From: Haagenstad, Mark P

Sent: Tuesday, December 23, 2014 4:43 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 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

Subject: Daily Technical Submission - December 23, 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.

Happy Holidays!!!!

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 23, 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 days temerpature 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 23, 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

- 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, repackaging)
  - o Currently, no further movements or re-packaging are planned.

#### Other:

- Due to a false alarm on a Continuous Air Monitor (CAM), one visual hourly inspection of the Dome 231 Permacon was not conducted on Monday December 22, 2014 at 7:30 AM. Visual hourly inspection resumed as required by the Revised Isolation Plan upon evaluation and resolution of the CAM alarm.
- 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 251-200 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 – 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**

		680	585			SB50	0522	
Date	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
12/23/14	134	402	11759	3179	2307	462	42274	1014

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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

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	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
	Start Time: 1445	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	_ Start Time:
TA-54-231							NEW WEST AND
Calibrated Infrared	Brand: FUKE	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 56	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 7/19/15	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:	Cal. Due Date:
	File Number 101974	File Number	File Number	File Number	File Number		File Number
Ambient Temperature (6.[7])	49.7 °F	°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])
S818435	50.3						
S802833	49.0						
S801676	48.5						
S816810	47.6						
70069	47.9 47.2						
S822844	47.2						
S825879	47.9						
S793724	48.1						
S813545	47.5						
S822713	48.0						
S802739	49.1						
69907	48.8						
S804995	48.8						
S816434	48.3						

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2012-22-14

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6.[6] Date: From <u>2+ 12-22-14</u> to <u>12-28-14</u>

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

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6.[6] Date: From <u>/2</u>	2-22-14 to 12-28-1	<u> </u>						
6.[2] Comments:								
6.[17], Performed by:	. //	/	11 / 1					
Altredo Agu	ilor Me to	P2931	781 AD112/22/14		/	/	/	/
Operator (print)	Signature	Z#	Initials Date	Operator (print)	Signature	Z#	Initials	Date
Tospuale	SPOG CABUMA	40 116	81-186 1222/	4	/	/		/
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	, 0		/ /				/	/
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
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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
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Operator (print)	Signature	· Z#	Initials Date	Operator (print)	Signature	Z#	Initials	Date
3.1[2] Reviewed by:								
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#### **ATTACHMENT 3**

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

6.[6] Date: From 12.22.14 to 12.28.14

							1	
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]	6.[6]
		Start Time: 119	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 1								
Calibrated Infrare	d	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer		Model: 56	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.I[I][B])		Cal. Due Date: G1215	Cal. Due Date:	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 Tempera (6.[7])	iture	53. 9 °F	°F	oF	oF.	oF	°F	°F
Container II	) #	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						
	68540	22.0						
LA00000070503	68553	54.9						
69445		55.3						
69618		55.						
69013		55,6 36.0						
LASB5052	2							
LASB5045	2	55.8						
LASB5043	1	55.7						
LASB5006	9	55.5	-					
LASB5007.	3	55.4						
69636		56.0						
69616		56.0						
69417		55.9						

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#### **ATTACHMENT 3**

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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])						
TA-54-375 Cell 1 (con	tinued)						(0,[0],0,[5])
69620	55.7						
69520	56.2						
69641	56.4						
69298	56.4						
LASB02203	56.3						
Ambient Temperature (6.[12])	53.7 °F	°F	°F	°F	°F	°F	
End Time (6.[13])	1125						
6.[13]	Operator: Operator:	Operator:	Operator:Operator:	Operator:	Operator: Operator:	Operator:	Operator: Operator:

	Operator:						
6.[2] Comments:							

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6.[6] Date: From 12.2	2.14 to 12.28.14								
o.[o] Date. From <u>FR-Z</u>	0 12 20 1	_							
6.[17] Performed by:	2/2 /	123639	ic, H,	12/22/14		/	/	/	/
Operator (print)	SignaturA	Z,#		Date	Operator (print)	Signature	Z#	Initials	Dat
( )OShulopez	- Julie	XULT	18/ DEC/	4166-61			/	/	_/
Operator (print)	Signature	/) Z#		Date	Operator (print)	Signature	Z#	Initials	Dat
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Operator (print)	Signature	Z#	Initials I	Date	Operator (print)	Signature	Z#	Initials	Dat
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Operator (print)	Signature	Z#	Initials [	Date	Operator (print)	Signature	Z#	Initials	Date
8.1[2] Reviewed by:									
	/	/	/ /						
SOM or designee (print)	Signature	Z#	Initials D	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:	Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
TA-54-375 Cell 2			MILES WITH IN			JAMEN TRANSPORT	
Calibrated Infrared Thermometer (4.2.1[1][B])	Brand: Flyld Model: Slo Cal. Due Date: C12 D File Number 10142	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	Cal. Due Date:	Brand:  Model:  Cal. Due Date:  File Number
Ambient Temperature (6.[7])	<u>57.4</u> °F	oF	°F	oF	oF	°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						
68638	57.8						
69615	58.2						
69635	58,5						
69642	57.9						
69630	57.6						
69633	58.2						
68430	57.8						
68631	58.1						
69634	28.)						
68567	57.9						
94227	57.5						
LASB50442	57.7						
69644	56.9						
LASB50443	56.0						
69638	56.6	1					



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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])						
TA-54-375 Cell 2 (cor	ntinued)						
68624	57.1						
68507	57.3						
69568	58.7						
69553	56.0						
69598	=5.8						
LASB50559	56.9						
69015	58.0						
69639	58.3						
69637	28.5						
Ambient Temperature (6.[12])	<u>56.0°</u> F	oF	oF	oF	oF	°F	°F
End Time (6.[13])							
6.[13]	Operator: Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:

6.[2] Comments:	 		
		V	
300			
		7 To 10	

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|--|

6.	[17] Performed by:	1 1			1 ,
	HOLDS Y.GZ	1-1-10	131381	141	112 22 14
	Operator (print)	Signature	Z#	Initials	Date
	10xherologoz	1 solver to Com	11165	81 DU	1 673714
	Operator (print)	Signature	Z#	Initials	Date
		, 0	/	/	/
	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
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date
	/	/	/ /
Operator (print)	Signature	Z#	Initials Date

### 8.1[2] Reviewed by:

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

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#### **ATTACHMENT 5**

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

6.[6] Date: From 12.22.14 to 12.28.14

UET

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	6.[6] Start Time:	6.[6] Start Time:	6.[6] Start Time:				
	Start Time	Start Time.	Start Time.	Start Time:	Start Time;	Start Time:	_ Start Time:
TA-54-375 Cell 3							
Calibrated Infrared	Brand: Fluke	Brand:	Brand:	Brand:	Brand:	Brand:	Brand:
Thermometer	Model: 561	Model:	Model:	Model:	Model:	Model:	Model:
(4.2.1[1][B])	Cal. Due Date: 6/17/15	Cal. Due Date:					
	File Number 1C1916	File Number					
Ambient Temperature (6.[7])	<u>56.</u> 2 °F	°F	°F	oF	oF	oF	oE
Container ID #	Temp (°F) (6.[8]/6.[9])						
69519	57.9						
69645	57.3						
94068	56.6						
93605	56.0						
69548	56.0						
69604	56.60						
LASB50529	87.0						
LASB50418	27.5						
69036	56.6						
LASB50451	56.2						
69559	56.4						
LASB50448	22.4						
Ambient Temperature (6.[12])	<u>S</u> .   °F	ol_	°F	°F	oF	°F	°F
End Time (6.[13])	1118						
6.[13]	Operator:						
	Operator:						

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INITIAL EC DATE 12-22-14

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6.[6] Date: From 12-2	2.14 to 12.28.14	_							
6.[2] Comments:									
		_							
6.[17] Performed by:									
THOMOS GOIL	1 + 1	12368	214	1 12/22/14		/	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
Oshertoon	Delua hys	1165	79/10	118661		/		/	/
Operator (print)	Sighature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	/ /	/	/	/		/	/		/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	/		/	/	0 ( )	/	/	/	/
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	Signature	Z#	Initials	Date
	/	/		/	Operator (print)	/ Signature	/ Z#	/ Initials	/ Data
Operator (print)	Signature	Z#	Initials	Date	Operator (print)	)	Z# '	minais ,	Date
O	/	/		/	Operator (print)	/ Signature	/ Z#	/ Initials	/ Date
Operator (print)	Signature	Z#	Initials	Date	operator (print)	/	/	/	/
Operator (print)	/ Signature	/	/ Initials	Date	Operator (print)	Signature	/ Z#	Initials	Date
operator (print)	0.5	211	mini	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 12.22.14 to 12.22.14 Location: Dome 375 Cell 1

										_				
	Start Time: 6.[6]	Start Time: 6,[6]	Start Time: 6,[6] 0_824	Start Time: 6.[6]	Start Time: 6.[6]	Start Time:	Start Time: 6.[6]	Start Time: 6.[6]	Start Time:	Start Time: 6.[6]	Start Time: 6.[6]	Start Time: 126	Start Time: 6.[6]	Start Time: 6.[6]
Calibrated Infrared Thermometer	Brand:	Brand: Model:	Brand:  Model: A	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:	Brand:	Brand:  Model: A	Brand: Model:	Brand: Model:	Brand: Model:	Brand: Model:
(4.2.1[1][B])	Cal Due Date:	Cal Tue Date:	Cal. Due Date:	CAlirDue Date:	Cal Due Date:	Cal. Due Date:	Cal Due Date:	Cal Due Date:	Cal. Due Date:	Cal. Due Date:	C.I. Due Date:	Cal Due Vail:	Cal. Due Date:	Cal. Due Date:
Ambient	50.83F	50.68	51,29	51.5F	53.29	54,68				54.6	53.3°F)			
Temperature (6.[7]) Container ID #			<u> </u>		•					_		51.9°F	-\of-	°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])	6.D (/6.[9])
6969511		52.27	52.09	52.78	53.3	54.69	55.49	53.9	53.59	54,29	53.22	52.1	1 1	/ / /
20255	51.84	51.82	52.17	52119	53.33	53.9	54.53	54,11	53.85		53.07	52,13	N	
80522 15	51.58	51.52	51179	51.88	53,19	53.83	54.48	54	53.79	53.74	52.93	51.9		
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6.[6] Date: From 12.22.14 to 12.22.14 Location: Jone 375 Call 1

Container ID#	Temp (°F)	Temp (°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])	(6.[8]/6.[9])
		<u> </u>											<u> </u>	
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							1						<del>                                     </del>	
							_							
					2	1/1								
					//									
														1
							,							
													1	
				_									10	<b>\</b>
														<u> </u>
														1
														<del>  \                                   </del>
Ambient	420 622	1015 17	C1 20	m1	53.3F	54.68	55.64	54.84	54.7.3	CU /	52 30	-10		<del>                                     </del>
Cemperature 6.[12])	50.83	50.7F	51.29	51,5°F	0717F	37.60	20. el	11 8F9	D -( . 1 - D)	54.6F	53.3F)	51.9	°F	°F
End Time 6.[13])	0626	0724	0825	0929	1026	1131	1227	1328	1426	1530	1628	1727		
6.[13]	Operator:		Onemtor:	Operator:	(perato)	Operator:			Operarbr:			_	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:		Operator	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	Operator:	Operator:
	J C	Operator:	5 C	25	Operator:	operator.	Operator:							
					-									

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## **ATTACHMENT 6**

•				Page 3 of 3				
6.[6] Date: From 12-2	12.22.14	Locatio	n: Done 375 call	1				
6.[2] Comments: V		e due	(omput	auding Dr	rder 124	Ω.	R. 2 all temps the control room.	
		77				7		
								5
			1					
				A				
				, (				
6.[17] Performed by:	1 111	3-7 (64)	_					
Desse Chara	Arbuature X	214578 Z# II	FC/12-22-19 nitials Date	Operator (print)	/ Signature	/Z#	Initials Date	
Operator (print)	e the the	-17. VOMC	12-22-14 nitials Date	Operator (print)	/Signature	/ Z# ~	Initials Date	
	Signature /	/ /	+		/	1		
Operator (print)	Signature	) Z# #	nitials Date	Operator (print)	Signature /	Z# J	Initials Date	
Operator (print)	Signature	∑# Ir	nitials Date	Operator (print)	Signature	Z#	Initials Date	
Operator (print)	Signature	Z# In	nitials Date	Operator (print)	Signature	Z#	Initials Date	
Operator (print)	/ Signature	// Z# Ir	/ nitials Date	Operator (print)	Signature	Z#	Initials Date	
	/	/	/		1	/	1 1	
Operator (print)	Signature	Z# Ir	nitials Date	Operator (print)	Signature	Z#	Initials Date	

8.1[2] Reviewed by:

SOM or designee (print)

UET

Signature

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

Location: Dome 575 6.[6] Date: From /7-72-19 to 12-23-19 Start Time: 6.[6] **2028** 2/24 2227 6.[6] 6.[6] 6.[6] 0524 6.[6] 6.[6] 6.[6] 6.[6] 0230 0425 1828 1930 0324 Brand: Brand: Brand: Brand: Brand: Calibrated Brand: Brand: Brand: Brand: Brand: Brand: Infrared Model Model Model: Madel: 4 Model: Mod A Thermometer not Cal. Du Date: (4.2.1[1][B]) Cal. Due Date: Cal. Due Date: Cal. Du Date: Cal. Due Date: Cal. Due Date: Cal. Due Date: Cal. Due Date: Cal. Que Date: Cal. Due Date: Cal. Due Date: Cal. Due Date: Cal. Due Date: File Number File Number File Number File Numbe File Numbe File Number File Numbe File Number File Number File Numb File Numbe Ambient 50.75°F 57.02F 50.64°F 49.40°F 47.9 °F 5142°F 50.87F 5/./2°F 50// °F 48.80°F 51.27°F 51,49F ٥F ۰F Temperature (6.[7])Temp (°F) Temp (°F) Container ID# Temp (°F) Temp (°F) Temp (°F) Temp (°F) Temp (°F) Temp (°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]) (6.[8]/6.[9]) 52.48 Ta) 68685 52.01 52.67 52.76 52.22 5246 52.22 51.13 50.94 50.13 52.61 49.26 TC2) 68685 51.99 51.67 51,66 51.10 50.95 50.03 51.18 52.10 51.55 51.55 52.01 50.82 50.19 52.14 52.02 51.89 51.30 T4 50522 52.17 52.32 52.27 51.87 49.81 51.97 51.10 50.39 TCS) 50522 51.83 52.0 51.85 51.62 50.88

WO	RKIN	1G	CC	P	1						
Z#	2	2	4	9	3	2	_				
INI	ΓIAL	K	1	li	/		DATE	12	-2	2-	17

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6.[6] Date: From 12-22-14 to 12-23-14 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							
													1	
													1	
					_	1	7.8							
							14							
						N							-	
			!											
													NA	N
					<u>                                     </u>									
mbient				cr2		7/10			44					
emperature 5.[12])	51.27°F	51.42°F	57.39 °F	50.87F	51.2 °F	51.02°F	50.77F	50.64F	50.11 °F	49,40F	48.80F	47.9°F		
nd Time 5.[13])	1828	1931	2028	2125	2227	2328	0026	0129	0230	0324	0415	0524		
6.[13]	Operator:	Operator:	Operator:	Operator:	Operator:	Operator	Operator:	Operator:	Operator	Operator:	Operator:	Operator:	Operator:	Operator:
	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:	Operator:
		-	<u> </u>			-wic	<u> </u>	000	W	7K-	- <del></del>	77		

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			rage 3 (	11 3		
6.[6] Date: From <u>12</u>	2-22-14 to 12-23-1	Location: <u>Dome 376</u>	5			
6.[2] Comments: D:	d not enter	Permacon les 5ta	nelle Order	1247 Rev Z.	All Tungs Jaken from	Dome 375
				10		
6.[17] Performed by:  (A) Wiscon Goods  Operator (print)  Operator (print)  Operator (print)  Operator (print)	Signature Signature	1/12507+	Operator (print) Operator (print) Operator (print) Operator (print)	Signature / Signature / Signature / Signature / Signature	/ / / Z# Initials Date	
	/		Operator (print)	/ Signature	Z# Initials Date	
Operator (print)	Signature	Z# Initials Date	ореганы (рини)	/	/ / /	
Operator (print)	Signature	Z# Initials Date	Operator (print)	Signature	Z# Initials Date	

8.1[2] Reviewed by:

SOM or designee (print)