From: Haagenstad, Mark P
Sent: Friday, November 21, 2014 3:55 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 21, 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 21, 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 21, 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.

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 21, 2014 HSG date 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 25, 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) November 20, 2014 (Revised 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. Submitted RTR Videos 151-200 on November 20, 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				SB50522			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
11/21/14	138	633	14509	4123	2883	422	42319	876

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 11-17-14 to 11-23-14

	Monday 6.[6] Start Time: 0802	Tuesday 6.[6] Start Time: 0910	Wednesday 6.[6] Start Time: 1203	Thursday 6.[6] Start Time: 0920	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 161974	Brand: Fluke Model: 561 Cal. Due Date: 7/29/15 File Number 161974	Brand: Fluke Model: 561 Cal. Due Date: 7/29/15 File Number 161974	Brand: Fluke Model: 561 Cal. Due Date: 7/29/15 File Number 161974	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])	30.3 °F	29.0 °F	41.0 °F	34.7 °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])
S818435	31.7	30.6	42.6	36.3			
S802833	31.3	29.5	40.4	33.1			
S801676	31.0	29.8	39.8	34.7			
S816810	28.1	27.7	39.5	34.0			
70069	28.2	27.6	39.0	33.3			
S822844	28.7	28.1	39.6	33.9			
S825879	27.9	28.0	39.7	34.2			
S793724	28.2	28.0	40.0	34.2			
S813545	28.9	28.1	39.1	36.2			
S822713	30.5	29.9	41.3	35.8			
S802739	30.3	29.8	40.9	35.8			
69907	30.6	29.9	40.7	36.8			
S804995	31.5	30.3	41.2	36.5			
S816434	32.4	32.2	43.1	37.8			

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INITIAL JR DATE 11-17-14

ATTACHMENT 2
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6.[6] Date: From 11-17-14 to 11-23-14

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	33.4	31.4	42.0	37.6			
S862888	32.2	30.7	40.7	36.7			
70072	31.7	30.4	41.1	36.2			
S823184	31.0	30.6	11/19/14 ~~42.2~~ 42.1	36.8			
S822599	30.4	30.2	41.9	36.3			
69904	29.8	29.1	39.9	35.1			
S805051	28.9	28.5	40.1	34.8			
S864213	29.1	28.7	39.9	35.2			
S853714	28.4	28.8	40.5	35.5			
S803078	28.5	28.8	41.3	36.0			
S825878	29.5	29.8	40.5	35.8			
S823124	29.9	29.7	41.4	36.0			
S804948	31.7	30.7	42.0	37.2			
S813385	32.2	31.7	42.7	37.6			
S842446	34.1	33.0	43.3	38.8			
Ambient Temperature (6.[12])	30.9 °F	30.5 °F	42.4 °F	37.1 °F	°F	°F	°F
End Time (6.[13])	0809	0917	1209	0926			
6.[13]	Operator: JR Operator: EC	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: Operator:	Operator: Operator:	Operator: Operator:

ATTACHMENT 2
Page 3 of 3

6.[6] Date: From 11-17-14 to 11-23-14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jackie Romero	Jackie Romero	1870661	JR	11/17/14
Elvio D. Cordova	[signature]	1114188	EC	11-17-14
Josephine Duran	[signature]	1519711	[illegible]	11/18/14
Thomas Vigil	[signature]	236382	[illegible]	11/18/14
Josephine Duran	[signature]	1519711	[illegible]	11/19/14
Thomas Vigil	[signature]	236382	[illegible]	11/19/14
Alfredo Aguilar	[signature]	293128	[illegible]	11/20/14
Thomas Vigil	[signature]	236382	[illegible]	11/20/14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

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INITIAL JR DATE 11-17-14

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 11/17/14 to 11/23/14

	Monday 6.[6] Start Time: 1135	Tuesday 6.[6] Start Time: 1037	Wednesday 6.[6] Start Time: 1453	Thursday 6.[6] Start Time: 1156	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])	52.3 °F	50.9 °F	50.4 °F	52.9 °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	53.0	51.6	52.9	54.4			
68540	53.3	51.3	52.7	54.6			
LA00000070503 68553	52.0	51.2	52.6	54.7			
LA00000070503 69445	52.9	51.9	52.3	54.8			
69618	52.4	50.8	52.0	54.0			
69013	53.0	51.6	53.3	54.5			
LASB50522	53.8	53.6	53.8	55.7			
LASB50452	54.0	52.8	53.3	55.8			
LASB50431	53.6	52.7	53.8	55.6			
LASB50069	54.0	52.1	53.0	54.6			
LASB50073	55.1	53.0	53.4	55.3			
69636	54.4	53.1	53.8	55.4			
69616	54.6	52.8	53.7	55.7			
69417	53.8	53.9	54.0	55.6			

ATTACHMENT 3
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6.[6] Date: From 11/17/14 to 11/23/14

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	54.0	53.8	54.3	55.3			
69520	53.7	52.6	54.5	55.9			
69641	54.5	53.1	54.5	56.1			
69298	54.5	53.3	54.3	55.8			
LASB02203	54.8	54.3	54.0	55.6			
Ambient Temperature (6.[12])	52.9 °F	54.3 °F	50.5 °F	53.2 °F	____ °F	____ °F	____ °F
End Time (6.[13])	1143	1046	1458	1155			
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
Page 3 of 3

6.[6] Date: From 11/17/14 to 11/23/14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil		236382	TV	11/17/14
Joshua Lopez		116598	JL	11/17/14
Thomas Vigil		236382	TV	11/18/14
Joshua Lopez		116598	JL	11/18/14
Thomas Vigil		236382	TV	11/19/14
Joshua Lopez		116598	JL	11/19/14
Thomas Vigil		236382	TV	11/20/14
Joshua Lopez		116598	JL	11/20/14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

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INITIAL JR DATE 11-17-14

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 11-17-14 to 11-23-14

	Monday 6.[6] Start Time: 1144	Tuesday 6.[6] Start Time: 1047	Wednesday 6.[6] Start Time: 1459	Thursday 6.[6] Start Time: 1156	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 10/9/12	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 10/9/12	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 10/9/12	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 10/9/12	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])	51.7 °F	54.6 °F	55.1 °F	57.7 °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	49.5	51.0	56.0	57.5			
68638	51.0	53.0	56.8	58.3			
69615	51.6	53.7	56.3	58.4			
69635	52.2	54.0	57.1	58.7			
69642	54.4	54.8	55.7	58.0			
69630	52.2	55.2	55.9	57.6			
69633	50.8	54.0	56.7	58.2			
68430	50.8	52.7	55.9	57.7			
68631	50.3	51.6	55.7	57.5			
69634	49.3	52.8	55.3	57.4			
68567	49.3	51.0	56.0	57.0			
94227	50.2	52.3	56.1	56.6			
LASB50442	49.0	52.4	56.0	56.9			
69644	49.7	55.5	56.3	57.0			
LASB50443	51.6	52.8	56.0	57.6			
69638	50.2	53.2	57.1	58.9			

ATTACHMENT 4
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6.[6] Date: From 11-17-14 to 11-23-14

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	50.5	54.6	57.3	58.2			
68507	48.6	53.4	56.2	58.5			
69568	48.8	54.2	56.6	56.8			
69553	49.0	50.9	54.6	55.8			
69598	48.7	50.9	55.0	58.9			
LASB50559	48.8	52.7	55.7	58.9			
69015	49.4	54.4	57.0	58.9			
69639	50.9	55.1	57.5	57.6			
69637	50.8	53.6	58.0	55.8			
Ambient Temperature (6.[12])	57.5 °F	53.5 °F	54.7 °F	56.3 °F	°F	°F	°F
End Time (6.[13])	1151	1153	1564	1202			
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 11-17-14 to 11-23-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil		236382		11/17/14
Joshua Lopez		116598		11/17/14
Thomas Vigil		236382		11/18/14
Joshua Lopez		116598		11/18/14
Thomas Vigil		236382		11/19/14
Joshua Lopez		116598		11/19/14
Thomas Vigil		236382		11/20/14
Joshua Lopez		116598		11/20/14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

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6.[6] Date: From 11-17-14 to 11-23-14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL	[signature]	236382	[initials]	11/17/14
Joshua Lopez	[signature]	116598	[initials]	11/17/14
THOMAS VIGIL	[signature]	236382	[initials]	11/18/14
Joshua Lopez	[signature]	116598	[initials]	11/18/14
THOMAS VIGIL	[signature]	236382	[initials]	11/19/14
Joshua Lopez	[signature]	116598	[initials]	11/19/14
THOMAS VIGIL	[signature]	236382	[initials]	11/20/14
Joshua Lopez	[signature]	116598	[initials]	11/20/14
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

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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 11-17-14 to 11-23-14

	Monday 6.[6] Start Time: 1128	Tuesday 6.[6] Start Time: 1036	Wednesday 6.[6] Start Time: 1448	Thursday 6.[6] Start Time: 1145	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 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
Ambient Temperature (6.[7])	42.6 °F	50.9 °F	53.8 °F	55.7 °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])
69519	44.4	51.9	55.5	57.0			
69645	44.4	52.1	55.5	57.1			
94068	44.8	52.0	56.0	56.7			
93605	44.7	51.1	55.1	56.2			
69548	44.5	51.1	54.8	56.2			
69604	44.5	51.3	54.4	56.0			
LASB50529	44.7	51.7	55.5	56.7			
LASB50418	42.5	52.3	55.1	56.6			
69036	42.7	52.3	54.9	56.4			
LASB50451	42.8	50.6	54.2	56.2			
69559	44.6	50.9	54.5	55.7			
LASB50448	44.8	50.8	54.6	55.3			
Ambient Temperature (6.[12])	42.8 °F	50.2 °F	53.3 °F	55.1 °F	°F	°F	°F
End Time (6.[13])	1134	1040	1452	1149			
6.[13]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: Operator:	Operator: Operator:	Operator: Operator:

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

6.[6] Date: From 11-20-14 to 11-20-14 Location: 375

	Start Time: 6.[6] 0630	Start Time: 6.[6] 0724	Start Time: 6.[6] 0823	Start Time: 6.[6] 0927	Start Time: 6.[6] 1028	Start Time: 6.[6] 1123	Start Time: 6.[6] 1226	Start Time: 6.[6] 1327	Start Time: 6.[6] 1428	Start Time: 6.[6] 1527	Start Time: 6.[6] 1625	Start Time: 6.[6] 1725	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Model: Cal. Due Date: File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N File Number	Brand: Model: A Cal. Due Date: N 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]) T3	47.81 °F	47.73 °F	49.26 °F	51.90 °F	51.72 °F	52.83	54.42 °F	55.34	55.68 °F	55.18 °F	53.57 °F	52.51 °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 T1	49.82	49.72	50.89	53.31	52.37	52.91	54.20	54.96	55.27	54.68	53.18	52.79		
68685 T2	49.96	48.94	50.83	52.73	51.53	52.16	53.40	54.17	54.45	53.91	52.50	52.30		
50522 T4	50.00	49.92	50.77	52.54	52.24	52.6	53.68	54.32	54.61	54.27	53.24	52.65		
50522 T5	49.68	49.48	50.36	52.25	52.01	52.53	53.63	54.32	54.58	54.29	53.15	52.51		

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6.[6] Date: From 11-20-14 to 11-20-14 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])
					N/A		N/A						N/A	
Ambient Temperature (6.[12])	47.81 °F	47.73	49.26	51.90	51.72	52.83	54.41	55.34	55.68	55.17	53.57	52.51	°F	°F
End Time (6.[13])	0631	0725	0824	0928	1029	1124	1227	1328	1429	1528	1626	1726		
6.[13]	Operator: [illegible] Operator: SC	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: DA Operator: [illegible]	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 11-20-14 to 11-20-14 Location: 375

6.[2] Comments: did not enter Dermacon due to standing order 1247 R 5
all temps were taken from data logger computer in 375

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
William Juarez		2014558	WJ	11-20-14
Jesse Chacon		2014558	JC	11-20-14
Tina Aguirre				11-20-14

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Pat O'Grady		1151355	SPO	11-20-14

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

6.[6] Date: From 11-20-14 to 11-21-14 Location: 375

	Start Time: 6.[6] 1828	Start Time: 6.[6] 1930	Start Time: 6.[6] 2028	Start Time: 6.[6] 2129	Start Time: 6.[6] 2228	Start Time: 6.[6] 2327	Start Time: 6.[6] 2428	Start Time: 6.[6] 0131	Start Time: 6.[6] 0233	Start Time: 6.[6] 0325	Start Time: 6.[6] 0428	Start Time: 6.[6] 0530	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: 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])	51.27 °F	50.7 °F	50.96 °F	51.96 °F	51.22 °F	50.45 °F	50.53 °F	50.59 °F	50.67 °F	50.6 °F	50.12 °F	49.76 °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	52.02	51.7	52.08	52.83	52.15	51.72	51.87	51.40	52.15	52.19	51.94	51.55		
68685	51.38	50.95	51.25	52.37	51.59	50.86	51.15	51.05	51.46	51.47	51.1	50.73	NA	NA
50522	52.15	51.84	52.17	52.34	52.08	51.85	51.87	51.37	51.92	51.98	51.73	51.42		
50522	51.91	51.65	51.93	52.34	51.85	51.58	51.69	51.32	51.69	51.73	51.45	51.16		
					NA									

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6.[6] Date: From 11-2014 to 11-21-14 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])
						N/A							N/A	N/A
Ambient Temperature (6.[12])	51.3 °F	50.7 °F	50.94 °F	51.96 °F	51.22 °F	50.43 °F	50.53 °F	50.59 °F	50.7 °F	50.62 °F	50.12 °F	49.74 °F	°F	°F
End Time (6.[13])	1829	1931	2029	2130	2229	2328	2429	0131	0233	0326	0429	0530		
6.[13]	Operator: [illegible] Operator: WJC	Operator: WJC Operator: [illegible]	Operator: [illegible] Operator: WJC	Operator: [illegible] Operator: WJC	Operator: WJC Operator: [illegible]	Operator: WJC Operator: [illegible]	Operator: [illegible] Operator: WJC	Operator: WJC Operator: [illegible]	Operator: WJC Operator: [illegible]	Operator: WJC Operator: [illegible]	Operator: WJC Operator: [illegible]	Operator: TR Operator: WJC	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 11-20-14 to 11-21-14 Location: 375

6.[2] Comments: Did not enter Romeoville per Standing Order Area-G 1247 All temps are taken from Dome 375 Control Room.

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Willie J. [illegible]	[illegible]	V12074	[illegible]	11-21-14
Sammy Barek	Sammy Barek	114474	[illegible]	11-21-14
Timmy Romero	Timmy Romero	234253	TR	11-21-14
	/	/	/	/
	/	/	/	/
	/	/	/	/
	/	/	/	/
	/	/	/	/

NA

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

8.1[2] Reviewed by:

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