14
Operator (print)	Signature	Z#	Initials	Date
	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date
	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date

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 11·10·14 to 11·16·14

	Monday 6.[6] Start Time: 1043	Tuesday 6.[6] Start Time: 0824	Wednesday 6.[6] Start Time: 1051	Thursday 6.[6] Start Time: 1108	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: 6/12/15 File Number 101912	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
Ambient Temperature (6.[7])	54.5 °F	43.9 °F	40.6 °F	52.3 °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	54.2	45.6	41.6	53.6			
69645	54.2	44.9	41.6	53.6			
94068	54.3	44.6	41.2	52.8			
93605	54.5	45.0	41.5	52.1			
69548	54.3	44.8	41.2	52.1			
69604	54.1	44.6	41.1	52.2			
LASB50529	54.3	45.2	41.3	52.5			
LASB50418	54.0	44.4	40.7	53.6			
69036	54.5	43.0	40.7	53.6			
LASB50451	54.4	44.4	40.7	52.0			
69559	54.6	44.9	41.8 ~~40.8~~ 11/12/14	52.6			
LASB50448	54.3	44.6	41.5	51.8			
Ambient Temperature (6.[12])	54.3 °F	43.8 °F	41.2 °F	52.4 °F	°F	°F	°F
End Time (6.[13])	1047	0828	1056	1112			
6.[13]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 11·10·14 to 11·16·14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL	[signature]	236382	TV	11/10/14
Joshua Lopez	[signature]	116598	JL	11/10/14
THOMAS VIGIL	[signature]	236382	TV	11/11/14
Joshua Lopez	[signature]	116598	JL	11/11/14
THOMAS VIGIL	[signature]	236382	TV	11/12/14
Joshua Lopez	[signature]	116598	JL	11/12/14
THOMAS VIGIL	[signature]	236382	TV	11/13/14
Joshua Lopez	[signature]	116598	JL	11/13/14

Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

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

6.[6] Date: From 11-13-14 to 11-13-14 Location: 375

	Start Time: 6.[6] 0630	Start Time: 6.[6] 0727	Start Time: 6.[6] 0827	Start Time: 6.[6] 0924	Start Time: 6.[6] 1026	Start Time: 6.[6] 1133	Start Time: 6.[6] 1230	Start Time: 6.[6] 1330	Start Time: 6.[6] 1431	Start Time: 6.[6] 1529	Start Time: 6.[6] 1630	Start Time: 6.[6] 1731	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: N/A Cal. Due Date: File Number	Brand: Model: N/A Cal. Due Date: File Number
Ambient Temperature (6.[7])	44.98 °F	44.84 °F	45.51 °F	46.63 °F	49.16 °F	51.52 °F	51.36 °F	51.75 °F	52.06 °F	51.93 °F	50.81 °F	51.01 °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	47.40	47.21	47.66	48.73	50.91	53.01	52.31	52.83	53.04	52.80	52.05	52.40	N/A	N/A
68685	46.85	46.62	47.12	48.17	50.42	52.52	51.55	51.92	52.26	52.16	51.33	51.79		
50522	48.45	48.22	48.55	49.31	50.95	52.57	52.31	52.86	52.96	52.66	52.60	52.01		
50522	48.18	47.92	48.24	49.00	50.70	52.33	52.17	52.66	52.79	52.56	51.96	52.09		

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6.[6] Date: From 11-13-14 to 11-13-14 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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ambient Temperature (6.[12])	44.96 °F	44.84 °F	45.51 °F	46.64 °F	49.21 °F	51.53 °F	51.36 °F	51.75 °F	52.06 °F	51.93 °F	50.81 °F	51.01 °F	°F	°F
End Time (6.[13])	0631	0728	0828	0925	1027	1134	1231	1331	1431	1530	1630	1731		
6.[13]	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: WT Operator: JC	Operator: Operator:	Operator: Operator:

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INITIAL WT DATE 11-13-14

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6.[6] Date: From 11-13-14 to 11-13-14 Location: 375

6.[2] Comments: Did not Enter Permacon Per Standing Order Area G-1247 R.5 all Temps are taken from Data Logger Computer in control room in Dome 375. NA

NA

6.[17] Performed by

Operator (print)	Signature	Z#	Initials	Date
Tina Aguirre	Tina Aguirre	1240177		11-13-14
Jesse Chavez	Jesse Chavez	1245836	JC	11-13-14
William Turner	William Turner	201458		11-13-14

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

6.[6] Date: From 11-13-14 to 11-14-14 Location: Dome 375

	Start Time: 6.[6] 1828	Start Time: 6.[6] 1927	Start Time: 6.[6] 2029	Start Time: 6.[6] 2128	Start Time: 6.[6] 2227	Start Time: 6.[6] 2328	Start Time: 6.[6] 0028	Start Time: 6.[6] 0129	Start Time: 6.[6] 0229	Start Time: 6.[6] 0327	Start Time: 6.[6] 0427	Start Time: 6.[6] 0528	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: NA Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	50.98 °F	50.99 °F	50.99 °F	50.81 °F	50.75 °F	51.15 °F	51.29 °F	50.9 °F	51.8 °F	51.73 °F	50.51 °F	50.73 °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	52.5	52.59	52.6	52.41	52.32	52.41	52.86	52.5	52.48	52.46	52.08	52.26		
68685	51.83	51.87	51.93	51.34	51.66	52.15	52.21	51.84	52.50	52.73	51.85	51.56		
50522	52.44	52.48	50.94	51.20	52.33	52.45	52.64	52.42	52.38	52.42	52.23	52.33		
50522	52.15	52.18	52.21	52.15	52.06	52.21	52.39	52.16	52.10	52.13	51.96	52.08		

NA

NA

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INITIAL SDM DATE 11-13-14

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6.[6] Date: From 11-13-14 to 11-14-14 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])
						NA							NA	NA
Ambient Temperature (6.[12])	52.15 °F	50.99 °F	50.91 °F	50.82 °F	50.75 °F	51.15 °F	51.29 °F	50.94 °F	50.0 °F	51.06 °F	50.51 °F	50.73 °F	°F	°F
End Time (6.[13])	1829	1928	2030	2129	2228	2329	0029	0130	0228	0327	0428	0529		
6.[13]	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: DB Operator: WJC	Operator: Operator: N	Operator: Operator: A

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6.[6] Date: From 11-13-14 to 11-14-14 Location: Dome 375

6.[2] Comments: Do not enter dome 375 permacon per standing order 1247 rev 5. All temps are taken from data logger computer in control room in dome 375.

NA

6.[7] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Sammy Borek	Sammy Borek	114474	SB	11-14-14
Willie J. Cook	[signature]	112504	WJC	11-14-14

NA

Operator (print)	Signature	Z#	Initials	Date

NA

N/A

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date