From: Haagenstad, Mark P
Sent: Friday, January 16, 2015 4:04 PM
To: Ryan.Flynn@state.nm.us; Jeff.Kendall@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; butch.tongate@state.nm.us; Cobrain, Dave, NMENV; kathryn.roberts@state.nm.us
Cc: Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Torres, Enrique; Woitte, Deborah Kay; Clemmons, Steve; Allen, Don; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall; Diaz, Tammy; Juarez, Catherine L; Cabbil, Cheryl Denise; Young, Steven L; Erickson, Randy; Funk, David John; Alexander, Rick A; Frederici, Dave; Diaz, Tammy; Juarez, Catherine L; Robinson, Bruce Alan; Lansing, Michael Alan; Haagenstad, Mark P
Subject: Daily Technical Submission - January 16, 2015

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

Please contact me if additional information would be helpful.

Mark Haagenstad
Environmental Protection Division
Compliance and Permitting Group
Los Alamos National Laboratory
Office: (505) 665-2014
Mobile: (505) 699-1733

NMED / LANL Technical Summary

January 16, 2015

LANL Technical Update:

- **Location of Nitrate Salt-Bearing Wastes**
  - Remediated nitrate salt-bearing waste containers.
    - All containers remain in the 375 Permacon.
  - Unremediated nitrate salt-bearing waste containers.
    - All containers remain in the 231 Permacon.

- **Monitoring - Daily Temperature**
  - Temperatures remain below 90°F.
    - Previous day's temperature data attached.

- **Monitoring – Visual Inspections**
  - No abnormal conditions were observed.

- **Monitoring – headspace gas (HSG)**
  - Containers (SWBs) 68685 and SB50522.
    - Continue daily head space gas (HSG) sample collection.
      - January 16, 2015 HSG data attached.
        - H_2, CO, CO_2 and N_2O
  - Other containers
    - A minimum of once per month HSG sampling will be conducted.
      - To date in January, 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.

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

Other:

- Verbal and written notifications were provided to NMED-HWB's Steve Pullen on December 29, 2014 regarding the Fire Watch that was established within Dome 231 at 2:30 am on December 29, 2014 after a nitrogen leak was discovered in the dry pipe suppression system located within the Permacon in Dome 231. The Fire Watch will be in effect until the system can be repaired.
    - Repair of multiple sprinkler heads inside Dome 231 is being planned and will be executed after notification to NMED on how the repair plan meets isolation plan requirements.
- Due to the Federal Holiday, there will be no daily technical submission to NMED on Monday January 19, 2015. All inspection and monitoring required under the Revised Isolation Plan will continue and will be reported in the January 20, 2015 written submission.

Next Call: Tuesday, January 20, 2015

Summary Chart - Requested Information / Pending Issues:

	Requested Information	Actionee	Status	Completion Date
1.	NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g., 24 hour notices).	NMED	---	Complete June 5, 2014
2.	Keep NMED informed on the status of on-going chemistry / analytical work.	LANL	---	Complete June 9, 2014
3.	On upcoming daily call, provide additional discussion on the potential for liquids in the 350 post-1991 cemented containers (including a discussion of the review of RTR tapes).	LANL	---	Complete July 6, 2014 (Discussion on call) July 18, 2014 (Meeting held)
4.	On upcoming call, provide additional discussion on why 231 and 375 Permacon fire suppression systems are not part of the LANL RCRA Hazardous Waste Facility Permit Contingency Plan.	LANL	---	Complete June 5, 2014
5.	Send copy of June 4, 2014 written daily submission to Trais Kliphuis. Also, include her on future daily submissions.	LANL	---	Complete June 5, 2014
6.	Provide LANL procedures and example records associated with post-1991 TA-55 cementation process discussed on June 6.	LANL	---	Complete July 3, 2014
7.	Provide information on numbers of containers in the post-1991 cemented waste streams from the TA-55 process discussed on June 6. This should include numbers regarding RTR status (RTR'd, meet WIPP criteria, requiring remediation).	LANL	---	Complete June 17, 2014 (Supplemental Info provided July 3)
8.	Provide RTR video and pre-screening information associated with those containers requiring remediation from the post-1991 cemented waste streams from the TA-55 process discussed on June 6.	LANL	---	Complete July 3, 2014
9.	Provide copy of CCP/LANL Interface Document.	LANL	---	Complete June 9, 2014
10.	Provide a list of the analytes for which LANL is sampling HSG (CO_2 and LFL analytes).	LANL	---	Complete June 11, 2014
11.	Discuss potential sampling of HSG for NO_x.	LANL	---	Complete June 16, 2014

	Requested Information	Actionee	Status	Completion Date
12.	Follow-up with Tim Hall regarding LANL Hazardous Waste Facility Permit and procedures that LANL is developing for possible future sampling of empty parent containers and unremediated nitrate salt-bearing containers at LANL.	LANL	---	Complete Empty Parent June 16, 2014 Unremediated August 14, 2014 (Supplemental information discussed on sampling of parent containers) August 26, 2014 (Letter on applicability of LANL HWFP for opening waste containers)

	Requested Information	Actionee	Status	Completion Date
13.	Respond to NMED email request for information associated with the nitrate salt-bearing parent and daughter waste containers. WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action.	LANL	---	Complete July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request) July 17, 2014 (Letter sent with updated spreadsheet) August 7, 2014 (First submittal in response to item 5) August 14, 2014 (Letter addressing items 2 & 8 - Second submittal in response to item 5) August 18, 2014 (Third submittal in response to item 5) August 21, 2014 (Fourth submittal in response to item 5) August 27, 2014 (Fifth submittal in response to item 5) September 4, 2014 (Sixth submittal in response to item 5) September 9, 2014 (Seventh submittal in response to item 5) September 11, 2014 (Eighth submittal in response to item 5) September 22, 2014 (Ninth submittal in response to item 5) September 23, 2014 (Tenth submittal in response to item 5) October 1, 2014 (Eleventh submittal in response to item 5) October 8, 2014 (Twelfth submittal in response to item 5) October 16, 2014 (Thirteenth submittal in response to item 5) October 23, 2014 (Fourteenth submittal in response to item 5) October 27, 2014 (Fifteenth submittal in response to item 5) October 28, 2014 (Sixteenth submittal in response to item 5) November 3, 2014 (Seventeenth submittal in response to item 5)

	Requested Information	Actionee	Status	Completion Date
14.	NMED will review the Round Sheets (provided in June 11 summary) and inform LANL if these should be attachments to the Revised Plan, or if they fall under the provision in Section I of the Revised Isolation Plan and their identification during this technical call is sufficient.	NMED	NMED has reviewed Round Sheets – no comments / direction at this time. NMED will address any comments in their formal response to Revised Container Isolation Plan.	Complete June 23, 2014
15.	NMED has requested 'copies of any waste processing, treatment, characterization stop orders issued since Feb 14, 2014.'	LANL	---	Complete June 13, 2014 (Included w/ daily summary) June 16, 2014 (Discussed current TA-54 & WCRRF operations)
16.	NMED requested information on the location of drums 68327 and 68328. Request made June 14.	LANL	---	Complete June 14, 2014
17.	Update on LANL efforts – including LANL teams. (On June 20 call, LANL offered to schedule an update meeting).	LANL / NMED	---	Complete July 2, 2014
18.	Neutralizer use in association with container S855793 (parent of 68660 and 68685).	LANL	---	Complete June 25, 2014
19.	List of nitrate salt-bearing waste containers that LANL records indicate contain absorbed liquids with the same neutralizer, as discussed during June 25 technical call.	LANL	---	Complete September 30, 2014 (with August 26, 2014 response)
20.	Schedule follow-on update on LANL efforts – including teams.	LANL / NMED	---	Complete August 14, 2014 (Meeting held)
21.	NMED requested information on document approval / review (as discussed on July 3 call).	LANL	---	Complete July 29, 2014
22.	What analyses will be conducted on samples taken from empty drums that previously contained nitrate salt-bearing waste.	LANL	---	Complete July 7, 2014
23.	NMED requested the following information on cemented waste containers generated from TA-55, that are currently stored above-ground at Area G: container id number; location; form (cans or monoliths); and type of concrete. Additionally, NMED requested information on pH adjustment during waste generation process, and information on anticipated pH of free liquids (and rationale).	LANL	---	Complete July 17, 2014 (Letter sent w/ information) July 18, 2014 (Meeting held)

	Requested Information	Actionee	Status	Completion Date
24.	NMED requested the procedure for sampling empty parent drums that previously contained nitrate salt-bearing waste.	LANL	EP-AREAG-WO-DOP-1245 is included in Enclosure 1 to LANL's July 3, 2014 *Response to Request for Information on Management of Waste at LANL*.	Complete July 8, 2014
25.	NMED requested an additional discussion on a future technical call regarding CO_2, including data.	LANL	---	Complete August 14, 2014 (Meeting held)
26.	NMED requested additional discussion on CIN-01 waste containers and absorbent, including confirmation and extent of use.	LANL	---	Complete July 18, 2014 (Meeting held)
27.	NMED requested historic analytical information on pH of liquids associated with gypsum cemented waste.	LANL	---	Complete August 7, 2014
28.	NMED requested link to pdf of Actinide Quarterly edition (3rd Q 2008).	LANL	---	Complete July 21, 2014
29.	NMED requested a copy of lessons learned	LANL	---	Complete August 11, 2014
30.	NMED request regarding empty drum sampling presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
31.	Respond to NMED email request dated 8/12/2014 for information associated with the nitrate salt-bearing waste containers.	LANL	---	Complete September 11, 2014
32.	NMED request regarding technical presentation.	LANL	Presentation is a pre-decisional draft/working document not for external release	August 25, 2014
33.	NMED request regarding literature review of catalytic reactions.	LANL	Literature review is a pre-decisional draft/working document not for external release	August 25, 2014
34.	LANL requested to schedule a meeting with NMED on remediation planning and schedules.	LANL / NMED	---	Complete September 29, 2014 (meeting held)
35.	Schedule a third update on LANL efforts – including teams.	LANL / NMED	---	Complete October 20, 2014

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

	Requested Information	Actionee	Status	Completion Date
38.	NMED requested documentation regarding CIN01.001 waste containers that are not part of the September 19, 2014 Nitrate Salts-Bearing Waste Container Isolation Plan, Revision 2.	LANL	In Progress LANL will submit this documentation in batches as it is becomes available.	Submitted 100 out of 586 RTRs and documentation on October 3, 2014. Submitted documentation for 101-200 containers on October 10, 2014. Submitted documentation for 201-300 containers on October 16, 2014. Submitted documentation for 301-400 containers on October 23, 2014. Submitted documentation for 401-500 containers on October 27, 2014. Submitted documentation for 501-586 containers on November 12, 2014. Submitted RTR Videos 101-150 on November 12, 2014. Submitted RTR Videos 151-200 on November 20, 2014. Submitted RTR Videos 201-250 on December 1, 2014. Submitted RTR Videos 251-300 on December 19, 2014. Submitted RTR Videos 301-312 on January 15, 2015.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL	---	Complete October 27, 2014
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED	---	Complete November 3, 2014

	Requested Information	Actionee	Status	Completion Date
43.	Schedule a fifth update on LANL efforts – including teams.	LANL/ NMED	---	Complete November 20, 2014
44.	Schedule a sixth update on LANL efforts – including teams.	LANL/ NMED	---	Complete December 9, 2014
45.	NMED requested documentation regarding CIN01 drums.	LANL	In Progress Additions to original questions added during technical phone call December 9, 2014.	
46.	NMED requested documentation regarding duplicate drum number.	LANL	In Progress	
47.	NMED requested the ESS plan for temperature control and sampling once finalized.	LANL	Document is currently in Draft.	
48.	Schedule a seventh update on LANL efforts – including teams.	LANL/ NMED	Meeting is scheduled for January 29, 2015.	
49.	Fire suppression repair plan for Dome 231	LANL	In Progress	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				SB50522				69036			
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**
01/16/15	148	412	10468	2703	1436	408	35349	899	74	0	647	189

Remediated Nitrate Salt Container Headspace Gas Analysis

	69548				69559				69604			
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**
01/16/15	13	0	1692	465	270	636	7543	1632	262	316	4652	1559

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50418				SB50448				SB50451			
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**
01/16/15	394	416	6092	2062	760	648	8832	1379	148	152	2211	179

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50529			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
01/16/15	214	321	2893	509

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 1·12·15 to 1·18·15

	Monday 6.[6] Start Time: 0819	Tuesday 6.[6] Start Time: 0912	Wednesday 6.[6] Start Time: 0927	Thursday 6.[6] Start Time: 0932	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: 07/29/15 File Number 101974	Brand: Fluke Model: 561 Cal. Due Date: 07/29/15 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])	47.0 ~~45.5~~ °F JR 1-12-15	48.5 °F	52.0 °F	51.8 °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	47.6	47.8	50.8	49.5			
S802833	47.7	48.7	50.6	49.7			
S801676	48.1	48.0	50.3	49.7			
S816810	52.8	55.8	55.7	54.6			
70069	52.8	53.1	54.4	54.6			
S822844	53.1	54.2	55.1	53.0			
S825879	52.4	52.0	54.2	52.6			
S793724	52.5	52.5	54.4	53.4			
S813545	51.9	51.8	53.4	52.5			
S822713	50.7	50.6	52.5	51.8			
S802739	49.3	49.6	51.2	50.7			
69907	48.7	49.1	50.7	50.3			
S804995	49.2	49.5	51.4	50.8			
S816434	49.8	50.1	51.8	51.2			

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Z# 114186
INITIAL SC DATE 1·12·15

ATTACHMENT 2
Page 2 of 3

6.[6] Date: From 1·12·15 to 1·18·15

Container ID #	Monday Temp (°F) (6.[8]/6.[9])	Tuesday Temp (°F) (6.[8]/6.[9])	Wednesday Temp (°F) (6.[8]/6.[9])	Thursday Temp (°F) (6.[8]/6.[9])	Friday Temp (°F) (6.[8]/6.[9])	Saturday Temp (°F) (6.[8]/6.[9])	Sunday Temp (°F) (6.[8]/6.[9])
TA-54-231 (continued)							
S805289	49.3	50.1	51.8	51.0			
S862888	48.9	49.9	51.1	50.3			
70072	49.6	49.7	51.0	50.4			
S823184	50.7	50.0	52.1	51.4			
S822599	51.0	51.5	53.6	52.0			
69904	51.9	50.9	54.0	52.2			
S805051	52.6	51.7	53.5	52.5			
S864213	52.2	52.3	55.1	53.0			
S853714	51.6	52.2	54.4	53.4			
S803078	52.1	52.1	54.3	52.3			
S825878	52.4	52.8	54.7	53.4			
S823124	51.7	51.3	53.8	52.8			
S804948	49.8	49.9	52.2	51.2			
S813385	49.2	49.7	51.4	50.6			
S842446	49.6	50.2	52.0	50.9			
Ambient Temperature (6.[12])	44.2 °F	49.1 °F	52.3 °F	51.4 °F	____ °F	____ °F	____ °F
End Time (6.[13])	0834	0917	0934	0950			
6.[13]	Operator: JR Operator: EC	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

ATTACHMENT 2
Page 3 of 3

6.[6] Date: From 1·12·15 to 1·18·15

6.[2] Comments: _____

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jackie Romero	Jackie Romero	187066	JR	11-12-15
Edward Gilma	Edward Gilma	1141881	EG	1-12-15
Josephine Duran	Josephine Duran	157971	JD	1-13-15
THOMAS VIGIL	THOMAS VIGIL	236382	TV	1/13/15
Josephine Duran	Josephine Duran	157971	JD	1/14/15
THOMAS VIGIL	THOMAS VIGIL	236382	TV	1/14/15
Joshua Lopez	Joshua Lopez	116598	JL	01/15/15
THOMAS VIGIL	THOMAS VIGIL	236382	TV	1/15/15
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 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 1-12-15 to 1-18-15

	Monday 6.[6] Start Time: 1142	Tuesday 6.[6] Start Time: 1031	Wednesday 6.[6] Start Time: 1111	Thursday 6.[6] Start Time: 1059	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 06/12/15 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])	50.2 °F	50.1 °F	49.3 °F	51.6 °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	52.7	52.2	52.6	53.9			
LA00000070503 68540	53.1	52.3	52.7	53.2			
LA00000070503 68553	51.9	50.7	52.5	52.3			
69445	52.2	51.7	52.0	53.1			
69618	51.6	50.8	51.0	52.4			
69013	53.0	52.2	52.3	53.0			
LASB50522	54.4	53.6	54.0	54.6			
LASB50452	54.2	54.1	54.1	54.8			
LASB50431	54.3	54.3	54.3	54.5			
LASB50069	53.4	52.7	53.4	54.1			
LASB50073	52.9	53.2	53.5	53.9			
69636	54.3	53.8	54.3	54.8			
69616	53.7	54.0	53.8	54.9			
69417	53.6	53.3	54.5	54.1			

IPC-1

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Z# 114188
INITIAL SC DATE 1-12-15

ATTACHMENT 3
Page 2 of 3

6.[6] Date: From 1-12-15 to 1-18-15

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 1 (continued)							
69620	53.7	54.4	53.5	55.2			
69520	53.8	52.9	53.7	54.0			
69641	54.5	53.6	54.3	54.6			
69298	54.2	54.4	54.3	54.9			
LASB02203	55.0	55.8	54.9	55.3			
Ambient Temperature (6.[12])	49.9 °F	49.5 °F	58.3 °F	49.3 °F	____ °F	____ °F	____ °F
End Time (6.[13])	1147	1036	1116	1104			
6.[13]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
Page 3 of 3

6.[6] Date: From 1.12.15 to 1.18.15

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL		123582		1/12/15
Joshua Lopez		116598	JLV	01 1215
THOMAS VIGIL		123582		1/13/15
Joshua Lopez		116598	JLV	011315
THOMAS VIGIL		123582		1/14/15
Joshua Lopez		116598	JLV	011415
THOMAS VIGIL		123582		1/15/15
Joshua Lopez		116598	JLV	011515

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 1·12·15 to 1·18·15

	Monday 6.[6] Start Time: 1148	Tuesday 6.[6] Start Time: 1037	Wednesday 6.[6] Start Time: 1105	Thursday 6.[6] Start Time: 1105	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 06/12/15 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])	54.2 °F	51.2 °F	52.6 °F	54.0 °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	53.5	50.5	52.3	51.3			
68638	54.9	52.7	53.9	53.8			
69615	55.6	53.0	54.2	54.2			
69635	55.8	53.7	54.5	54.7			
69642	54.7	53.0	53.4	54.8			
69630	54.4	53.0	52.9	54.4			
69633	55.0	53.4	54.0	54.1			
68430	55.4	53.2	54.0	55.5			
68631	55.1	52.5	53.4	53.1			
69634	55.7	52.8	54.8	52.7			
68567	52.7	50.8	51.6	51.8			
94227	54.4	51.8	53.5	53.2			
LASB50442	54.1	52.8	52.9	53.8			
69644	54.1	52.8	53.2	53.8			
LASB50443	53.4	52.1	52.3	53.2			
69638	53.7	52.5	53.3	53.9			

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6.[6] Date: From 1·12·15 to 1·18·15

Container ID #	Monday Temp (°F) (6.[8]/6.[9])	Tuesday Temp (°F) (6.[8]/6.[9])	Wednesday Temp (°F) (6.[8]/6.[9])	Thursday Temp (°F) (6.[8]/6.[9])	Friday Temp (°F) (6.[8]/6.[9])	Saturday Temp (°F) (6.[8]/6.[9])	Sunday Temp (°F) (6.[8]/6.[9])
TA-54-375 Cell 2 (continued)							
68624	54.6	53.5	53.3	54.6			
68507	53.8	52.9	53.5	54.6			
69568	52.4	51.4	50.9	52.5			
69553	53.1	51.0	52.7	53.6			
69598	51.7	50.8	50.8	51.5			
LASB50559	52.8	51.8	51.6	53.3			
69015	54.3	53.2	53.4	55.1			
69639	55.2	53.5	53.7	55.3			
69637	54.3	52.8	53.2	54.3			
Ambient Temperature (6.[12])	51.7 °F	51.4 °F	51.5 °F	54.5 °F	____ °F	____ °F	____ °F
End Time (6.[13])	1155	1043	1111	1116			
6.[13]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

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6.[6] Date: From 1·12·15 to 1·18·15

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL		236382	TV	1/12/15
Joshua Lopez		116598	JL	011715
THOMAS VIGIL		236382	TV	1/13/15
Joshua Lopez		116598	JL	011315
THOMAS VIGIL		236382	TV	1/14/15
Joshua Lopez		116598	JL	011415
THOMAS VIGIL		236382	TV	1/15/15

Operator (print)	Signature	Z#	Initials	Date
Joshua Lopez		116598	JL	011515

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 1·12·15 to 1·18·15

	Monday 6.[6] Start Time: 1157	Tuesday 6.[6] Start Time: 1025	Wednesday 6.[6] Start Time: 1100	Thursday 6.[6] Start Time: 1054	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])	53.1 °F	56.7 °F	52.3 °F	51.9 °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])
69519	53.0	53.8	55.1	54.2			
69645	53.8	54.1	54.6	54.2			
94068	53.4	53.5	53.7	54.2			
93605	54.7	51.9	54.1	52.8			
69548	55.0	52.3	54.7	52.9			
69604	54.9	53.1	54.9	53.7			
LASB50529	54.5	53.5	54.9	53.9			
LASB50418	53.9	53.9	54.9	54.6			
69036	54.0	53.1	54.2	53.6			
LASB50451	54.7	52.6	53.0	53.1			
69559	55.3	52.6	54.3	52.7			
LASB50448	55.0	51.8	52.9	52.3			
Ambient Temperature (6.[12])	52.6 °F	52.7 °F	52.9 °F	51.0 °F	°F	°F	°F
End Time (6.[13])	1141	1030	1105	1058			
6.[13]	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:	Operator: Operator:

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ATTACHMENT 5
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6.[6] Date: From 1·12·15 to 1·18·15

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
THOMAS VIGIL		236382	TV	1/12/15
Joshua Lopez		116598	JL	011215
THOMAS VIGIL		236382	TV	1/13/15
Joshua Lopez		116598	JL	011315
THOMAS VIGIL		236382	TV	1/14/15
Joshua Lopez		116598	JL	011415
THOMAS VIGIL		236382	TV	1/15/15
Joshua Lopez		116598	JL	011515

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 1-15-15 to 1-15-15 Location: 375

	Start Time: 6.[6] 0627	Start Time: 6.[6] 0730	Start Time: 6.[6] 0829	Start Time: 6.[6] 0930	Start Time: 6.[6] 1029	Start Time: 6.[6] 1125	Start Time: 6.[6] 1227	Start Time: 6.[6] 1328	Start Time: 6.[6] 1430	Start Time: 6.[6] 1528	Start Time: 6.[6] 1628	Start Time: 6.[6] 1726	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: N/A File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7]) TB	45.21 °F	45.41 °F	46.24 °F	48.48 °F	50.22 °F	51.58 °F	53.02 °F	52.65 °F	52.11 °F	52.01 °F	52.53 °F	51.94 °F	°F N/A	°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	47.48	47.63	48.28	50.28	51.93	53.18	53.95	53.05	52.03	51.87	52.99	52.65		
68685 T2	46.76	46.91	47.61	49.62	51.15	52.39	53.11	52.09	51.26	51.09	52.12	51.98		
50522 T4	47.76	47.81	48.28	49.82	50.92	51.92	52.56	52.39	51.73	51.61	52.46	52.03		
50522 T5	47.44	47.46	47.93	49.38	50.93	51.52	52.23	52.23	51.64	51.52	52.25	51.77		
							N/A							

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6.[6] Date: From 1-15-15 to 1-15-15 Location: 375

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
							N/A							N/A	
Ambient Temperature (6.[12]) 73	45.21 °F	45.41 °F	46.26 °F	48.48 °F	50.27 °F	51.61 °F	53.05 °F	52.65 °F	52.09 °F	52.01 °F	52.53 °F	51.94 °F	°F	°F
End Time (6.[13])	0628	0731	0829	0931	1030	1126	1228	1329	1431	1529	1628	1727		
6.[13]	Operator: QA / Operator: SC	Operator: WS / Operator: JC	Operator: WS / Operator: JC	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: SC / Operator: WS	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: WS / Operator: SC	Operator: / Operator:	Operator: / Operator:

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6.[6] Date: From 1-15-15 to 1-15-15 Location: 375

6.[2] Comments: did not enter permacon due to area 6 standing order 1247 R2 all temps were takin From data logger computer in 375 no Futher entrys

NA

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
William Juarez	[signature]	201455	WJ	1-15-15
Jesse Chavez	[signature]	214518	JC	1-15-15
Lina Aguirre	[signature]	124972	[illegible]	1-15-15

NA

Operator (print)	Signature	Z#	Initials	Date

NA

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
[illegible]	[signature]	226235	[illegible]	1-15-15

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

6.[6] Date: From 1-15-15 to 1-16-15 Location: 375

	Start Time: 6.[6] 1830	Start Time: 6.[6] 1929	Start Time: 6.[6] 2027	Start Time: 6.[6] 2128	Start Time: 6.[6] 2230	Start Time: 6.[6] 2328	Start Time: 6.[6] 0025	Start Time: 6.[6] 0125	Start Time: 6.[6] 0229	Start Time: 6.[6] 0324	Start Time: 6.[6] 0423	Start Time: 6.[6] 0529	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: NA Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	50.82 °F	50.08 °F	49.31 °F	48.68 °F	47.66 °F	47.51 °F	47.08 °F	46.6 °F	45.93 °F	45.29 °F	45.09 °F	44.76 °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])	N/A Temp (°F) (6.[8]/6.[9])
68685 T1	52.19	51.76	51.09	50.53	49.66	49.52	49.11	48.72	48.09	47.57	47.30	47.02		
68685 T2	51.44	50.84	50.21	49.63	48.79	48.63	48.24	47.86	47.24	46.73	46.44	46.19		
50522 T4	51.67	51.3	50.74	50.27	49.56	49.45	49.1	48.76	48.29	47.85	47.57	47.36		
50522 T5	51.3	50.92	50.4	49.92	49.25	49.13	48.79	48.5	48.02	47.59	47.3	47.07		

N/A

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6.[6] Date: From 1-15-15 to 1-16-15 Location: 375

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
							N/A						N/A	
Ambient Temperature (6.[12])	50.82 °F	~~50.80~~ 08 °F (1-16-15)	49.31 °F	48.68 °F	47.66 °F	47.51 °F	47.08 °F	46.6 °F	45.93 °F	45.29 °F	45.09 °F	~~44.69~~ 44.69 °F (1-16-15)	°F	°F
End Time (6.[13])	1830	1929	2028	2128	2230	2328	0025	0125	0229	0324	0423	0529		
6 [13]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: [initials] Operator: [initials]	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 1-15-15 to 1-16-15 Location: 375

6.[2] Comments: Did not enter Dome 375 Permacon Per Standing Order 1247-R-W2. Temperatures are taken from Dome 375 Control Room using data Logger.

NO further entries 01-16-15 LOC 11890

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Wade S. Cook		11890	LOC	1-16-15
Sonny Burch	Sonny Burch	114471	SB	1-16-15

Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date