Closure Report for Corrective Action Unit 548: Areas 9, 10, 18, 19, and 20 Housekeeping Sites, Nevada National Security Site, Nevada

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Revision: 0

August 2012
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CLOSURE REPORT FOR
CORRECTIVE ACTION UNIT 548:
AREAS 9, 10, 18, 19, AND 20 HOUSEKEEPING SITES,
NEVADA NATIONAL SECURITY SITE, NEVADA

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

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Revision: 0
August 2012
CLOSURE REPORT FOR CORRECTIVE ACTION UNIT 548:
AREAS 9, 10, 18, 19, AND 20 HOUSEKEEPING SITES,
NEVADA NATIONAL SECURITY SITE, NEVADA

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Environmental Management Operations Activity Manager

Date: 8/6/2012

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Appendix A. SAMPLE ANALYTICAL RESULTS
Appendix B. WASTE DISPOSITION DOCUMENTATION
Appendix C. SECTORED HOUSEKEEPING SITE CLOSURE VERIFICATION FORMS
# ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>Contamination Area</td>
</tr>
<tr>
<td>CAS</td>
<td>Corrective Action Site</td>
</tr>
<tr>
<td>CAU</td>
<td>Corrective Action Unit</td>
</tr>
<tr>
<td>CR</td>
<td>Closure Report</td>
</tr>
<tr>
<td>DOE</td>
<td>U.S. Department of Energy</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>FFACO</td>
<td><em>Federal Facility Agreement and Consent Order</em></td>
</tr>
<tr>
<td>gal</td>
<td>gallon(s)</td>
</tr>
<tr>
<td>HW</td>
<td>hazardous waste</td>
</tr>
<tr>
<td>LLW</td>
<td>low-level waste</td>
</tr>
<tr>
<td>mg/kg</td>
<td>milligram(s) per kilogram</td>
</tr>
<tr>
<td>MW</td>
<td>mixed waste</td>
</tr>
<tr>
<td>NCRP</td>
<td>National Council on Radiation Protection and Measurements</td>
</tr>
<tr>
<td>NNSA/NSO</td>
<td>U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office</td>
</tr>
<tr>
<td>NNSS</td>
<td>Nevada National Security Site</td>
</tr>
<tr>
<td>pCi/g</td>
<td>picocurie(s) per gram</td>
</tr>
<tr>
<td>PPE</td>
<td>personal protective equipment</td>
</tr>
<tr>
<td>Pu</td>
<td>plutonium</td>
</tr>
<tr>
<td>QA</td>
<td>quality assurance</td>
</tr>
<tr>
<td>QAPP</td>
<td><em>Industrial Sites Quality Assurance Project Plan</em></td>
</tr>
<tr>
<td>QC</td>
<td>quality control</td>
</tr>
<tr>
<td>RMA</td>
<td>Radioactive Material Area</td>
</tr>
<tr>
<td>RWMS</td>
<td>Radioactive Waste Management Site</td>
</tr>
<tr>
<td>TPH</td>
<td>total petroleum hydrocarbons</td>
</tr>
<tr>
<td>WMA</td>
<td>waste management area</td>
</tr>
<tr>
<td>yd$^3$</td>
<td>cubic yard(s)</td>
</tr>
</tbody>
</table>
THIS PAGE INTENTIONALLY LEFT BLANK
EXECUTIVE SUMMARY

This Closure Report (CR) documents closure activities for Corrective Action Unit (CAU) 548, Areas 9, 10, 18, 19, and 20 Housekeeping Sites, and complies with the Federal Facility Agreement and Consent Order (FFACO) that was agreed to by the State of Nevada; the U.S. Department of Energy (DOE), Environmental Management; the U.S. Department of Defense; and DOE, Legacy Management (FFACO, 1996 as amended). CAU 548 consists of the following Corrective Action Sites (CASs), located in Areas 9, 10, 12, 18, 19, and 20 of the Nevada National Security Site:

- CAS 09-99-02, Material Piles (2)
- CAS 09-99-04, Wax, Paraffin
- CAS 09-99-05, Asbestos, Vermiculite
- CAS 09-99-07, Tar Spill
- CAS 10-22-02, Drums
- CAS 10-22-05, Gas Block
- CAS 10-22-07, Gas Block
- CAS 10-22-34, Drum
- CAS 10-22-38, Drum; Cable
- CAS 12-99-04, Epoxy Tar Spill
- CAS 12-99-08, Cement Spill
- CAS 18-14-01, Transformers (3)
- CAS 19-22-01, Drums
- CAS 19-22-11, Gas Block (2)
- CAS 19-44-01, Fuel Spill
- CAS 20-22-07, Drums (2)
- CAS 20-22-09, Drums (3)
- CAS 20-22-14, Drums (2)
- CAS 20-22-16, Drums (2)
- CAS 20-24-09, Battery

Closure activities began in July 2011 and were completed in December 2011 and included removal and disposal of material piles, spills, sanitary debris, a lead acid battery, lead and steel shot, and stained soil. Activities were conducted according to the Sectored Clean-up Work Plan for Housekeeping Category Waste Sites (U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office [NNSA/NSO], 2003).

Closure activities generated sanitary waste, hydrocarbon waste, low-level waste, hazardous waste, and mixed waste. Some wastes exceeded land disposal limits and required offsite treatment prior to disposal. Other wastes met land disposal restrictions and were disposed in appropriate onsite or offsite landfills.
NNSA/NSO requests the following:

- A Notice of Completion from the Nevada Division of Environmental Protection to NNSA/NSO for closure of CAU 548
- The transfer of CAU 548 from Appendix III to Appendix IV, Closed Corrective Action Units, of the FFACO
1.0 INTRODUCTION

This Closure Report (CR) documents closure activities for Corrective Action Unit (CAU) 548, Areas 9, 10, 18, 19, and 20 Housekeeping Sites, according to the Federal Facility Agreement and Consent Order (FFACO) that was agreed to by the State of Nevada; the U.S. Department of Energy (DOE), Environmental Management; the U.S. Department of Defense; and DOE, Legacy Management (FFACO, 1996 as amended). CAU 548 consists of the following Corrective Action Sites (CASs), located in Areas 9, 10, 12, 18, 19, and 20 of the Nevada National Security Site (NNSS):

- CAS 09-99-02, Material Piles (2)
- CAS 09-99-04, Wax, Paraffin
- CAS 09-99-05, Asbestos, Vermiculite
- CAS 09-99-07, Tar Spill
- CAS 10-22-02, Drums
- CAS 10-22-05, Gas Block
- CAS 10-22-07, Gas Block
- CAS 10-22-34, Drum
- CAS 10-22-38, Drum; Cable
- CAS 12-99-04, Epoxy Tar Spill
- CAS 12-99-08, Cement Spill
- CAS 18-14-01, Transformers (3)
- CAS 19-22-01, Drums
- CAS 19-22-11, Gas Block (2)
- CAS 19-44-01, Fuel Spill
- CAS 20-22-07, Drums (2)
- CAS 20-22-09, Drums (3)
- CAS 20-22-14, Drums (2)
- CAS 20-22-16, Drums (2)
- CAS 20-24-09, Battery

1.1 PURPOSE

This CR provides justification for closure of CAU 548 without further corrective action based on implementation of corrective actions in accordance with the Sectored Clean-up Work Plan for Housekeeping Category Waste Sites (U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office [NNSA/NSO], 2003). This CR provides a summary of completed closure activities, documentation supporting the completed corrective actions, and confirmation that the closure objectives were met.
1.2 **SCOPE**

The scope of closure for CAU 548 included removal and disposal of material piles, spills, sanitary debris, a lead acid battery, lead and steel shot, and stained soil. Closure activities are summarized in Table 1.

1.3 **CLOSURE REPORT CONTENTS**

This CR includes the following sections:

- Section 1.0: Introduction
- Section 2.0: Closure Activities
- Section 3.0: Waste Disposition
- Section 4.0: Closure Verification Results
- Section 5.0: Conclusions and Recommendations
- Section 6.0: References
- Appendix A: Sample Analytical Results
- Appendix B: Waste Disposition Documentation
- Appendix C: Sectored Housekeeping Site Closure Verification Forms
- Library Distribution List
### Table 1. Summary of Corrective Action Unit 548 Closure Activities

<table>
<thead>
<tr>
<th>CAS</th>
<th>CAS Name or Site Description</th>
<th>Closure Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-99-02</td>
<td>Material Piles (2)</td>
<td>A material pile was removed and disposed at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>09-99-04</td>
<td>Wax, Paraffin</td>
<td>A material pile was removed, packaged in nine B-25 boxes, treated by an offsite treatment facility, and will be returned to the NNSS for disposal as MW at the Area 5 RWMS. A verification sample was collected and analyzed for the hazardous constituents of TPH, total chromium, and isotopic Pu.</td>
</tr>
<tr>
<td>09-99-05</td>
<td>Asbestos, Vermiculite</td>
<td>A material pile was removed, packaged in one B-25 box, and disposed as LLW at the Area 5 RWMS. A verification sample was collected and analyzed for the hazardous constituents of TPH.</td>
</tr>
<tr>
<td>09-99-07</td>
<td>Tar Spill</td>
<td>A tar spill was removed and disposed at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>10-22-02</td>
<td>Drums</td>
<td>None</td>
</tr>
<tr>
<td>10-22-05</td>
<td>Gas Block</td>
<td>None</td>
</tr>
<tr>
<td>10-22-07</td>
<td>Gas Block</td>
<td>None</td>
</tr>
<tr>
<td>10-22-34</td>
<td>Drum</td>
<td>None</td>
</tr>
<tr>
<td>10-22-38</td>
<td>Drum; Cable</td>
<td>A 55-gal gas block drum, a small can, and wooden debris were removed and disposed at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>12-99-04</td>
<td>Epoxy Tar Spill</td>
<td>None</td>
</tr>
<tr>
<td>12-99-08</td>
<td>Cement Spill</td>
<td>Cement and asphalt piles were removed and disposed at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>18-14-01</td>
<td>Transformers (3)</td>
<td>None</td>
</tr>
<tr>
<td>19-22-01</td>
<td>Drums</td>
<td>None</td>
</tr>
<tr>
<td>19-22-11</td>
<td>Gas Block (2)</td>
<td>None</td>
</tr>
<tr>
<td>19-44-01</td>
<td>Fuel Spill</td>
<td>None</td>
</tr>
<tr>
<td>20-22-07</td>
<td>Drums (2)</td>
<td>Seven abandoned, empty 55-gal drums were removed and disposed at the Area 9 U10c Sanitary Landfill. One lead acid battery was removed, packaged in a 55-gal drum, treated at an offsite treatment facility, and will be returned to the NNSS for disposal as MW at the Area 5 RWMS. Tires were removed, packaged in one B-25 box, and disposed at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>20-22-09</td>
<td>Drums (3)</td>
<td>None</td>
</tr>
</tbody>
</table>
### Table 1. Summary of Corrective Action Unit 548 Closure Activities (continued)

<table>
<thead>
<tr>
<th>CAS</th>
<th>CAS Name or Site Description</th>
<th>Closure Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-22-14</td>
<td>Drums (2)</td>
<td>None</td>
</tr>
<tr>
<td>20-22-16</td>
<td>Drums (2)</td>
<td>None</td>
</tr>
<tr>
<td>20-24-09</td>
<td>Battery</td>
<td>None</td>
</tr>
<tr>
<td>No CAS Number</td>
<td>Area 9 Burn Pile</td>
<td>A burn pile was removed and disposed as hydrocarbon waste at the Area 9 U10c Sanitary Landfill.</td>
</tr>
<tr>
<td>No CAS Number</td>
<td>Area 9 Stained Soil Areas</td>
<td>Stained soil was removed from two areas, packaged in nine B-25 boxes, and disposed as LLW at the Area 5 RWMS. A verification sample was collected and analyzed for chromium.</td>
</tr>
<tr>
<td>No CAS Number</td>
<td>Area 10 Lead Shot</td>
<td>Lead and steel shot and associated soil were removed, packaged in five 55-gal drums, and treated and disposed as HW at an offsite facility.</td>
</tr>
</tbody>
</table>

CAS: Corrective Action Site  
gal: gallon(s)  
HW: hazardous waste  
LLW: low-level waste  
MW: mixed waste  
NNSS: Nevada National Security Site  
Pu: plutonium  
RWMS: Radioactive Waste Management Site  
TPH: total petroleum hydrocarbons
2.0 CLOSURE ACTIVITIES

This section describes the closure activities performed for CAU 548. Copies of the Sectored Housekeeping Site Closure Verification Forms are included in Appendix C. These forms include before and after photographs of the sites, descriptions of waste, and waste disposal information.

2.1 DESCRIPTION OF CORRECTIVE ACTION ACTIVITIES

The following sections describe the closure activities completed for each CAS in CAU 548.

2.1.1 Corrective Action Site 09-99-02, Material Piles (2)
At CAS 09-99-02, a material pile was removed and disposed at the Area 9 U10c Sanitary Landfill.

2.1.2 Corrective Action Site 09-99-04, Wax, Paraffin
At CAS 09-99-04, a material pile and soil was removed, packaged in nine B-25 boxes, and treated at an offsite treatment facility. The waste was returned to the NNSS for disposal as mixed waste (MW) at the Area 5 Radioactive Waste Management Site (RWMS). A verification sample was collected from the bottom of the excavation and analyzed for the hazardous constituents of total petroleum hydrocarbons (TPH), total chromium, and isotopic plutonium (Pu). The excavation was backfilled.

2.1.3 Corrective Action Site 09-99-05, Asbestos, Vermiculite
At CAS 09-99-05, a material pile was removed, packaged in one B-25 box, and disposed as low-level waste (LLW) at the Area 5 RWMS. A verification sample was collected from the underlying soil and analyzed for the hazardous constituents of TPH. Although the material exceeded the landfill acceptance criteria for radiological constituents, radionuclides did not exceed action levels; therefore, the verification sample was not analyzed for radionuclides.

2.1.4 Corrective Action Site 09-99-07, Tar Spill
At CAS 09-99-07, a tar spill was removed and disposed at the Area 9 U10c Sanitary Landfill.

2.1.5 Corrective Action Site 10-22-02, Drums
At CAS 10-22-02, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.6 Corrective Action Site 10-22-05, Gas Block
At CAS 10-22-05, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.7 Corrective Action Site 10-22-07, Gas Block
At CAS 10-22-07, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.
2.1.8 Corrective Action Site 10-22-34, Drum
At CAS 10-22-34, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.9 Corrective Action Site 10-22-38, Drum; Cable
At CAS 10-22-38, a 55-gallon (gal) gas block drum, a small can, and wooden debris were removed and disposed at the Area 9 U10c Sanitary Landfill.

2.1.10 Corrective Action Site 12-99-04, Epoxy Tar Spill
At CAS 12-99-04, the spill originally described at the site was determined to be a deteriorated 200-foot-long drainage channel constructed to control water flow from a concrete pad. Due to the absence of contamination and the inability of heavy equipment to access the area, no further action was required, and no closure activities were performed.

2.1.11 Corrective Action Site 12-99-08, Cement Spill
At CAS 12-99-08, cement and asphalt piles were removed and disposed at the Area 9 U10c Sanitary Landfill.

2.1.12 Corrective Action Site 18-14-01, Transformers (3)
At CAS 18-14-01, three junction boxes containing wires were found. Transformers were not located at this site. No further action was required, and no closure activities were performed.

2.1.13 Corrective Action Site 19-22-01, Drums
At CAS 19-22-01, the drums previously located at the site were not found and are assumed to have been removed. No further action was required, and no closure activities were performed.

2.1.14 Corrective Action Site 19-22-11, Gas Block (2)
At CAS 19-22-11, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.15 Corrective Action Site 19-44-01, Fuel Spill
At CAS 19-44-01, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.16 Corrective Action Site 20-22-07, Drums (2)
At CAS 20-22-07, seven abandoned, empty 55-gal drums were removed from the Contamination Area (CA) and disposed at the Area 9 U10c Sanitary Landfill. Tires were removed from the CA, packaged in one B-25 box, and disposed at the Area 9 U10c Sanitary Landfill. One lead acid battery was removed from the CA, packaged in a 55-gal drum, and treated on site. The waste was disposed as MW at the Area 5 RWMS. Personal protective equipment (PPE) used during entry into the CA was packaged in a 55-gal drum and disposed as LLW at the Area 5 RWMS.
2.1.17 Corrective Action Site 20-22-09, Drums (3)
At CAS 20-22-09, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.18 Corrective Action Site 20-22-14, Drums (2)
At CAS 20-22-14, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.19 Corrective Action Site 20-22-16, Drums (2)
At CAS 20-22-16, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.20 Corrective Action Site 20-24-09, Battery
At CAS 20-24-09, a crater stability study was performed that indicated the crater is unstable; therefore, no closure activities were performed.

2.1.21 Additional Work
Additional closure activities were conducted in several locations near the CAU 548 sites. These activities are described below.

2.1.21.1 Area 9 Burn Pile
A burn pile in Area 9 was removed and disposed as hydrocarbon waste at the Area 9 U10c Sanitary Landfill.

2.1.21.2 Area 9 Stained Soil Areas
Two stained soil areas were identified near the burn pile in Area 9. Chromium and Pu-239 were present at concentrations above action levels in characterization samples collected from the first stained soil area. Pu-239 was present at concentrations above the action level in characterization samples from the second stained soil area. Because the sites are located within the investigation area of CAU 570, a Soils site, the radiological contamination will be addressed under the closure of CAU 570. Therefore, Pu-239 is not considered a contaminant of concern for CAU 548.

Stained soil was removed from the first stained soil area and packaged in three B-25 boxes. A verification sample was collected from the bottom of the excavation and analyzed for chromium. Stained soil was removed from the second stained area as a best management practice and packaged in six B-25 boxes. Verification samples were not collected after excavation of the second stained soil area because no contaminants of concern were present. The waste was below the landfill acceptance criteria for chromium; therefore, it was disposed as LLW at the Area 5 RWMS. The excavations were backfilled.

2.1.21.3 Area 10 Lead Shot
In Area 10, lead and steel shot and associated soil were removed, packaged in five 55-gal drums, and treated and disposed as hazardous waste (HW) at an offsite facility.
2.2 **Deviations from the Plan as Approved**
This section is not applicable to CAU 548.

2.3 **Corrective Action Schedule as Completed**
Closure activities were conducted from July to December 2011. The start and end dates of field work for each CAS are provided in Table 2. Waste disposal took place after the end dates listed below in some cases.

**Table 2. Corrective Action Unit 548 Closure Activities Schedule**

<table>
<thead>
<tr>
<th>Corrective Action Site or Site Description</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-99-02, Material Piles (2)</td>
<td>07/14/2011</td>
<td>07/14/2011</td>
</tr>
<tr>
<td>09-99-04, Wax, Paraffin</td>
<td>07/14/2011</td>
<td>10/06/2011</td>
</tr>
<tr>
<td>09-99-05, Asbestos, Vermiculite</td>
<td>07/14/2011</td>
<td>07/14/2011</td>
</tr>
<tr>
<td>09-99-07, Tar Spill</td>
<td>07/14/2011</td>
<td>07/14/2011</td>
</tr>
<tr>
<td>10-22-38, Drum; Cable</td>
<td>07/14/2011</td>
<td>07/14/2011</td>
</tr>
<tr>
<td>12-99-08, Cement Spill</td>
<td>07/12/2011</td>
<td>07/12/2011</td>
</tr>
<tr>
<td>20-22-07, Drums (2)</td>
<td>07/21/2011</td>
<td>10/11/2011</td>
</tr>
<tr>
<td>Area 9 Burn Pile</td>
<td>07/14/2011</td>
<td>07/14/2011</td>
</tr>
<tr>
<td>Area 9 Stained Soil Areas</td>
<td>10/06/2011</td>
<td>12/06/2011</td>
</tr>
<tr>
<td>Area 10 Lead Shot</td>
<td>07/19/2011</td>
<td>07/19/2011</td>
</tr>
</tbody>
</table>

2.4 **Site Plan/Survey Plat**
This section is not applicable to CAU 548.
3.0 WASTE DISPOSITION

This section describes the waste streams generated during closure activities and their final disposition.

3.1 WASTE MINIMIZATION

Industry standard waste minimization practices were applied throughout the course of closure activities. These practices included the following:

- Radiological surveys to verify acceptance of construction debris at the Area 9 U10c Sanitary Landfill
- Laboratory analysis to correctly characterize and segregate waste streams
- Size reduction of debris

3.2 WASTE MANAGEMENT

All waste was characterized and managed according to federal and state regulations, DOE orders, and NSTec procedures. Waste management areas (WMAs) were established throughout the project, as needed. All WMAs were identified with appropriate signs and boundaries to restrict unauthorized access. The WMAs were inspected on a weekly or monthly basis, as required, to ensure that all containers were intact, not leaking, and not exceeding storage duration times as specified by regulations and procedures. Applicable WMAs were posted as Radioactive Material Areas (RMAs) whenever radiological waste was stored in the area. Upon removal of radiologically impacted waste, the RMA was surveyed and de-posted.

Waste containers were purchased either new or reconditioned. All containers were inspected prior to use to verify that they were in good condition (e.g., no leaks, rust, or dents), lined or made of material that would not react with the waste, and met U.S. Department of Transportation requirements. The containers remained closed while stored unless waste was being added or removed. Containers were also handled in such a manner that the integrity of the container was not compromised. Appropriate labels were affixed, and relevant information was marked on the containers with an indelible marker. All information was legible and clearly visible.

3.3 WASTE STREAMS AND DISPOSAL

Waste disposition is summarized in Table 3 and discussed in detail in the following sections. Waste disposition documentation is included in Appendix B.
<table>
<thead>
<tr>
<th><strong>WASTE STREAM</strong></th>
<th><strong>DESCRIPTION OF WASTE</strong></th>
<th><strong>VOLUME</strong></th>
<th><strong>WASTE CONTAINER</strong></th>
<th><strong>DATE OF DISPOSAL</strong></th>
<th><strong>DISPOSITION DOCUMENTATION</strong></th>
<th><strong>DISPOSITION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sanitary Waste</strong></td>
<td>CAS 09-99-02 Material Pile</td>
<td>10 yd³</td>
<td>Unpackaged</td>
<td>07/14/2011</td>
<td>Landfill Load Verification Forms</td>
<td>Disposed at the Area 9 U10c Sanitary Landfill</td>
</tr>
<tr>
<td></td>
<td>CAS 09-99-07 Tar Spill</td>
<td>10 yd³</td>
<td>Unpackaged</td>
<td>07/19/2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS 10-22-38 Debris</td>
<td>10 yd³</td>
<td>Unpackaged</td>
<td>07/14/2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS 12-99-08 Cement and Asphalt Piles</td>
<td>10 yd³</td>
<td>Unpackaged</td>
<td>07/12/2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS 20-22-07 Tires</td>
<td>4 yd³</td>
<td>One B-25 box</td>
<td>10/11/2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydrocarbon Waste</strong></td>
<td>Area 9 Burn Pile</td>
<td>20 yd³</td>
<td>Unpackaged</td>
<td>07/14/2011 07/21/2011</td>
<td>Landfill Load Verification Forms</td>
<td>Disposed at the Area 9 U10c Sanitary Landfill</td>
</tr>
<tr>
<td><strong>LLW</strong></td>
<td>CAS 09-99-05 Material Pile</td>
<td>4 yd³</td>
<td>One B-25 box</td>
<td>08/03/2011</td>
<td>Certificates of Disposal</td>
<td>Disposed at the Area 5 RWMS</td>
</tr>
<tr>
<td></td>
<td>CAS 20-22-07 PPE</td>
<td>55 gal</td>
<td>One 55-gal drum</td>
<td>11/30/2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Area 9 Stained Soil Areas</td>
<td>36 yd³</td>
<td>Nine B-25 boxes</td>
<td>01/04/2012 01/05/2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HW</strong></td>
<td>Area 10 Lead Shot</td>
<td>275 gal</td>
<td>Five 55-gal drums</td>
<td>01/17/2012</td>
<td>Uniform HW Manifest</td>
<td>Disposed by U.S. Ecology in Beatty, Nevada</td>
</tr>
<tr>
<td><strong>MW</strong></td>
<td>CAS 09-99-04 Material Pile and Soil</td>
<td>36 yd³</td>
<td>Nine B-25 boxes</td>
<td>06/27/2012</td>
<td>Certificates of Disposal</td>
<td>Disposed at the Area 5 RWMS</td>
</tr>
<tr>
<td></td>
<td>CAS 20-22-07 Lead Acid Battery</td>
<td>55 gal</td>
<td>One 55-gal drum</td>
<td>07/31/2012</td>
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<td></td>
</tr>
</tbody>
</table>

gal: gallon(s)
HW: hazardous waste
LLW: low-level waste
MW: mixed waste
PPE: personal protective equipment
RWMS: Radioactive Waste Management Site
yd³: cubic yard(s)
3.3.1 Sanitary Waste
Approximately 45 yd³ of sanitary waste were generated during closure activities and transported to the Area 9 U10c Sanitary Landfill for disposal. Sanitary waste included approximately 10 yd³ of material from the pile at CAS 09-99-02, approximately 10 yd³ of material from the tar spill at CAS 09-99-07, approximately 10 yd³ of debris from CAS 10-22-38, approximately 10 yd³ of material from the piles at CAS 12-99-08, seven empty drums from CAS 20-22-07, and one B-25 box containing tires from CAS 20-22-07.

3.3.2 Hydrocarbon Waste
Approximately 20 yd³ of hydrocarbon waste were generated during closure activities and transported to the Area 9 U10c Sanitary Landfill for disposal. Hydrocarbon waste included material from the Area 9 Burn Pile.

3.3.3 Low-Level Waste
Approximately 40 yd³ of LLW were generated during closure activities and transported to the Area 5 RWMS for disposal. LLW included one B-25 box of material from the pile at CAS 09-99-05, one 55-gal drum of personal protective equipment from CAS 20-22-07, and nine B-25 boxes of material and soil from the Area 9 Stained Soil Areas.

3.3.4 Hazardous Waste
Approximately 275 gal of HW were generated during closure activities. In Area 10, lead and steel shot and associated soil was removed, packaged in five 55-gal drums, and transported to U.S. Ecology in Beatty, Nevada, for treatment and disposal as HW.

3.3.5 Mixed Waste
Approximately 36 yd³ of MW were generated during closure activities. MW included nine B-25 boxes of material and soil from CAS 09-99-04 and one 55-gal drum containing a lead acid battery from CAS 20-22-07. The nine B-25 boxes of material and soil from CAS 09-99-04 were transported off site for treatment and returned to the NNSS for disposal at the Area 5 RWMS. The 55-gal drum containing a lead acid battery from CAS 20-22-07 was treated on site and disposed at the Area 5 RWMS.
4.0 CLOSURE VERIFICATION RESULTS

Site closure was verified by visual observations and by collecting and analyzing soil verification samples. Copies of the Sectored Housekeeping Site Closure Verification Forms are included as Appendix C of this report. These forms include before and after photographs of the sites, descriptions and removal status of waste, and waste disposal information.

Soil verification samples were collected after removal of waste at CAS 09-99-04, CAS 09-99-05, and the Area 9 First Stained Soil Area. Results verified that remaining soil does not contain contamination above action levels. Sample results for analytes detected above minimum detectable concentrations are summarized in the following tables, and the laboratory summary data reports are included in Appendix A.

**TABLE 4. VERIFICATION SAMPLE RESULTS DETECTED ABOVE MINIMUM DETECTABLE CONCENTRATIONS FOR CORRECTIVE ACTION SITE 09-99-04**

<table>
<thead>
<tr>
<th>ANALYTE</th>
<th>ACTION LEVEL</th>
<th>SAMPLE RESULTS FOR 099904-V1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plutonium-238</td>
<td>13 pCi/g*</td>
<td>0.067 pCi/g</td>
</tr>
<tr>
<td>Plutonium-239/240</td>
<td>12.7 pCi/g*</td>
<td>4.1 pCi/g</td>
</tr>
<tr>
<td>Chromium</td>
<td>450 mg/kg†</td>
<td>5.99 mg/kg</td>
</tr>
</tbody>
</table>

mg/kg: milligram(s) per kilogram  
pCi/g: picocurie(s) per gram  
* Based on the construction, commercial, industrial land-use scenario in Table 2.1 of the National Council on Radiation Protection and Measurements (NCRP) Report No. 129, Recommended Screening Limits for Contaminated Surface Soil and Review Factors Relevant to Site-Specific Studies (NCRP, 1999). The values provided in this source document were scaled to a dose of 25 millirems per year.  
† Based on U.S. Environmental Protection Agency Region 9 Regional Screening Levels for Industrial Soil

**TABLE 5. VERIFICATION SAMPLE RESULTS DETECTED ABOVE MINIMUM DETECTABLE CONCENTRATIONS FOR CORRECTIVE ACTION SITE 09-99-05**

<table>
<thead>
<tr>
<th>ANALYTE</th>
<th>ACTION LEVEL</th>
<th>SAMPLE RESULTS FOR 548-099905</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>23 mg/kg*</td>
<td>0.00698 mg/kg</td>
</tr>
</tbody>
</table>

mg/kg: milligram(s) per kilogram  
* Based on U.S. Environmental Protection Agency Region 9 Regional Screening Levels for Industrial Soil

**TABLE 6. VERIFICATION SAMPLE RESULTS DETECTED ABOVE MINIMUM DETECTABLE CONCENTRATIONS FOR THE AREA 9 FIRST STAINED SOIL AREA**

<table>
<thead>
<tr>
<th>ANALYTE</th>
<th>ACTION LEVEL</th>
<th>SAMPLE RESULTS FOR 548NSA-V1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium</td>
<td>450 mg/kg*</td>
<td>20 mg/kg</td>
</tr>
</tbody>
</table>

mg/kg: milligram(s) per kilogram  
* Based on U.S. Environmental Protection Agency Region 9 Regional Screening Levels for Industrial Soil
4.1 **DATA QUALITY ASSESSMENT**

Accurate and defensible analytical data were collected to verify that the closure objectives were met. Analytical data results are included as Appendix A. The following sections describe the quality assurance (QA) and quality control (QC) procedures and the data validation process. More detail on the QA/QC procedures can be found in the *Industrial Sites Quality Assurance Project Plan* (QAPP) (U.S. Department of Energy, National Nuclear Security Administration Nevada Operations Office [NNSA/NV], 2002).

4.1.1 **Quality Assurance and Quality Control Procedures**

Verification samples were collected with disposable sampling equipment, placed in appropriately labeled containers secured with custody seals, labeled with unique sample numbers, placed on ice, and transported under strict chain of custody. Standard QA/QC samples were collected (i.e., one blind duplicate per batch). Samples were analyzed by certified contract laboratories. Analytical results were validated at the laboratory using stringent QA/QC procedures, including matrix spike/matrix spike duplicates, spiked surrogate recovery analysis, verification of analytical results, and data quality indicator requirements.

4.1.2 **Data Validation**

Data validation was performed according to the QAPP (NNSA/NV, 2002), which is based on the U.S. Environmental Protection Agency (EPA) functional guidelines for data quality (EPA, 1994; 1999). Data were reviewed to ensure that samples were appropriately processed and analyzed and that the results are valid. All sample data were validated at the Tier I level.

No anomalies were discovered in the data that would discredit any of the sample results. Data met the required data quality indicators (i.e., precision, accuracy, sensitivity, completeness, comparability, and representativeness). The complete datasets, including validation reports, are maintained in the project files and available upon request.

4.2 **USE RESTRICTION**

Use restrictions were not implemented for any of the CASs in CAU 548, and the future land use of any land related to CAU 548 is not restricted from any activity.
5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS
Closure activities began in July 2011 and were completed in December 2011 and included removal and disposal of material piles, spills, sanitary debris, a lead acid battery, lead and steel shot, and stained soil.

5.2 POST-CLOSURE REQUIREMENTS
No use restrictions were implemented, and there are no post-closure requirements.

5.3 RECOMMENDATIONS
Because closure activities for CAU 548 have been completed as documented in this CR, NNSA/NSO requests the following:

- A Notice of Completion from the Nevada Division of Environmental Protection to NNSA/NSO for closure of CAU 548
- The transfer of CAU 548 from Appendix III to Appendix IV, Closed Corrective Action Units, of the FFACO
6.0 REFERENCES

EPA, see U.S. Environmental Protection Agency.


FFACO, see *Federal Facility Agreement and Consent Order*.


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


## Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

**Client Name:** National Security Technologies, LLC  
**Client Project Name:** CAU 548  
**Client Project Number:** V3569  
**Laboratory Name:** ALS Environmental – FC  
**PAI Work Order:** 1110209

<table>
<thead>
<tr>
<th>Lab Sample ID</th>
<th>Client Sample ID</th>
<th>Sample Type</th>
<th>Nuclide</th>
<th>Result +/- 2 s TPU</th>
<th>MDC</th>
<th>Units</th>
<th>Matrix</th>
<th>Prep Batch</th>
<th>Date Analyzed</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1110209-1</td>
<td>54ANSA-V1</td>
<td>Sample</td>
<td>Pu-238</td>
<td>7.41E-01 +/- 4.62E-01</td>
<td>3.77E-01</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111025-1</td>
<td>10/28/2011</td>
<td>M3</td>
</tr>
<tr>
<td>1110209-1</td>
<td>54ANSA-V1</td>
<td>Sample</td>
<td>Pu-239/240</td>
<td>7.10E+01 +/- 1.26E+01</td>
<td>5.66E-01</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111025-1</td>
<td>10/28/2011</td>
<td>M3</td>
</tr>
<tr>
<td>1110209-2</td>
<td>699994-V1</td>
<td>Sample</td>
<td>Pu-238</td>
<td>6.70E-02 +/- 2.01E-02</td>
<td>2.53E-03</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111019-1</td>
<td>10/21/2011</td>
<td>M3</td>
</tr>
<tr>
<td>1110209-2</td>
<td>699994-V1</td>
<td>Sample</td>
<td>Pu-239/240</td>
<td>4.10E+00 +/- 6.63E-01</td>
<td>1.07E-02</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111019-1</td>
<td>10/21/2011</td>
<td>M3</td>
</tr>
<tr>
<td>1110209-3</td>
<td>54ANSA-C1</td>
<td>Sample</td>
<td>Pu-238</td>
<td>4.47E-01 +/- 2.82E-01</td>
<td>3.21E-01</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111025-1</td>
<td>11/2/2011</td>
<td>M3</td>
</tr>
<tr>
<td>1110209-3</td>
<td>54ANSA-C1</td>
<td>Sample</td>
<td>Pu-239/240</td>
<td>3.88E+01 +/- 6.50E+00</td>
<td>2.77E-01</td>
<td>pCi/g</td>
<td>SOIL</td>
<td>A5111025-1</td>
<td>11/2/2011</td>
<td>M3</td>
</tr>
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</table>

### Comments:

**Data Package ID: PU1110209-1**

**Qualifiers/Flags:**
- **L** - Result is less than the sample specific MDC,  
- **LT** - Result is less than Requested MDC, greater than sample specific MDC,  
- **Y1** - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed,  
- **Y2** - Chemical Yield outside default limits,  
- **M** - The requested MDC was not met,  
- **M3** - The requested MDC was not met, but the reported activity is greater than the reported MDC.

**Abbreviations:**
- **TPU** - Total Propagated Uncertainty  
- **MDC** - Minimum Detectable Concentration  
- **BDL** - Below Detection Limit

---

*ALS Environmental – FC*  
*LIMS Version: 6.538*
## INORGANIC ANALYSIS DATA SHEET

**Laboratory:** Lionville Laboratory  
**Client:** National Security Technologies, LLC  
**Matrix:** Soil  
**Sampled:** 10/12/11 11:50  
**Prepared:** 10/19/11 11:31  
**Solids:** 97.37  
**Preparation:** SW 3050B  
**Batch:** L110198  
**Sequence:** 1100100  
**Calibration:** UNASSIGNED  
**Instrument:** Thermo iTEVA  
**File ID:** ICP1Q1911C-040  
**Project:** CAU548  
**Initial/Final:** 0.53 g / 50 mL  
**Concentration (mg/kg dry):** 5.99  
**Dilution Factor:** 1  
**Method:** SW846 6010B

<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>Analyte</th>
<th>Concentration (mg/kg dry)</th>
<th>Dilution Factor</th>
<th>Q</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-47-3</td>
<td>Chromium</td>
<td>5.99</td>
<td>1</td>
<td></td>
<td>SW846 6010B</td>
</tr>
</tbody>
</table>
### ORGANIC ANALYSIS DATA SHEET

**8270C**

- **Laboratory:** Lionville Laboratory
- **Client:** National Security Technologies, LLC
- **SDG:** SDG #V3667
- **Project:** CAU548
- **Matrix:** Soil
- **Laboratory ID:** 1110059-01
- **Sampled:** 10/12/11 11:50
- **Prepared:** 10/18/11 14:50
- **Solids:** 97.37
- **Preparation:** SW 3540C
- **Batch:** L110186
- **Sequence:** 1100135
- **Calibration:** 1110023
- **File ID:** D102111.D
- **Analyzed:** 10/21/11 18:08
- **Initial/Final:** 30.08 g / 1 mL
- **Instrument:** HP5972D

<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>COMPOUND</th>
<th>DILUTION</th>
<th>CONC. (ug/kg dry)</th>
<th>QC</th>
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</thead>
<tbody>
<tr>
<td>91-20-3</td>
<td>Naphthalene</td>
<td>1</td>
<td>338</td>
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<tr>
<td>91-57-6</td>
<td>2-Methylnaphthalene</td>
<td>1</td>
<td>338</td>
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<tr>
<td>86-73-7</td>
<td>Fluorene</td>
<td>1</td>
<td>338</td>
<td>U</td>
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<tr>
<td>85-01-8</td>
<td>Phenanthrene</td>
<td>1</td>
<td>338</td>
<td>U</td>
</tr>
<tr>
<td>120-12-7</td>
<td>Anthracene</td>
<td>1</td>
<td>338</td>
<td>U</td>
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<td>206-44-0</td>
<td>Fluoranthene</td>
<td>1</td>
<td>338</td>
<td>U</td>
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<td>129-90-0</td>
<td>Pyrene</td>
<td>1</td>
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<td>56-55-3</td>
<td>Benz[a]anthracene</td>
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<td>218-01-9</td>
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<td>Benzo[k]fluoranthene</td>
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<td>50-32-8</td>
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<td>191-24-2</td>
<td>Benzo[g,h,i]pyrene</td>
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#### SYSTEM MONITORING COMPOUND

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<th>COMPOUND</th>
<th>ADDED (ug/kg dry)</th>
<th>CONC (ug/kg dry)</th>
<th>% REC</th>
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<th>QC</th>
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<tbody>
<tr>
<td>2-Fluorophenol</td>
<td>2560.7</td>
<td>1230</td>
<td>48</td>
<td>25 - 121</td>
<td>U</td>
</tr>
<tr>
<td>Phenol-d5</td>
<td>2560.7</td>
<td>1810</td>
<td>71</td>
<td>24 - 113</td>
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<td>Nitrobenzene-d5</td>
<td>1707.1</td>
<td>1200</td>
<td>70</td>
<td>23 - 120</td>
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<td>2-Fluorobiphenyl</td>
<td>1707.1</td>
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<td>72</td>
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<td>2,4,6-Tribromophenol</td>
<td>2560.7</td>
<td>1390</td>
<td>54</td>
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<td>p-Terphenyl-d14</td>
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<td>87</td>
<td>18 - 137</td>
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#### INTERNAL STANDARD

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<th>RT</th>
<th>REF AREA</th>
<th>REF RT</th>
<th>QC</th>
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<tbody>
<tr>
<td>1,4-Dichlorobenzene-d4</td>
<td>143791</td>
<td>8.343</td>
<td>169616</td>
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<td>Naphthalene-d8</td>
<td>537862</td>
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<td>15.591</td>
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* Value outside of QC limits
**ORGANIC ANALYSIS DATA SHEET**

8260B

**Laboratory:** Lionville Laboratory  
**Client:** National Security Technologies, LLC  
**Matrix:** Soil  
**Sampled:** 10/12/11 11:50  
**Prepared:** 10/19/11 10:46  
**Solids:** 97.37  
**Preparation:** SW 5035A/5030A  
**Batch:** L110222  
**Laboratory ID:** 1110059-01  
**SDG:** SDG #V3667  
**Project:** CAU548  
**File ID:** E101906.D  
**Analyzed:** 10/19/11 10:46  
**Initial/Final:** 4.97 g / 5 mL  
**Instrument:** 5972E

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<th>CAS NO.</th>
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<th>CONC. (ug/kg dry)</th>
<th>Q</th>
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<tbody>
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<td>108-88-3</td>
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<tr>
<td>1330-20-7</td>
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**SYSTEM MONITORING COMPOUND**

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<th>COMPOUND</th>
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<th>CONC (ug/kg dry)</th>
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* Value outside of QC limits
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<th>CONC. (ug/kg dry)</th>
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<td>U</td>
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<tr>
<td>106-46-7</td>
<td>1,4-Dichlorobenzene</td>
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# ORGANIC ANALYSIS DATA SHEET

## 8270C

**Laboratory:** Lionville Laboratory  
**Client:** National Security Technologies, LLC  
**Matrix:** Soil  
**Sampled:** 07/19/11 11:15  
**Prepared:** 07/27/11 14:41  
**Solid:** 99.27  
**Preparation:** SW 3540C  
**Batch:** L107295  
**Sequence:** 1080059  
**Calibration:** 1108018  
**Instrument:** HP5972D  

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## CAS NO. TENTATIVELY IDENTIFIED COMPOUND  

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## SYSTEM MONITORING COMPOUND

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**SYSTEM MONITORING COMPOUND**

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<th>CONC (ug/kg dry)</th>
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**INTERNAL STANDARD**

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* Value outside of QC limits
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<th>CAS NO.</th>
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<th>DILUTION</th>
<th>CONC. (ug/kg dry)</th>
<th>Q</th>
<th>Instrument</th>
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<td>1</td>
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<tr>
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<tr>
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<tr>
<td>96-18-4</td>
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<td>5.04</td>
<td>U</td>
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</tr>
<tr>
<td>96-12-8</td>
<td>1,2-Dibromo-3-chloropropane</td>
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<tr>
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<tr>
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<tr>
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<tr>
<td>78-93-3</td>
<td>2-Butanone</td>
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<td>591-78-6</td>
<td>2-Hexanone</td>
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<td>12.1</td>
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<tr>
<td>67-64-1</td>
<td>Acetone</td>
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<td>6.98</td>
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<tr>
<td>71-43-2</td>
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<tr>
<td>75-27-4</td>
<td>Bromodichloromethane</td>
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<td>5.04</td>
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<tr>
<td>75-25-2</td>
<td>Bromoform</td>
<td>1</td>
<td>5.04</td>
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<tr>
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<td>75-15-0</td>
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<tr>
<td>56-23-5</td>
<td>Carbon Tetrachloride</td>
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<td>U</td>
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<tr>
<td>108-90-7</td>
<td>Chlorobenzene</td>
<td>1</td>
<td>5.04</td>
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<td></td>
</tr>
<tr>
<td>75-00-3</td>
<td>Chloroethene</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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<tr>
<td>67-66-3</td>
<td>Chloroform</td>
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<td>5.04</td>
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<tr>
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<td>Chloromethane</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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<tr>
<td>10061-01-5</td>
<td>cis-1,3-Dichloroprene</td>
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<tr>
<td>124-48-1</td>
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<tr>
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<td>5.04</td>
<td>U</td>
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<td>1</td>
<td>13.5</td>
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<td>100-42-5</td>
<td>Styrene</td>
<td>1</td>
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<td>127-18-4</td>
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<td>5.04</td>
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<tr>
<td>108-88-3</td>
<td>Toluene</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
<td></td>
</tr>
</tbody>
</table>
**ORGANIC ANALYSIS DATA SHEET**

**8260B**

**Laboratory:** Lionville Laboratory  
**Client:** National Security Technologies, LLC  
**Matrix:** Soil  
**Sampled:** 07/19/11 11:15  
**Solids:** 99.27  
**Batch:** L107261  
**SDG:** CAU548  
**Project:**  
**Laboratory ID:** 1107121-02  
**Prepared:** 07/25/11 10:47  
**Preparation:** SW 5035A/5030A  
**File ID:** E072509.D  
**Analyzed:** 07/25/11 10:47  
**Initial/Final:** 5 g / 5 mL

<table>
<thead>
<tr>
<th>CAS NO.</th>
<th>COMPOUND</th>
<th>DILUTION</th>
<th>CONC. (ug/kg dry)</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>156-60-5</td>
<td>trans-1,2-Dichloroethene</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
</tr>
<tr>
<td>10061-02-6</td>
<td>trans-1,3-Dichloropropene</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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<tr>
<td>79-01-6</td>
<td>Trichloroethene</td>
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<td>5.04</td>
<td>U</td>
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<tr>
<td>75-69-4</td>
<td>Trichlorofluoromethane</td>
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<td>5.04</td>
<td>U</td>
</tr>
<tr>
<td>75-01-4</td>
<td>Vinyl chloride</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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<tr>
<td>1330-20-7</td>
<td>Xylenes, total</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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<tr>
<td>563-58-6</td>
<td>1,1-Dichloropropene</td>
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<td>U</td>
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<td>1,2,3-Trichlorobenzene</td>
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<td>5.04</td>
<td>U</td>
</tr>
<tr>
<td>95-63-6</td>
<td>1,2,4-Trimethylbenzene</td>
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<td>5.04</td>
<td>U</td>
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<tr>
<td>108-67-8</td>
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<td>5.04</td>
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<td>5.04</td>
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<td>4-Chlorotoluene</td>
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<td>5.04</td>
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<td>99-87-6</td>
<td>4-Isopropyltoluene</td>
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<td>5.04</td>
<td>U</td>
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<tr>
<td>108-86-1</td>
<td>Bromobenzene</td>
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<td>U</td>
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<tr>
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<tr>
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<td>Freon-113</td>
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<td>5.04</td>
<td>U</td>
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<td>98-82-8</td>
<td>Isopropylbenzene</td>
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<td>5.04</td>
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<tr>
<td>104-51-8</td>
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<td>U</td>
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<tr>
<td>98-06-6</td>
<td>tert-Butylbenzene</td>
<td>1</td>
<td>5.04</td>
<td>U</td>
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**SYSTEM MONITORING COMPOUND**

<table>
<thead>
<tr>
<th>ADDED (ug/kg dry)</th>
<th>CONC (ug/kg dry)</th>
<th>% REC</th>
<th>QC LIMITS</th>
<th>Q</th>
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<tbody>
<tr>
<td>1,2-Dichloroethane-d4</td>
<td>50.367</td>
<td>51.0</td>
<td>101</td>
<td>60 - 130</td>
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<tr>
<td>Toluene-d8</td>
<td>50.367</td>
<td>50.5</td>
<td>100</td>
<td>72 - 117</td>
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<tr>
<td>4-Bromofluorobenzene</td>
<td>50.367</td>
<td>50.5</td>
<td>100</td>
<td>72 - 144</td>
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</table>

* Value outside of QC limits
Total ICP Metals
Method SW6010B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1112101
Client Name: National Security Technologies, LLC
ClientProject ID: CAU 549 V3669

Field ID: 549NSA-V1
Lab ID: 1112101-1

<table>
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<tr>
<th>CASNO</th>
<th>Target Analyte</th>
<th>Dilution Factor</th>
<th>Result</th>
<th>Reporting Limit</th>
<th>IDL</th>
<th>Result Qualifier</th>
<th>EPA Qualifier</th>
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<tbody>
<tr>
<td>7440-47-3</td>
<td>CHROMIUM</td>
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<td>20</td>
<td>1</td>
<td>0.051</td>
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Sample Matrix: SOIL
% Moisture: 1.0
Date Collected: 12-Oct-11
Date Extracted: 12-Dec-11
Date Analyzed: 13-Dec-11
Prep Method: SW 3050 Rev B

Prep Batch: IP111212-4
QCBatchID: IP111212-4-3
Run ID: IT111213-2A8
Cleanup: NONE
Basis: Dry Weight

Sample Allquot: 1.012 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

Data Package ID: IT1112101-1

Date Printed: Wednesday, December 14, 2011
# NTS LANDFILL LOAD VERIFICATION

**SWO USE (Select One)**  
AREA 23 6 9/10C

**LANDFILL**

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7899.

### REQUIRED: WASTE GENERATOR INFORMATION

(This form is for roll-offs, dump trucks, and other onsite disposal of materials.)

<table>
<thead>
<tr>
<th>Waste Generator:</th>
<th>Jim Traynor</th>
<th>Phone Number: 5-4756</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location / Origin:</td>
<td>CAU 548, Area 12</td>
<td>CAS 12-99-08</td>
</tr>
</tbody>
</table>

**Waste Category:**

- [ ] Commercial
- [ ] Non-Occupational
- [ ] Industrial

**Waste Type:**

- [x] NTS
- [ ] Putrescible
- [ ] Non-Putrescible
- [ ] Asbestos Containing Material
- [ ] FFACO-onsite
- [ ] FFACO-offsite
- [ ] Historic DOE/NV

**Pollution Prevention Category:**

- [ ] Environmental management
- [ ] Defense Projects
- [ ] YMP

**Method of Characterization:**

- [ ] Routine
- [ ] Sampling & Analysis
- [ ] Process Knowledge
- [x] Contents

**Prohibited Waste at all three NTS landfills:**

- Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).

**Additional Prohibited Waste at the Area 9 U10c Landfill:**

- Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos

### REQUIRED: WASTE CONTENTS ALLOWABLE WASTES

Check all allowable wastes that are contained within this load:

- [ ] Paper
- [ ] Rocks / unaltered geologic materials
- [ ] Empty containers
- [ ] Asphalts
- [ ] Metal
- [ ] Wood
- [ ] Soil
- [ ] Rubber (excluding tires)
- [ ] Demolition debris
- [ ] Plastic
- [ ] Wire
- [ ] Cable
- [ ] Cloth
- [ ] Insulation (non-Asbestosform)
- [ ] Cement & concrete
- [ ] Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)
- [ ] Additional waste accepted at the Area 23 Mercury Landfill:
  - [x] Office Waste
  - [ ] Food Waste
  - [ ] Animal Carcasses
  - [ ] Asbestos
  - [ ] Friable
  - [ ] Non-Friable (contact SWO if regulated load)

- [ ] Additional waste accepted at the Area 9 U10c Landfill:
  - [ ] Non-friable asbestos
  - [ ] Drained automobiles and military vehicles
  - [ ] Solid fractions from sand/oil/water
  - [ ] Light ballasts (contact SWO)
  - [ ] Drained fuel filters (gas & diesel)
  - [ ] Deconed Underground and Above
  - [ ] Hydrocarbons (contact SWO)
  - [ ] Other
  - [ ] Ground Tanks

- [ ] Additional waste accepted at the Area 8 Hydrocarbon Landfill:
  - [ ] Septic sludge
  - [ ] Rags
  - [ ] Drained fuel filters (gas & diesel)
  - [ ] Crushed non-tame plated oil filters
  - [ ] Plants
  - [ ] Soil
  - [ ] Sludge from sand/oil/water separators
  - [ ] PCBs below 50 parts per million

### REQUIRED: WASTE GENERATOR SIGNATURE

Initials: [ ] (If initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials identified above. I have verified that the waste characterization method identified above prohibited and allowable waste items. I have contacted Property Management and this material has been approved for disposal in the landfill.

**Print Name:** Brian Konrad  
**Signature:** /s/ Brian Konrad  
**Date:** 7/1/11

Note: "Food waste, office trash and animal carcasses do not require a radiological clearance. Plesiosaur containing apricots must have signed removal certification statement with Load Verification."

**Load Weight (net from scale or estimate):** 11,000

**Signature of Certifier:** /s/ Don Bickford
# NTS LANDFILL LOAD VERIFICATION

**SWO USE (Select One)** | AREA | LANDFILL
---|---|---
23 | 6 | 9/10C

---

**Waste Generator:** James Traylor  
**Phone Number:** 5-4756  
**Location / Origin:** CAU 548 Area 9, CAS 09-99-02, Burn Pile

---

**Waste Category:** (check one)  
- Commercial  
- Industrial  
- NTS  
- Non-NTS  
- Putrescible  
- Non-Putrescible  
- Asbestos Containing Material  
- FFACO-on-site  
- FFACO-off-site  
- WAC Exception  
- Historic DOE/NV  
- Environmental management  
- Defense Projects  
- YMP  
- Clean-Up  
- Routine  
- Sampling & Analysis  
- Process Knowledge  
- Contents

---

**Method of Characterization:** (check one)  
- Radioactive waste  
- RCRA waste  
- Hazardous waste  
- Free liquids, PCBs above TSCA regulatory levels  
- Medical wastes (needles, sharps, bloody clothing)  
- Sewage Sludge  
- Animal carcasses  
- Wet garbage (food waste)  
- Friable asbestos

---

**Prohibited Waste at all three NTS landfills:**  
- Radioactive waste  
- RCRA waste  
- Hazardous waste  
- Free liquids, PCBs above TSCA regulatory levels  
- Medical wastes (needles, sharps, bloody clothing)  
- Sewage Sludge  
- Animal carcasses  
- Wet garbage (food waste)  
- Friable asbestos

**Required: Waste Generator Information**

- This form is for roll-offs, dump trucks, and other onsite disposal of materials.

**Required: Waste Generator Signature**

---

**Initials:** Brian Konrad  
**Signature:** Brian Konrad  
**Date:** 7/14/11

---

**Print Name:** Brian Konrad  
**Signature:** Brian Konrad  
**Load Weight (net from scale or estimate):** 21,660

---

**NOTE:** Waste disposal at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants, such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulic; kerosene, asphaltic petroleum hydrocarbon; and ethylene glycol.

**Acceptable waste at any NTS landfill:**  
- Paper  
- Rocks / unaltered geologic materials  
- Empty containers  
- Asphalt  
- Metal  
- Wood  
- Soil  
- Rubber (excluding tires)  
- Demolition debris  
- Plastic  
- Wire  
- Cable  
- Cloth  
- Insulation (non-Asbestosform)  
- Cement & concrete  
- Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

**Additional waste accepted at the Area 23 Mercury Landfill:**  
- Office Waste  
- Food Waste  
- Animal Carcasses  
- Asbestos  
- Friable  
- Non-Friable (contact SWO if regulated load)  
- Quantity:

---

**Additional waste accepted at the Area 9 U10c Landfill:**  
- Non-friable asbestos  
- Drained automobiles and military vehicles  
- Drained fuel filters (gas & diesel)  
- Hydrocarbons (contact SWO)  
- Other  
- Solid fractions from sand/oil/water  
- Deconned Underground and Above Ground Tanks

**Additional waste accepted at the Area 6 Hydrocarbon Landfill:**  
- Septic sludge  
- Rags  
- Drained fuel filters (gas & diesel)  
- Plants  
- Soil  
- Sludge from sand/oil/water separators  
- Crushed non-terne plated oil filters  
- PCBs below 50 parts per million

---

**Required: Waste Contents Allowable Wastes**

- Check all allowable wastes that are contained within this load.

---

**Print Name:** Brian Konrad  
**Signature:** Brian Konrad  
**Date:** 7/14/11

---

**Radiological Survey Release for Waste Disposal**

**Initials:** Brian Konrad  
**Signature:** Brian Konrad  
**Date:** 7/14/11

---

**Signature on File:** Don Bickford  
**Date:** 7/14/11

---

**Print Name:** Brian Konrad  
**Signature:** Brian Konrad  
**Date:** 7/14/11

---

**Note:** "Food waste, office trash and animal carcasses do not require a radiological must have signed removal certification statement with Load Verification."
# NTS LANDFILL LOAD VERIFICATION

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 6-7898.

## REQUIRED: WASTE GENERATOR INFORMATION
(This form is for rolloffs, dump trucks, and other onsite disposal of materials.)

<table>
<thead>
<tr>
<th>Waste Generator:</th>
<th>Jim Tramor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location / Origin:</td>
<td>CAU 548, Area 10</td>
</tr>
<tr>
<td>Phone Number:</td>
<td>5-4756</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste Category: (check one)</th>
<th>Commercial</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Type: (check one)</td>
<td>NTS</td>
<td>Putrescible</td>
</tr>
<tr>
<td>Non-Putrescible</td>
<td>Asbestos Containing Material</td>
<td></td>
</tr>
<tr>
<td>FFAC-on-site</td>
<td>FFAC-offsite</td>
<td></td>
</tr>
<tr>
<td>Historic DOE/NV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollution Prevention Category: (check one)</th>
<th>Environmental management</th>
<th>Defense Projects</th>
<th>YMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollution Prevention Category: (check one)</td>
<td>Clean-Up</td>
<td>Routine</td>
<td></td>
</tr>
<tr>
<td>Method of Characterization: (check one)</td>
<td>Sampling &amp; Analysis</td>
<td>Process Knowledge</td>
<td>Contents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prohibited Waste at all three NTS landfills:</th>
<th>Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Prohibited Waste at the Area 9 U10C Landfill:</td>
<td>Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos</td>
</tr>
</tbody>
</table>

## REQUIRED: WASTE CONTENTS ALLOWABLE WASTES
Check all allowable wastes that are contained within this load:

- Paper
- Rocks / unaltered geologic materials
- Empty containers
- Asphalt
- Metal
- Wood
- Soil
- Rubber (excluding tires)
- Plastic
- Wire
- Cable
- Cloth
- Insulation (non-Asbestosform)
- Cement & concrete
- Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

<table>
<thead>
<tr>
<th>Additional waste accepted at the Area 23 Mercury Landfill:</th>
<th>Office Waste</th>
<th>Food Waste</th>
<th>Animal Carcasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional waste accepted at the Area 9 U10c Landfill:</td>
<td>Non-friable asbestos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light ballasts (contact SWO)</td>
<td>Drained fuel filters (gas &amp; diesel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocarbons (contact SWO)</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional waste accepted at the Area 6 Hydrocarbon Landfill:</th>
<th>Crushed non-treme plated oil filters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septic sludge</td>
<td>Rags</td>
</tr>
<tr>
<td>Plants</td>
<td>Soil</td>
</tr>
</tbody>
</table>

## REQUIRED: WASTE GENERATOR SIGNATURE

Initials: __________ (if initialled, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials on site. I have verified this through the waste characterization method identified above for the prohibited and allowable waste items. I have contacted Property Management and is approved for disposal in the landfill.

Print Name: __________ Signature: __________ Date: __________

Note: "Food waste, office trash and animal carcasses do not require a radiological clearance but must have signed removal certification statement with Load Verification."

## SWO USE ONLY

Load Weight (net from scale or estimate): __________ Signature of Certifier: __________
NTS LANDFILL LOAD VERIFICATION

For waste characterization, approval, and/or assistance, contact Solid Waste Operations (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION
(This form is for rolloffs, dump trucks, and other on-site disposal of materials.)

Waste Generator: James Traynor
Phone Number: 5-4756

Location/Origin: CAU 548 Area 9, CAS 09-99-07

Waste Category: (check one) ☒ Commercial ☐ Industrial

Waste Type: (check one) ☒ NTS ☐ Putrescible ☐ Asbestos Containing Material ☐ FFACO-onsite ☐ WAC Exception
☐ Non-Putrescible ☐ Asbestos ☐ FFACO-offsite ☐ Historic DOE/NV

Pollution Prevention Category: (check one) ☒ Environmental management ☐ Defense Projects ☐ YMP

Pollution Prevention Category: (check one) ☐ Routine ☐ Clean-Up ☐ Sampling & Analysis ☐ Process Knowledge

Method of Characterization: (check one) ☒ Radiological survey ☐ Non-Friable (contact SWO if regulated load) ☐ Contents

Prohibited Waste at all three NTS landfills: radioactive waste; RCRA waste; hazardous waste; free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).

Additional Prohibited Waste at the Area 9 U10C Landfill: sewage sludge, animal carcasses, wet garbage (food waste); and friable asbestos

NOTE: Waste disposal at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants, such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulics; kerosene; asphalt; petroleum hydrocarbon; and ethylene glycol.

Acceptable waste at any NTS landfill: ☒ Paper ☐ Rocks/unaltered geologic materials ☐ Empty containers
☒ Asphalt ☐ Metal ☒ Wood ☐ Soil ☐ Rubber (excluding tires) ☒ Demolition debris
☐ Plastic ☐ Wire ☒ Cable ☐ Cloth ☒ Insulation (non-asbestosform) ☐ Cement & concrete
☐ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

Additional waste accepted at the Area 23 Mercury Landfill: ☐ Office Waste ☐ Food Waste ☐ Animal Carcasses

Additional waste accepted at the Area 9 U10C Landfill:
☒ Non-friable asbestos ☐ Drained automobiles and military vehicles ☐ Solid fractions from sand/oil/water
☐ Light ballasts (contact SWO) ☐ Drained fuel filters (gas & diesel) ☐ Deconed underground and above ground tanks
☒ Hydrocarbons (contact SWO) ☐ Other

Additional waste accepted at the Area 6 Hydrocarbon Landfill:
☒ Septic sludge ☒ Rags ☐ Drained fuel filters (gas & diesel) ☒ Crushed non-tene plated oil filters
☐ Plants ☐ Soil ☒ Sludge from sand/oil/water separators ☐ PCBs below 50 parts per million

REQUIRE: WASTE GENERATION

The above mentioned waste was generated outside of a controlled waste management area, and the waste is not radiologically contaminated.

To the best of my knowledge, the waste described above contains no prohibited and allowable wastes. I have verified this through the waste characterization method identified in the above.

I have contacted Property Management to ensure compliance with the waste characterization and disposition requirements. The load is approved for disposal in the landfill.

Print Name: Brian Konrad
Signature: /s/: Brian Konrad Date: 7/14/11

Note: "Food waste, office trash and animal carcasses do not require a radiological clearance. Freon-containing appliances must have signed removal certification statement with Load Verification."

SWO USE ONLY

Load Weight (net from scale or estimate): 19,520 lbs. Signature of Certifier: /s/: Don Bickford
**NTS LANDFILL LOAD VERIFICATION**

**SWO USE (Select One) AREA □ 23 □ 6 □ 9/10C LANDFILL**

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7898.

 REQUIRED: WASTE GENERATOR INFORMATION

(This form is for roll-offs, dump trucks, and other onsite disposal of materials.)

<table>
<thead>
<tr>
<th>Waste Generator</th>
<th>James Traynor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone Number</td>
<td>5-4756</td>
</tr>
</tbody>
</table>

**Location / Origin:**

- CAU 548 Area 9, CAS 09-99-02, Burn Pile

**Waste Category:**

- □ Commercial
- □ Industrial

**Waste Type:**

- □ NTS
- □ Putrescible
- □ FFACO-onsite
- □ WAC Exception
- □ Non-Putrescible
- □ Asbestos Containing Material
- □ FFACO-offset
- □ Historic DOE/NV

**Pollution Prevention Category:**

- □ Environmental management
- □ Defense Projects
- □ YMP
- □ Routine

**Method of Characterization:**

- □ Sampling & Analysis
- □ Process Knowledge

**Prohibited Waste at all three NTS landfills:**

- Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).

**Additional Prohibited Waste at the Area 9 U10C Landfill:**

- Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos

**Waste Contents Allowable Wastes:**

Check all allowable wastes that are contained within this load:

- □ Paper
- □ Rocks / unaltered geologic materials
- □ Empty containers
- □ Asphalt
- □ Metal
- □ Wood
- □ Soil
- □ Rubber (excluding tires)
- □ Demolition debris
- □ Plastic
- □ Wire
- □ Cable
- □ Cloth
- □ Insulation (non-Asbestosform)
- □ Cement & concrete
- □ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

**Additional waste accepted at the Area 23 Mercury Landfill:**

- □ Office Waste
- □ Food Waste
- □ Animal Carcasses
- □ Asbestos
- □ Friable
- □ Non-Friable (contact SWO if regulated load)

**Additional waste accepted at the Area 9 U10C Landfill:**

- □ Non-friable asbestos
- □ Drained automobiles and military vehicles
- □ Solid fractions from sand/oil/water
- □ Light ballasts (contact SWO)
- □ Drained fuel filters (gas & diesel)
- □ Deconed Underground and Above
- □ Hydrocarbons (contact SWO)
- □ Other
- □ Crushed non-temp plated oil filters

**Additional waste accepted at the 6 Hydrocarbon Landfill:**

- □ Septic sludge
- □ Rags
- □ Drained fuel filters (gas & diesel)
- □ PCBs below 50 parts per million

**Waste Generator Signature:**

Initials: ___ (if initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials that are allowed for disposal at this site. I have verified this through the waste characterization method identified and have consulted prohibited and allowable waste items. I have contacted Property Management and this load is approved for disposal in the landfill.

Print Name: Brian Konrad

Signature: /s/ Brian Konrad Date: 7/14/1

Note: "Food waste, office trash and animal carcasses do not require a radiologic statement of confidentiality."

Load Weight (net from scale or estimate): 10320

Signature of Certifier: /s/ Signature on File

Radiological Survey Release for Waste Disposal

<table>
<thead>
<tr>
<th>RCT Initiates</th>
<th>This container/load meets the criteria for no added man-made radioactive material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This container/load meets the criteria for Radon Manual Table 4.2 release limits.</td>
</tr>
<tr>
<td></td>
<td>X This container/load is exempt from survey due to process knowledge and origin.</td>
</tr>
</tbody>
</table>

**SWO USE ONLY**

<table>
<thead>
<tr>
<th>Load Weight (net from scale or estimate): 10320</th>
<th>Signature of Certifier: /s/ Signature on File</th>
</tr>
</thead>
</table>
NTS LANDFILL LOAD VERIFICATION

For waste characterization, approval, and/or assistance, contact Solid Waste Operations (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION
(This form is for roll-offs, dump trucks, and other onsite disposal of materials.)

<table>
<thead>
<tr>
<th>Waste Generator:</th>
<th>MIKE FLOYD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone Number:</td>
<td>285-8653</td>
</tr>
<tr>
<td>Location / Origin:</td>
<td>CAU 548 -- CAS 20-22-07 -- area 20</td>
</tr>
</tbody>
</table>

Waste Category: Industrial

Waste Type: NTS

Pollution Prevention Category: Environmental management

Pollution Prevention Method: Clean-Up

Method of Characterization: Process Knowledge

Prohibited Waste at all three NTS landfills:
- Radioactive waste; RCRA waste; Hazardous waste
- Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing)

Additional Prohibited Waste at the Area 9 U10C Landfill:
- Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos

Additional waste accepted at the Area 23 Mercury Landfill:
- Office Waste
- Food Waste
- Animal Carcasses

Additional waste accepted at the Area 9 U10C Landfill:
- Non-friable asbestos
- Drained automobiles and military vehicles
- Drained fuel filters (gas & diesel)
- Other

Additional waste accepted at the Area 6 Hydrocarbon Landfill:
- Crushed non-teme plated oil filters
- PCBs below 50 parts per million

REQUIRED: WASTE CONTENTS ALLOWABLE WASTES

Check all allowable wastes that are contained within this load:

Acceptable waste at any NTS landfill:
- Paper
- Rocks / unaltered geologic materials
- Empty containers
- Metal
- Wood
- Soil
- Rubber (excluding tires)
- Asphalt
- Cable
- Cloth
- Insulation (non-Asbestosform)
- Plastic
- Wire
- Cable
- Cloth
- Cement & concrete

Additional waste accepted at the Area 23 Mercury Landfill:
- Non-friable (contact SWO if regulated load)

Additional waste accepted at the Area 9 U10C Landfill:
- Non-friable asbestos
- Drained automobiles and military vehicles
- Drained fuel filters (gas & diesel)
- Other

Initials:  |

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials that are allowed for disposal at this site. I have verified this through the waste characterization method identified above prohibited and allowable waste items. I have contacted Property Management and is approved for disposal in the landfill.

Print Name: MIKE FLOYD
Signature: /s/ Mike Floyd
Date: 7/29/11
Note: "Food waste, office trash and animal carcasses do not require a radiological certificate."

SWO USE ONLY
Load Weight (net from scale or estimate): 100
Signature of Certifier: /s/ Signature on File
Date: 7/29/11
**NTS LANDFILL LOAD VERIFICATION**

**SWO USE (Select One) AREA**  
- 23  
- 6  
- 9  
- LANDFILL

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7998.

**REQUIRED: WASTE GENERATOR INFORMATION**  
(This form is for rolloffs, dump trucks, and other onsite disposal of materials.)

<table>
<thead>
<tr>
<th>Waste Generator:</th>
<th>MIKE FLOYD</th>
<th>Phone Number: 295-6653</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location / Origin:</td>
<td>CAU 548 - CAS 20-22-07 - area 20</td>
<td>Fax - 5-7761/7768</td>
</tr>
</tbody>
</table>

**Waste Category:**  
- Commercial  
- Industrial

**Waste Type:**  
- √ NTS  
- Non-Putrescible  
- Asbestos Containing Material  
- FFACO-on-site  
- FFACO-offsite  
- WAC Exception  
- Historic DOE/NV

**Pollution Prevention Category:**  
- Environmental management  
- Defense Projects  
- YMP

**Method of Characterization:**  
- Sampling & Analysis  
- Process Knowledge  
- Contents

**Prohibited Waste at all three NTS landfills:**  
- Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).

**Additional Prohibited Waste at the Area 9 U10C Landfill:**  
- Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos

**REQUIRED: WASTE CONTENTS ALLOWABLE WASTES**  
(Items checked must be contained within this load.)

**Acceptable waste at any NTS landfill:**  
- Paper  
- Rocks / unaltered geologic materials  
- Empty containers  
- Metal  
- Wood  
- Soil  
- Rubber (excluding tires)  
- Demolition debris  
- Plastic  
- Wire  
- Cable  
- Cloth  
- Insulation (non-Asbestosform)  
- Cement & concrete  
- Asphalt  
- Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

**Additional waste accepted at the Area 23 Mercury Landfill:**  
- Office Waste  
- Food Waste  
- Animal Carcasses  
- Asbestos  
- Friable  
- Non-Friable (contact SWO if regulated load)  

**Quantity:**

**Additional waste accepted at the Area 9 U10C Landfill:**
- Non-friable asbestos  
- Drained automobiles and military vehicles  
- Solid fractions from sand/oil/water  
- Light ballasts (contact SWO)  
- Drained fuel filters (gas & diesel)  
- Decommissioned underground and above  
- Hydrocarbons (contact SWO)  
- Other tire packaged within a B25 box  
- Ground tanks

**Additional waste accepted at the Area 8 Hydrocarbon Landfill:**
- Septic sludge  
- Rags  
- Drained fuel filters (gas & diesel)  
- Crushed non-friable plated oil filters  
- Plants  
- Soil  
- Sludge from sand/oil/water separators  
- PCBs below 50 parts per million

**REQUIRED: WASTE GENERATOR SIGNATURE**

Initials: ___ (If initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials described above. I have verified this through the waste characterization method identified above and the prohibited and allowable waste items. I have contacted Property Management and I am approved for disposal in the landfill.

**Print Name:** MIKE FLOYD

**Signature:** /s/: Mike Floyd  
**Date:** 10/11/11

Note: "Food waste, office trash and animal carcasses do not require a radiological clearance. Freon-containing appliances must have signed removal certification statement with Load Verification."

**SWO USE ONLY**

**Load Weight (net from scale or estimate):** 2500  
**Signature of Certifier:** /s/: Signature on File
Nevada Test Site

This Certificate acknowledges that the following shipment(s) of waste have been disposed at the Nevada Test Site Radioactive Waste Management Complex.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Waste Stream Identification #</th>
<th>Package #</th>
<th>Date of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL1111</td>
<td>LRY5LFFY11005</td>
<td>340000</td>
<td>08-03-2011</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/Signature Thersa Hale  
Waste Inspector  
Title  

/Signature Stephen E. Wolf  
RWMC Signature  
Waste Specialist  
Title
Nevada Test Site

This Certificate acknowledges that the following shipment(s) of waste have been disposed at the Nevada Test Site Radioactive Waste Management Complex.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Waste Stream Identification #</th>
<th>Package #</th>
<th>Date of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL12012</td>
<td>LRY5LLFY99020</td>
<td>12LO18 (114154-20)</td>
<td>11/30/11</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

\( /s/ \): Robert H. Zion

WGS Signature

Waste Inspector

Title

\( /s/ \): Jon Tanaka

RWMC Signature

WASTE SPECIALIST

Title
Nevada Test Site

This Certificate acknowledges that the following shipment(s) of waste have been disposed at the Nevada Test Site Radioactive Waste Management Complex.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Waste Stream Identification #</th>
<th>Package #</th>
<th>Date of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL12013</td>
<td>LRY5LLFY11005</td>
<td>610006</td>
<td>1/4/12</td>
</tr>
<tr>
<td>DPL12013</td>
<td>LRY5LLFY11005</td>
<td>610023</td>
<td>1/4/12</td>
</tr>
<tr>
<td>DPL12013</td>
<td>LRY5LLFY11005</td>
<td>610025</td>
<td>1/4/12</td>
</tr>
<tr>
<td>DPL12013</td>
<td>LRY5LLFY11005</td>
<td>610019</td>
<td>1/4/12</td>
</tr>
<tr>
<td>DPL12013</td>
<td>LRY5LLFY11005</td>
<td>610018</td>
<td>1/4/12</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/is/: Robert H. Zion
WGS Signature

Date: 1/4/12

Waste Inspector
Title

/is/: Stephen E. Wolf
RWMC Signature

Date: 1/4/12

Waste Specialist
Title
Nevada Test Site

This Certificate acknowledges that the following shipment(s) of waste have been disposed at the Nevada Test Site Radioactive Waste Management Complex.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Waste Stream Identification #</th>
<th>Package #</th>
<th>Date of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL12014</td>
<td>LRY5L1FY11005</td>
<td>610002</td>
<td>1-5-12</td>
</tr>
<tr>
<td>DPL12014</td>
<td>LRY5L1FY11005</td>
<td>610004</td>
<td>1-5-12</td>
</tr>
<tr>
<td>DPL12014</td>
<td>LRY5L1FY11005</td>
<td>610016</td>
<td>1-5-12</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/s/: Robert H. Zion

WGS Signature

1-5-12

Date

Waste Inspector

Title

/s/: Stephen E. Wolf

RWMC Signature

1-5-12

Date

Waste Specialist

Title
Nevada Test Site

This Certificate acknowledges that the following shipment(s) of waste have been disposed at the Nevada Test Site Radioactive Waste Management Complex.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Waste Stream Identification #</th>
<th>Package #</th>
<th>Date of Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL12015</td>
<td>LRY5LLFY11005</td>
<td>610020</td>
<td>1-5-12</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/s/: Robert H. Zion  
WGS Signature  

/s/: Stephen E. Wolf  
RWMC Signature  

Waste Specialist  
Title  

1-5-12  
Date
CERTIFICATE OF DISPOSAL  
(MIXED LOW-LEVEL)

National Security Technologies LLC  
For U.S. Department of Energy Waste  
Management  
Nevada National Security Site - Zone 2  
Mercury, NV 89023  

EPA ID NV3890090001  

This Certificate acknowledges that the following shipment(s) of manifested MIXED LOW-LEVEL waste have been disposed at the Nevada National Security Site Radioactive Waste Management Site.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Uniform Hazardous Waste Manifest Number</th>
<th>Date(s) of Disposal</th>
<th>Volume Ft³ (m³)</th>
<th>Disposal Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM12002</td>
<td>000000012N42</td>
<td>06/27/2012</td>
<td>450.27 (12.75)</td>
<td>Landfill</td>
</tr>
<tr>
<td>DPM12003</td>
<td>000000012N43</td>
<td>06/27/2012</td>
<td>450.27 (12.75)</td>
<td>Landfill</td>
</tr>
<tr>
<td>DPM12004</td>
<td>000000012N44</td>
<td>06/27/2012</td>
<td>450.27 (12.75)</td>
<td>Landfill</td>
</tr>
<tr>
<td>DPM12005</td>
<td>000000012N45</td>
<td>06/27/2012</td>
<td>450.27 (12.75)</td>
<td>Landfill</td>
</tr>
<tr>
<td>DPM12006</td>
<td>000000012N46</td>
<td>06/27/2012</td>
<td>360.21 (10.20)</td>
<td>Landfill</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/s/: Rose C. Denton for Patrick Arnold  
Signature  

Date  
7-2-2012  

Program Manager, Radioactive Waste Program  
Title  

Instructions:  
Shipment Number – enter shipment number from LWIS database.  
Uniform Hazardous Waste Manifest Number – enter number from UHWM provided by generator.  
Date of Disposal – enter date waste was placed in disposal cell.  
Volume – enter shipment volume in cubic feet and equivalent cubic meters in parenthesis.  
Disposal Process – enter Landfill.
CERTIFICATE OF DISPOSAL
(MIXED LOW-LEVEL)

National Security Technologies, Inc.
For U.S. Department of Energy Waste
Management
Nevada National Security Site - Zone 2
Mercury, NV 89023

EPA ID NV3890090001

This Certificate acknowledges that the following shipment(s) of manifested MIXED LOW-LEVEL waste have been disposed at the Nevada National Security Site Radioactive Waste Management Site.

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Uniform Hazardous Waste Manifest Number</th>
<th>Date(s) of Disposal</th>
<th>Volume Ft$^3$ (m$^3$)</th>
<th>Disposal Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM12007</td>
<td>000000012N49</td>
<td>07/31/2012</td>
<td>128.19 (3.63)</td>
<td>Landfill</td>
</tr>
</tbody>
</table>

This certification is provided as a courtesy to the waste generator for information purposes only.

/s/ P. M. Arnold
Signature: ____________________________
Date: 8/6/12

Program Manager, Radioactive Waste Program
Title: ____________________________

Instructions:
Shipment Number – enter shipment number from LWIS database.
Uniform Hazardous Waste Manifest Number – enter number from UHWM provided by generator.
Date of Disposal – enter date waste was placed in disposal cell.
Volume – enter shipment volume in cubic feet and equivalent cubic meters in parenthesis.
Disposal Process – enter Landfill.
**UNIFORM HAZARDOUS WASTE MANIFEST**

### Generator Information
- **Name and Address:** NSTEC FOR USDOE
  - P.O. BOX 98521, M/S NNS9-110
  - LAS VEGAS, NV 89193
- **Phone:** (702)295-7365

### Transporter Information
- **Company Name:** CAST TRANSPORTATION
- **Address:**
  - U.S. EPA ID Number: COR000005389

### Facility Information
- **U.S. ECOSITY:** HWY 95, 12 MI. SOUTH OF BEATY
  - BEATY, NV 89003
  - Phone: (800)239-3943

### Waste Description
- **No. 1:** UN2315, waste Polychlorinated Biphenyls, liquid, mixture, 9, III. OSD 4/19/11.
  - **Type:** DM
  - **Total Quantity:** 218
  - **Waste Codes:** D006, D008, D018, D019, D020, D021

- **No. 2:** UN3432, Polychlorinated Biphenyls, solid, 9, III. OSD 11/22/11.
  - **Type:** DM
  - **Total Quantity:** 33

- **No. 3:** UN1203, Waste Gasoline, 3, II (DO18, xylene).
  - **Type:** DM
  - **Total Quantity:** 471
  - **Waste Codes:** D001, D018

- **No. 4:** UN1268, Waste Petroleum distillates, n.o.s. (Cadmium, Selenium), 3, III (DO10).
  - **Type:** DM
  - **Total Quantity:** 185
  - **Waste Codes:** D001, D006, D010

### Signature
- **CIRILO CARLOS GONZALES**
  - On Behalf of USDOE
  - Signature: /s/ Cirilo Carlos Gonzales
  - Date: 01/17/12

- **HARDY THOMAS**
  - Signature: /s/ Hardy Thomas
  - Date: 01/17/12

- **TYLER YOUNG**
  - Signature: /s/ Tyler Young
  - Date: 01/17/12
<table>
<thead>
<tr>
<th>27a.</th>
<th>No.</th>
<th>Type</th>
<th>Quantity</th>
<th>Vt./Vol.</th>
<th>31. Waste Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>UN2924, Waste Flammable liquids, corrosive, n.o.s., 3, (B), II. Labpack.</td>
<td>1</td>
<td>DM</td>
<td>165</td>
<td>P</td>
</tr>
<tr>
<td>RQ</td>
<td>6. NA3077, Hazardous waste, solid, n.o.s. (benzene, toluene), 9, III (D008).</td>
<td>1</td>
<td>DM</td>
<td>304</td>
<td>P</td>
</tr>
<tr>
<td>RQ</td>
<td>7. NA3077, Hazardous waste, solid, n.o.s. (lead), 9, III (D008).</td>
<td>15</td>
<td>DM</td>
<td>10125</td>
<td>P</td>
</tr>
<tr>
<td>X</td>
<td>8. NA3077, Hazardous waste, solid, n.o.s. (lead), 9, III.</td>
<td>3</td>
<td>DM</td>
<td>557</td>
<td>P</td>
</tr>
<tr>
<td>X</td>
<td>9. NA3077, Hazardous waste, solid, n.o.s. (mercury), 9, III.</td>
<td>1</td>
<td>DF</td>
<td>38</td>
<td>P</td>
</tr>
<tr>
<td>RQ</td>
<td>10. NA3082, Hazardous waste, liquid, n.o.s. (lead), 9, III (D008).</td>
<td>2</td>
<td>DM</td>
<td>631</td>
<td>P</td>
</tr>
<tr>
<td>X</td>
<td>11. NA3082, Hazardous waste, liquid, n.o.s. (polymeric diphenylmethane diisocyanate, zinc borate), 9, III.</td>
<td>1</td>
<td>DF</td>
<td>20</td>
<td>P</td>
</tr>
<tr>
<td>X</td>
<td>12. NA3082, Hazardous waste, liquid, n.o.s., 9, III. Labpack.</td>
<td>1</td>
<td>DF</td>
<td>3</td>
<td>P</td>
</tr>
<tr>
<td>X</td>
<td>13. NA3082, Hazardous waste, liquid, n.o.s., 9, III. Labpack.</td>
<td>1</td>
<td>DF</td>
<td>10</td>
<td>P</td>
</tr>
<tr>
<td>RQ</td>
<td>14. UN2794, Waste Batteries, wet, filled with acid, 8, III (D008).</td>
<td>2</td>
<td>DF</td>
<td>391</td>
<td>P</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>--------------------------</td>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>NSTEC FOR USDOE</td>
<td>Company Name</td>
<td>Company Name</td>
<td>X 15. UN2794, Waste Batteries, wet, filled with acid, 8, III.</td>
<td>2</td>
<td>DM</td>
</tr>
<tr>
<td>P.O. BOX 98521, M/S NNS5-110</td>
<td></td>
<td></td>
<td>X 16. Waste Consumer Commodity, ORM-D</td>
<td>1</td>
<td>DM</td>
</tr>
<tr>
<td>LAS VEGAS NV 89193</td>
<td></td>
<td></td>
<td>X 17. UN3264, Waste Corrosive liquid, acidic, inorganic, N.O.S., 8, III. Labpack</td>
<td>1</td>
<td>DF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>X 18. UN1719, Waste Caustic alkali liquids, n.o.s. (sodium metasilicate, butyl cellosolve), 8, II.</td>
<td>1</td>
<td>DF</td>
</tr>
</tbody>
</table>

32. Special Handling Instructions and Additional Information

33. Transporter Acknowledgment of Receipt of Materials
Printed/Typed Name: ____________________________
Signature: ____________________________
Month Day Year: __________/________/________

34. Transporter Acknowledgment of Receipt of Materials
Printed/Typed Name: ____________________________
Signature: ____________________________
Month Day Year: __________/________/________

35. Discrepancy

36. Hazardous Waste Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
H141 | H141 | H141 | H132

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.
APPENDIX C

SECTORED HOUSEKEEPING SITE CLOSURE
VERIFICATION FORMS
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 07/14/2011
CAU Number: 548
CAS Number: 09-99-02
CAS Description: Material Piles (2)
Sector Designation: Sector F
Housekeeping Site General Location: U-9av
Northing: 4,109,241.14 m (UTM, Zone 11)  Easting: 585,632.62 m (UTM, Zone 11)
Latitude: 37.1274  Longitude: -116.0360
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-03 Road. Turn right (north) on 2-03 Road and proceed 0.5 mile to 9-01 Road. Turn right (east) on 9-01 Road and proceed approximately 2.11 miles to Old Mercury Highway. Turn left (north) on Old Mercury Highway and proceed 0.4 mile to 9-V Road. Turn right (east) on 9-V Road and proceed 0.2 mile. The U-9av Crater is on the right (south). The site is located approximately 100 ft north of the U-9av Crater, just east of an elongated pit.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two large piles of what appears to be lime</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The material pile was removed and disposed at the Area 9 U10c Sanitary Landfill.

X No Further Action Required at Housekeeping Site

Alissa Silvas  SIGNATURE APPROVED  06/06/2012
Corrective Action Coordinator/Designee Signature Date
Sected Housekeeping Site Closure Verification Form

Closure Verification Date: 10/06/2011  
CAU Number: 548  
CAS Number: 09-99-04  
CAS Description: Wax, Paraffin  
Sector Designation: Sector F  
Housekeeping Site General Location: U-9av  
Northing: 4,109,192.86 m (UTM, Zone 11)  
Easting: 585,667.3 m (UTM, Zone 11)  
Latitude: 37.1270  
Longitude: -116.0356  
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-03 Road. Turn right (north) on 2-03 Road and proceed 0.5 mile to 9-01 Road. Turn right (east) on 9-01 Road and proceed approximately 2.11 miles to Old Mercury Highway. Turn left (north) on Old Mercury Highway and proceed 0.4 mile to 9V Road. Turn right (east) on 9V Road and proceed 0.2 mile to the U-9av Crater on the right (south). The site is located near the northeast side of the U-9av Crater.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A copious quantity of melted wax or paraffin</td>
<td>Mixed</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The material pile and soil was removed, packaged in nine B-25 boxes, treated at an offsite treatment facility, and disposed as mixed waste at the Area 5 Radioactive Waste Management Site.

X No Further Action Required at Housekeeping Site

Alissa Silvas  
Corrective Action Coordinator/Designee  
SIGNATURE APPROVED  
06/06/2012  
Signature  
Date
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 07/18/2011
CAU Number: 548
CAS Number: 09-99-05
CAS Description: Asbestos, Vermiculite
Sector Designation: Sector F
Housekeeping Site General Location: U-9av
Northing: 4,109,192.68 m (UTM, Zone 11)  Easting: 585,667.27 m (UTM, Zone 11)
Latitude: 37.1270  Longitude: -116.0356
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-03 Road. Turn right (north) on 2-03 Road and proceed 0.5 mile to 9-01 Road. Turn right (east) on 9-01 Road and proceed approximately 2.11 miles to Old Mercury Highway. Turn left (north) on Old Mercury Highway and proceed 0.4 mile to 9V Road. Turn right (east) on 9V Road and proceed 0.2 mile to the U-9av Crater on the right (south). The site is located near the northeast side of the U-9av Crater.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of material which appears to be asbestos or charred vermiculite</td>
<td>Radioactive</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The material pile was removed, packaged in one B-25 box, and disposed as low-level waste at the Area 5 Radioactive Waste Management Site.

X  No Further Action Required at Housekeeping Site

Alissa Silvas  SIGNATURE APPROVED  06/06/2012
Corrective Action Coordinator/Designee  Signature  Date
Sected Housekeeping Site Closure Verification Form

Closure Verification Date: 07/14/2011
CAU Number: 548
CAS Number: 09-99-07
CAS Description: Tar Spill
Sector Designation: Sector F
Housekeeping Site General Location: U-9 ITS V-26
Northing: 4,110,542.27 m (UTM, Zone 11)  Easting: 585,569.85 m (UTM, Zone 11)
Latitude: 37.1392  Longitude: -116.0366
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to 2-03 Road. Turn right (north) on 2-03 Road and proceed 0.5 mile to 9-01 Road. Turn right (east) on 9-01 Road and proceed approximately 2.11 miles to Old Mercury Highway. Turn left (north) on Old Mercury Highway and proceed 1.15 miles to RSM 9L-23. Turn left (west) and travel cross country approximately 250 ft to the south side of the U-9 ITS V-26 Crater. The spill is located on the south edge of the crater.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar spill about 10’ x 5’</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The tar spill was removed and disposed at the Area 9 U10c Sanitary Landfill.

X No Further Action Required at Housekeeping Site

Alissa Silvas  SIGNATURE APPROVED  06/06/2012
Corrective Action Coordinator/Designee  Signature  Date
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 07/14/2011
CAU Number: 548
CAS Number: 10-22-38
CAS Description: Drum; Cable
Sector Designation: Sector F
Housekeeping Site General Location: Teapot Crater
Northing: 4,113,609 m (UTM, Zone 11)  Easting: 584,830 m (UTM, Zone 11)
Latitude: 37.1669  Longitude: -116.0445
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) onto Rainier Mesa Road and proceed to 2-07 Road. Turn right (east) and proceed to the Circle Road intersection. Turn left (north) on Circle Road and proceed 0.7 mile to 10-01 Road. Turn right (east) on 10-01 Road and proceed 1.0 mile. The site is 300 ft and 200 degrees from the Teapot Crater.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A rusty gas block drum and cables</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Housekeeping Site Before Closure

Housekeeping Site After Closure

Current Site Description/Observations: The 55-gallon gas block drum, a small can, and wooden debris were removed and disposed at the Area 9 U10c Sanitary Landfill.

X No Further Action Required at Housekeeping Site

Alissa Silvas  SIGNATURE APPROVED  06/06/2012
Corrective Action Coordinator/Designee  Signature  Date
**Sected Housekeeping Site Closure Verification Form**

**Closure Verification Date:** 11/09/2010  
**CAU Number:** 548  
**CAS Number:** 12-99-04  
**CAS Description:** Epoxy Tar Spill  
**Sector Designation:** Sector F  
**Housekeeping Site General Location:** U-12g.03 CH 2  
**Northing:** 4,114,146.65 m (UTM, Zone 11)  
**Easting:** 570,145.59 m (UTM, Zone 11)  
**Latitude:** 37.1729  
**Longitude:** -116.2099  
**Coordinate/Elevation Data Obtained from:** North American Datum, 1927

**Site Access Route:** Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed through the Area 12 Camp to Stockade Wash Road. Continue on Stockade Wash Road to R Road. Proceed on R Road to the fork in the road. Take the right fork onto P Road. Proceed to RSM 12P-5 and continue 0.05 mile downhill to the right. The site is approximately 300 ft beyond this point.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>An epoxy tar spill down the slope from the work area</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

**Current Site Description/Observations:** The spill originally described at the site was determined to be a deteriorated 200-foot long drainage channel constructed to control water flow from a concrete pad. Due to the absence of contamination and the inability of heavy equipment to access the area, no further action was required, and no closure activities were performed.

**X** No Further Action Required at Housekeeping Site

| Alissa Silvas | SIGNATURE APPROVED | 06/06/2012 |
| Corrective Action Coordinator/Designee | Signature | Date |
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 07/12/2011  
CAU Number: 548  
CAS Number: 12-99-08  
CAS Description: Cement Spill  
Sector Designation: Sector F  
Housekeeping Site General Location: Area 12 Fire Station  
Northing: 4,116,527.78 m (UTM, Zone 11)  
Easting: 574,495.89 m (UTM, Zone 11)  
Latitude: 37.1941  
Longitude: -116.1606  
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Rainier Mesa Road. Turn left (northwest) on Rainier Mesa Road and proceed to the Area 12 Camp. Turn right (north) on Logan Street and proceed approximately 0.15 mile. Turn left (west) onto Rainier Street and proceed approximately 0.2 mile to the fire station. The site is approximately 200 ft north of the fire station, and 45 ft (315 degrees) from the stop sign.

Waste Item(s) Originally at Site | Apparent Waste Type*  
--- | ---  
Caustic cement spill | Ordinary  

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The cement and asphalt piles were removed and disposed at the Area 9 U10c Sanitary Landfill.

**X** No Further Action Required at Housekeeping Site

Alissa Silvas  
Corrective Action Coordinator/Designee  
SIGNATURE APPROVED  
06/06/2012  
Signature  
Date
### Sectored Housekeeping Site Closure Verification Form

**Closure Verification Date:** 11/09/2010  
**CAU Number:** 548  
**CAS Number:** 18-14-01  
**CAS Description:** Transformers (3)  
**Sector Designation:** Sector G  
**Housekeeping Site General Location:** 17 Camp  
**Northing:** 4,112,881 m (UTM, Zone 11)  
**Easting:** 565,332 m (UTM, Zone 11)  
**Latitude:** 37.1619  
**Longitude:** -116.2642  
**Coordinate/Elevation Data Obtained from:** North American Datum, 1927

**Site Access Route:**  
Take Mercury Highway (north) to Tippipah Highway. Turn left (northwest) onto Tippipah Highway and proceed to Pahute Mesa Road. Turn left (west) onto Pahute Mesa Road and proceed approximately 1.3 miles past the Stockade Wash Road to the intersection of Pahute Mesa Road and 18-B Road. Pahute C.P. (17 Camp) is on the southwest corner of the intersection. The site is on west side of the Area 17 Camp, within a chain-link (cyclone) fence.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are three each transformers at the base of the power poles (south, east, and west) providing power for security lights at the Control Point Security Compound</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

---

**Current Site Description/Observations:** Three junction boxes containing wires were found. Transformers were not located at this site. No further action was required, and no closure activities were performed.

**X** No Further Action Required at Housekeeping Site

<table>
<thead>
<tr>
<th>Alissa Silvas</th>
<th>SIGNATURE APPROVED</th>
<th>06/06/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrective Action Coordinator/Designee</td>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 11/09/2010
CAU Number: 548
CAS Number: 19-22-01
CAS Description: Drums
Sector Designation: Sector G
Housekeeping Site General Location: U-19ab
Northing: 4,122,784.25 m (UTM, Zone 11)  Easting: 560,001.25 m (UTM, Zone 11)
Latitude: 37.2515  Longitude: -116.3243
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Tippipah Highway. Turn left (west) on Tippipah Highway and proceed to Pahute Mesa Road. Turn left (west) onto a steep dirt road across from Dead Horse Flats Road. Travel approximately 0.65 mile to the U-19ab Crater.

Waste Item(s) Originally at Site

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In an open trench about 100 yards west of U-19ab, there is a 5-gallon, closed-top bucket with a label stating, &quot;Asbestolite Lead Base Compound.&quot; Also in the trench are several opened-top yellow drums with unidentified trash, and several 5-gallon, closed-top, metal buckets containing unidentified solid material. Southwest of GZ about 500 yards is a black, opened-top drum containing what appears to be solidified plaster. Further southwest is an empty opened-top yellow drum</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Current Site Description/Observations: The drums previously located at the site were not found and are assumed to have been removed. No further action was required, and no closure activities were performed.

No Further Action Required at Housekeeping Site

Alissa Silvas                                                                  SIGNATURE APPROVED 06/06/2012
Corrective Action Coordinator/Designee Signature Date
Sectored Housekeeping Site Closure Verification Form

Closure Verification Date: 10/11/2011
CAU Number: 548
CAS Number: 20-22-07
CAS Description: Drums (2)
Sector Designation: Sector G
Housekeeping Site General Location: U-20k
Northing: 4,125,933 m (UTM, Zone 11)  Easting: 542,166.8 m (UTM, Zone 11)
Latitude: 37.2809  Longitude: -116.5243
Coordinate/Elevation Data Obtained from: North American Datum, 1927

Site Access Route: Take Mercury Highway north to Tippipah Highway. Turn left (west) on Tippipah Highway and proceed to Pahute Mesa Road. Turn left (west) and on Pahute Mesa Road and proceed to Airport Road. Turn left (west) on Airport Road, which becomes Buckboard Mesa Road, and travel to Pahute Mesa Road. Turn left (northwest) on Pahute Mesa Road and travel 0.2 mile past RSM 20-J-29, to the U-20k access road. Take the dirt access road to the U-20k Crater on the south side of the road.

<table>
<thead>
<tr>
<th>Waste Item(s) Originally at Site</th>
<th>Apparent Waste Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two drums</td>
<td>Ordinary, Radioactive, and Mixed</td>
</tr>
</tbody>
</table>

* Ordinary, Scrap Metal, Asbestos, PCB, Salvageable, Hazardous, Radioactive, Mixed, Unknown, Other

Housekeeping Site Before Closure  Housekeeping Site After Closure

Current Site Description/Observations: Five abandoned, empty 55-gallon drums were removed and disposed at the Area 9 U10c Sanitary Landfill. Two abandoned, empty 55-gallon drums were removed and disposed as low-level waste at the Area 5 Radioactive Waste Management Site. One lead acid battery was removed, packaged in a 55-gallon drum, treated at an offsite treatment facility, and disposed as mixed waste at the Area 5 Radioactive Waste Management Site. Tires were removed, packaged in one B-25 box, and disposed at the Area 9 U10c Sanitary Landfill.

X  No Further Action Required at Housekeeping Site

Alissa Silvas  SIGNATURE APPROVED  06/06/2012
Corrective Action Coordinator/Designee  Signature  Date
LIBRARY DISTRIBUTION LIST
## LIBRARY DISTRIBUTION LIST

<table>
<thead>
<tr>
<th>Institution</th>
<th>Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Department of Energy National Nuclear Security Administration Nevada Site Office Technical Library P.O. Box 98518, M/S 505 Las Vegas, NV 89193-8518</td>
<td>1 (Uncontrolled, electronic copy)</td>
</tr>
<tr>
<td>U.S. Department of Energy Office of Scientific and Technical Information P.O. Box 62 Oak Ridge, TN 37831-0062</td>
<td>1 (Uncontrolled, electronic copy)</td>
</tr>
<tr>
<td>Southern Nevada Public Reading Facility c/o Nuclear Testing Archive P.O. Box 98521, M/S 400 Las Vegas, NV 89193-8521</td>
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