

Nevada
Environmental
Management
Operations Activity

DOE/NV--1545



Post-Closure Inspection Report for the Tonopah Test Range, Nevada

For Calendar Year 2015

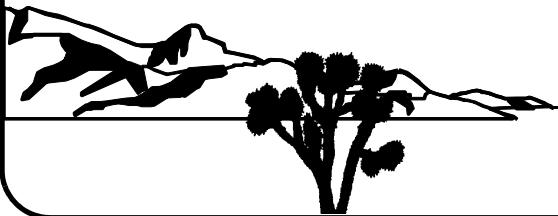
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March 2016

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/s/ Joseph P. Johnston 03/14/2016
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**POST-CLOSURE INSPECTION REPORT
FOR THE TONOPAH TEST RANGE, NEVADA
FOR CALENDAR YEAR 2015**

U.S. Department of Energy, National Nuclear Security Administration
Nevada Field Office
Las Vegas, Nevada

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**POST-CLOSURE INSPECTION REPORT
FOR THE TONOPAH TEST RANGE, NEVADA**
FOR CALENDAR YEAR 2015

Approved by: /s/ Tiffany A. Lantow

Date: 03/14/2016

Tiffany A. Lantow
Soils Activity Lead

Approved by: /s/ Robert F. Boehlecke

Date: 03/14/2016

Robert F. Boehlecke
Environmental Management Operations Manager

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List of Acronyms and Abbreviations

BLM	Bureau of Land Management
BMP	Best management practice
CADD	Corrective action decision document
CAS	Corrective action site
CAU	Corrective action unit
CR	Closure report
DOE	U.S. Department of Energy
NDEP	Nevada Division of Environmental Protection
NNSA/NFO	U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office
NNSA/NSO	U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office
TTR	Tonopah Test Range
USAF	U.S. Air Force
UXO	Unexploded ordnance

Executive Summary

This report provides the results of the annual post-closure inspections conducted at the closed corrective action units (CAUs) located on the Tonopah Test Range (TTR), Nevada. This report covers calendar year 2015 and includes inspection and repair activities completed at the following CAUs:

- CAU 400: Bomblet Pit and Five Points Landfill (TTR)
- 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)

Inspections were conducted according to the post-closure plans in the approved closure reports and subsequent correspondence with the Nevada Division of Environmental Protection. The post-closure inspection plans and subsequent correspondence modifying the requirements for each CAU are included in [Appendix B](#). The inspection checklists are included in [Appendix C](#). Field notes are included in [Appendix D](#).

The annual post-closure inspections were conducted on May 12, 2015. Maintenance was required at CAU 453. Cracking along the north trench was repaired. One monument is missing at CAU 424; it will be replaced in 2016.

Postings at CAUs 407, 424, 453, and 487 contain contact information for TTR Security. It was noted that protocols may not be in place to ensure that the U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office (NNSA/NFO) is notified if access is needed at these sites. NNSA/NFO is working with the U.S. Air Force and Sandia to determine whether more appropriate contact information or new protocols are warranted for each CAU.

Based on these inspections, there has not been a significant change in vegetation, and vegetation monitoring was not recommended at CAU 400 or CAU 407 in 2015.

1.0 Introduction

1.1 Scope and Objectives

This report includes inspection results, maintenance and repair activities, and recommendations for calendar year 2015 for corrective action units (CAUs) on the Tonopah Test Range (TTR), Nevada. The CAUs are shown in [Figure A-1](#) of [Appendix A](#). The CAUs and corrective action sites (CASs) in this report include the following:

- **CAU 400: Bomblet Pit and Five Points Landfill (TTR)**
 - CAS TA-19-001-05PT: Ordnance Disposal Pit
- **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

Inspection requirements for each CAU are included in [Appendix B](#). Inspections consist of the following activities to evaluate and document the condition of the units:

- Photographs to document current conditions and note variances from previous inspections

- Inspection of fencing, signs, monuments, and/or markers to determine whether repairs and/or maintenance are needed
- Inspection of soil covers for indications of subsidence, erosion, or unauthorized use
- Vegetation survey to quantify the condition of vegetative covers (as needed)

2.0 Inspection Results

Inspections were conducted on May 12, 2015. The post-closure inspection plans were published in the applicable closure report (CR) for each CAU. Subsequent correspondence with the Nevada Division of Environmental Protection (NDEP) modified the requirements. A history of inspection requirements at each CAU is included in [Appendix B](#). Inspection checklists are included in [Appendix C](#). Field notes are included in [Appendix D](#). [Appendix E](#), Photographs, does not contain any data. Photographs are maintained in the project file. [Appendix F](#), Post-Closure Vegetation Monitoring Report, does not include any data because vegetation monitoring was not conducted at any CAU this year.

During the 2015 inspections, it was noted that postings at CAUs 407, 424, 453, and 487 contain contact information for TTR Security. It was noted that protocols may not be in place to ensure that the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) is notified if access is needed at these sites. NNSA/NFO is working with the U.S. Air Force (USAF) and Sandia to determine whether more appropriate contact information or new protocols are warranted for each CAU.

2.1 CAU 400: Bomblet Pit and Five Points Landfill (TTR)

The Five Points Landfill (CAS TA-19-001-05PT, Ordnance Disposal Pit) was vegetated in 1997 under the *Tonopah Test Range Closure Sites Revegetation Plan* (DOE/NV, 1997). Fencing was required for a minimum of five years. The fencing is still present at the site, and inspections of the fencing are conducted as a best management practice (BMP). In correspondence dated March 20, 2014, NDEP approved the recommendation to conduct vegetation monitoring only on an as-needed basis if significant changes or concerns are noted during annual visual inspections. The Five Points Landfill is shown in [Figure A-2](#) of [Appendix A](#).

The annual inspection was conducted on May 12, 2015. Minor animal burrows were observed that did not require repair. No other problems were identified. There were no significant changes in vegetation at the site. Therefore, vegetation monitoring was not conducted in 2015 at this site. Inspections should continue as scheduled.

2.2 CAU 407: Roller Coaster RadSafe Area (TTR)

Inspections are conducted according to the post-closure requirements for CAU 407, Roller Coaster RadSafe Area (TTR), CAS TA-23-001-TARC, Roller Coaster RadSafe Area, as described in the CR (DOE/NV, 2001a) and subsequent correspondence. In correspondence dated March 20, 2014, NDEP approved the recommendation to conduct vegetation monitoring only on an as-needed basis if significant changes or concerns are noted during annual visual inspections. The site is shown in Figure A-3 of [Appendix A](#).

The annual inspection was conducted on May 12, 2015. No problems were identified, and no maintenance or repairs were required. There were no significant changes in vegetation at the site. Therefore, vegetation monitoring was not conducted in 2015 at this site. Inspections should continue as scheduled.

2.3 CAU 424: Area 3 Landfill Complexes (TTR)

Inspections are conducted according to the post-closure 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 CR (DOE/NV, 1999a) and subsequent correspondence. The landfill locations are shown in [Figure A-4 of Appendix A](#). The annual inspection was conducted on May 12, 2015.

Landfill Cell A3-1 (CAS 03-08-001-A301): It was noted that one monument did not have a sign; however, it appeared that this monument has never had a sign. Additionally, it is surrounded by several other posted monuments. The sign may be replaced in the future, but it is not required. Therefore, repairs are not recommended at this time. No additional problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-2 (CAS 03-08-002-A302): No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-3 (CAS 03-08-002-A303): No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-4 (CAS 03-08-002-A304): The northeast corner monument is missing at this site. It is not known why or when this monument was removed from the site. The location of the missing monument is found in [Figure A-5 of Appendix A](#). The monument will be replaced in 2016. No additional problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-5 (CAS 03-08-002-A305): No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-6 (CAS 03-08-002-A306): No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

Landfill Cell A3-8 (CAS 03-08-002-A308): No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

2.4 CAU 453: Area 9 UXO Landfill (TTR)

Inspections are conducted according to the post-closure requirements for CAU 453, Area 9 UXO Landfill (TTR), CAS 09-55-001-0952, Area 9 Landfill, as described in the CR (DOE/NV, 1999b) and subsequent correspondence. The site is shown in [Figure A-6 of Appendix A](#). The annual inspection was conducted on May 12, 2015. Cracking caused by the settling of buried material was identified along the north trench and repaired during the inspection. The lock at this site is difficult to open and will be replaced during the 2016 inspections. No other issues or concerns were identified, and no additional maintenance or repairs were required. Inspections should continue as scheduled.

2.5 CAU 487: Thunderwell Site (TTR)

Inspections are conducted according to the post-closure requirements for CAU 487, Thunderwell Site (TTR), CAS RG-26-001-RGRV, Thunderwell Site, as described in the Corrective Action Decision Document (CADD)/CR (DOE/NV, 2001b), Record of Technical Change (NNSA/NSO, 2004), and subsequent correspondence. The site is shown in [Figure A-7 of Appendix A](#). The annual inspection

was conducted on May 12, 2015. No problems were identified, and no maintenance or repairs were required. Inspections should continue as scheduled.

3.0 Summary

During the 2015 inspections, it was noted that postings at CAUs 407, 424, 453, and 487 contain contact information for TTR Security. It was noted that protocols may not be in place to ensure that NNSA/NFO is notified if access is needed at these sites. NNSA/NFO is working with USAF and Sandia to determine whether more appropriate contact information or different protocols are warranted for each CAU.

3.1 CAU 400: Bomblet Pit and Five Points Landfill (TTR)

Maintenance or repairs were not required. Inspections should continue as scheduled. Vegetation monitoring is not recommended this year. Future vegetation monitoring will be conducted on an as-needed basis if significant changes or concerns are noted during annual visual inspections.

3.2 CAU 407: Roller Coaster RadSafe Area (TTR)

Maintenance or repairs were not required. Inspections should continue as scheduled. Vegetation monitoring is not recommended this year. Future vegetation monitoring will be conducted on an as-needed basis if significant changes or concerns are noted during annual visual inspections.

3.3 CAU 424: Area 3 Landfill Complexes (TTR)

One missing monument will be replaced in 2016. Additional maintenance or repairs were not required. Inspections should continue as scheduled.

3.4 CAU 453: Area 9 UXO Landfill (TTR)

Cracking along the north trench was repaired during the inspection, and the lock will be replaced in 2016. Additional maintenance or repairs were not required. Inspections should continue as scheduled.

3.5 CAU 487: Thunderwell Site (TTR)

Maintenance or repairs were not required. Inspections should continue as scheduled.

4.0 References

DOE/NV, see U.S. Department of Energy, Nevada Operations Office.

NNSA/NSO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2004. *Record of Technical Change No. 2 for the Final Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada*, Rev. 0. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1997. *Tonopah Test Range Closure Sites Revegetation Plan*, DOE/NV/11718-115 UC-702. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999a. *Closure Report for Corrective Action Unit 424: Area 3 Landfill Complex, Tonopah Test Range, Nevada*, DOE/NV/11718--283. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999b. *Closure Report for Corrective Action Unit 453: Area 9 UXO Landfill, Tonopah Test Range, Nevada*, DOE/NV/11718--284. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001a. *Closure Report for Corrective Action Unit 407: Roller Coaster RADSAFE Area, Tonopah Test Range, Nevada*, DOE/NV--694-Rev 1. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001b. *Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada*, DOE/NV--761. Las Vegas, NV.

Appendix A

Figures

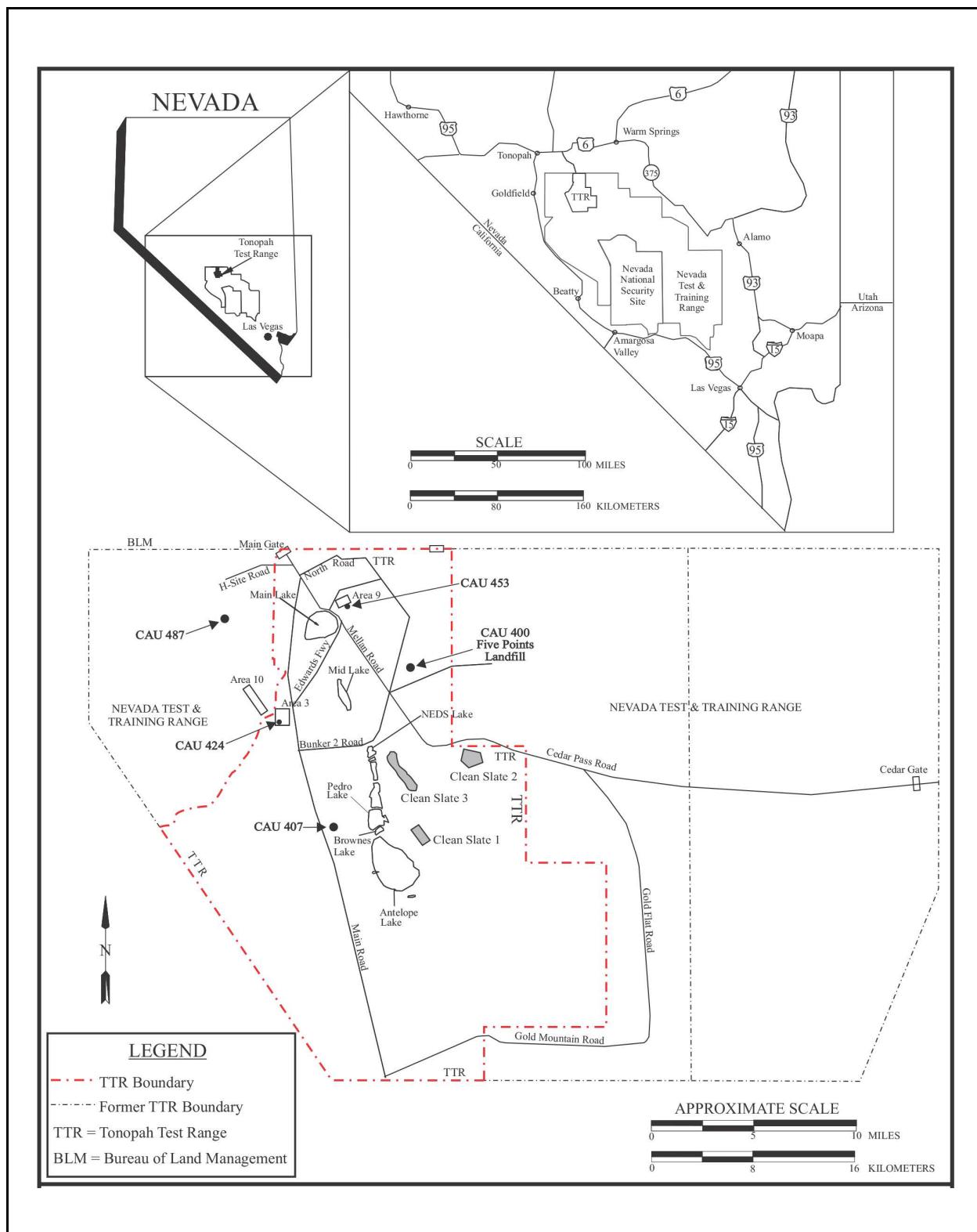


Figure A-1
Tonopah Test Range Post-Closure Monitoring Sites Location Map

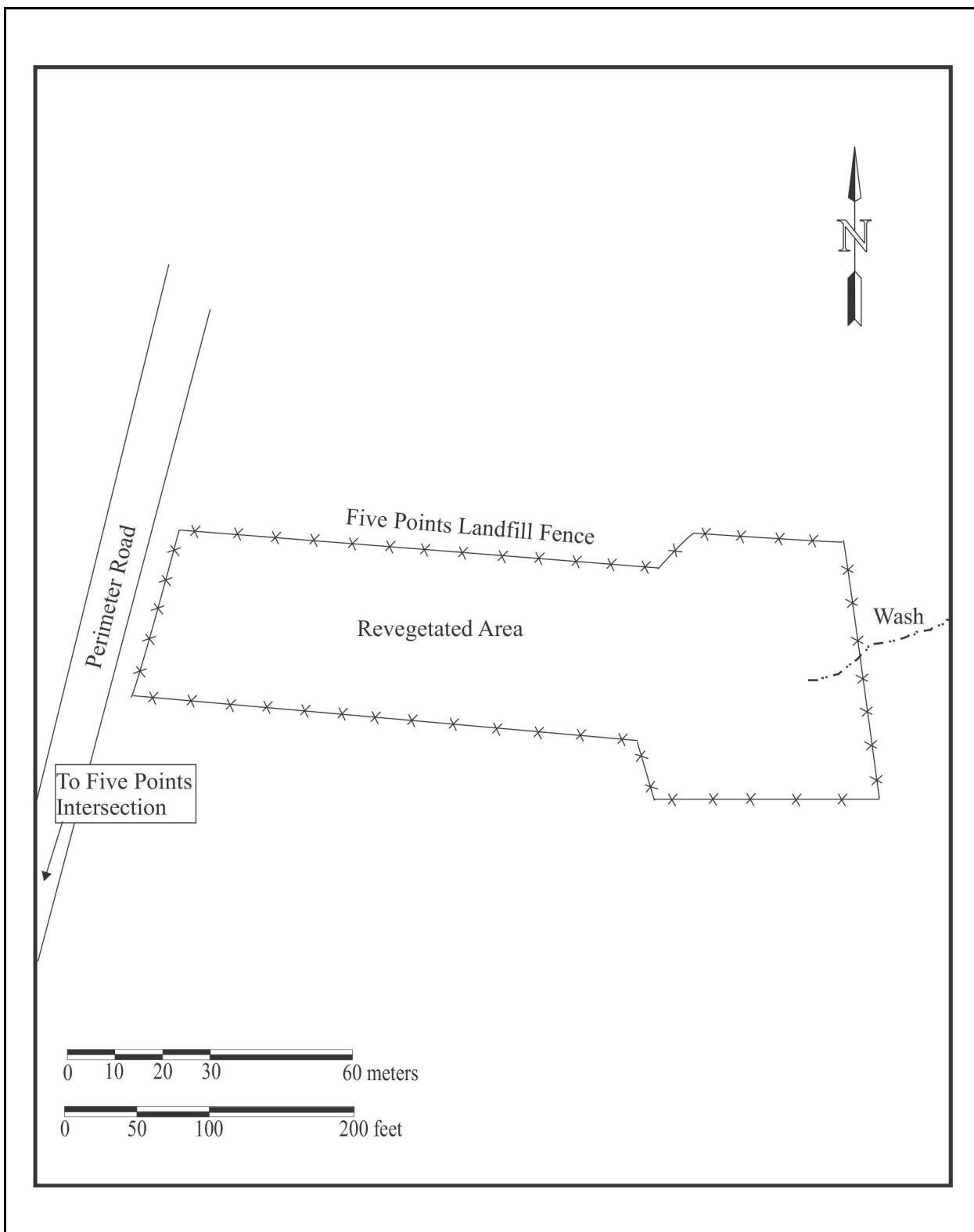


Figure A-2
CAU 400 Five Points Landfill Location Map

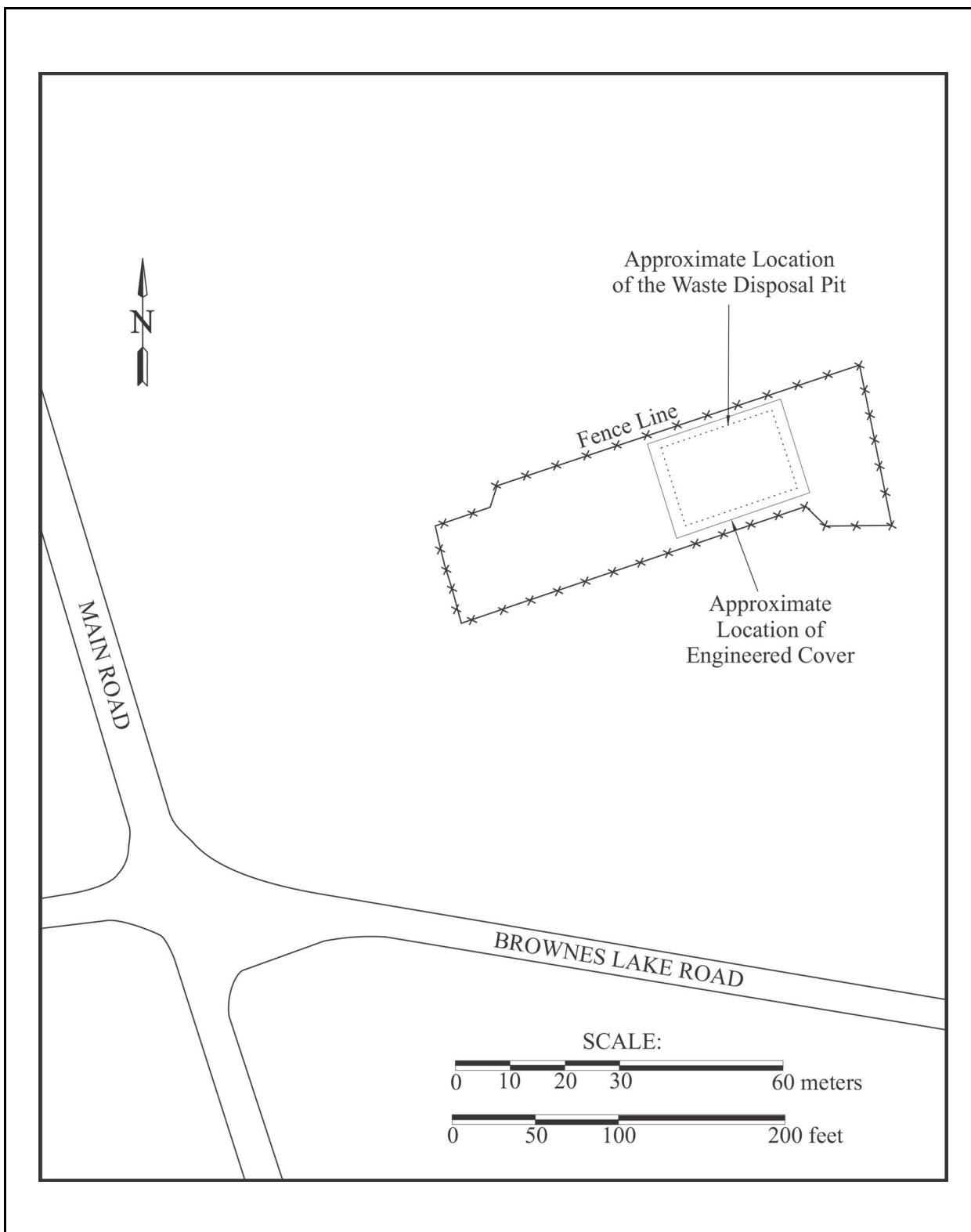


Figure A-3
CAU 407 Roller Coaster RadSafe Area Location Map

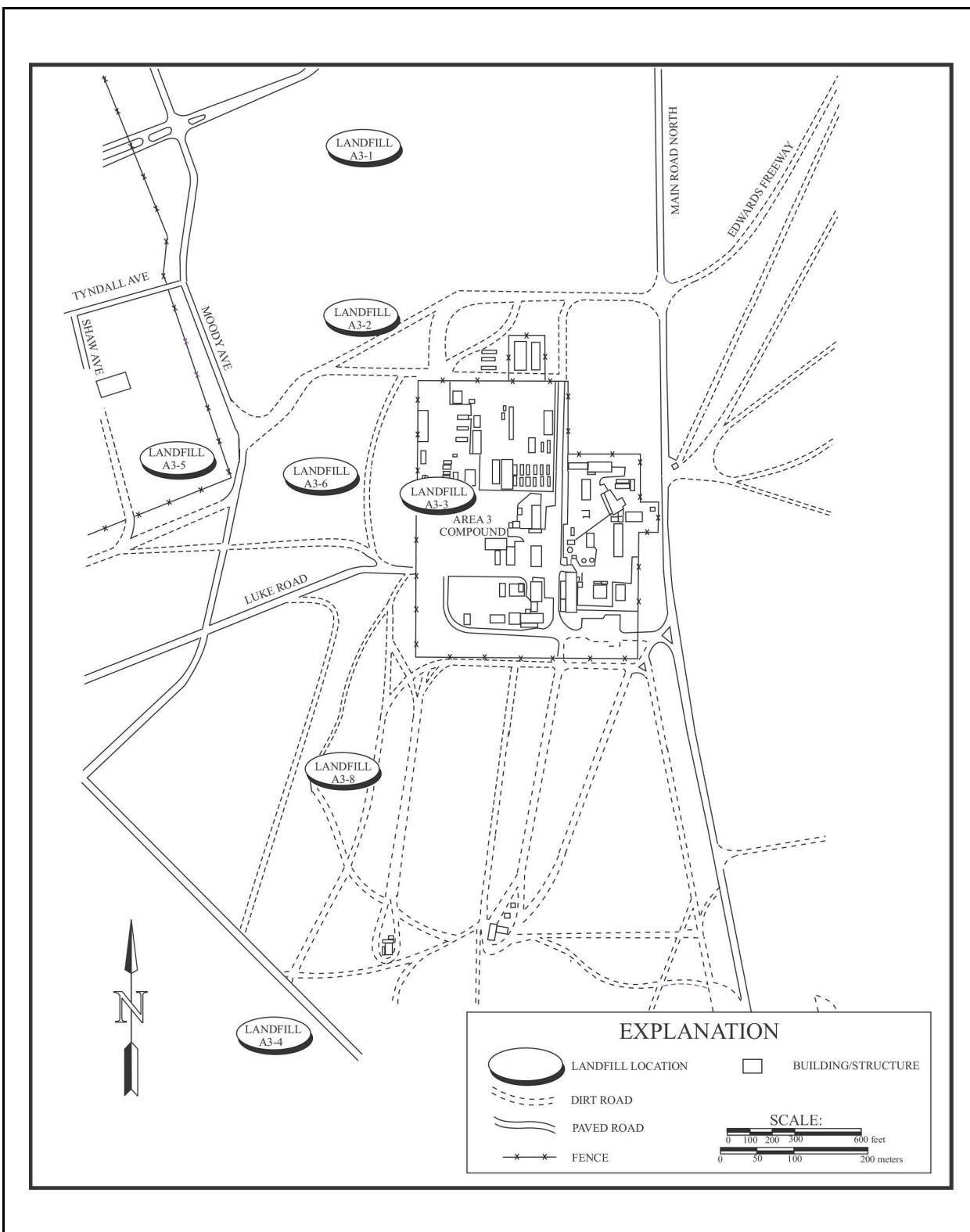


Figure A-4
CAU 424 Area 3 Landfill Complexes Location Map

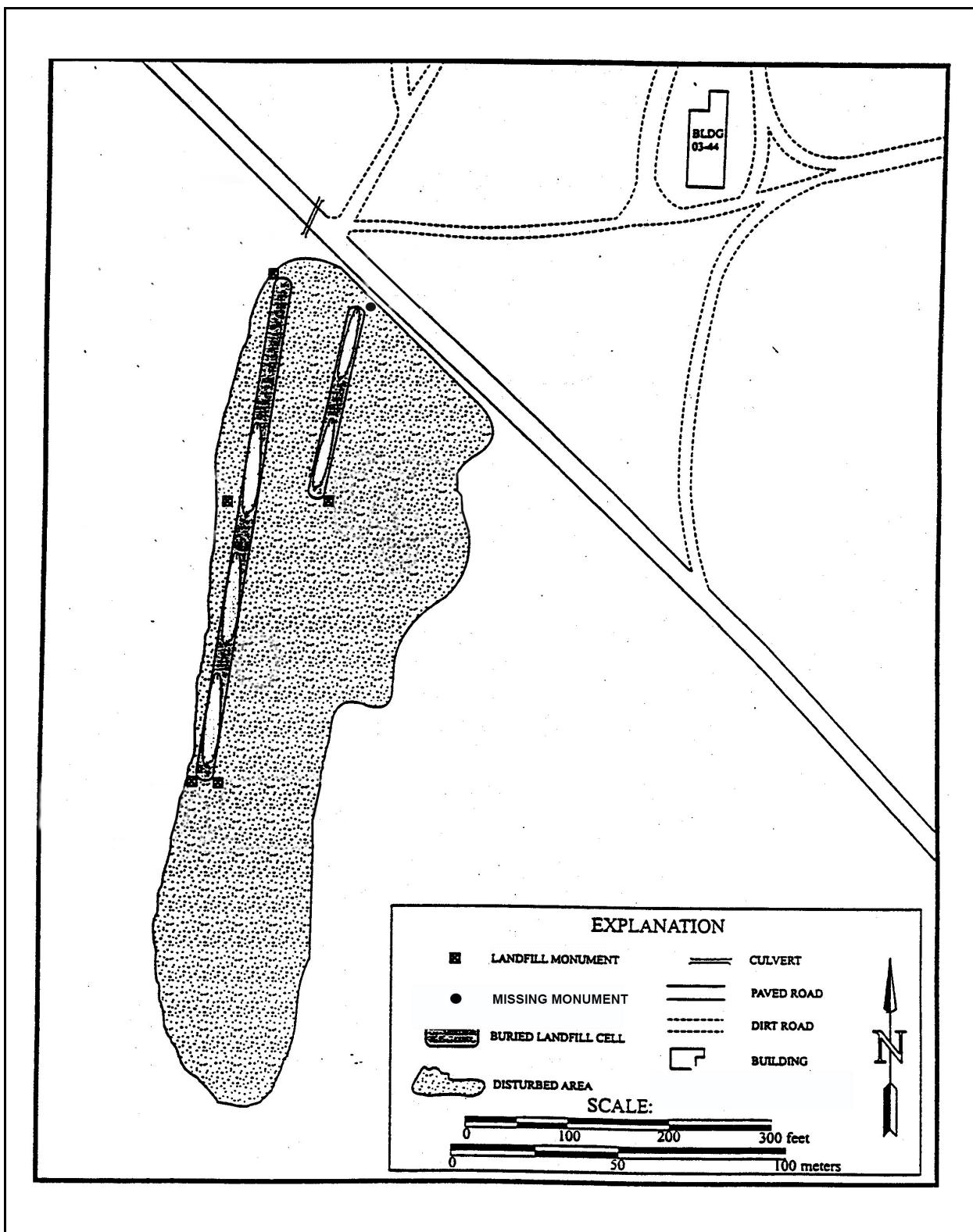


Figure A-5
CAU 424 Location of Missing Monument at Landfill A3-4

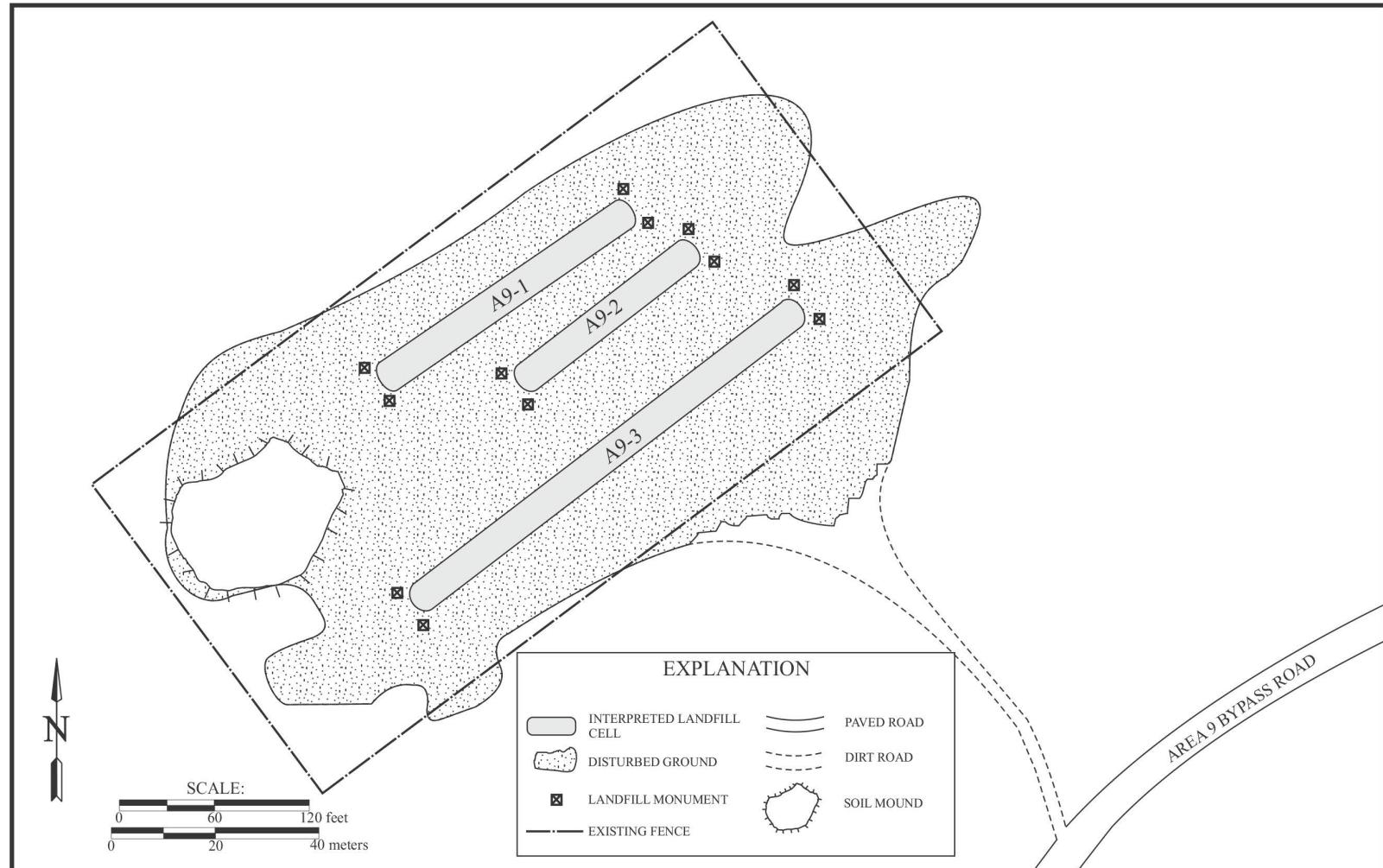


Figure A-6
CAU 453 Area 9 UXO Landfill Location Map

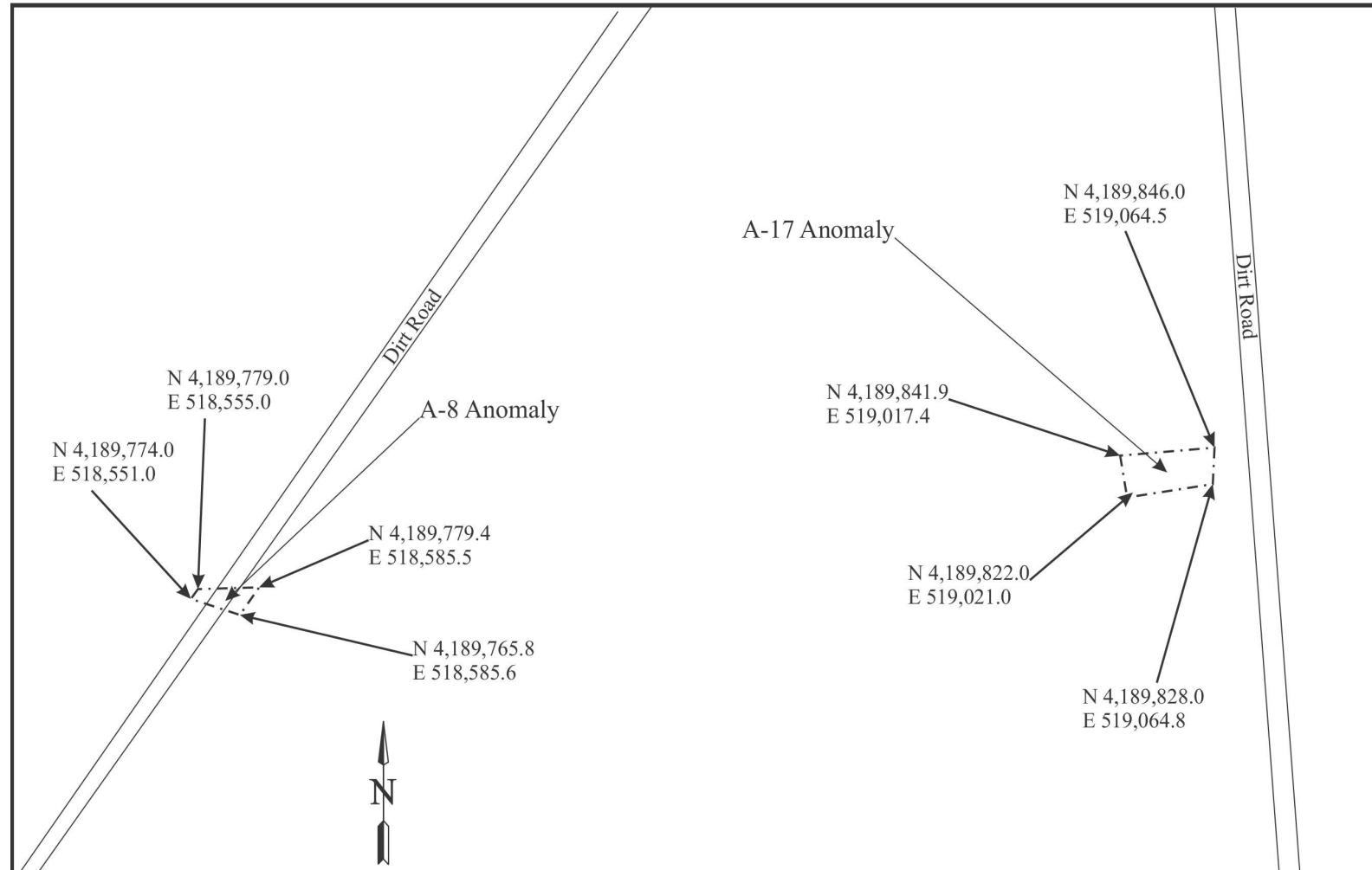


Figure A-7
CAU 487 Thunderwell Site Location Map

Appendix B

Post-Closure Inspection Plans

B.1.0 CAU 400: Bomblet Pit and Five Points Landfill (TTR) Post-Closure Inspection Plan

CAS TA-19-001-05PT, Ordnance Disposal Pit, was clean closed in 1996 as described in the CAU 400 CR, *Closure Report for CAU No. 400: Bomblet Pit and Five Points Landfill, Tonopah Test Range* (DOE/NV, 1996a), that was approved in 1997.

Restoration and revegetation was required at the site as described in the 1996 SAFER Plan, *Streamlined Approach for Environmental Restoration Plan, CAU No. 400: Bomblet Pit and Five Points Landfill, Tonopah Test Range* (DOE/NV, 1996b), Section 3.7: “Efforts will be made to revegetate the Five Points Landfill. A site survey has been conducted to assess the potential for revegetation, topsoil replacement, and seeding with native plant species.”

The revegetation plan is described in the 1997 document *Tonopah Test Range Closure Sites Revegetation Plan* (DOE/NV, 1997). This report states that fences should remain in place for a minimum of five years.

In the letter “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487” dated November 28, 2006, the DOE, National Nuclear Security Administration Nevada Site Office (NNSA/NSO) noted that CAU 400 was being inspected semi-annually as a BMP to document vegetation growth and inspect the integrity of site fencing (Jones, 2006). NNSA/NSO requested that the inspection frequency be reduced to annual. This request was approved by NDEP in the December 5, 2006, letter “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada” (Murphy, 2006).

In the 2014 document *Post-Closure Inspection Report for the Tonopah Test Range, Nevada for Calendar Year 2013*, NNSA/NFO requested a reduction in vegetation monitoring at the site from annual to an as-needed basis (NNSA/NFO, 2014). This change was approved in the March 20, 2014, letter “Acceptance of the Post-Closure Inspection Report for 2013, Tonopah Test Range, Nevada, Federal Facility Agreement and Consent Order” (MacDougall, 2014). The last annual vegetation

monitoring was conducted in 2013. Future vegetation monitoring will be conducted “when significant changes are noted during the visual inspections.”

Currently, annual visual inspections are conducted at CAS TA-19-001-05PT, Ordnance Disposal Pit, as a BMP to determine whether there have been significant changes to the condition of the vegetation prompting the need for vegetation monitoring.

B.2.0 CAU 407: Roller Coaster RadSafe Area (TTR) Post-Closure Inspection Plan

The CAU 407 CR, *Closure Report for Corrective Action Unit 407: Roller Coaster RADSAFE Area, Tonopah Test Range, Nevada* (DOE/NV, 2001a), was approved in 2002 and required quarterly inspections the first six months after the construction of a cover followed by two years of semi-annual inspections. Following these inspections, the inspection frequency would be determined by NDEP based on the results of these inspections.

In the letter “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487” dated November 28, 2006, NNSA/NSO noted that CAU 407 was being inspected semi-annually and requested that the inspection frequency be reduced to annual (Jones, 2006). This request was approved by NDEP in the December 5, 2006, letter “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada” (Murphy, 2006).

In the 2014 document *Post-Closure Inspection Report for the Tonopah Test Range, Nevada for Calendar Year 2013*, NNSA/NFO requested a reduction in vegetation monitoring at the site from annual to an as-needed basis (NNSA/NFO, 2014). This change was approved in the March 20, 2014, letter “Acceptance of the Post-Closure Inspection Report for 2013, Tonopah Test Range, Nevada, Federal Facility Agreement and Consent Order” (MacDougall, 2014). The last annual vegetation monitoring was conducted in 2014. Future vegetation monitoring will be conducted “when significant changes are noted during the visual inspections.”

Currently, annual visual inspections are conducted at CAU 407 to document the condition of the cover, fencing, and postings; and to determine whether there have been significant changes to the condition of the vegetation prompting the need for a vegetation monitoring. Any identified maintenance and repair requirements are remedied within 90 working days of discovery.

B.3.0 CAU 424: Area 3 Landfill Complexes (TTR) Post-Closure Inspection Plan

The CAU 424 CR, *Closure Report for Corrective Action Unit 424: Area 3 Landfill Complex, Tonopah Test Range, Nevada* (DOE/NV, 1999a), was approved in 1999; required semi-annual inspections; and noted that additional nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds.

In the letter “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487” dated November 28, 2006, NNSA/NSO noted that CAU 424 was being inspected semi-annually and requested that the inspection frequency be reduced to annual (Jones, 2006). This request was approved by NDEP in the December 5, 2006, letter “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada” (Murphy, 2006).

Currently, annual visual inspections are conducted at CAU 424 to document the condition of the landfill covers, monuments, and postings. Any identified maintenance and repair requirements are remedied within 90 working days of discovery.

B.4.0 CAU 453: Area 9 UXO Landfill (TTR) Post-Closure Inspection Plan

The CAU 453 CR, *Closure Report for Corrective Action Unit 453: Area 9 UXO Landfill, Tonopah Test Range, Nevada* (DOE/NV, 1999b), was approved in 1999; required semi-annual inspections; and noted that additional nonscheduled inspections may be required after severe weather events such as heavy rainfall, flash flooding, and high winds.

In the letter “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487” dated November 28, 2006, NNSA/NSO noted that CAU 453 was being inspected semi-annually and requested that the inspection frequency be reduced to annual (Jones, 2006). This request was approved by NDEP in the December 5, 2006, letter “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada” (Murphy, 2006).

Currently, annual visual inspections are conducted at CAU 453 to document the condition of the landfill cover, fencing, monuments, and postings. Any identified maintenance and repair requirements are remedied within 90 working days of discovery.

B.5.0 CAU 487: Thunderwell Site (TTR), Post-Closure Inspection Plan

The Record of Technical Change Number 2, published and approved in 2001, for the final *Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada* (DOE/NV, 2001b) required semi-annual inspections.

In the letter “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487” dated November 28, 2006, NNSA/NSO noted that CAU 487 was being inspected semi-annually and requested that the inspection frequency be reduced to annual (Jones, 2006). This request was approved by NDEP in the December 5, 2006, letter “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada” (Murphy, 2006).

Currently, annual visual inspections are conducted at CAU 487 to document the condition of the monuments and postings, and to look for indications of ground disturbance.

B.6.0 References

DOE/NV, see U.S. Department of Energy, Nevada Operations Office.

Jones, J.B., U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2006. Letter to T. Murphy (NDEP) titled “Request to Reduce Frequency of Tonopah Test Range (TTR) Post-Closure Monitoring Inspections from Semi-Annual to Annual Site Inspections for the Following CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487,” 28 November. Las Vegas, NV.

MacDougall, J. Nevada Department of Environmental Protection. 2014. Letter to R.F. Boehlecke (NNSA/NFO) titled “Acceptance of the Post-Closure Inspection Report for 2013, Tonopah Test Range, Nevada, Federal Facility Agreement and Consent Order,” 20 March. Las Vegas, NV.

Murphy, T.H., Nevada Department of Environmental Protection. 2006. Letter to J.B. Jones (NNSA/NSO) titled “NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at Tonopah Test Range (TTR), Nevada,” 5 December. Las Vegas, NV.

NNSA/NFO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office.

NNSA/NSO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office.

U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office. 2014. *Post-Closure Inspection Report for the Tonopah Test Range, Nevada for Calendar Year 2013*, Rev. 0, DOE/NV--1517. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2004. *Record of Technical Change No. 2 for the Final Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada*, Rev. 0. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1996a. *Closure Report for CAU No. 400: Bomblet Pit and Five Points Landfill, Tonopah Test Range*, Rev. 0, DOE/NV--459. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1996b. *Streamlined Approach for Environmental Restoration Plan, CAU No. 400: Bomblet Pit and Five Points Landfill, Tonopah Test Range*. Rev. 1, DOE/NV--424. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1997. *Tonopah Test Range Closure Sites Revegetation Plan*, DOE/NV/11718-115 UC-702. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999a. *Closure Report for Corrective Action Unit 424: Area 3 Landfill Complex, Tonopah Test Range, Nevada*, DOE/NV/11718--283. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 1999b. *Closure Report for Corrective Action Unit 453: Area 9 UXO Landfill, Tonopah Test Range, Nevada*, DOE/NV/11718--284. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001a. *Closure Report for Corrective Action Unit 407: Roller Coaster RADSAFE Area, Tonopah Test Range, Nevada*, DOE/NV--694-Rev 1. Las Vegas, NV.

U.S. Department of Energy, Nevada Operations Office. 2001b. *Corrective Action Decision Document/Closure Report for Corrective Action Unit 487: Thunderwell Site, Tonopah Test Range, Nevada*, DOE/NV--761. Las Vegas, NV.

Attachment B-1

Letters

(7 Pages)



Department of Energy
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193-8518



NOV 28 2006

Tim Murphy, Chief
Bureau of Federal Facilities
Division of Environmental Protection
1771 E. Flamingo Road, Suite 121-A
Las Vegas, NV 89119

REQUEST TO REDUCE FREQUENCY OF TONOPAH TEST RANGE (TTR) POST CLOSURE MONITORING INSPECTIONS FROM SEMI-ANNUAL TO ANNUAL SITE INSPECTIONS FOR THE FOLLOWING CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487.

The Nevada Nuclear Security Administration Nevada Site Office (NNSA/NSO) has been performing post closure site inspections twice per calendar year at the TTR to identify any significant changes to the site units that would require a corrective action. All inspections were conducted according to the post-closure plans in the approved TTR Closure Reports (CR). For those corrective action units that did not require post closure monitoring, inspections were conducted to document vegetation growth and inspect the integrity of site fencing as a best management practice.

Based upon our analyses and summary results from the semi-annual inspections, as documented in the past Post Closure Inspection Reports, NNSA/NSO is requesting a reduction in the frequency of TTR site inspections from semi-annual to annual. An annual inspection and reporting period will continue to provide information on any change in site condition that warrants a corrective action. In addition, standard maintenance and repairs on fencing, signs, monuments, and soil covers will continue to be performed within ninety (90) days of discovery in order to remain compliant with the applicable post closure requirements.

Please direct comments and questions to Peter A. Sanders, of my staff, at (702) 295-1037.

/s/ Signature on file

ERP:2605.PAS


John B. Jones
Acting Federal Project Director
Environmental Restoration Project

NOV 28 2006

cc:

D. R. Elle, NDEP, Las Vegas, NV
Ted Zaferatos, NDEP, Las Vegas, NV
D. C. Loewer, DTRA/CXT1, M/S 645, Mercury, NV
T. A. Lantow, DTRA/CXT1, M/S 645, Mercury, NV
W. R. Griffin, SNJV/DTRA, M/S 645, Mercury, NV
Glenn Richardson, NSTec, NTS306, Mercury, NV
J. L. Smith, NSTec, Las Vegas, NV
R. F. Boehlecke, SNJV, Las Vegas, NV
K. A. Hoar, AD/AMSP, NNSA/NSO, Las Vegas, NV
FFACO Group, PSG, NNSA/NSO, Las Vegas, NV
E. F. Di Sanza, WMP, NNSA/NSO, Las Vegas, NV
K. J. Cabbie, ERP, NNSA/NSO, Las Vegas, NV



Department of Energy
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193-8518



ERD.061128.0002

NOV 28 2006

Tim Murphy, Chief
Bureau of Federal Facilities
Division of Environmental Protection
1771 E. Flamingo Road, Suite 121-A
Las Vegas, NV 89119

CONCUR	
EM	5-0789
ERP	
Sanders	PAS
11/27/06	
ERP	
Cabble	KC
11/27/06	
ERP	
Jones	✓
11/27/06	
EM	5-0789

REQUEST TO REDUCE FREQUENCY OF TONOPAH TEST RANGE (TTR) POST CLOSURE MONITORING INSPECTIONS FROM SEMI-ANNUAL TO ANNUAL SITE INSPECTIONS FOR THE FOLLOWING CAUs: 400, 404, 407, 423, 424, 426, 427, 453, 487.

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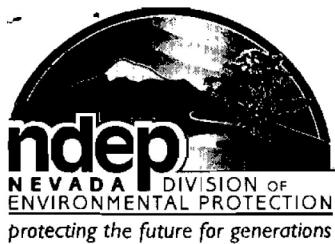
Please direct comments and questions to Peter A. Sanders, of my staff, at (702) 295-1037.

Original Signed by:
Kevin Cabble

for

John B. Jones
Acting Federal Project Director
Environmental Restoration Project

ERP:2605.PAS



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Kenny C. Guinn, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrato

ERD.061208.001

December 5, 2006

John B. Jones, Acting Federal Project Director
Environmental Restoration Project
National Nuclear Security Administration
Nevada Site Office (NNSA/NSO)
P.O. Box 98518
Las Vegas, NV 89193-8518

Subject: NNSA/NSO Request to Reduce the Frequency of Post-Closure Monitoring of
Corrective Action Units (CAU) 400, 404, 407, 423, 424, 426, 427, 453, and 487 at
Tonopah Test Range (TTR), Nevada

Dear Mr. Jones:

The Nevada Division of Environmental Protection, Bureau of Federal Facilities staff (NDEP) has received and reviewed the referenced request, dated November 28, 2006. The sites have been monitored for various lengths of time beginning in 1997 for CAU 400, 1998 for CAUs 404 and 426, 1999 for CAUs 423, 424, 427, and 453, 2001 for CAU 487, and 2002 for CAU 407. Some of the sites have not been required to conduct post-closure monitoring or have only been required to conduct inspections for a short period of time but all sites have continued to be monitored as a best management practice. Past monitoring has demonstrated that a once per year inspection would be sufficient for soil cover, fencing, monuments and signs at these sites.

NDEP concurs with the NNSA/NSO request to reduce the frequency of the post-closure monitoring inspections of the subject CAUs to an annual frequency. Maintenance and repair requirements must continue to be made within ninety (90) days of discovery and documented in writing at the time of repair. Annual reports to NDEP must also continue.

Address any questions regarding this matter to either Ted Zaferatos at (702) 486-2850, ext. 234, Don Elle at (702) 486-2850, ext. 229, or me at (702) 486-2850, ext. 231.

Sincerely,

/s/ Signature on file

T.H. Murphy
Chief
Bureau of Federal Facilities



1771 E. Flamingo Road, Suite 121-A • Las Vegas, Nevada 89119

printed on recycled

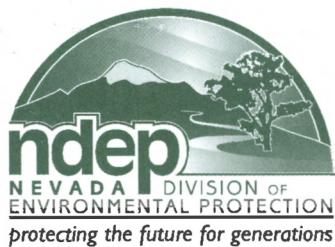
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John B. Jones, Acting Federal Project Director
Page 2
December 5, 2006

DRE/TZ

cc: K.J. Cabble, ERP, NNSA/NSO
E.F. Di Sanza, WMP, NNSA/NSO
K.A. Hoar, Director, AD/AMSP, NNSA/NSO
D.C. Loewer, DTRA/CXT1, M/S 645, Mercury, NV
T.A. Lantow, DTRA/CXT1, M/S 645, Mercury, NV
W.R. Griffin, SNJV/DTRA, M/S 645, Mercury, NV
Glenn Richardson, NSTec, NTS 306, Mercury, NV
J.L. Smith, NSTec, Las Vegas, NV
R.F. Boehlecke, SNJV, Las Vegas, NV
Pete Sanders, ERP, NNSA/NSO
Sabine Curtis, ERP, NNSA/NSO
FFACO Group, PSG, NNSA/NSO, Las Vegas, NV
Eloise Hopper, Nellis AFB
Vern Gabbard, SNL/TTR
98 RANW/CC, 3770 Duffer Drive, Las Vegas, NV 89191
98 RANW/XPL, 3770 Duffer Drive, Las Vegas, NV 89191



STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administ

ERD.140324.0001

March 20, 2014

Robert F. Boehlecke, Manager
Environmental Management Operations
National Nuclear Security Administration
Nevada Field Office (NNSA/NFO)
P.O. Box 98518
Las Vegas, NV 89193-8518

Subject: Acceptance of the Post Closure Inspection Report for 2013
Tonopah Test Range, Nevada
Federal Facility Agreement and Consent Order

Dear Mr. Boehlecke:

The Nevada Division of Environmental Protection, Bureau of Federal Facilities staff (NDEP) has received and reviewed the referenced report on the post-closure monitoring activities conducted at the Tonopah Test Range, Nevada during calendar year 2013. The annual report was prepared in accordance with the Federal Facility Agreement and Consent Order (FFACO) and the Closure Reports (CRs) for Corrective Action Units (CAUs) 400, 407, 424, 453, and 487. NDEP accepts this document including the recommendations for continuation of annual visual inspections and the recommendation for additional vegetation monitoring and corrective actions when significant changes are noted during the annual visual inspections.

Address any questions regarding this matter to either Ted Zaferatos at (702) 486-2850, ext. 234, or to me at (702) 486-2850, ext. 233.

Sincerely,

/s/ Signature on file

Jeff MacDougall, Ph.D., C.P.M.
Supervisor
Bureau of Federal Facilities

JJM/TZ: tz



Robert F. Boehlecke, Manager, EMO

Page 2

March 20, 2014

cc: D.C. Stockdale, USAF
Northern Range Commander
USAF Liaison Officer
USAF/98th Range Wing
J. Fraher, DTRA/CXTS, Kirkland, AFB, NM
NSTec Correspondence Control, MS NV008
N-1 Central Files, MS NSF 156 (1 electronic copy, 1 hard copy)
R.C Sherwood, SNL/TTR
T.A. Lantow, NFO
FFACO Group, NFO

Appendix C

Post-Closure Inspection Checklists

(13 Pages)

POST-CLOSURE INSPECTION CHECKLIST			
CAU 400, BOMBLET PIT AND FIVE POINTS LANDFILL (TTR) – CAS TA-19-001-05PT, ORDNANCE DISPOSAL PIT			
Inspection Date: <i>5/12/15</i>	Reason for Inspection: <i>BMP</i>		
Date of Last Post-Closure Inspection: <i>5/28/14</i>	Reason for Last Post-Closure Inspection: <i>BMP</i>		
Responsible Entity: Navarro, Nevada National Security Site, Mercury, Nevada			
Responsible Facility Owner: Pat Matthews, Environmental Restoration Manager, Navarro			
Chief Inspector: <i>J PETRELLA</i>	Title: <i>TASK LEAD</i>		
Assistant Inspector: <i>M BURMEISTER</i>	Title: <i>TASK MANAGER</i>		
A. GENERAL INSTRUCTIONS			
<ul style="list-style-type: none"> <i>The site inspection is to document vegetation growth and inspect the integrity of the fence and can be conducted from outside the perimeter fence.</i> All documentation must be legible and clear. Complete all checklist items. If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection. Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions. 			
B. PREPARATION (To be completed prior to the site visit)		YES	NO
1. Were anomalies or trends detected on previous inspections?		<input checked="" type="checkbox"/>	
2. Were maintenance or repairs performed since the last inspection?		<input checked="" type="checkbox"/>	<i>Repaired Rabbit fence on South side</i>
C. SITE INSPECTION (To be completed during the site visit)			
1. Adjacent Offsite Features:		YES	NO
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>	
2. Site Markers:		YES	NO
a. Is there damage to or a break in the fence or fenceposts?		<input checked="" type="checkbox"/>	
3. Fenced Area:		YES	NO
a. Is there evidence of human or large animal intrusion onto the site?		<input checked="" type="checkbox"/>	
b. Are animal burrows present?		<input checked="" type="checkbox"/>	<i>minor</i>
c. Are weedy plants present?		<input checked="" type="checkbox"/>	
d. Is there evidence of plant mortality?		<input checked="" type="checkbox"/>	
e. Is there trash or debris within the fenced area?		<input checked="" type="checkbox"/>	
f. Are there any other issues not specifically described in this checklist?		<input checked="" type="checkbox"/>	
Photograph Instructions:			
<ul style="list-style-type: none"> <i>A standard set of photographs is needed for the post-closure report. Photos are required to be taken from the approximate location where photos were taken the previous year (as found in the previous year's post-closure report).</i> Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report. Photographs will be filed electronically. 			
4. Photograph Documentation:		YES	NO
a. Have the required photographs of the site been taken?		<input checked="" type="checkbox"/>	

POST-CLOSURE INSPECTION CHECKLIST**CAU 400, BOMBLET PIT AND FIVE POINTS LANDFILL (TTR) –
CAS TA-19-001-05PT, ORDNANCE DISPOSAL PIT****D. FIELD CONCLUSIONS AND REPAIR OR MAINTENANCE RECOMMENDATIONS:**

ALL FENCING & POSTS ARE IN GOOD CONDITION, NO PROBLEMS

Mark 5/12/15

E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.Chief Inspector's Signature: /s/ **Signature on file**Date: **5/12/15****F. VERIFICATION:** I have reviewed this checklist and attachments and have verified that they are complete.Signature: /s/ **Signature on file**Date: **6-2-15**Printed Name: **Mark Burmeister**

POST-CLOSURE INSPECTION CHECKLIST																																																																			
CAU 407, ROLLER COASTER RADSAFE AREA (TTR) – CAS TA-23-001-TARC, ROLLER COASTER RADSAFE AREA																																																																			
Inspection Date: <i>5/12/15</i>	Reason for Inspection: <i>ANNUAL</i>																																																																		
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<ul style="list-style-type: none"> <i>The site inspection is an inspection of the entire perimeter to visually inspect all features specifically described in this checklist and observe whether there is an indication that the use restriction may have been compromised. Entry into the fenced area is not required for the inspection.</i> All documentation must be legible and clear. Complete all checklist items. If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection. Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions. 																																																																			
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POST-CLOSURE INSPECTION CHECKLIST			
CAU 407, ROLLER COASTER RADSAFE AREA (TTR) – CAS TA-23-001-TARC, ROLLER COASTER RADSAFE AREA			
g. Are weedy plants present?	<input checked="" type="checkbox"/>		
h. Is there evidence of plant mortality?	<input checked="" type="checkbox"/>		
i. Is there trash or debris within the fenced area?	<input checked="" type="checkbox"/>		
j. Are there any other issues not specifically described in this checklist?	<input checked="" type="checkbox"/>		
Photograph Instructions:			
<ul style="list-style-type: none"> <i>A standard set of photographs is needed for the post-closure report. Photos are required to be taken from the approximate location where photos were taken the previous year (as found in the previous year's post-closure report).</i> Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report. Photographs will be filed electronically. 			
4. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have the required photographs of the site been taken?	<input checked="" type="checkbox"/>		
D. FIELD CONCLUSIONS			
1. Is there an imminent hazard to the integrity of the landfill cover?	<input checked="" type="checkbox"/>		
2. Field Conclusions and Repair or Maintenance Recommendations:			
<p><i>10 OF 10 SIGNS HAVE INCORRECT PHONE NUMBER, STICKERS CAN BE USED TO CORRECT THE SIGNS. ALL FENCING AND SIGNS ARE PRESENT AND IN GOOD CONDITION. NO EROSION, BURROWS, OR OTHER ISSUES.</i></p> <p><i>5/12/15</i></p>			
E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.			
Chief Inspector's Signature: /s/ Signature on file	Date: <i>5/12/15</i>		
F. VERIFICATION: I have reviewed this checklist and attachments and have verified that they are complete.			
Signature: /s/ Signature on file	Date: <i>6-2-15</i>		
Printed Name: <i>Mark Burmeister</i>			

POST-CLOSURE INSPECTION CHECKLIST			
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			
Inspection Date:	Reason for Inspection: ANNUAL		
Date of Last Post-Closure Inspection:	Reason for Last Post-Closure Inspection: ANNUAL		
Responsible Entity: Navarro, Nevada National Security Site, Mercury, Nevada			
Responsible Facility Owner: Pat Matthews, Environmental Restoration Project, Navarro			
Chief Inspector: J RETRELLIO	Title: TASK LEAD		
Assistant Inspector: M BURMEISTER	Title: TASK MANAGER		
A. GENERAL INSTRUCTIONS			
<ul style="list-style-type: none"> <i>The site inspection is an inspection of the each site including the perimeters and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.</i> All documentation must be legible and clear. Complete all checklist items. If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection. Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions. 			
B. PREPARATION (To be completed prior to the site visit)			
1. Were anomalies or trends detected on previous inspections?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
2. Were maintenance or repairs performed since the last inspection?	YES	NO	EXPLANATION (required if shaded box is checked)
a. If yes, has repair resulted in a change from as-built conditions?		NA	✓
b. If yes (to 2a), are revised as-built plans available that reflect repair changes?		NA	✓
C. SITE INSPECTION (To be completed during the site visit)			
1. Adjacent Offsite Features (Landfill A3-1):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		✓	
2. Site Markers (Landfill A3-1):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the seven (7) boundary monuments been disturbed or damaged?		✓	
b. Are all signs legible?	✓		SIGN IS NOT PRESENT ON ONE MONUMENT BUT IT APPEAR TO HAVE NEVER HAD ONE
c. How many damaged or missing signs need to be replaced?	Ø		ALL SIGNS HAVE INCORRECT PHONE NUMBER, CAN BE CORRECTED WITH STICKERS
d. How many down or loose signs need to be re-hung?	Ø		
3. Waste Unit Cover (Landfill A3-1):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?		✓	
b. Is there evidence of erosion (wind or water)?		✓	
c. Is there evidence of human or large animal intrusion onto the site?		✓	
d. Are animal burrows present?		✓	
e. Is there trash or debris within the use restricted area?		✓	
f. Are there any other issues not specifically described in this checklist?		✓	

POST-CLOSURE INSPECTION CHECKLIST

**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**

	YES	NO	EXPLANATION (required if shaded box is checked)
4. Adjacent Offsite Features (Landfill A3-2): a. Are there any new activities or offsite features that could potentially affect the site?		✓	
5. Site Markers (Landfill A3-2): a. Have any of the four (4) boundary monuments been disturbed or damaged? b. Are all signs legible? c. How many damaged or missing signs need to be replaced? d. How many down or loose signs need to be re-hung?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
	✓		4 OF 4 SIGNS HAVE INCORRECT PHONE NUMBER
	∅		USE STICKERS TO CORRECT PHONE NUMBERS
	∅		
6. Waste Unit Cover (Landfill A3-2): a. Is there evidence of settling or cracking? b. Is there evidence of erosion (wind or water)? c. Is there evidence of human or large animal intrusion onto the site? d. Are animal burrows present? e. Is there trash or debris within the use restricted area? f. Are there any other issues not specifically described in this checklist?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
		✓	
		✓	
		✓	
		✓	
		✓	
7. Adjacent Offsite Features (Landfill A3-3, western two cells): a. Are there any new activities or offsite features that could potentially affect the site?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
8. Site Markers (Landfill A3-3, western two cells): a. Have any of the three (3) boundary monuments been disturbed or damaged? b. Are all three (3) surface markers in good condition and is lava rock sufficient to locate them? c. Are all signs legible? d. How many damaged or missing signs need to be replaced? e. How many down or loose signs need to be re-hung?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
	✓		
	✓		3 OF 3 SIGNS HAVE INCORRECT PHONE NUMBER
	∅		USE STICKERS TO CORRECT PHONE NUMBERS
	∅		
9. Waste Unit Cover (Landfill A3-3, western two cells): a. Is there evidence of settling or cracking? b. Is there evidence of erosion (wind or water)? c. Is there evidence of human or large animal intrusion onto the site? d. Are animal burrows present? e. Is there trash or debris within the use restricted area? f. Are there any other issues not specifically described in this checklist?	YES	NO	EXPLANATION (required if shaded box is checked)
		✓	
		✓	
		✓	
		✓	
		✓	
		✓	

POST-CLOSURE INSPECTION CHECKLIST			
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			
10. Adjacent Offsite Features (Landfill A3-3, eastern cell):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?	<input checked="" type="checkbox"/>		
11. Site Markers (Landfill A3-3, eastern cell):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are all three (3) surface markers in good condition and is lava rock sufficient to locate them?	<input checked="" type="checkbox"/>		
12. Waste Unit Cover (Landfill A3-3, eastern cell):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	<input checked="" type="checkbox"/>		
b. Is there evidence of erosion (wind or water)?	<input checked="" type="checkbox"/>		
c. Is there evidence of human or large animal intrusion onto the site?	<input checked="" type="checkbox"/>		
d. Are animal burrows present?	<input checked="" type="checkbox"/>		
e. Is there trash or debris within the use restricted area?	<input checked="" type="checkbox"/>		
f. Are there any other issues not specifically described in this checklist?	<input checked="" type="checkbox"/>		
13. Adjacent Offsite Features (Landfill A3-4):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?	<input checked="" type="checkbox"/>		
14. Site Markers (Landfill A3-4):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) boundary monuments been disturbed or damaged?	<input checked="" type="checkbox"/> 5 monuments are present but CR indicates there should be 6		
b. Are all signs legible?	<input checked="" type="checkbox"/>		
c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/> USE STICKERS TO CORRECT PHONE NUMBER		
d. How many down or loose signs need to be re-hung?	<input checked="" type="checkbox"/>		
15. Waste Unit Cover (Landfill A3-4):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	<input checked="" type="checkbox"/>		
b. Is there evidence of erosion (wind or water)?	<input checked="" type="checkbox"/>		
c. Is there evidence of human or large animal intrusion onto the site?	<input checked="" type="checkbox"/>		
d. Are animal burrows present?	<input checked="" type="checkbox"/>		
e. Is there trash or debris within the use restricted area?	<input checked="" type="checkbox"/>		
f. Are there any other issues not specifically described in this checklist?	<input checked="" type="checkbox"/>		
16. Adjacent Offsite Features (Landfill A3-5):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?	<input checked="" type="checkbox"/>		
17. Site Markers (Landfill A3-5):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the four (4) boundary monuments been disturbed or damaged?	<input checked="" type="checkbox"/>		
b. Are all signs legible?	<input checked="" type="checkbox"/> 4 OF 4 SIGNS HAVE INCORRECT PHONE NUMBER		

POST-CLOSURE INSPECTION CHECKLIST

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

c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/>	USE STICKERS TO CORRECT PHONE NUMBER
	<input checked="" type="checkbox"/>	
18. Waste Unit Cover (Landfill A3-5):	YES	NO
a. Is there evidence of settling or cracking?		<input checked="" type="checkbox"/>
b. Is there evidence of erosion (wind or water)?		<input checked="" type="checkbox"/>
c. Is there evidence of human or large animal intrusion onto the site?		<input checked="" type="checkbox"/>
d. Are animal burrows present?		<input checked="" type="checkbox"/>
e. Is there trash or debris within the use restricted area?		<input checked="" type="checkbox"/>
f. Are there any other issues not specifically described in this checklist?		<input checked="" type="checkbox"/>
19. Adjacent Offsite Features (Landfill A3-6):	YES	NO
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>
20. Site Markers (Landfill A3-6):	YES	NO
a. Have any of the four (4) boundary monuments been disturbed or damaged?		<input checked="" type="checkbox"/>
b. Are all signs legible?	<input checked="" type="checkbox"/>	
c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/>	4 OF 4 SIGNS HAVE INCORRECT PHONE NUMBER USE STICKERS TO CORRECT PHONE NUMBER
d. How many down or loose signs need to be re-hung?	<input checked="" type="checkbox"/>	
21. Waste Unit Cover (Landfill A3-6):	YES	NO
a. Is there evidence of settling or cracking?		<input checked="" type="checkbox"/>
b. Is there evidence of erosion (wind or water)?		<input checked="" type="checkbox"/>
c. Is there evidence of human intrusion or large animal onto the site?		<input checked="" type="checkbox"/>
d. Are animal burrows present?		<input checked="" type="checkbox"/>
e. Is there trash or debris within the use restricted area?		<input checked="" type="checkbox"/>
f. Are there any other issues not specifically described in this checklist?		<input checked="" type="checkbox"/>
22. Adjacent Offsite Features (Landfill A3-8):	YES	NO
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>
23. Site Markers (Landfill A3-8):	YES	NO
a. Are all four (4) surface markers in good condition and is lava rock sufficient to locate them?	<input checked="" type="checkbox"/>	
b. Are all signs legible?	<input checked="" type="checkbox"/>	4 OF 4 SIGNS HAVE INCORRECT PHONE NUMBER USE STICKERS TO CORRECT PHONE NUMBER
c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/>	
d. How many down or loose signs need to be re-hung?	<input checked="" type="checkbox"/>	

POST-CLOSURE INSPECTION CHECKLIST

**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**

24. Waste Unit Cover (Landfill A3-8):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	✓		
b. Is there evidence of erosion (wind or water)?	✓		
c. Is there evidence of human or large animal intrusion onto the site?	✓		
d. Are animal burrows present?	✓		
e. Is there trash or debris within the use restricted area?	✓		
f. Are there any other issues not specifically described in this checklist?	✓		

Photograph Instructions:

- A standard set of photographs is needed for the post-closure report. Photos are required to be taken from the approximate location where photos were taken the previous year (as found in the previous year's post-closure report).
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.
- Photographs will be filed electronically.

25. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have the required photographs of the site been taken?	✓		

D. FIELD CONCLUSIONS		YES	NO	EXPLANATION (required if shaded box is checked)
1. Is there an imminent hazard to the integrity of the landfills?		✓		

2. Field Conclusions and Repair or Maintenance Recommendations:

26 OF 26 SIGNS HAVE THE WRONG PHONE NUMBER, STICKERS CAN BE USED TO CORRECT THE SIGNS. AT LANDFILL 3-1, ONE MONUMENT DOES NOT HAVE A SIGN BUT APPEARS TO HAVE NEVER HAD A SIGN. ALL MONUMENTS LISTED ON CHECKLIST ARE PRESENT AND IN GOOD CONDITION, HOWEVER THE CR INDICATES ONE MAY BE MISSING FROM LANDFILL A3-4. NO BURROWS, SUBSIDENCE, OR OTHER PROBLEMS WERE NOTED.

E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.

Chief Inspector's Signature: /s/ Signature on file Date: 6/8/15

F. VERIFICATION: I have reviewed this checklist and attachments and have verified that they are complete.

Signature: /s/ Signature on file Date: 6/8/2015

Printed Name: Mark Burmeister

POST-CLOSURE INSPECTION CHECKLIST			
CAU 453, AREA 9 UXO LANDFILL (TTR) – CAS 09-55-001-0952, AREA 9 LANDFILL			
Inspection Date: <i>5/12/15</i>	Reason for Inspection: <i>Annual</i>		
Date of Last Post-Closure Inspection: <i>5/28/14</i>	Reason for Last Post-Closure Inspection: <i>Annual</i>		
Responsible Entity: Navarro, Nevada National Security Site, Mercury, Nevada			
Responsible Facility Owner: Pat Matthews, Environmental Restoration Manager, Navarro			
Chief Inspector: <i>J RETRELL</i>	Title: <i>TASK LEAD</i>		
Assistant Inspector: <i>M BURMEISTER</i>	Title: <i>TASK MANAGER</i>		
A. GENERAL INSTRUCTIONS			
<ul style="list-style-type: none"> <i>The site inspection is an inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.</i> All documentation must be legible and clear. Complete all checklist items. If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection. Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions. 			
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?		<input checked="" type="checkbox"/>	
2. Were maintenance or repairs performed since the last inspection?		<input checked="" type="checkbox"/>	
C. SITE INSPECTION (To be completed during the site visit)			
1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>	
2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to the gate or lock?		<input checked="" type="checkbox"/>	<i>lock works but is sticky</i>
b. Is there damage to fencing or fenceposts?		<input checked="" type="checkbox"/>	
c. Have any boundary monuments been disturbed or damaged?		<input checked="" type="checkbox"/>	
d. Are all signs legible?		<input checked="" type="checkbox"/>	<i>12 of 12 signs have incorrect phone number</i>
e. How many damaged or missing signs need to be replaced?		<input type="checkbox"/>	<i>stickers could be used to correct phone number</i>
f. How many down or loose signs need to be re-hung?		<input type="checkbox"/>	
3. Use Restricted Area:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	<input checked="" type="checkbox"/>		<i>along north trench there are cracks</i>
b. Is there evidence of erosion (wind or water)?		<input checked="" type="checkbox"/>	
c. Is there evidence of human or large animal intrusion onto the site?		<input checked="" type="checkbox"/>	
d. Are animal burrows present?	<input checked="" type="checkbox"/>		<i>minor, repair not needed</i>
e. Is there trash or debris within the use restricted area?		<input checked="" type="checkbox"/>	
f. Are there any other issues not specifically described in this checklist?		<input checked="" type="checkbox"/>	

POST-CLOSURE INSPECTION CHECKLIST**CAU 453, AREA 9 UXO LANDFILL (TTR) – CAS 09-55-001-0952, AREA 9 LANDFILL**

Photograph Instructions:

- A standard set of photographs is needed for the post-closure report. Photos are required to be taken from the approximate location where photos were taken the previous year (as found in the previous year's post-closure report).
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.
- Photographs will be filed electronically.

4. Photograph Documentation:

	YES	NO	EXPLANATION (required if shaded box is checked)
--	-----	----	---

a. Have the required photographs of the site been taken?

D. FIELD CONCLUSIONS

	YES	NO	EXPLANATION (required if shaded box is checked)
--	-----	----	---

1. Is there an imminent hazard to the integrity of the landfill cover?

2. Field Conclusions and Repair or Maintenance Recommendations:

CRACKING ALONG THE NORTH FENCE WAS REPAIRED
DURING THE INSPECTION. FENCING, SIGNS, AND MONUMENTS
IN GOOD CONDITION, NO PROBLEMS. SIGNS MAY NEED
PHONE NUMBER CHANGED. LOCK SHOULD BE REPLACED.

MP 6/12/15

E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.

Chief Inspector's Signature: /s/ **Signature on file**

Date: **5/12/15**

F. VERIFICATION: I have reviewed this checklist and attachments and have verified that they are complete.

Signature: /s/ **Signature on file**

Date: **6-2-15**

Printed Name: **Mark Burmeister**

POST-CLOSURE INSPECTION CHECKLIST			
CAU 487, THUNDERWELL SITE (TTR) – CAS RG-26-001-RGRV, THUNDERWELL SITE			
Inspection Date: <i>5/12/15</i>	Reason for Inspection: <i>ANNUAL</i>		
Date of Last Post-Closure Inspection: <i>5/28/14</i>	Reason for Last Post-Closure Inspection: <i>ANNUAL</i>		
Responsible Entity: Navarro, Nevada National Security Site, Mercury, Nevada			
Responsible Facility Owner: Pat Matthews, Environmental Restoration Manager, Navarro			
Chief Inspector: <i>J PETRELLI</i>	Title: <i>TASK LEAD</i>		
Assistant Inspector: <i>M BURMEISTER</i>	Title: <i>TASK Manager</i>		
A. GENERAL INSTRUCTIONS			
<ul style="list-style-type: none"> <i>The site inspection is an inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.</i> All documentation must be legible and clear. Complete all checklist items. If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection. Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions. 			
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?		<input checked="" type="checkbox"/>	
2. Were maintenance or repairs performed since the last inspection?		<input checked="" type="checkbox"/>	
C. SITE INSPECTION (To be completed during the site visit)			
1. Adjacent Offsite Features (A8 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>	
2. Site Markers (A8 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any boundary monuments been disturbed or damaged?		<input checked="" type="checkbox"/>	
b. Are all signs legible?	<input checked="" type="checkbox"/>		<i>wrong phone number on 10 of 10 signs</i>
c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/>		<i>8</i>
d. How many down or loose signs need to be re-hung?	<input checked="" type="checkbox"/>		<i>stickers for phone numbers</i>
3. Use Restricted Area (A8 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of human or large animal intrusion onto the site?		<input checked="" type="checkbox"/>	
b. Are animal burrows present?		<input checked="" type="checkbox"/>	
c. Is there trash or debris within the use restricted area?		<input checked="" type="checkbox"/>	
d. Are there any other issues not specifically described in this checklist?		<input checked="" type="checkbox"/>	
4. Adjacent Offsite Features (A17 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		<input checked="" type="checkbox"/>	
5. Site Markers (A17 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any boundary monuments been disturbed or damaged?		<input checked="" type="checkbox"/>	
b. Are all signs legible?	<input checked="" type="checkbox"/>		<i>wrong phone number on 8 of 8 signs</i>
c. How many damaged or missing signs need to be replaced?	<input checked="" type="checkbox"/>		<i>stickers for phone numbers</i>

POST-CLOSURE INSPECTION CHECKLIST			
CAU 487, THUNDERWELL SITE (TTR) – CAS RG-26-001-RGRV, THUNDERWELL SITE			
d. How many down or loose signs need to be re-hung?	∅		
6. Use Restricted Area (A17 Anomaly):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of human or large animal intrusion onto the site?	<input checked="" type="checkbox"/>		
b. Are animal burrows present?	<input checked="" type="checkbox"/>		
c. Is there trash or debris within the use restricted area?	<input checked="" type="checkbox"/>		
d. Are there any other issues not specifically described in this checklist?	<input checked="" type="checkbox"/>		
Photograph Instructions:			
<ul style="list-style-type: none"> <i>A standard set of photographs is needed for the post-closure report. Photos are required to be taken from the approximate location where photos were taken the previous year (as found in the previous year's post-closure report).</i> Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report. Photographs will be filed electronically. 			
7. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have the required photographs of the site been taken?	<input checked="" type="checkbox"/>		<i>plus photos of signs</i>
D. FIELD CONCLUSIONS AND REPAIR OR MAINTENANCE RECOMMENDATIONS:			
<p><i>All markers are in good condition, signs are in good condition but have incorrect contact information. Stickers are recommended for sign corrections</i></p> <p><i>MBP 5/12/15</i></p>			
E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.			
Chief Inspector's Signature: /s/ Signature on file		Date: <i>5/12/15</i>	
F. VERIFICATION: I have <input checked="" type="checkbox"/> reviewed this checklist and attachments and have verified that they are complete.			
Signature: /s/ Signature on file		Date: <i>6-2-15</i>	
Printed Name: <i>Mark Burmeister</i>			

Appendix D

Field Notes

(2 Pages)

FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	5	12	15
	SHEET	1	OF	2

PROJECT NAME: Pre- and Post-Closure Monitoring, TTR/NTTR CAUs	PROJECT NO.: SN15-982
FIELD ACTIVITY SUBJECT: Inspection of TTR Corrective Action Units	
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:	
<p>0655 leave Bills office, visit sites to verify locations. LK briefed ^{5/12/15} on WCP.</p> <p>0710 See Cau 404 from road & walk up. Use restriction signs are loose & blowing in wind.</p> <p>0725 depart cau 404 visit cau 487 sites.</p> <p>800 Meet DOE & INEPAT gate</p> <p>810 Arrive at CAU 487, find Anomaly pop & TSB, conduct inspection. signs have wrong phone #. ^{5/12/15} 8 signs total, photo taken. A17 signs also have wrong phone number, 8 signs total. Complete checklist.</p> <p>0910 JCR at Building 3-51 to complete badging paperwork, staffin meeting</p> <p>0915 Area 3 landfills, stop to check back at 3-51 at 1015 Continue area 3 landfills. A3-3 A3-1 has one marker without a sign, but it does not appear to have ever had a sign. All signs (26) have incorrect phone</p>	
VISITORS ON SITE: T. Lantow (TL) M. McLane (MM) J. Costa Rica (JCR) K. Cobble (KC)	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: NONE
WEATHER CONDITIONS: Clear, 50's	IMPORTANT TELEPHONE CALLS: NONE
PERSONNEL ON SITE: J Petrello (JP) M Burmeister (MB) Lynn Friedman (LK) P Basso (PB) D Henry (DH) Bob Moore (RM) V Castro (VC) M Heser (MH)	
SIGNATURE <i>/s/ Signature on file</i>	DATE: <i>5/12/15</i>

→ T Gurnee (TG) Matt Knop (MK)

FIELD ACTIVITY DAILY LOG

(CONTINUATION SHEET)

DAILY LOG	DATE	5	12	15
	SHEET	2	OF	2

PROJECT NAME: Post-Closure Monitoring, RCRA Corrective Action Units

PROJECT NO.: SN15-982

FIELD ACTIVITY SUBJECT: Inspection of RCRA Corrective Action Units

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0915 (continued) numbers, complete inspection checklist.

1055 Arrive at CAU 407. 10 of 10 signs have incorrect phone numbers. complete inspection checklist.

1120 drive around both CAU 400 sites as BMP, no problems noted. Complete BMP checklist. Photo from last year's report titled "looking west" is actually looking east.

1150 arrive at CAU 453, some cracking on north side of cover. Incorrect phone number on 12 of 12 signs. Complete inspection checklist

1215 depart site to join CAU 411 work

1215-~~1445~~ CAU411 : Traveling between sites

~~1445~~ Arrive at Landfill A3-4, 6PS monuments and

~~1445~~ Take photos of stamps on monuments

1510 Arrive at CAU 453, fill holes in cover

1530 depart CAU 453. SICK done for day

LAST LINE

Dmp

5/12/15

Appendix E

Photographs

Note: Photographs are maintained in the project file.

Appendix F

Post-Closure Vegetation Monitoring Report

Note: Post-closure vegetation was not conducted in 2015.

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