From: Vigil-Holterman, Luciana R

Sent: Thursday, December 25, 2014 8:53 AM

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 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; 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; Vigil-Holterman, Luciana R

Subject: Daily Technical Submission - December 24, 2014

Delayed due to technical difficulties, attached is the written daily technical submission for yesterday. 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 Mark Haagenstad if additional information would be helpful.

Happy Holidays!!!!

Luciana Vigil-Holterman for Mark

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 24, 2014**

#### **LANL Technical Update:**

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

#### • Monitoring - Daily Temperature

- o Temperatures remain below 90°F.
  - Previous day's temperature data attached.

#### • Monitoring – Visual Inspections

- o No abnormal conditions were observed.
- Monitoring headspace gas (HSG)
  - o Containers (SWBs) 68685 and SB50522.
    - Continue daily head space gas (HSG) sample collection.
      - December 24, 2014 HSG data attached.
        - o H<sub>2</sub>, CO, CO<sub>2</sub> and N<sub>2</sub>O
  - Other containers
    - A minimum of once per month HSG sampling will be conducted.
      - To date in December, LANL has conducted HSG sampling on 55 SWBs.

#### Additional measures currently underway

- O 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 24, 2014 HSG data attached.

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

#### Other:

• Due to the LANL winter/holiday closure from close of business December 24, 2014 through January 2, 2015, it is anticipated that the Written Daily Submissions for the dates of December 23rd, 24<sup>th</sup>, 29<sup>th</sup>, 30<sup>th</sup>, 31<sup>st</sup> and January 2<sup>nd</sup> will be entered into the LANL electronic public reading room (EPRR) on January 5, 2015 when LANL reopens. The daily written submissions for December 23<sup>rd</sup> and 24<sup>th</sup> will enter the LANL hardcopy public reading room (HPRR) during the week of December 29, 2014 as the HPRR location in Pojoaque is not closed during this time.

Verbal and written notifications were provided to NMED-HWB's Dave Cobrain and Steve Pullen on 12/23/2014 regarding the visual hourly inspection and EPRR/HPRR submittals for the Daily Written Submissions. Per discussions with Dave Cobrain, NMED-HWB had no issues associated with the information/actions summarized above.

#### As a reminder:

- Twice weekly technical summary conference calls will not occur on December, 23<sup>rd</sup>, 25<sup>th</sup>, 30<sup>th</sup> and January 1<sup>st</sup>, due to NMED availability and LANL winter closure. Calls will resume on January 6, 2015.
- Daily written submissions will be sent on the following days: December 29, 30, 31, and January 2, 2015 during the LANL winter closure.
- All daily inspections and measurements will continue through the winter closure and will be submitted according to the above schedule until January 5, 2015 at which time the normal schedule will resume.

Next Call: Tuesday, January 6, 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 ongoing 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 <sub>2</sub> and LFL analytes).	LANL		Complete June 11, 2014
11.	Discuss potential sampling of HSG for NO <sub>x</sub> .	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 saltbearing 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.	LANL		Complete July 9, 2014 (Letter sent addressing items 1-4 and 6-9 of the email request)
	WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in			July 17, 2014 (Letter sent with updated spreadsheet)
	Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action.			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 <sub>2</sub> , 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 (3 <sup>rd</sup> 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)

	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 201-250 on December 1, 2014. Submitted RTR Videos 251-300 on December 19, 2014.
39.	NMED requested a diagram of the location of the thermocouples on 68685 and SB50522.	LANL		Complete October 27, 2014
40.	NMED requested a copy of the safety basis document for remediation planning when it is finalized.	LANL	Document is currently in Draft.	
41.	Trending and correlation of temperature and HSG monitoring data.	LANL	In progress	
42.	Schedule a fourth update on LANL efforts – including teams.	LANL/ NMED		Complete November 3, 2014

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

#### **Remediated Nitrate Salt Container Headspace Gas Analysis**

	68685				69	553		69615				
Date	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N₂O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm
12/24/14	135	468	11338	3090	179	571	15780	2211	87	288	6041	292

#### **Remediated Nitrate Salt Container Headspace Gas Analysis**

69616				SB5	0069		SB50452					
Date	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N₂O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N₂O ppm	H <sub>2</sub> ppm	CO ppm	CO <sub>2</sub> ppm	N <sub>2</sub> O ppm
12/24/14	355	906	23103	4759	503	878	20733	2815	616	701	17591	3247

#### **Remediated Nitrate Salt Container Headspace Gas Analysis**

	SB50522					
Date	H <sub>2</sub> ppm CO ppm CO <sub>2</sub> ppm N <sub>2</sub> O pp					
12/24/14	1823	392	39359	924		

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# **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 12.22.14 to 12.28.14

	Monday 6.[6] Start Time: 1445	Tuesday 6.[6] Start Time: D90	Wednesday 6.[6] Start Time:	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: FUKE Model: SU Cal. Due Date: 7/19/15 File Number (01974	Brand: Flutt Model: 52   Cal. Due Date: 67   2015 File Number 161974	Brand: Model: Cal. Due Date: File Number				
Ambient Temperature (6.[7])	49.7 °F	31.5 °F	oF	°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	50.3	33.7					
S802833	49.0	35.0					
S801676	48.5	32.7	-				
S816810	47.6	30.2					
70069	47.8	30.8					
S822844	47.2	30.8 30.9					
S825879	47.9	30.2					
S793724	48.1	30.6					
S813545	47.5	36.7					
S822713	48.0	324					
S802739	49.1	32.7					
69907	48.8	32.6					
S804995	48.8	37.6					
S816434	48.3	34.9					

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6.[6] Date: From 2+ 12.22.14 to 12.28.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])				
TA-54-231 (continued	)						
S805289	48.1	34.6					
S862888	48.5	34.6					
70072	49.5	37.7					
S823184	49.9	32.5					
S822599	49.3	32.0					
69904	48.1	30.9					
S805051	47.7	30.6					
S864213	47.7	30.7					
S853714	47.4	30.6					
S803078	47.1	30,4					
S825878	48.8	31.2					
S823124	49.1	31.5					
S804948	48.8	23.7					
S813385	44.1	33,7					
S842446	48.2	35.7					
Ambient Temperature 6.[12])	<u>5(.7</u> °F	33.) °F	°F	°F	°F		oF
End Time (6.[13])	1450	0912					
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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6.[6] Date: From <u>12</u>	1-22-14 to 12-28-19	<u> </u>						
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#### TA-54 AREA G TA-54-375 CELL 1 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 12-22-14 to 12-28-14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time:      9	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 1							
Calibrated Infrared	Brand: Fuce	Brand: Fuke	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 56	Model: 561	Model:	Model:	Model:	Brand:	Model:
(4.2.1[1][B])	Cal. Due Date: Gr2 15	Cal. Due Date: 6/12/15	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 10195	File Number	File Number	File Number	File Number	File Number	File Number
Ambient Temperature (6.[7])	53.9 °F	49.9°F	°F	°F	oF	oF	oF.
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	55.0	50.6					
68540	22.0	S0.5					
LA00000070503 68553	54.9 55.3	50.4					
69445	55.3	51.1					
69618	55.	50.5					
69013	55,6 56,6	52.1					
LASB50522		S2.6					
LASB50452	55.8	52.6					
LASB50431	55.7	53.1					
LASB50069	55.2	52.					
LASB50073	55.4	51.8			,		
69636	5,0	526					
69616	56.0	52.6 52.6					
69417	55.9	53.2					

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6.[6] Date: From 12.22.14 to 12.28.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Container ID #	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])					
TA-54-375 Cell 1 (con	tinued)						
69620	55.7	51.7					
69520	56.2	52.2					
69641	56.4	52.4					
69298	56.4	52.8					
LASB02203	56.3	53.2					
Ambient Temperature (6.[12])	_53.8 °F	_50.3 °F	°F	°F	ol_	°F	oF
End Time (6.[13])	1152	1124					
6.[13]	Operator:	Operator:	Operator:	Operator:Operator:	Operator:	Operator:Operator:	Operator:

6.[2] Comments:	 	 	_

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6.[6] Date: From 12.	22.14 to 12.28.1	4					
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6.[17] Performed by:	ar a to	1236380	1 \$ 112 22 14		/	/	/ /
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Operator (print)	Signature	/ Z#	Intrials Date	Operator (print)	Signature	Z#	Initials Date
Things TELL	-114-1	1236382	1 to 1 12/23 M	·	/		/ /
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Operator (print)	Signature		Initials Date	Operator (print)	Signature	Z#	Initials Date
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Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	Z#	Initials Date
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#### **ATTACHMENT 4**

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#### TA-54 AREA G TA-54-375 CELL 2 NITRATE SALT TRU WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

6.[6] Date: From 12.22.14 to 12.28.14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1126	Start Time: 1725	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2				Marie World Street			
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Flyld Model: Slo Cal. Due Date: Clyl Diele Number 10142	Brand: FUK Model: S() Cal. Due Date: G U S File Number   0 9 2	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	Brand:  Model:  Cal. Due Date:  File Number
Ambient Temperature (6.[7])	<u>57.4</u> °F	52.6 °F	°F	oF	°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	36.6	51.2					
68638	57.8	5).6					
69615	58.2	52.5					
69635	58,5	52.7					
69642	57.9	25.0					
69630	57.6	52.7					
69633	58.2	53.1					
68430	37.8	51.7					
68631	58.1	52.6					
69634	28.)	52.6					
68567	57.9	50.6					
94227	57.5	51.2					
LASB50442	57.7	5) 5					
69644	56.9	52.5					
LASB50443	56.0	52.1					
69638	56.0	52.4					

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### **ATTACHMENT 4**

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6.[6] Date: From 12.22-14 to 12.28-14

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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])
TA-54-375 Cell 2 (con	tinued)						
68624	57.1	53.3					
68507	<7.3	53.2					
69568	58.2	50.9					
69553	56.0	50.4					
69598	=5.8	50.4					
LASB50559	56.9	523					
69015	58.0	53.6					
69639	58.3	5u. 1					
69637	28.5	520					
Ambient Temperature 6.[12])	<u>56.0</u> °F	<u>\$2.3</u> °F	oF	°F	oF	°F	°F
End Time (6.[13])		1/30					
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:Operator:

6.[2] Comments:	*		
	- 1000 -		

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# **ATTACHMENT 4**

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6.[6] Date: From 12.22.14 to 12.28.14

6.[17] Performed by:	+ 14	22128.	46 (12 2 2 2)
Operator (print)	Signature	13138L Z#	Initials Date
) cxhuologoz	1 solven to Com	11165	CO OUT
Operator (print)	Signature	Z# 123638	Inflials Date
Operator (print)	Stanature	Z#	Initials Date
103 peraloger	1 week	1165	123 C
Operator (print)	Signature	Z#	Initials Date
	1	/	/ /
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
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date

8.	1	[2]	Reviewed	by:
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	/	/	/	/
SOM or designee (print)	Signature	Z#	Initials	Date

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Revision: Effective Date: 11/03/14

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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 12-22-14 to 12-28-14

	Monday 6.[6]	Tuesday 6.[6]	Wednesday 6.[6]	Thursday 6.[6]	Friday 6.[6]	Saturday 6.[6]	Sunday 6.[6]
	Start Time: \\\\	Start Time: 1114	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 3							
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Fuke  Model: 561  Cal. Due Date: 6175  File Number 1/196	Brand: Fike  Model: 50  Cal. Due Date: 612  File Number 161916	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	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[7])	<u>56.</u> 2 °F	52.6 °F	°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	57.9	54.8					
69645	57.3	54.6					
94068	56.6	54.3					
93605	56.0	53:					
69548	56.0	53.5					
69604	56.6	54.3					
LASB50529	87.0	54.3		<u> </u>			
LASB50418	27.5	54.9					
69036	56.6	54.1					
LASB50451	56.2	52.8					
69559	56.4	52.8 52.7					
LASB50448	22.4	52.7					
Ambient Temperature (6.[12])	<u>\$5. </u> °F	57.0 °F	°F	°F	°F	°F	°F
End Time (6.[13])	1118	1118					
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

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INITIAL EC DATE 12.22-14

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Revision: Effective Date:

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# ATTACHMENT 5 Page 2 of 2

6.[6] Date: From 12-	·22·14 to 12·28·14							
6.[2] Comments:			and the last section is a second section of the last section is a second section of the last section is a second section of the last section of th					
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			10					4.11
	1 6							
6.[17] Performed by:	, + \-	136861 4	1 1 1 1 1 1		/	/	/	/
Operator (brint)	Signature	Z# Initials		Operator (print)	Signature	Z#	Initials	Date
Ormentoon	Dera has	1165981	Y16661 1×		/		/	/
Operator (brint)	Signature.	7# Initials		Operator (print)	Signature	Z#	Initials	Date
THOMAS	May of No	1236382/ 4	11122111		/	/	_/	/
Operator (print)	Signature	Z# Initials	Date \	Operator (print)	Signature	Z#	Initials	Date
Jospenhape	22/ plice	-116501-1	4129314		/	/		
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	Z#	Initials	Date
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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 /	<b>L</b> #	/	Date.
			/	Operator (print)	Signature	/ Z#	/ Initials	/ Date
Operator (print)	Signature	Z# Initials	Date	Operator (print)	Signature	2.317	IIIIIIIII	Date
8.1[2] Reviewed by:								
	/	/ /	/					
SOM or designee (print)	Signature	Z# Initials	Date					

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Effective Date: 11/03/14 Page:

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

6.[6] Date: From 12.23-14 to (2.23-14 Location: 375

										y				
	Start Time:	Start Time: 6.[6]	Start Time:	Start Time:	Start Time: 6,[6]	Start Time: 6.[6]	Start Time: 6,[6]	Start Time: 6,[6]	Start Time:	Start Time:	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 6.[6]
	2631	0730	0831	0927	1029	1129	1230	1323	14127	1524	1628	1779	0.[0]	0,[0]
Calibrated Infrared	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Rrand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Medel:	Model:	Model:	Model	Medel:	Model:	Model:	Model:	Model:	Model:	Model:	Model:	Model.	Model:
(4.2.1[1][B])	Cal. Que Date:	Cal. Due Qate:	Cal. Die Dark	Cal Use Date:	Cal. Doe Date	Cal. Que Dine	Cal. Due Date:	Cal. Dur Char	Cal. Date:	Cal. In a Date:	Cal. Due vale:	Cal. Due Date:	Cal. Due Nate:	Cal. Due Date:
	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number
	7			1. no 1. comper	The realised	- THE TYUNIDES	The Humber	The station	The Number	The Number	The Ivalliber	The Number	The Number	- Number
Ambient Temperature	47.02 °F	46.56 °F	44.01 °F	43.98	45.48F	49 64 oF	51.59 of	51.68°F	SJ. 77 °F	51.29	50.75°F	50.5ZF	°F\	°F
(6.[7]) 1/3						1,01.	2	<u></u>		2000	0-1.0	7	r	\r
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)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)
6869571	49.30	48.85	46,36	45.40	46,49	51.17	53.14	52.96	47, 79	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9]) <b>5</b> 7.14	(6.[8]/6.[9])	(618/6.[9])
68685TZ	48.46	48.00	45.30	4483	45,88	50.69	52,46	52,23	57.06	51.41	51.10	51.30	- 1	4
150800 50520		49.13	47.37	46.50	47,12	50.27		52.11	57.09		51.68	51.68		$\overline{}$
50522	49,13	48.79	46.79	4621	46.91	50.05	51.74	51.88	51.91	51 15	51.47	51.34		-
		, , , ,	, / -	10.01	V 62 41	00.00	31.17	317 00	31.11	11.67	01.17	01.01		$\overline{}$
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# ATTACHMENT 6 Page 2 of 3

6.[6] Date: From 17.23.14 to 12.23.14 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])										
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Ambient					1									1
Temperature (6.[12]) 73	4702°F	4656°F	44.0) of	44.04	45.34°F	49.6 Up	51.59 °F	51.68°F	<i>51,77</i> °F	5129F	50,75°F	50.52F	°F	°F
End Time (6.[13])	0632	0731	0937	0930	1030	113D	1231	1326	1428	1526	1629	1730		
6.[13]	Operator:	Operator	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	Operator	Operator:	Operator:\
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Aperator:	Operator:	Operator:	Operator:	Operator:	Operator:
	25	2	->-	11/2	25	27	20	25	20		26	2.6		

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6.[6] Date: From 12.23-14 to 12.23-14 Location: 375  6.[2] Comments: d. N Wet enter permanen due to Area Co standing order 1246 R  all temps were takin from dute logger lompston in 375 no  Futher entrys	
W A	2
6.[17] Performed by:    Comparison (print)   Signature   Z# Initials   Date   Departor (print)   Signature   Z# Initials   Date   Departor (print)   Departor (print)   Signature   Z# Initials   Dat	
Operator (print) Signature Z# Initials Date Operator (print) Signature Z# Initials Date	

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8.1[2] Reviewed by:

SOM or designee (print)

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#### **ATTACHMENT 6**

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

6.[6] Date: From 12-23-14 to 12-24-14 Location: 325

		,		1	,	,							75	
	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
	6.[6] 1828	6.[6] <b>1930</b>	6.[6] <b>2028</b>	2128	6.[6] 2228	2330	00 Z7	0/28	0230	0338	0430	0525	6.[6]	6.[6]
Calibrated	Brand	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Infrared Thermometer	Model	Model:	Model	Model:	Model:	Madel:	Model:	Model:	Model:	Modal:	Model:	Moder	Model:	Model
(4.2.1[1][B])	MA	7-7-1			\ \M	na	Model:	NA	_ \ NA	40/	7 144			
	Cal. Die Date	Cal. Due Date:	Cal. Due Date:	Cal. Due Nate:	Cal. Due Date:	Cal. Due Date:	Cal. Dun Date:	Cal. Due Date:						
	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Number	File Numbel	File Number				
Ambient	( 10 77	1.5.0	1 400 -000/	19.5	1,00	116 10	11-41	111121	. 1110-1	(1071	112 20	.0.10		
Temperature (6.[7])	49.77°F	49.31 °F	48.58°F	4805°F	46.82°F	46.10°F	45.41°F	44.76F	4451 °F	43.71°F	43.39_°F	43.02er		°F
Container ID #	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	Tamm (8E)	ATemp (°F)
(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	(6.[8]/6.[9])	
TU) 68685	51.66	51.31	50.66	50,21	49.13	4850	47.85	47.23	46.81	46.38	46.09	45.62	\	
T(2) 68685	50.87	50.47	49.87	49.35	48.27	47.10	46.90	46.39	46.01	45.71	45.33	449		
14 50522		51.02	50.54	50.14	49,26	48.74	48.05	47.7	46.82	46.60	46.74	46.32		
T(s) 50572		5059	50.11	49.72	48.82	47.32	47.09	47.26	46.80	46.51	44.3	46.0		
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# ATTACHMENT 6 Page 2 of 3

6.[6] Date: From 2-23-14 to 12-24-14 Location: 325

Container ID # (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])	Temp (°F) (6.[8]/6.[9])												
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	***					4A								
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	-													1
Ambient Temperature (6,[12])	1828°F	49.31°F	4858°F	<b>41.99</b> °F	<b>46,8</b> °F	46.10°F	<b>48.41</b> °F	<i>44.7</i> €F	4451°F	<u>4371</u> °F	43,49 °F	43.0Z <sub>F</sub>	°F	°F
End Time (6.[13]) 1828	4 . 0	1830	2028	2128	2129	2330	7500	0128	0230	0329	0430	0526		
6.[13]	Operator:	Operator:												
	Operator:	Operator:												

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#### **ATTACHMENT 6**

6.[6] Date: From (2)	23-14 to [2-24-19	4 Location: 375	Page 3 of	3					
		Rumacon les stande a losses.	ling Dioles 120	17 Nev. Z. Th	mpaker	s to	ilen t	n zom Do	me 375
		AA							
6.[17] Performed by:		- 11120HUDE 112-24-44		1	/	j	/		
Operator (print) Operator (print)	Stenantire Bande	Z# Initials Date ////////////////////////////////////	Operator (print)	Signature / Signature	Z# / Z#	Initials / Initials	/		
Operator (print)	Signature  / Signature	Z# Initials Date / Z# Initials Date	Operator (print)	Stguature	/ 	/ Initials	/		
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z# /	Initials	Date		
Operator (print)	Signature /	Z# Initials Date	Operator (print)	Signature / Signature	Z# / Z#	Initials Initials	/		
Operator (print)	Signature / Signature	Z# Initials Date  Z# Initials Date	Operator (print)	Signature	/	1	Date		

8.1[2] Reviewed by:
SOM or designee (print)