

# Postclosure Inspection Report for the Tonopah Test Range and Nevada Test and Training Range, Nevada, Sites for Calendar Year 2022

March 2023

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### **Abbreviations**

AEC U.S. Atomic Energy Commission

CAS Corrective Action Site
CAU Corrective Action Unit

DOE U.S. Department of Energy

FFACO Federal Facility Agreement and Consent Order

LM Office of Legacy Management

NTTR Nevada Test and Training Range

ROTC Record of Technical Change

TTR Tonopah Test Range

UR use restriction

## **Executive Summary**

This U.S. Department of Energy Office of Legacy Management (LM) report provides the results of the annual postclosure use restriction (UR) inspections at Corrective Action Sites (CASs) on the Tonopah Test Range (TTR) and Nevada Test and Training Range, Nevada, Sites. This report covers postclosure UR inspections for calendar year 2022, and includes visual inspections and repair activities completed at the following Corrective Action Units (CAUs):

- CAU 407, Roller Coaster RadSafe Area (TTR)
- CAU 424, Area 3 Landfill Complexes (TTR)
- CAU 453, Area 9 UXO Landfill (TTR)
- CAU 487, Thunderwell Site (TTR)

Visual inspections were conducted in accordance with the postclosure requirements outlined in specific CAU and CAS URs approved by the Nevada Division of Environmental Protection. The annual postclosure inspections for CASs associated with CAUs 407, 424, 453, and 487 were conducted on May 31, 2022. Maintenance items identified included animal burrows, loose signs, and broken wire fencing. All repairs were completed during the inspection.

This report, Closure Reports, and the current, approved UR forms are available on the LM public website at https://lmpublicsearch.lm.doe.gov/lmsites/current ttr userestrictions.pdf.

#### 1.0 Introduction

This report presents results of the inspections conducted by the U.S. Department of Energy (DOE) Office of Legacy Management (LM) at the Tonopah Test Range (TTR) and Nevada Test and Training Range (NTTR), Nevada, Sites. The TTR is in south-central Nevada, approximately 140 miles northwest of Las Vegas, Nevada, and 30 miles southeast of Tonopah, Nevada. The TTR is within the boundaries of the NTTR (Appendix A, Figure 1). The TTR site includes Corrective Action Sites (CASs) on both the TTR and NTTR sites.

In 1956, the U.S. Atomic Energy Commission (AEC), predecessor agency to DOE, began testing weapon systems, research rockets, and artillery on the TTR. All sites related to these AEC activities were closed under the *Federal Facility Agreement and Consent Order (FFACO)* (1996, as amended) and the majority do not require any continuing actions. CASs within four Corrective Action Units (CAUs) have use restrictions (URs) and require annual inspections. Closure Reports for each CAU establish the postclosure inspection requirements; these were later modified through Record of Technical Change (ROTC) and all requirements are now documented on UR forms for the sites.

### 1.1 Scope and Objective

This report includes visual annual inspection results, maintenance and repair activities, and recommendations for calendar year 2022 for URs associated with CASs on the TTR and NTTR that are accessed through the TTR/NTTR main gate. The TTR is part of and located on the NTTR.

The locations of the CAUs are shown in Figure 1 of Appendix A. The visual inspections were conducted in accordance with the postclosure requirements outlined in specific CAU and CAS URs approved by the Nevada Division of Environmental Protection. The following visual inspection results are included in this report:

- CAU 407: Roller Coaster RadSafe Area (TTR)
  - CAS TA-23-001-TARC: Roller Coaster RadSafe Area
- CAU 424: Area 3 Landfill Complexes (TTR)
  - CAS 03-08-001-A301: Landfill Cell A3-1
  - CAS 03-08-002-A302: Landfill Cell A3-2
  - CAS 03-08-002-A303: Landfill Cell A3-3
  - CAS 03-08-002-A304: Landfill Cell A3-4
  - CAS 03-08-002-A305: Landfill Cell A3-5
  - CAS 03-08-002-A306: Landfill Cell A3-6
  - CAS 03-08-002-A308: Landfill Cell A3-8
- CAU 453: Area 9 UXO Landfill (TTR)
  - CAS 09-55-001-0952: Area 9 Landfill
- CAU 487: Thunderwell Site (TTR)
  - CAS RG-26-001-RGRV: Thunderwell Site

Site figures are included in Appendix A. There are no postclosure inspection plans in Appendix B, because they have been consolidated onto UR forms available on the LM public website at <a href="https://lmpublicsearch.lm.doe.gov/lmsites/current\_ttr\_userestrictions.pdf">https://lmpublicsearch.lm.doe.gov/lmsites/current\_ttr\_userestrictions.pdf</a>. Postclosure inspection checklists from May 31, 2022, are included in Appendix C. Appendix D, "Field Notes," does not have any field notes because all observations were captured on the postclosure inspection checklists. Appendix E, "Photographs," does not include any inspection photographs because none were taken or required during the 2022 postclosure inspections. Appendix F, "Postclosure Vegetation Monitoring Report," does not include any data because vegetation monitoring was not conducted or required at any use-restricted site in 2022. Appendix G "NDEP Correspondence and Record of Review" contains the record of review and any correspondence from NDEP regarding this report.

Depending on specific UR requirements, postclosure UR inspections may include a visual inspection of some or all of the following physical controls:

- Fencing (is present and provides a barrier; at CAUs 407 and 453 only)
- Signs (are present and legible)
- Soil cover (completely covers material)
- Monuments (are present and standing)
- Markers (are present)

## 2.0 Inspection Results

Visual inspections were conducted on May 31, 2022. The inspection results are summarized below and documented on postclosure inspection checklists, which can be found in Appendix C.

### 2.1 CAU 407, Roller Coaster RadSafe Area (TTR)

Visual inspections were conducted according to the postclosure requirements for CAU 407, Roller Coaster RadSafe Area (TTR), CAS TA-23-001-TARC, Roller Coaster RadSafe Area, as described in the CAU 407 UR (DOE/EMNV 2019a). The site is shown in Figure 2 in Appendix A. The visual inspection was conducted on May 31, 2022. All signs were legible. Three signs were loose and were rehung during the inspection. The top strand of the wire fence was broken in three places, and the strands were reattached to the T-posts during the inspection. No other repair or maintenance needs were observed.

## 2.2 CAU 424, Area 3 Landfill Complexes (TTR)

Visual inspections were conducted according to the postclosure requirements for CAU 424, Area 3 Landfill Complexes (TTR), CAS 03-08-001-A301, Landfill Cell A3-1; CAS 03-08-002-A302, Landfill Cell A3-2; CAS 03-08-002-A303, Landfill Cell A3-3; CAS 03-08-002-A304, Landfill Cell A3-4; CAS 03-08-002-A305, Landfill Cell A3-5; CAS 03-08-002-A306, Landfill Cell A3-6; and CAS 03-08-002-A308, Landfill Cell A3-8, as described in the CAU 424 UR (DOE/EMNV 2019b). The landfill locations are shown in Figure 3 of Appendix A. The inspection was conducted on May 31, 2022.

Landfill Cell A3-1 (CAS 03-08-001-A301): All signs, monuments, and survey markers were in good condition. All corner monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 4 of Appendix A.

Landfill Cell A3-2 (CAS 03-08-002-A302): All signs, monuments, and survey markers were in good condition. All corner monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 4 of Appendix A.

Landfill Cell A3-3 (CAS 03-08-002-A303): All signs, monuments, survey markers (on the monuments), and ground survey markers were in good condition. All monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 5 of Appendix A.

**Landfill Cell A3-4 (CAS 03-08-002-A304):** All signs, monuments, and survey markers were in good condition. All monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 6 of Appendix A.

**Landfill Cell A3-5 (CAS 03-08-002-A305):** All signs, monuments, and survey markers were in good condition. All monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 7 of Appendix A.

Landfill Cell A3-6 (CAS 03-08-002-A306): All signs, monuments, and survey markers were in good condition. All monuments had warning signs. No repair or maintenance needs were observed. The site is shown in Figure 8 of Appendix A.

**Landfill Cell A3-8 (CAS 03-08-002-A308)**: All ground survey monuments and markers were in good condition. No repair or maintenance needs were observed. The site is shown in Figure 9 of Appendix A.

## 2.3 CAU 453, Area 9 UXO Landfill (TTR)

Visual inspections were conducted according to the postclosure requirements for CAU 453, Area 9 UXO Landfill (TTR), CAS 09-55-001-0952, Area 9 Landfill, as described in the CAU 453 UR (DOE/EMNV 2019c). The site is shown in Figure 10 of Appendix A. The inspection was conducted on May 31, 2022. All signs and monuments were in good condition. The perimeter fence was in good condition. UR signs were attached to the fence and legible. Several animal burrows and holes resulting from settling were present along the north and south trenches and repaired during the inspection. No other repair or maintenance needs were observed.

## 2.4 CAU 487, Thunderwell Site (TTR)

Visual inspections were conducted according to the postclosure requirements for CAU 487, Thunderwell Site (TTR), CAS RG-26-001-RGRV, Thunderwell Site, as described in the CAU 487 UR (DOE/EMNV 2019d). The site is shown in Figure 11 of Appendix A. The annual inspection was conducted on May 31, 2022. The site is made up of two land parcels: the A-17 Anomaly and the A-8 Anomaly. All signs, monuments, and survey markers were in good condition. All monuments had warning signs. No repair or maintenance needs were observed.

### 3.0 Summary

Brief summaries of the annual visual inspections and recommendations are outlined below.

#### 3.1 CAU 407, Roller Coaster RadSafe Area (TTR)

Three signs were loose and were rehung during the inspection. The top strand of the wire fence was reattached in three locations. No other repair or maintenance needs were identified, and no recommendations are proposed at CAS TA-23-001-TARC, Roller Coaster RadSafe Area.

### 3.2 CAU 424, Area 3 Landfill Complexes (TTR)

The following observations and recommendations are for the seven CASs within CAU 424:

Landfill Cell A3-1 (CAS 03-08-001-A301). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-2 (CAS 03-08-002-A302). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-3 (CAS 03-08-002-A303). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-4 (CAS 03-08-002-A304). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-5 (CAS 03-08-002-A305). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-6 (CAS 03-08-002-A306). No repair or maintenance needs were identified, and no recommendations are proposed.

Landfill Cell A3-8 (CAS 03-08-002-A308). No repair or maintenance needs were identified, and no recommendations are proposed.

## 3.3 CAU 453, Area 9 UXO Landfill (TTR)

Several animal burrows and holes resulting from settling were present along the northern and southern trenches and repaired during the inspection. No other repair or maintenance needs were identified, and no recommendations are proposed at CAS 09-55-001-0952, Area 9 Landfill.

### 3.4 CAU 487, Thunderwell Site (TTR)

No repair or maintenance needs were identified, and no recommendations are proposed at CAS RG-26-001-RGRV, Thunderwell Site.

#### 4.0 References

DOE (U.S. Department of Energy)/EMNV (Environmental Management Nevada Program), 2019a. *Record of Technical Change to Closure Report for Corrective Action Unit 407: Roller Coaster RADSAFE Area, Tonopah Test Range, Nevada,* DOE/NV--694-rev 1, ROTC No. DOE/NV--694-rev 1-ROTC 1, Las Vegas, Nevada, November 19.

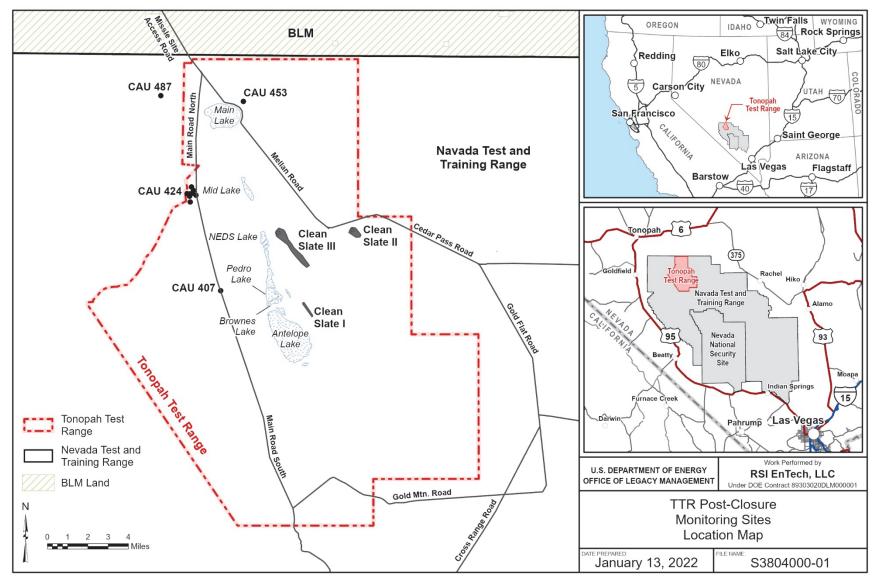
DOE (U.S. Department of Energy)/EMNV (Environmental Management Nevada Program), 2019b. *Record of Technical Change to Closure Report for Corrective Action Unit 424: Area 3 Landfill Complex, Tonopah Test Range, Nevada*, Rev. 0, DOE/NV/11718--283; ROTC No. DOE/NV/11718--283-ROTC 1, Las Vegas, Nevada, July 2.

DOE (U.S. Department of Energy)/EMNV (Environmental Management Nevada Program), 2019c. *Record of Technical Change to Closure Report for Corrective Action Unit 453: Area 9 UXO Landfill, Tonopah Test Range, Nevada,* DOE/NV/11718--284; ROTC No. DOE/NV/11718--284-ROTC 1, Las Vegas, Nevada, November 19.

DOE (U.S. Department of Energy)/EMNV (Environmental Management Nevada Program), 2019d. *Record of Technical Change to Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada, Rev. 0,* DOE/NV--761; ROTC No. DOE/NV--761-ROTC 3, Las Vegas, Nevada, November 19.

Appendix A

**Figures** 



**Abbreviation:** BLM = U.S. Bureau of Land Management

Figure 1. Tonopah Test Range Site Location Map



Figure 2. Roller Coaster RadSafe Area

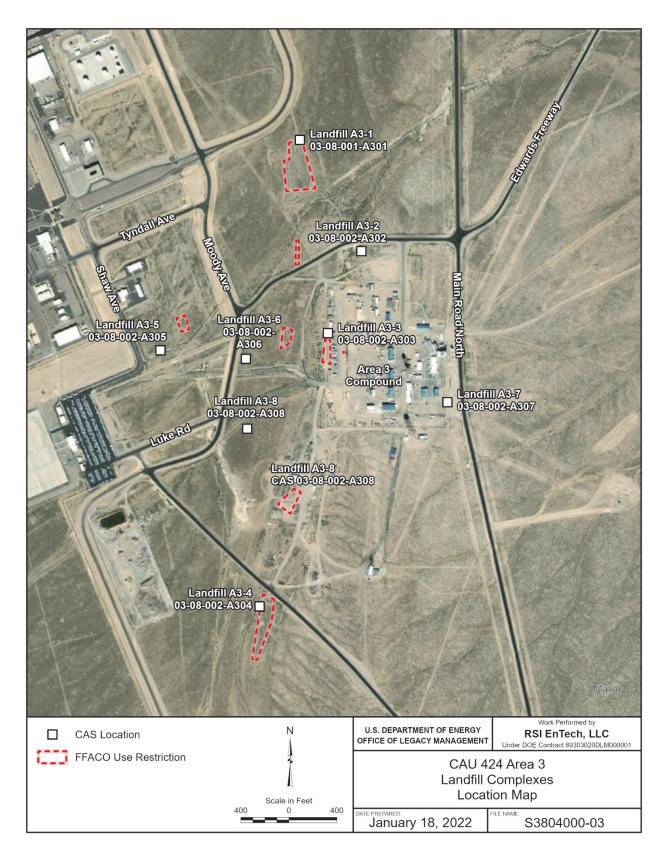


Figure 3. CAU 424, CAS Locations

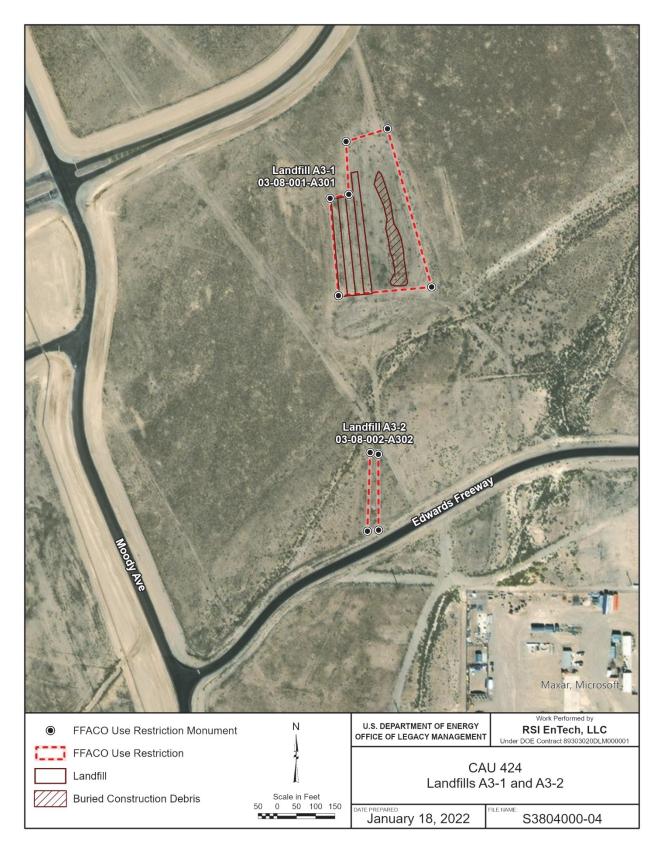


Figure 4. CAU 424, Landfills A3-1 and A3-2

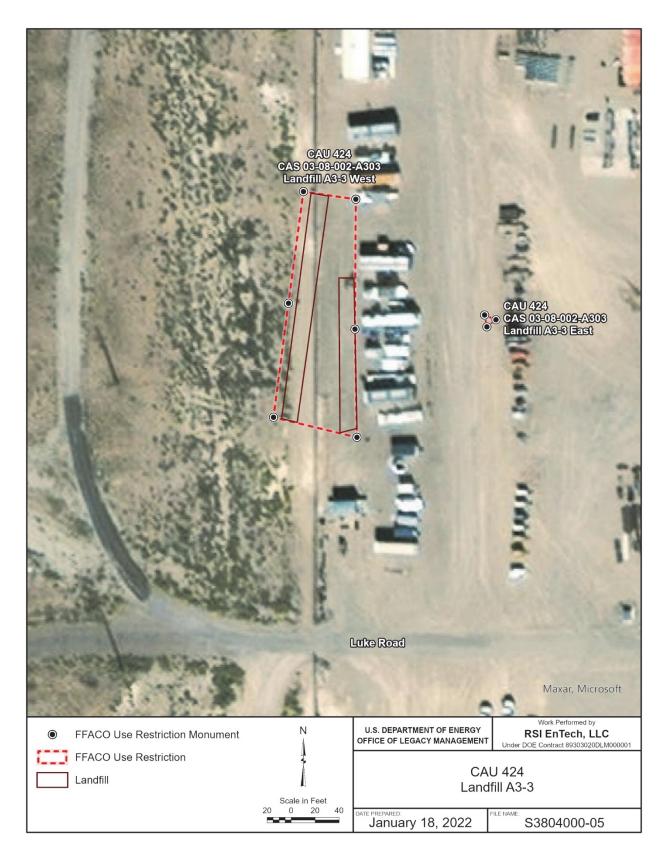


Figure 5. CAU 424, Landfill A3-3

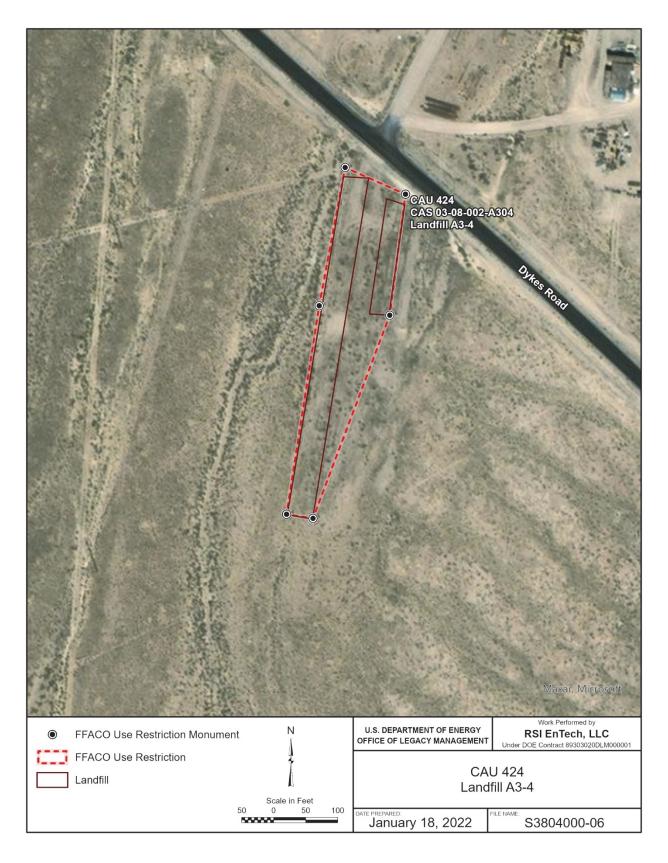


Figure 6. CAU 424, Landfill A3-4



Figure 7. CAU 424, Landfill A3-5



Figure 8. CAU 424, Landfill A3-6



Figure 9. CAU 424, Landfill A3-8

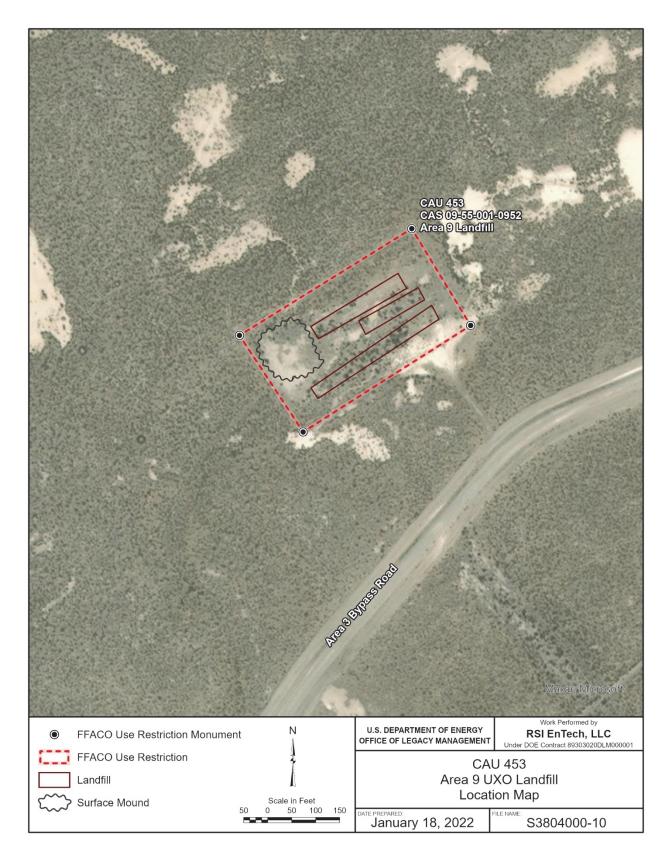


Figure 10. CAU 453, Area 9 UXO Landfill

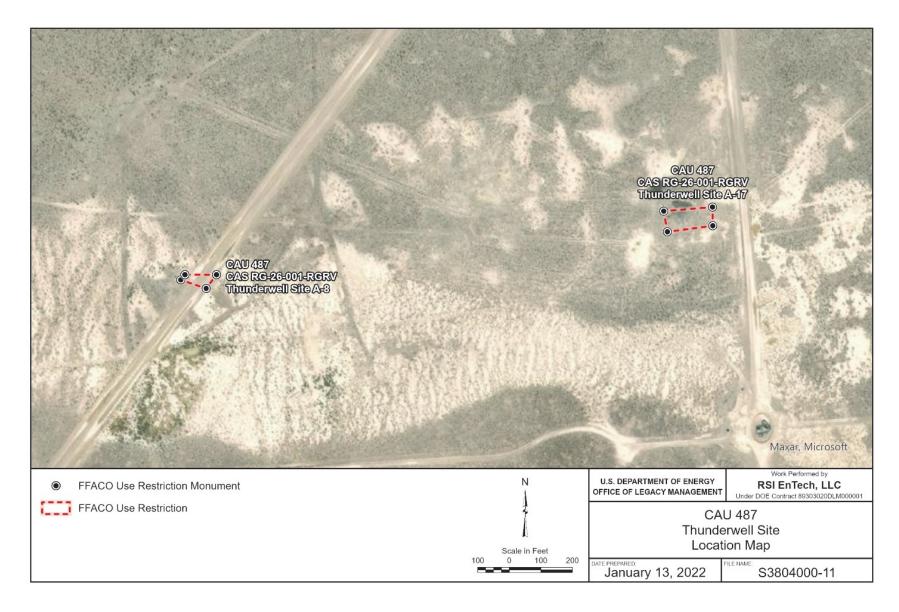


Figure 11. CAU 487, Thunderwell

#### Appendix B

#### **Postclosure Inspection Plans**

Postclosure inspections are conducted according to site-specific UR forms, so individual or annual inspection plans are not needed. Current, approved UR forms are available on the LM public website at https://lmpublicsearch.lm.doe.gov/lmsites/current\_ttr\_userestrictions.pdf.

# **Appendix C**

**Postclosure Inspection Checklists** 

#### Inspection Requirement: Annual POST-CLOSURE INSPECTION CHECKLIST CAU 407, ROLLER COASTER RADSAFE AREA (TTR) – CAS TA-23-001-TARC, ROLLER COASTER RADSAFE AREA Inspection Date: 5/31/22 Reason for Inspection: Annual Date of Last Post-Closure Inspection: 5/18/21 Reason for Last Post-Closure Inspection: Annual Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI A. GENERAL INSTRUCTIONS • Visual inspection includes features described in this checklist. · Field notes are not required if the checklist and associated attachments adequately describe site conditions. Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent B. PREPARATION (To be completed prior to the site visit) YES NO EXPLANATION (required if shaded box is checked) Routine maintenance at this site typically includes reattaching loose 1. Were anomalies or trends detected on previous inspections? signs and repairing the wire fence. Sign and fence repair occurred during the last inspection, there were 2. Were maintenance or repairs performed since the last inspection? no additional repairs. C. SITE INSPECTION (To be completed during the site visit) YES **UR Signs:** NO EXPLANATION (required if shaded box is checked) Reattached corners of 3 loose signs 1. Are all use restriction signs present and legible? Waste Unit Cover/Fenced Area: YES NO EXPLANATION (required if shaded box is checked) 1. Is there evidence of subsidence, settling or cracking, water X ponding, or animal burrows on the cover? 2. Is there evidence or erosion (wind or water) on the cover? X 3. Is there any waste exposed? X 4. Are there signs of unauthorized use? X 5. Is there vegetation up against the fencing (inside or outside)? x Top strand of wire fence was reattached to T-post in 3 locations 6. Is there damage to or a break in the fencing or fenceposts? during the inspection. 7. Is there trash or debris within the fenced area? X Are there any other issues not specifically described in this checklist? X D. FIELD CONCLUSIONS NO EXPLANATION (required if shaded box is checked) YES 1. Have photographs of the site been taken? X 2. Is there an imminent hazard to the integrity of the landfill cover? Signs and fence were repaired during the inspection. The loose fence wires were at the same locations as the loose signs. There were no new animal burrows. E. INSPECTION PERSONNEL Inspector Signature & Date:

Jaclyn M. Petrello Digitally signed by Jaclyn M. Petrello Date: 2022.06.10 08:59:15 -06'00'

POST-CLOSURE INSPECTION CHECKLIST							
CAU 424, AREA 3 LANDFILL COMPLEXES (TTR) – CAS 03-08-001-A301, LANDFILL CELL A3-1							
Inspection Date: 5/31/22			Reason for Inspection: Annual				
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual				
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI							
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>							
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Were anomalies or trends detected on previous inspections?	X		Routine maintenance at this site sometimes includes filling small animal burrows.				
2. Were maintenance or repairs performed since the last inspection?		х	Small animal burrows were filled during that last inspection, there were no additional repairs.				
C. SITE INSPECTION (To be completed during the site visit)		1					
UR Signs, Monuments, and Markers:	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Are all use restriction signs present and legible?	Х						
2. Have any of the monuments been disturbed or damaged?		X					
Waste Unit Cover:  1. Is there evidence of subsidence, settling or cracking, water ponding, or	YES	NO	EXPLANATION (required if shaded box is checked)				
animal burrows on the cover?		X					
2. Is there evidence or erosion (wind or water) on the cover?		х					
3. Is there any waste exposed?		x					
4. Are there signs of unauthorized use?		X					
Are there any other issues not specifically described in this checklist?		х					
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Have photographs of the site been taken?		X					
2. Is there an imminent hazard to the integrity of the landfill cover?		Х					
Notes:							
None							
L HAND CHAN DEDGONAN							
E. INSPECTION PERSONNEL Inspector Signature & Date:							
	امالہ ء؛	المحال	ou la chia M. Datralla				
Jaclyn M. Petrello Digitally signed by Jaclyn M. Petrello Date: 2022 06 10 09:11:14 -06'00'							

POST-CLOSURE INSPECTION CHECKLIST						
CAU 424, AREA 3 LANDFILL COMPLEXE	S (TTF	<b>R) – C</b> A	AS 03-08-002-A302, LANDFILL CELL A3-2			
Inspection Date: 5/31/22			Reason for Inspection: Annual			
Date of Last Post-Closure Inspection: 5/18/21	n for Last Post-Closure Inspection: Annual					
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI						
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>						
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)  Routine maintenance at this site sometimes includes filling small			
1. Were anomalies or trends detected on previous inspections?	X		animal burrows.			
2. Were maintenance or repairs performed since the last inspection?		X	Small animal burrows were filled during that last inspection, there were no additional repairs.			
C. SITE INSPECTION (To be completed during the site visit)		•				
UR Signs/Landfill Markers:	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Are all use restriction signs present and legible?	X					
2. Have any of the monuments been disturbed or damaged?		X				
Waste Unit Cover:  1. Is there evidence of subsidence, settling or cracking, water ponding, or	YES	NO	EXPLANATION (required if shaded box is checked)			
animal burrows on the cover?		X				
2. Is there evidence or erosion (wind or water) on the cover?		X				
3. Is there any waste exposed?		X				
3.Are there signs of unauthorized use?		X				
Are there any other issues not specifically described in this checklist?		X				
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Have photographs of the site been taken?		X				
2. Is there an imminent hazard to the integrity of the landfill cover?		X				
Notes:						
None						
E. INSPECTION PERSONNEL						
Inspector Signature & Date:						
Jaclyn M. Petrello	Digital Petrell	ly sig o	ned by Jaclyn M.			

Page 1 of 1

Date: 2022.06.10 09:15:12 -06'00'

POST-CLOSURE INSPECTION CHECKLIST						
CAU 424, AREA 3 LANDFILL COMPLEXE	CAU 424, AREA 3 LANDFILL COMPLEXES (TTR) – CAS 03-08-002-A303, LANDFILL CELL A3-3					
Inspection Date: 5/31/22			Reason for Inspection: Annual			
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual			
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI						
A. GENERAL INSTRUCTIONS						
<ul> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>						
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Were anomalies or trends detected on previous inspections?		X				
2. Were maintenance or repairs performed since the last inspection?		X				
C. SITE INSPECTION (To be completed during the site visit)						
UR Signs/Landfill Markers:	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Are all use restriction signs present and legible?	X					
2. Have any of the monuments been disturbed or damaged?		X				
Have any of the ground-flush survey markers been disturbed or damaged?		х				
Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)			
I. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows on the cover?		X				
2. Is there evidence or erosion (wind or water) on the cover?		X				
3. Is there any waste exposed?		Х				
4. Are there signs of unauthorized use?		X				
Are there any other issues not specifically described in this checklist?		x				
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Have photographs of the site been taken?		X				
2. Is there an imminent hazard to the integrity of the landfill covers?		X				
Notes:						
None						
E. INSPECTION PERSONNEL Inspector Signature & Date:						
n						
Jaclyn M. Petrello Digita	ally sign	ned by	Jaclyn M. Petrello 2·54·56 -06'00'			

POST-CLOSURE INSPECTION CHECKLIST						
CAU 424, AREA 3 LANDFILL COMPLEXES (TTR) – CAS 03-08-002-A304, LANDFILL CELL A3-4						
Inspection Date: 5/31/22			Reason for Inspection: Annual			
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual			
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI						
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>						
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)  Routine maintenance at this site sometimes includes filling small			
Were anomalies or trends detected on previous inspections?	Х		animal burrows.			
2. Were maintenance or repairs performed since the last inspection?		X	Small animal burrows were filled during that last inspection, there were no additional repairs.			
C. SITE INSPECTION (To be completed during the site visit)	1					
UR Signs/Landfill Markers:	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Are all use restriction signs present and legible?	X					
2. Have any of the monuments been disturbed or damaged?	VEC	X	EVELANATION ( . 1.0.1.1.1 1.1.1)			
Waste Unit Cover:  1. Is there evidence of subsidence, settling or cracking, water ponding, or	YES	NO	EXPLANATION (required if shaded box is checked)			
animal burrows on the cover?		X				
2. Is there evidence or erosion (wind or water) on the cover?		X				
3. Is there any waste exposed?		X				
3.Are there signs of unauthorized use?		X				
Are there any other issues not specifically described in this checklist?		X				
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Have photographs of the site been taken?		X				
2. Is there an imminent hazard to the integrity of the landfill covers?		X				
Notes:						
None						
E. INSPECTION PERSONNEL						
Inspector Signature & Date:						
Jaclyn M. Petrello Digitally s	igned 2.06.10	by Jac ) 09:25	lyn M. Petrello ::59 -06'00'			

POST-CLOSURE INSPECTION CHECKLIST							
CAU 424, AREA 3 LANDFILL COMPLEXES (TTR) – CAS 03-08-002-A305, LANDFILL CELL A3-5							
Inspection Date: 5/31/22			Reason for Inspection: Annual				
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual				
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI							
A. GENERAL INSTRUCTIONS     Visual inspection includes features described in this checklist.     Field notes are not required if the checklist and associated attachments adequately describe site conditions.     Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).							
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)				
Were anomalies or trends detected on previous inspections?		X					
2. Were maintenance or repairs performed since the last inspection?		X					
C. SITE INSPECTION (To be completed during the site visit)							
UR Signs, Monuments, and Markers:	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Are all use restriction signs present and legible?	X						
2. Have any of the monuments been disturbed or damaged?	*****	X					
Waste Unit Cover:  1. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows on the cover?	YES	NO x	EXPLANATION (required if shaded box is checked)				
2. Is there evidence or erosion (wind or water) on the cover?		X					
3. Is there any waste exposed?		X					
4. Are there signs of unauthorized use?		х					
Are there any other issues not specifically described in this checklist?		Х					
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Have photographs of the site been taken?		X					
2. Is there an imminent hazard to the integrity of the landfill cover?		Х					
Notes:							
None							
E. INSPECTION PERSONNEL							
Inspector Signature & Date:							
Jaclyn M. Petrello Digitally Date: 20	/ signed 022.06.1	d by Ja 10 09:2	clyn M. Petrello 7:50 -06'00'				

POST-CLOSURE INSPECTION CHECKLIST					
CAU 424, AREA 3 LANDFILL COMPLEXE	CAU 424, AREA 3 LANDFILL COMPLEXES (TTR) – CAS 03-08-002-A306, LANDFILL CELL A3-6				
Inspection Date: 5/31/22			Reason for Inspection: Annual		
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual		
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI					
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>					
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)		
Were anomalies or trends detected on previous inspections?		X			
2. Were maintenance or repairs performed since the last inspection?		X			
C. SITE INSPECTION (To be completed during the site visit)	VEC	NO	EVEN ANATION ( . 1 C 1 1 1 1 1 1 1 1 1 1		
UR Signs, Monuments, and Markers:  1. Are all use restriction signs present and legible?	YES	NO	EXPLANATION (required if shaded box is checked)		
	X				
2. Have any of the monuments been disturbed or damaged?  Waste Unit Cover:	YES	X NO	EXPLANATION (required if shaded box is checked)		
1. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows, on the cover?	1123	х	EAFLANATION (required it shaded box is checked)		
2. Is there evidence or erosion (wind or water) on the cover?		X			
3. Is there any waste exposed?		X			
4. Are there signs of unauthorized use?		Х			
Are there any other issues not specifically described in this checklist?		X			
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)		
1. Have photographs of the site been taken?		X			
2. Is there an imminent hazard to the integrity of the landfill covers?		х			
Notes:					
None Contract of the contract					
E. INSPECTION PERSONNEL Inspector Signature & Date:  Digital D	tally sig	ned b	y Jaclyn M. Petrello		
Jaclyn M. Petrello Digitally signed by Jaclyn M. Petrello Date: 2022.06.10 09:30:04 -06'00'					

POST-CLOSURE INSPECTION CHECKLIST						
CAU 424, AREA 3 LANDFILL COMPLEXE	S (TTF	R) – CA	AS 03-08-002-A308, LANDFILL CELL A3-8			
Inspection Date: 5/31/22		Reason for Inspection: Annual				
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual			
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI						
A. GENERAL INSTRUCTIONS						
Visual inspection includes features described in this checklist.      Field notes are not required if the checklist and associated attachment.	e adagua	talv dace	riba sita conditions			
<ul> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>						
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)			
Were anomalies or trends detected on previous inspections?	TES	Х	EM EMPITION (required it shaded box is encored)			
Were maintenance or repairs performed since the last inspection?		x				
C. SITE INSPECTION (To be completed prior to the site visit)						
UR Signs, Monuments, and Markers:	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Are all use restriction signs present and legible?	Х					
2. Have any of the ground-flush survey markers been disturbed or damaged?		х				
Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows on the cover?		x				
2. Is there evidence or erosion (wind or water) on the cover?		х				
3. Is there any waste exposed?		Х				
4. Are there signs of unauthorized use?		Х				
Are there any other issues not specifically described in this checklist?		Х				
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)			
1. Have photographs of the site been taken?		Х				
2. Is there an imminent hazard to the integrity of the landfill covers?		X				
Notes:						
None						
E. INSPECTION PERSONNEL						
Inspector Signature & Date:						

Jaclyn M. Petrello Digitally signed by Jaclyn M. Petrello Date: 2022.06.10 09:31:38 -06'00'

Inspection Requirement: Annual								
POST-CLOSURE I	NSPI	ECTI	ON CHECKLIST					
CAU 453, AREA 9 UXO LANDFILL (TTR) – CAS 09-55-001-0952, AREA 9 LANDFILL								
Inspection Date: 5/31/22		Reason	n for Inspection: Annual					
Date of Last Post-Closure Inspection: 5/18/21		Reason	n for Last Post-Closure Inspection: Annual					
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI	Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI							
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>								
B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)					
1. Were anomalies or trends detected on previous inspections?	x		Routine maintenance at this site typically includes filling large animal burrows along the north and south trench.					
2. Were maintenance or repairs performed since the last inspection?		x	Large animal burrows were repaired during the previous inspection, there were no additional repairs.					
C. SITE INSPECTION (To be completed during the site visit)								
UR Signs, Monuments, and Markers:	YES	NO	EXPLANATION (required if shaded box is checked)					
1. Are all use restriction signs present and legible?	Х							
2. Have any of the monuments been disturbed or damaged?		х						
Waste Unit Cover/Fenced Area:	YES	NO	EXPLANATION (required if shaded box is checked)					
1. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows on the cover?	Х		Large animal burrows along north and south trench repaired during inspection. Some of the voids in the north trench appear to be the result of settling rather than the animal burrows observed in the past.					
2. Is there evidence or erosion (wind or water) on the cover?		X						
3. Is there any waste exposed?		х						
4. Are there signs of unauthorized use?		х						
5. Is there vegetation up against the fencing (inside or outside)?		х						
6. Is there damage to or a break in the fencing or fenceposts (signs of wear)?		х						
7. Is there trash or debris within the fenced area?		х						
Are there any other issues not specifically described in this checklist?		х						
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)					
1. Have photographs of the site been taken?		X						
2. Is there an imminent hazard to the integrity of the landfill cover?		X						
Notes:								
Large, deep burrows were filled during the inspection. These appear to be in	n the san	ne areas	as previously filled holes. Along the north trench some of the holes					
appear related to settling and not animal activity.								
E. INSPECTION PERSONNEL								
Inspector Signature & Date:								
(D	igitall	ly sigi	ned by Jaclyn M.					
Jaclyn M. Petrello Petrello								

Date: 2022.06.10 09:50:58 -06'00'

POST-CLOSURE INSPECTION CHECKLIST							
CAU 487, THUNDERWELL SITE (TTR) – CAS RG-26-001-RGRV, THUNDERWELL SITE							
Inspection Date: 5/31/22			Reason for Inspection: Annual				
Date of Last Post-Closure Inspection: 5/18/21			n for Last Post-Closure Inspection: Annual				
Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI	Inspector (name, title, organization): Jackie Petrello, Site Lead, RSI						
<ul> <li>A. GENERAL INSTRUCTIONS</li> <li>Visual inspection includes features described in this checklist.</li> <li>Field notes are not required if the checklist and associated attachments adequately describe site conditions.</li> <li>Photographs are not required but may be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use).</li> </ul>							
B. PREPARATION (To be completed prior to the site visit)      Were anomalies or trends detected on previous inspections?	YES	NO	EXPLANATION (required if shaded box is checked)				
Were maintenance or repairs performed since the last inspection?		X					
C. SITE INSPECTION (To be completed during the site visit)							
UR Signs, Monuments, and Markers: (A8 and A17 Anomalies)	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Are all use restriction signs present and legible?	X		( 1				
2. Have any of the monuments been disturbed or damaged?		X					
Waste Unit Cover: (A8 Anomaly)	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Is there evidence of subsidence, settling or cracking, water ponding, or animal burrows on the cover?		х					
2. Is there evidence or erosion (wind or water) on the cover?		X					
3. Is there any waste exposed?		х					
4. Are there signs of unauthorized use?		X					
Are there any other issues not specifically described in this checklist?		Х					
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)				
1. Have photographs of the site been taken?		Х					
2. Is there an imminent hazard to the integrity of the landfill covers?		Х					
Notes:							
None							
E. INSPECTION PERSONNEL							
Inspector Signature & Date:							
Jaclyn M. Petrello	Digital Date: 2	ly sigi 2022.0	ned by Jaclyn M. Petrello 16.10 09:53:14 -06'00'				

Page 1 of 1

## **Appendix D**

## **Field Notes**

All observations are recorded on the postclosure inspection checklists presented in Appendix C. Additional field notes were not created in 2022.

# Appendix E

## **Photographs**

Photographs were not taken during 2022.

## Appendix F

## **Postclosure Vegetation Monitoring Report**

Vegetation monitoring was not conducted in 2022.

## Appendix G

NDEP Correspondence and Record of Review

#### STATE OF NEVADA



Department of Conservation & Natural Resources

Joe Lombardo, Governor James A. Settelmeyer, Director Greg Lovato, Administrator

February 10, 2023

Mr. Kenneth Kreie
Site Manager
U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

RE: Submittal of the Postclosure Inspection Report for the Tonopah Test Range and Nevada Test and Training Range, Nevada, Sites for Calendar Year 2022

Federal Facility Agreement and Consent Order

Dear Mr. Kreie:

The Nevada Division of Environmental Protection, Bureau of Federal Facilities (NDEP) has reviewed the above-referenced report, which was received electronically on February 6, 2023. It is requested that the following comment on this Draft Report be addressed in the Final Report:

1. Appendix C, Page C-9: This Post-Closure Inspection Information form for CAU 424, CAS 03-08-002-A308, Landfill Cell A3-8 is labeled as "Internal Use Only." Please clarify why this "Internal Use Only" form was included in the Annual Report when a similar form was not included for the other CASs covered in the Report. Also, the "Internal Use Only" form seems to include inspection information (e.g., the inability to safely enter the radiologically posted area where the two western markers are located) that is not reflected on the "non-Internal Use Only" checklist form for this CAS. Please explain this discrepancy.

If you have any questions regarding this matter, please contact Meghan Lyle at (702) 668-3924 or me at (702) 668-3911.

Sincerely,

Christine D. Andres

Chief

Bureau of Federal Facilities

Mr. Kenneth Kreie Page 2 of 2 February 10, 2023

ec: FFACO Group, NFO

EM Records, AMEM Meghan Lyle, NDEP Gail Tackett, NDEP Navarro Central Files

MSTS Correspondence Management, M/S NLV008

Paul Kerl, DOE-LM

Jalena Dayvault, DOE-LM

Jackie Petrello, RSI Alex McCarty, RSI



#### **Record of Review**

Review requirements are described in the *Document Management Services, Resources, and Procedures* (LMS/PRO/S32818). Reviewers may document any review with this form. This form should not be converted to a PDF until all reviews are complete.

Document Information				
Due date <sup>1</sup> : 03/17/2023 Review nu	mber: 1	Project: Nevada	Offsites - TTR Charge code:	LMCP.LMCP.2. N/A
	Oraft "Post-Closure Inspe /ear 2022"	ction Report for the Tono	pah Test Range and Nevada Test and Training Ran	ge, Nevada For Calendar
Author: Ken Kreie	Author's phone:	970-248-6036	Author's organization: DOE-LM	
Reviewer: Christine D. Andres	Reviewer's phone:	702-486-2850	Reviewer's organization: NDEP	
Reviewer's recommendation:   Rele	ase without comment	□ Consider comments	Resolve comments and reroute for review	Date <sup>2</sup> : 02/10/2023
Author's response: ⊠ Comments h	ave been addressed		DocuSigned by:	Date <sup>2</sup> : 02/27/2023
Reviewer's response to comment resolut	tion: 🛭 Satisfactory	☐ Unsatisfactory³	Clinis Andres EFC70BFBCD02477	Date <sup>2</sup> : 347/2023   2:49
Author signifies all comments resolved s	uccessfully: Enter text			Date: Date
<sup>1</sup> Failure to respond to the review request will	be considered approval of i	ssuing the document as wri	tten.	-

Item Number	Reviewer's Comments and Recommendations	Required	Author's Response (if required)
1	Appendix C, Page C-9: This Post-Closure Inspection Information form for CAU 424, CAS 03-08-002-A308, Landfill Cell A3-8 is labeled as "Internal Use Only." Please clarify why this "Internal Use Only" form was included in the Annual Report when a similar form was not included for the other CASs covered in the Report. Also, the "Internal Use Only" form seems to include inspection information (e.g. the inability to safely enter the radiologically posted area where the two western markers are located) that is not reflected on the "non-Internal Use Only" checklist form for this CAS. Please explain the discrepancy.	Yes	The "Internal Use Only" form was mistakenly included and it will be removed from the final document. The form is used to track conditions at each location that may affect planning for future inspections (e.g., access issues, supplies and equipment used, lava rock availability), but not affecting the UR. For this specific CAS, there is a small, restricted area that requires an escort or training to access. There was no available escort or trainer available on the date of the site visit. However, the inspection team was able to view (or observe) the marker locations from outside of the fenced, restricted area. One marker was directly visible, and the other marker location was observed to be undisturbed because the lava rock placed during a previous inspection was still in place. Planning for 2023 inspections has begun and securing access to this area is a priority.

<sup>&</sup>lt;sup>2</sup> Reviewer or author signature not required. Authorization implied by completing date field and submittal of review.

#### STATE OF NEVADA



Department of Conservation & Natural Resources

Joe Lombardo, Governor James A. Settelmeyer, Director Jennifer L. Carr, Administrator

April 11, 2023

Mr. Ken Kreie
Site Manager
U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

RE: Submittal of Postclosure Inspection Report for the Tonopah Test Range and Nevada Test and Training Range, Nevada, for Calendar Year 2022

Dear Mr. Kreie:

The Nevada Division of Environmental Protection, Bureau of Federal Facilities (NDEP) has reviewed the Final *Postclosure Inspection Report for the Tonopah Test Range and Nevada Test and Training Range, Nevada, for Calendar Year 2022* (Report). This April 2023 Annual Report was received from the U.S. Department of Energy, Office of Legacy Management (OLM) on April 3, 2023. The Final Report satisfactorily addresses all of NDEP's comments on the Draft Report, which were transmitted in a February 10, 2023, letter. This letter serves as a Notice of Completion for the April 29, 2023, Milestone Deadline for the submission of the "CY 2022 Post-Closure Report – Final."

If you have any questions regarding this matter, please contact Meghan Lyle at (702) 668-3924 or me at (702) 668-3911.

Sincerely,

Christine D. Andres

Chief

Bureau of Federal Facilities

ec: FFACO Group, NFO

EM Records, EM Nevada

Navarro Central Files

Meghan Lyle, NDEP

Jeffery Fraher, DTRA/CXTS

Robert Carter, TTR-O

Matthew Freeman, TTR-O

William Kudzia, TTR-O

Mr. Ken Kreie Page 2 of 2 April 11, 2023

Tara Jacob, NTTR/XPN
Annaliza Limramos, USAF
Eric Olson, USAF
Brian Adkins, SNL-TTR
Adria Bodour, NNSA-SFO
Erwin Hoo, NNSA-SFO
MSTS Correspondence Management
Tiffany Gamero, DOE-EM
Rob Boehlecke, DOE-LM
Jalena Dayvault, DOE-LM
Paul Kerl, DOE-LM
Mary Young, DOE-LM
Alex McCarty, RSI
Jackie Petrello, RSI