From: Haagenstad, Mark P
Sent: Thursday, December 11, 2014 5:16 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
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; 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
Subject: Daily Technical Submission - December 11, 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

December 11, 2014

Participants:

- New Mexico Environment Department: Tim Hall, Siona Briley, and Coleman Smith.
- LANL – Los Alamos Field Office: Gene Turner.
- LANL – Los Alamos National Security: Alison Dorries, Bruce Robinson, Mark Haagenstad, Don Allen, and Tammy Diaz.

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.
            - December 11, 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 December, LANL has conducted HSG sampling on 47 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.
- December 11, 2014 HSG data attached.

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

Other:

- NMED-HWB requested discussions regarding correlation between the Revised Isolation Plan temperature action level (90^{o} F) and surrogate container testing (30^{o} and 60^{o} C). This can be addressed during discussions at the next scheduled twice weekly call or technical meeting.

Next Call: Tuesday, December 16, 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. Submitted RTR Videos 201-250 on December 1, 2014.

	Requested Information	Actionee	Status	Completion Date
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
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.	

Remediated Nitrate Salt Container Headspace Gas Analysis

	68685				69553				69615			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
12/11/14	143	547	13614	3776	185	592	17536	2539	110	300	7047	329

Remediated Nitrate Salt Container Headspace Gas Analysis

	69616				SB50069				SB50452			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
12/11/14	354	897	24501	5101	499	967	21855	2953	701	836	19541	3605

Remediated Nitrate Salt Container Headspace Gas Analysis

	SB50522			
Date	**H_2 ppm**	**CO ppm**	**CO_2 ppm**	**N_2O ppm**
12/11/14	2468	417	44340	983

ATTACHMENT 2
Page 1 of 3

TA-54 AREA G TA-54-231 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 12·8·14 to 12·14·14

	Monday 6.[6] Start Time: 0804	Tuesday 6.[6] Start Time: 0847	Wednesday 6.[6] Start Time: 0909	Thursday 6.[6] Start Time:	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-231							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 7/29/15 File Number 101974	Brand: Fluke Model: 561 Cal. Due Date: 07/29/15 File Number 101974	Brand: Fluke Model: 561 Cal. Due Date: 07/29/15 File Number 101974	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	37.2 °F	38.8 °F	36.6 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
S818435	37.6	39.0	38.3				
S802833	37.0	37.8	37.4				
S801676	36.9	37.1	37.2				
S816810	35.0	36.0	35.5				
70069	34.1	35.8	35.1				
S822844	34.3	36.0	35.5				
S825879	34.3	35.1	35.6				
S793724	34.7	26.3	35.6				
S813545	35.0	36.9	35.3				
S822713	36.4	37.8	37.2				
S802739	36.9	38.0	37.3				
69907	36.9	37.3	37.2				
S804995	37.5	37.3	37.7				
S816434	38.7	38.2	38.7				

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INITIAL EC DATE 12·8·14

ATTACHMENT 2
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6.[6] Date: From 12·8·14 to 12·14·14

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	38.7	38.1	38.3				
S862888	38.1	38.5	38.0				
70072	37.0	36.8	37.2				
S823184	37.0	36.0	37.7				
S822599	36.8	35.2	37.0				
69904	35.6	35.0	37.7				
S805051	34.8	38.1	35.7				
S864213	35.2	35.0	35.5				
S853714	34.6	36.0	35.6				
S803078	34.6	35.7	35.5				
S825878	35.6	37.1	35.8				
S823124	35.9	37.3	35.9				
S804948	37.6	36.8	34.3				
S813385	37.9	38.4	38.1				
S842446	39.7	39.3	39.9				
Ambient Temperature (6.[12])	36.7 °F	43.4 °F	37.3 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[13])	0810	0855	0916				
6.[13]	Operator: JR Operator: EC	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

ATTACHMENT 2
Page 3 of 3

6.[6] Date: From 12-8-14 to 12-14-14

6.[2] Comments: _____

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jackie Romero	Jackie Romero	1870661	JR	12-8-14
Elord D. Galvez	[signature]	1141889	EG	12-8-14
Josephina Duran	[signature]	1541711	JD	12/09/14
Alfredo Aguilar	[signature]	1293181	AA	12/9/14
Alfredo Aguilar	[signature]	1293178	AA	12/10/14
THOMAS VIGIL	[signature]	1236582	TV	12/10/14

Operator (print)	Signature	Z#	Initials	Date

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date

ATTACHMENT 3
Page 1 of 3

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

6.[6] Date: From 12-8-14 to 12-14-14

	Monday 6.[6] Start Time: 1051	Tuesday 6.[6] Start Time: 1607	Wednesday 6.[6] Start Time: ~~1253~~ 12/10/14 1308	Thursday 6.[6] Start Time:	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-375 Cell 1							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 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	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	52.0 °F	52.2 °F	55.3 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
68685	53.9	53.9	56.4				
LA00000070503 68540	54.1	53.5	56.3				
LA00000070503 68553	53.5	52.8	56.4				
69445	54.2	53.9	56.6				
69618	53.7	52.5	56.4				
69013	54.7	53.6	56.7				
LASB50522	55.4	55.4	57.1				
LASB50452	55.5	55.2	57.0				
LASB50431	54.8	55.2	56.9				
LASB50069	54.7	54.7	56.9				
LASB50073	54.8	54.7	56.2				
69636	55.3	54.8	56.7				
69616	54.4	54.1	56.7				
69417	55.4	55.3	57.2				

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INITIAL EC DATE 12-8-14

ATTACHMENT 3
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6.[6] Date: From 12.8.14 to 12.14.14

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	55.2	54.8	58.9				
69520	55.4	54.7	57.0 ~~58.3~~ 12/10/14				
69641	55.6	55.1	57.2 ~~57.8~~ 12/10/14				
69298	55.6	55.2	57.3 ~~57.9~~ 12/10/14				
LASB02203	55.4	55.7	56.9 ~~57.0~~ 12/10/14				
Ambient Temperature (6.[12])	52.5 °F	52.1 °F	57.3 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[13])	1056	1013	~~1300~~ 1315 12/10/14				
6.[13]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: [illegible] Operator: [illegible]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

ATTACHMENT 3
Page 3 of 3

6.[6] Date: From 12-8-14 to 12-14-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Isgal		123682		12/8/14
Joshua Lopez		116598		120814
Josephine Duran		153771		12/09/14
Joshua Lopez		116598		120914
Thomas Isgal		123682		12/10/14
Joshua Lopez		116598		121014

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 12-8-14 to 12-14-14

	Monday 6.[6] Start Time: 1057	Tuesday 6.[6] Start Time: 1014	Wednesday 6.[6] Start Time: 1300	Thursday 6.[6] Start Time:	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-375 Cell 2							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 10192	Brand: Fluke Model: 561 Cal. Due Date: 06/12/15 File Number 10192	Brand: Fluke Model: 561 Cal. Due Date: 06/12/15 File Number 10192	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	56.8 °F	55.3 °F	55.5 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
LASB02198	55.7	54.8	55.6				
68638	56.0	55.4	56.7				
69615	56.1	55.6	57.3				
69635	56.7	56.1	57.8				
69642	56.2	55.5	57.2				
69630	55.9	55.4	57.2				
69633	56.5	55.8	57.4				
68430	56.0	55.8	57.2				
68631	56.2	56.5	56.8				
69634	56.2	56.0	57.0				
68567	55.5	54.7	57.3				
94227	55.8	55.9	57.4				
LASB50442	56.7	~~55.6~~ 55.5	57.3				
69644	56.1	55.6	~~57.6~~ 56.6				
LASB50443	56.4	55.8	55.6				
69638	57.0	56.2	57.7				

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ATTACHMENT 4
Page 2 of 3

6.[6] Date: From 12·8·14 to 12·14·14

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-54-375 Cell 2 (continued)							
68624	56.5	56.9	57.7				
68507	56.9	56.6	57.0				
69568	55.6	55.2	55.8				
69553	54.6	54.6	55.9				
69598	56.3	56.1	55.1				
LASB50559	56.6	56.8	56.0				
69015	56.4	56.7	57.4				
69639	55.4	55.8	57.4				
69637	54.7	54.4	58.1				
Ambient Temperature (6.[12])	55.6 °F	55.0 °F	56.0 °F	____ °F	____ °F	____ °F	____ °F
End Time (6.[13])	1106	1025	1308				
6.[13]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: [signature] Operator: [signature]	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____	Operator: ____ Operator: ____

6.[2] Comments:

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6.[6] Date: From 12-8-14 to 12-14-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil		236382		12/8/14
Joshua Lopez		116598		12/09/14
Josephine Duran		151971		12/09/14
Joshua Lopez		116598		12/09/14
Thomas Vigil		236382		12/10/14
Joshua Lopez		116598		12/10/14
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
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 12.8.14 to 12.14.14

	Monday 6.[6] Start Time: 1044	Tuesday 6.[6] Start Time: 1001	Wednesday 6.[6] Start Time: 1253	Thursday 6.[6] Start Time:	Friday 6.[6] Start Time:	Saturday 6.[6] Start Time:	Sunday 6.[6] Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fluke Model: 561 Cal. Due Date: 5/12/15 File Number 101916	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 101916	Brand: Fluke Model: 561 Cal. Due Date: 6/12/15 File Number 101916	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	53.2 °F	54.0 °F	57.2 °F	°F	°F	°F	°F
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])
69519	55.9	55.8	58.1				
69645	55.7	55.9	58.3				
94068	56.0	55.5	57.9				
93605	55.7	54.8	58.0				
69548	55.6	54.8	57.8				
69604	56.0	55.3	58.1				
LASB50529	53.7	56.1	58.4				
LASB50418	55.2	55.5	58.3				
69036	54.7	54.9	57.8				
LASB50451	55.3	54.0	57.4				
69559	55.4	54.7	57.4				
LASB50448	55.4	54.2	57.0				
Ambient Temperature (6.[12])	54.3 °F	53.7 °F	57.3 °F	°F	°F	°F	°F
End Time (6.[13])	1050	1005	1300				
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 12·8·14 to 12·14·14

6.[2] Comments:

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Thomas Vigil	Thomas Vigil	236382	TV	12/8/14
Joshua Lopez	Joshua Lopez	116582	JL	12/8/14
Stephanie Duran	Stephanie Duran	159771	SD	12/09/14
Joshua Lopez	Joshua Lopez	116582	JL	12/09/14
Thomas Vigil	Thomas Vigil	236382	TV	12/10/14
Joshua Lopez	Joshua Lopez	116582	JL	12/10/14

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 12-10-14 to 12-10-14 Location: 375

	Start Time 6.[6] 0628	Start Time 6.[6] 0725	Start Time 6.[6] 0829	Start Time 6.[6] 0928	Start Time 6.[6] 1028	Start Time 6.[6] 1131	Start Time 6.[6] 1229	Start Time 6.[6] 1328	Start Time 6.[6] 1430	Start Time 6.[6] 1527	Start Time 6.[6] 1627	Start Time 6.[6] 1729	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])	50.36 °F	49.97 °F	50.87 °F	51.14 °F	53.63 °F	54.18 °F	55.07 °F	56.18 °F	56.72 °F	56.40 °F	54.91 °F	52.18 °F	N/A °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	52.18	52.00	52.63	52.33	54.57	54.22	54.84	55.83	56.30	55.88	54.46	52.14		
68685 T2	51.44	51.16	51.96	51.53	53.94	53.45	54.18	55.05	55.49	55.11	53.73	51.37		
50522 T4	52.07	51.91	52.38	52.46	53.94	53.95	54.43	55.24	55.63	55.43	54.43	52.73		
50522 T5	51.76	51.59	52.08	52.14	53.74	53.87	54.43	55.23	55.64	55.44	54.4	52.45		

N/A

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6.[6] Date: From 12-10-14 to 12-10-14 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])
Ambient Temperature (6.[12])	50.36 °F	49.97 °F	50.87 °F	51.12 °F	53.67 °F	54.18 °F	55.07 °F	56.21 °F	56.72 °F	56.40 °F	54.91 °F	52.13 °F	____ °F	____ °F
End Time (6.[13])	0632	0726	0829	0928	1029	1131	1230	1329	1431	1528	1628	1730		
6.[13] Operator:	MW	DA	MW	MW	MW	MW	MW	MW	MW	DA	DA	MW		
Operator:	MW	MW	JC	JC	JC	JC	JC	JC	JC	MW	JC	JC		

N/A

N/A

N/A

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6.[6] Date: From 12-10-14 to 12-10-14 Location: 375

6.[2] Comments: did not enter Permacon due to Area G standing order 1246 R 2. all temps were takin from data logger computer in the control room inside of 375 no futher entrys

N/A

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Jesse Chaver		1214578	JC	12-10-14
Lina Aguirre		1249778		12-10-14
William Lara		201458	WL	12-10-14

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

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Gary Mauk		226238		12-10-14

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

6.[6] Date: From 12-10-14 to 12-11-14 Location: Dome 375

	Start Time: 6.[6] 1828	Start Time: 6.[6] 1930	Start Time: 6.[6] 2029	Start Time: 6.[6] 2128	Start Time: 6.[6] 2229	Start Time: 6.[6] 2330	Start Time: 6.[6] 0030	Start Time: 6.[6] 0131	Start Time: 6.[6] 0230	Start Time: 6.[6] 0327	Start Time: 6.[6] 0426	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: NA Cal. Due Date: File Number
Ambient Temperature (6.[7])	51.1 °F	52.41 °F	50.89 °F	51.27 °F	51.55 °F	51.52 °F	51.06 °F	51.31 °F	51.01 °F	50.48 °F	50.35 °F	50.51 °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])
T-1 68685	51.71	53.0	51.79	52.45	52.68	52.51	52.29	52.57	52.19	51.88	52.2	52.22		
T2-68685	51.04	52.58	51	51.67	52.03	51.86	51.67	51.93	51.55	51.17	51.5	51.41		
T4 50522	52.3	52.86	52.34	52.61	52.70	52.5	52.29	52.46	52.23	52.02	52.18	52.16		
T5 50522	52.06	52.85	52.05	52.38	52.50	52.31	52.13	52.30	52.05	51.79	51.98	51.93		
						NA								

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6.[6] Date: From 12-10-14 to 12-11-14 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						
Ambient Temperature (6.[12])	51.12 °F	52.42 °F	50.89 °F	51.23 °F	51.51 °F	51.52 °F	51.12 °F	51.31 °F	51.01 °F	50.48 °F	50.75 °F	50.51 °F	°F	°F
End Time (6.[13])	1829	1930	2029	2129	2230	2330	0031	0131	0231	0328	0427	0529	NA	
6.[13]	Operator: OB Operator: WOC	Operator: WOC Operator: OB	Operator: WOC Operator: TR	Operator: OB Operator: TR	Operator: TR Operator: WOC	Operator: WOC Operator: OB	Operator: OB Operator: TR	Operator: TR Operator: OB	Operator: OB Operator: WOC	Operator: WOC Operator: OB	Operator: WOC Operator: OB	Operator: OB Operator: WOC	Operator: Operator:	Operator: Operator:

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6.[6] Date: From 12-10-14 to 12-11-14 Location: Dome 375

6.[2] Comments: Did not Enter Permacon in Dome 375 Per Standing Order 1247 Rev. 2, All temps are taken from inside Control Room in Dome 375.

No further entries 12-11-14

6.[17] Performed by:

Operator (print)	Signature	Z#	Initials	Date
Willie J. Cook	Willie J. Cook	115902	WJC	12-11-14
Sammy Borek	Sammy Borek	114474	SB	12-11-14
Jimmy Romero	Jimmy Romero	234253	TR	12-11-14
	N/A			

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

8.1[2] Reviewed by:

SOM or designee (print)	Signature	Z#	Initials	Date
Gary Mally	Gary Mally	122351	GM	12-11-14