

Nevada  
Environmental Management  
Operations Activity

DOE/NV--1493



Post-Closure Report for Closed  
*Resource Conservation and  
Recovery Act* Corrective Action  
Units, Nevada National Security  
Site, Nevada

For Fiscal Year 2012  
(October 2011–September 2012)

Controlled Copy No.: \_\_\_\_\_

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January 2013



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

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**POST-CLOSURE REPORT FOR CLOSED  
*RESOURCE CONSERVATION AND RECOVERY ACT*  
CORRECTIVE ACTION UNITS,  
NEVADA NATIONAL SECURITY SITE, NEVADA**

**FOR FISCAL YEAR 2012  
(OCTOBER 2011–SEPTEMBER 2012)**

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

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NEVADA NATIONAL SECURITY SITE, NEVADA**

**FOR FISCAL YEAR 2012  
(OCTOBER 2011–SEPTEMBER 2012)**

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## **ACRONYMS AND ABBREVIATIONS**

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CAU	Corrective Action Unit
ft	foot (feet)
in.	inch(es)
NDEP	Nevada Division of Environmental Protection
SM	subsidence marker
TDR	Time Domain Reflectometry

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## EXECUTIVE SUMMARY

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This report serves as the combined annual report for post-closure activities for the following closed Corrective Action Units (CAUs):

- CAU 90, Area 2 Bitcutter Containment
- CAU 91, Area 3 U-3fi Injection Well
- CAU 92, Area 6 Decon Pond Facility
- CAU 110, Area 3 WMD U-3ax/bl Crater
- CAU 111, Area 5 WMD Retired Mixed Waste Pits
- CAU 112, Area 23 Hazardous Waste Trenches

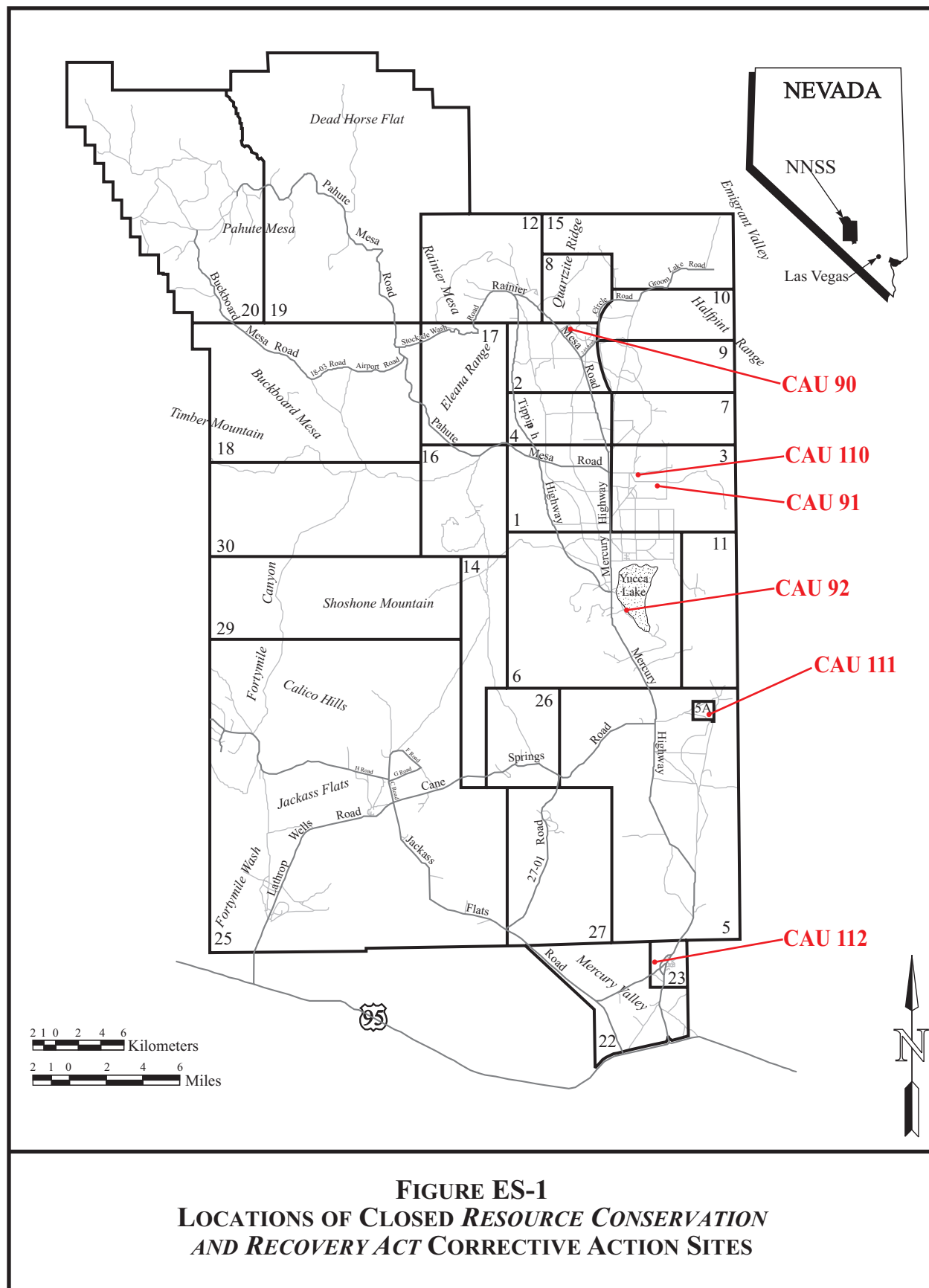
The locations of the sites are shown in Figure 1. This report covers fiscal year 2012 (October 2011–September 2012). The post-closure requirements for these sites are described in *Resource Conservation and Recovery Act* Permit Number NEV HW0101 and summarized in each CAU-specific section in Section 1.0 of this report. The results of the inspections, a summary of maintenance activities, and an evaluation of monitoring data are presented in this report.

Site inspections are conducted semiannually at CAUs 90 and 91 and quarterly at CAUs 92, 110, 111, and 112. Additional inspections are conducted at CAU 92 if precipitation occurs in excess of 0.50 inches in a 24-hour period and at CAU 111 if precipitation occurs in excess of 1.0 inch in a 24-hour period. Inspections include an evaluation of the condition of the units, including covers, fence, signs, gates, and locks.

In addition to visual inspections, soil moisture monitoring, vegetation evaluations, and subsidence surveys are conducted at CAU 110. At CAU 111, soil moisture monitoring, vegetation evaluations, subsidence surveys, direct radiation monitoring, air monitoring, radon flux monitoring, and groundwater monitoring are conducted.

The results of the vegetations surveys and an analysis of the soil moisture monitoring data at CAU 110 are presented in this report. Results of additional monitoring at CAU 111 are documented annually in the *Nevada National Security Site Waste Management Monitoring Report Area 3 and Area 5 Radioactive Waste Management Sites* and in the *Nevada National Security Site Data Report: Groundwater Monitoring Program Area 5 Radioactive Waste Management Site*. A copy of these reports will be submitted to the Nevada Division of Environmental Protection when they are prepared in approximately June 2013.

All required inspections, maintenance, and monitoring were conducted in accordance with the post-closure requirements of the permit. It is recommended to continue inspections and monitoring as scheduled.



**FIGURE ES-1**  
**LOCATIONS OF CLOSED RESOURCE CONSERVATION**  
**AND RECOVERY ACT CORRECTIVE ACTION SITES**



## **1.0 SUMMARY OF INSPECTIONS, REPAIRS, AND MAINTENANCE**

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### **1.1 CORRECTIVE ACTION UNIT 90, AREA 2 BITCUTTER CONTAINMENT**

#### **1.1.1 Post-Closure Requirements**

Semiannual inspections are required at Corrective Action Unit (CAU) 90 to evaluate the condition of the unit and identify deficiencies that may compromise the unit's integrity. Photographs are taken, and the results of the inspections are documented on a checklist. Deficiencies other than general housekeeping issues are reported to the Nevada Division of Environmental Protection (NDEP) and remedied within 60 days of discovery.

#### **1.1.2 Inspection, Repair, and Maintenance Activities**

Semiannual inspections were performed on December 13, 2011, and June 19, 2012. During the December inspection, the signs and fence were in good condition, and there was no evidence of settling, cracking, or erosion. Several small animal burrows were noted, minor vegetation was present on the edge of the cover, the padlock on the gate required replacement, and the permit number on the signs was outdated. The animal burrows were backfilled, the vegetation inside the fenced area was removed, and the lock was replaced on January 5, 2012. Stickers with the current permit number were placed on the signs on February 2, 2012. During the June inspection, the signs and fence were in good condition, and there was no evidence of settling, cracking, or erosion. Minor vegetation was present. The vegetation was removed on June 25, 2012. No other issues were identified, and no additional maintenance or repairs were required.

### **1.2 CORRECTIVE ACTION UNIT 91, AREA 3 U-3FI INJECTION WELL**

#### **1.2.1 Post-Closure Requirements**

Semiannual inspections are required at CAU 91 to evaluate the condition of the unit and identify deficiencies that may compromise the unit's integrity. Photographs are taken, and the results of the inspections are documented on a checklist. The permit does not specify a time limit for repairs or maintenance at CAU 91.

#### **1.2.2 Inspection, Repair, and Maintenance Activities**

Vegetation removal and backfilling of burrows that were recommended during the September 2011 inspection were completed on November 3, 2011. In addition, stickers with the current permit number were placed on the signs on February 2, 2012. Semiannual inspections were performed on March 13 and September 11, 2012. During the March inspection, the signs and fence were in good condition, and there was no evidence of settling, animal burrowing, or vegetation. No issues were identified, and no maintenance or repairs were required. During the September inspection, the fence was in good condition, and there was no evidence of settling or animal burrowing. Sparse vegetation was present on the cover, and the red "WARNING" text on one of the signs was faded. A new "WARNING" sticker was placed on the sign and vegetation removal was completed within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

## **1.3 CORRECTIVE ACTION UNIT 92, AREA 6 DECON POND FACILITY**

### **1.3.1 Post-Closure Requirements**

Inspections are required quarterly at CAU 92 and in the event that precipitation occurs in excess of 0.50 inches (in.) in a 24-hour period. Inspections include an evaluation of the cover and identification of deficiencies that may compromise the unit's integrity. Photographs are taken, and the results of the inspection are documented on a checklist. The checklist documents the reason for the inspection (i.e., quarterly or excess precipitation) and any changes in the condition of the cover or fenced area, including, but not limited to, trash or debris within the fenced area, erosion of the cover, vegetation growing on the cover, and animal burrows or nesting activity. The condition of the fence, use restriction warning signs, entrance gate, and lock is also documented. Small cracks or settling imperfections (less than 2 in. deep) on the cover are documented, and repairs are scheduled on an annual basis. Larger disruptions of the cover are immediately reported to NDEP and remedied within 60 days of discovery.

### **1.3.2 Inspection, Repair, and Maintenance Activities**

Sign replacement and vegetation removal that were recommended during the September 2011 inspection were completed on November 3, 2011. Although it was not recommended to repair the wave barriers, as they do not provide additional protection of the cover and are not cost-effective to maintain, permission had not yet been received from NDEP to remove them. Therefore, the damaged wave barriers were also repaired on November 3, 2011.

Quarterly inspections were performed on December 13, 2011, and on March 13, June 19, and September 13, 2012. During the December quarterly inspection, there was no evidence of settling or cracking. The red "WARNING" text on two of the signs was faded, the permit number on the signs was outdated, and sparse vegetation was present. New "WARNING" stickers and stickers with the current permit number were placed on the signs and vegetation removal was completed on February 2, 2012. In addition, the wave barriers along the northwest side of the fence were damaged; however, in a letter dated January 30, 2012, NDEP approved the request to remove the wave barriers. In addition, the modifications to Permit NEV HW0101 that eliminated the need to inspect the wave barriers were approved by NDEP on April 3, 2012. The wave barriers were removed on April 18, 2012. No other issues were identified, and no additional maintenance or repairs were required.

During the March quarterly inspection, the fence was in good condition, and there was no evidence of settling, cracking, or vegetation. The red "WARNING" text on two of the signs was faded. New "WARNING" stickers were placed on the signs on April 5, 2012. No other issues were identified, and no additional maintenance or repairs were required.

On April 13–14, 2012, 0.57 in. of precipitation was recorded. An inspection was conducted on April 16, 2012. Standing water was not present, the signs were in good condition, and there was no evidence of settling, cracking, or vegetation. No issues were identified, and no maintenance or repairs were required.

During the June quarterly inspection, there was no evidence of settling, cracking, or vegetation. The red "WARNING" text on five of the signs was faded, and the fence was loose on the northwest side of the site. New "WARNING" stickers were placed on the signs on June 25, 2012, and the fence was re-attached on July 26, 2012. No other issues were identified, and no additional maintenance or repairs were required.

On July 13, 2012, 0.70 in. of precipitation was recorded. An inspection was conducted on July 16, 2012. No issues were identified other than the loose fence observed during the June inspection, and no additional maintenance or repairs were required.

On July 23, 2012, 0.73 in. of precipitation was recorded. An inspection was conducted on July 24, 2012. No issues were identified other than the loose fence observed during the June inspection, and no additional maintenance or repairs were required.

On August 22, 2012, 1.0 in. of precipitation was recorded. An inspection was conducted on August 23, 2012. A small amount of standing water that did not require corrective action was observed along the north fence. No other issues were identified, and no maintenance or repairs were required.

During the September quarterly inspection, the signs and fence were in good condition, and there was no evidence of settling or cracking. Vegetation was present on the cover. Vegetation removal activities were completed within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

## **1.4 CORRECTIVE ACTION UNIT 110, AREA 3 WMD U-3AX/BL CRATER**

### **1.4.1 Post-Closure Requirements**

Quarterly inspections are required at CAU 110 to verify that the cover is intact. Photographs are taken, and the results of the inspections are documented on a checklist. The perimeter of the site is walked by the inspector, and the condition of the fence and chicken wire, use restriction warning signs, entrance gate, and lock is documented. In addition, the seven subsidence markers (SMs) are inspected, and any changes in the condition of the cover, including, but not limited to, trash or debris within the fenced area, erosion of the cover, and animal burrows or nesting activity, are documented. Non-critical cracks or settling imperfections (equal to or less than 6 in. deep) on the cover are documented, and repairs are scheduled on an annual basis. Cracks or settling imperfections greater than 6 in. deep that extend 3 feet (ft) or more are reported to NDEP and repaired within 60 days of discovery.

### **1.4.2 Inspection, Repair, and Maintenance Activities**

Backfilling of burrows and fence repair that were recommended during the September 2011 inspection were completed on November 3, 2011. Quarterly inspections were performed on December 13, 2011, and on March 13, June 19, and September 13, 2012. During the December inspection, the signs and fence were in good condition, there was no evidence of settling or cracking, and the vegetation appeared to be in good condition. A substantial number of animal burrows were present on the cover. An informal follow-up inspection was performed on January 2, 2012, with an engineering geologist to determine if the extensive animal burrowing was a subsidence issue. It was determined that backfilling the burrows was the only required action, and the animal burrows were backfilled on January 9, 2012. In addition, stickers with the current permit number were placed on the signs on February 2, 2012. No other issues were identified, and no additional maintenance or repairs were required.

During the March inspection, the red "WARNING" text on six of the signs was faded, and an area of apparent subsidence was observed on the cover. An informal follow-up inspection was performed on April 9, 2012, with an engineering geologist to determine if the subsidence required repair, and it was recommended to perform repair of the area. New "WARNING" stickers were placed on the signs on April 9, 2012, and the area of subsidence was repaired on

April 18, 2012. No other issues were identified, and no additional maintenance or repairs were required.

During the June inspection, the signs and fence were in good condition, and there was no evidence of settling, cracking, or significant animal burrowing. The vegetation appeared to be in good condition. No issues were identified, and no maintenance or repairs were required.

During the September inspection, the signs and fence were in good condition. One area of subsidence was observed that required repair. The area of subsidence was repaired within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

## **1.5 CORRECTIVE ACTION UNIT 111, AREA 5 WMD RETIRED MIXED WASTE PITS**

### **1.5.1 Post-Closure Requirements**

Closure of CAU 111 was completed in January 2012, and the final Closure Report was approved by NDEP in February 2012. Quarterly inspections are required at CAU 111 to verify that the use restriction warning signs are in place and readable and that the use restriction has been maintained. Photographs are taken, and the results of the inspections are documented on a checklist. The covers are inspected for cracks, animal burrows, or other evidence of subsidence or erosion. In addition, non-scheduled inspections are conducted if precipitation occurs in excess of 1.0 inch in a 24-hour period to verify the continued integrity of the covers and document any ponding or erosion. Any identified maintenance or repair requirements will be reported to NDEP and completed within 60 days of discovery.

### **1.5.2 Inspection, Repair, and Maintenance Activities**

Quarterly inspections were performed on March 29, June 26, and September 13, 2012. During the March quarterly inspection, the signs were in good condition, and there was no evidence of settling, cracking, or significant animal burrowing. The vegetation appeared to be in good condition. No issues were identified, and no maintenance or repairs were required.

During the June quarterly inspection, the signs were in good condition, and there was no evidence of settling, cracking, or significant animal burrowing. The vegetation appeared to be in good condition. No issues were identified, and no maintenance or repairs were required.

On August 22, 2012, 1.18 in. of precipitation was recorded. An inspection was conducted on August 23, 2012. One sign was loose, two monuments had fallen over, and erosion rills were present on the cover side slopes. The sign was re-attached, the monuments were set up, and the erosion rills were repaired within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

During the September quarterly inspection, a crack was observed on the north cover that required repair. The crack was repaired within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

## **1.6 CORRECTIVE ACTION UNIT 112, AREA 23 HAZARDOUS WASTE TRENCHES**

### **1.6.1 Post-Closure Requirements**

Quarterly inspections are required at CAU 112 to evaluate the condition of the unit and identify deficiencies that may compromise the unit's integrity. The results of the inspections are documented on a checklist. The permit does not specify a time limit for repairs or maintenance at CAU 112.

### **1.6.2 Inspection, Repair, and Maintenance Activities**

Removal and disposal of debris that was recommended during the September 2011 inspection was completed on November 3, 2011. Quarterly inspections were performed on December 13, 2011, and on March 13, June 19, and September 11, 2012. During the December inspection, the fence was in good condition, and there was no evidence of settling, cracking, or animal burrowing. One sign was loose, and vegetation was present. The sign was re-attached, and vegetation removal was completed on February 2, 2012. In addition, stickers with the current permit number were placed on the signs on February 2, 2012. No other issues were identified, and no additional maintenance or repairs were required.

During the March inspection, the signs and fence were in good condition, and there was no evidence of settling, cracking, vegetation, or animal burrowing. No issues were identified, and no maintenance or repairs were required.

During the June inspection, the signs and fence were in good condition, and there was no evidence of settling, cracking, vegetation, or animal burrowing. No issues were identified, and no maintenance or repairs were required.

During the September inspection, the signs were in good condition, and there was no evidence of settling, cracking, or animal burrowing. A minor amount of vegetation was present that did not require follow-up actions. A section of the barbed wire fence was loose. The fence was repaired within 60 days and will be reported in the next annual report. No other issues were identified, and no additional maintenance or repairs were required.

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## **2.0 SUBSIDENCE AND VEGETATION SURVEY RESULTS**

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### **2.1 CORRECTIVE ACTION UNIT 110, AREA 3 WMD U-3AX/BL CRATER**

#### **2.1.1 Subsidence Survey**

Seven SMs are installed on the cover of CAU 110 to determine if subsidence of the cover is occurring. The initial baseline subsidence survey was conducted on December 14, 2000. Because significant subsidence has not been observed on the cover based on subsidence surveys since surveys began, it was recommended to reduce the frequency of the surveys from twice per year to once every other year (biennially). The modification of Permit NEV HW0101 that included reduction of the frequency of the surveys was approved by NDEP on April 3, 2012.

The subsidence survey was completed on March 22, 2012, and the results are tabulated in Table 1. No significant subsidence was observed. SM #5 shows the greatest decrease in elevation (-0.13 ft) compared to the baseline survey in 2000. This indicates that only minor settling is occurring, and it does not warrant corrective action. The next subsidence survey will be conducted in March 2014.

#### **2.1.2 Vegetation Survey**

The CAU 110 cover was vegetated in December 2000. Surveys have been conducted annually to document the establishment of a native plant community and to identify any remedial actions that may be necessary to ensure the plant community persists. The vegetation survey was completed on May 23, 2012. The plants that have established on the cover continue to show signs of stability. Perennial plant cover and density have maintained at steady levels over the last 5 years. This year was unique in that little precipitation was received, and there were declines in overall plant cover. The decrease was due to the complete absence of annual forbs. There were no invasive weedy species present on the site this year. Overall, there are no major concerns for the plant community that has established on the CAU 110 cover.

### **2.2 CORRECTIVE ACTION UNIT 111, AREA 5 WMD RETIRED MIXED WASTE PITS**

#### **2.2.1 Subsidence Survey**

A total of 52 SMs are installed on the covers of CAU 111. Subsidence surveys are required on an annual basis at CAU 111. Closure of CAU 111 was completed in January 2012, and subsidence surveys will be completed before January 2013 and reported in the next annual report.

#### **2.2.2 Vegetation Survey**

The CAU 111 cover was vegetated in December 2011. Surveys to assess the success of the revegetation effort are required on an annual basis at CAU 111. As the cover was newly vegetated in the spring of 2012, a vegetation survey was not performed. The first vegetation survey will be completed in the spring of 2013 and reported in the next annual report.

**TABLE 1. CORRECTIVE ACTION UNIT 110 SUBSIDENCE SURVEY RESULTS**

DATE	SM #1	SM #2	SM #3	SM #4	SM #5	SM #6	SM #7
	Elevation at Top of Subsidence Marker <sup>1</sup>						
	Subsidence Since December 2000 Baseline Survey (ft)						
December 2000 Baseline	4,021.84	4,021.28	4,019.83	4,020.99	4,021.87	4,019.25	4,020.52
	—	—	—	—	—	—	—
July 2001	4,021.83	4,021.28	4,019.83	4,020.98	4,021.86	4,019.24	4,020.51
	-0.01	0.00	0.00	-0.01	-0.01	-0.01	-0.01
January 2002	4,021.84	4,021.28	4,019.83	4,020.98	4,021.86	4,019.24	4,020.51
	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01
September 2002	4,021.83	4,021.27	4,019.83	4,020.98	4,021.86	4,019.24	4,020.50
	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	-0.02
January 2003	4,021.83	4,021.27	4,019.83	4,020.98	4,021.86	4,019.24	4,020.50
	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	-0.02
July 2003	4,021.83	4,021.27	4,019.83	4,020.97	4,021.85	4,019.24	4,020.50
	-0.01	-0.01	0.00	-0.02	-0.02	-0.01	-0.02
March 2004	4,021.82	4,021.26	4,019.82	4,020.97	4,021.83	4,019.22	4,020.49
	-0.02	-0.02	-0.01	-0.02	-0.04	-0.03	-0.03
September 2004	4,021.82	4,021.26	4,019.82	4,020.96	4,021.83	4,019.23	4,020.49
	-0.02	-0.02	-0.01	-0.03	-0.04	-0.02	-0.03
March 2005	4,021.82	4,021.26	4,019.82	4,020.96	4,021.82	4,019.22	4,020.49
	-0.02	-0.02	-0.01	-0.03	-0.05	-0.03	-0.03
September 2005	4,021.82	4,021.26	4,019.82	4,020.97	4,021.82	4,019.23	4,020.49
	-0.02	-0.02	-0.01	-0.02	-0.05	-0.02	-0.03
March 2006	4,021.82	4,021.26	4,019.82	4,020.96	4,021.82	4,019.23	4,020.49
	-0.02	-0.02	-0.01	-0.03	-0.05	-0.02	-0.03
September 2006	4,021.82	4,021.25	4,019.82	4,020.96	4,021.81	4,019.22	4,020.49
	-0.02	-0.03	-0.01	-0.03	-0.06	-0.03	-0.03
March 2007	4,021.82	4,021.25	4,019.82	4,020.96	4,021.80	4,019.22	4,020.48
	-0.02	-0.03	-0.01	-0.03	-0.07	-0.03	-0.04
September 2007	4,021.81	4,021.25	4,019.81	4,020.96	4,021.79	4,019.22	4,020.49
	-0.03	-0.03	-0.02	-0.03	-0.08	-0.03	-0.03



DATE	SM #1	SM #2	SM #3	SM #4	SM #5	SM #6	SM #7
	Elevation at Top of Subsidence Marker <sup>1</sup>						
	Subsidence Since December 2000 Baseline Survey (ft)						
March 2008	4,021.81	4,021.25	4,019.81	4,020.95	4,021.79	4,019.22	4,020.48
	-0.03	-0.03	-0.02	-0.04	-0.08	-0.03	-0.04
September 2008	4,021.81	4,021.25	4,019.81	4,020.95	4,021.78	4,019.21	4,020.48
	-0.03	-0.03	-0.02	-0.04	-0.09	-0.04	-0.04
March 2009	4,021.81	4,021.24	4,019.81	4,020.95	4,021.78	4,019.21	4,020.48
	-0.03	-0.04	-0.02	-0.04	-0.09	-0.04	-0.04
September 2009	4,021.81	4,021.24	4,019.80	4,020.95	4,021.77	4,019.22	4,020.48
	-0.03	-0.04	-0.03	-0.04	-0.10	-0.03	-0.04
March 2010	4,021.81	4,021.24	4,019.80	4,020.95	4,021.77	4,019.21	4,020.48
	-0.03	-0.04	-0.03	-0.04	-0.10	-0.04	-0.04
September 2010	4,021.81	4,021.24	4,019.80	4,020.95	4,021.77	4,019.21	4,020.48
	-0.03	-0.04	-0.03	-0.04	-0.10	-0.04	-0.04
March 2011	4,021.79	4,021.22	4,019.79	4,020.93	4,021.75	4,019.20	4,020.46
	-0.05	-0.06	-0.04	-0.06	-0.12	-0.05	-0.06
September 2011	4,021.79	4,021.22	4,019.79	4,020.93	4,021.74	4,019.19	4,020.46
	-0.05	-0.06	-0.04	-0.06	-0.13	-0.06	-0.06
March 2012	4,021.79	4,021.22	4,019.79	4,020.93	4,021.74	4,019.20	4,020.46
	-0.05	-0.06	-0.04	-0.06	-0.13	-0.06	-0.06

<sup>1</sup> Elevations based on North American Vertical Datum of 1929 in ft.

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### **3.0 CORRECTIVE ACTION UNIT 110 SOIL MOISTURE MONITORING RESULTS**

---

The CAU 110 cover is designed to prevent infiltration into the disposal unit. The cover performance is monitored using Time Domain Reflectometry (TDR) soil water content sensors buried within the waste cover. The TDR probes are buried at depths of 1 to 8 ft below ground surface at 1 ft intervals. The TDR probes are installed at a distance of 165 ft from the edge of the cover. Arrays of eight probes are positioned at four locations across the cover. Figure 1 illustrates the locations of TDR probes on the cover. Moisture content data from the TDR probes are recorded on a daily basis and stored on a data logger. The data are transmitted via radio frequency and downloaded on a quarterly basis.

Precipitation data were collected from meteorological station Buster Jangle Y, located approximately 3 miles northwest of CAU 110. The precipitation data are presented in Figure 2. Graphs of the TDR-derived soil moisture content profiles, combined with the daily precipitation values, are presented in Figures 4 through 7.

Soil moisture results obtained to date indicate that the CAU 110 cover is functioning as designed. Shallow soil moisture content is variable and dependent on precipitation events and the ability of shallow root systems and evapotranspiration to remove moisture from the soil. The ability for these systems to remove moisture can be locally inhibited if animal burrowing and grazing on plants affects the root systems; therefore, animal burrows are routinely backfilled and small mammals are occasionally trapped and relocated from the cover to limit this damage.

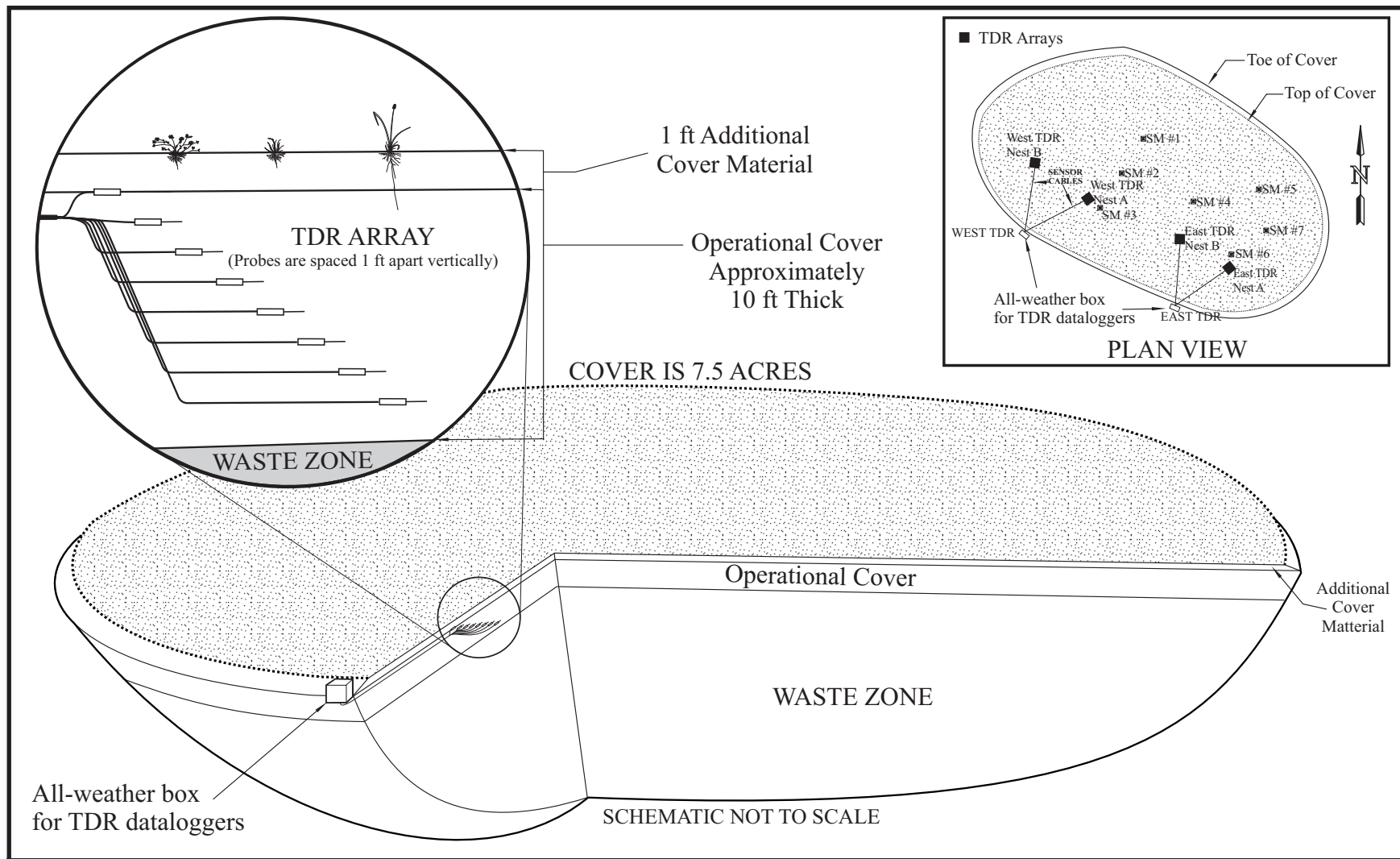
Soil moisture contents for the TDR nests at depth are generally between 9 and 15 percent volumetric moisture content, depending on the location of the nest. Some locations show greater annual variability in moisture content; however, each location appears to have equilibrated to a consistent state for that location.

In the post-closure report for fiscal year 2009, the following compliance criterion was proposed and accepted by NDEP:

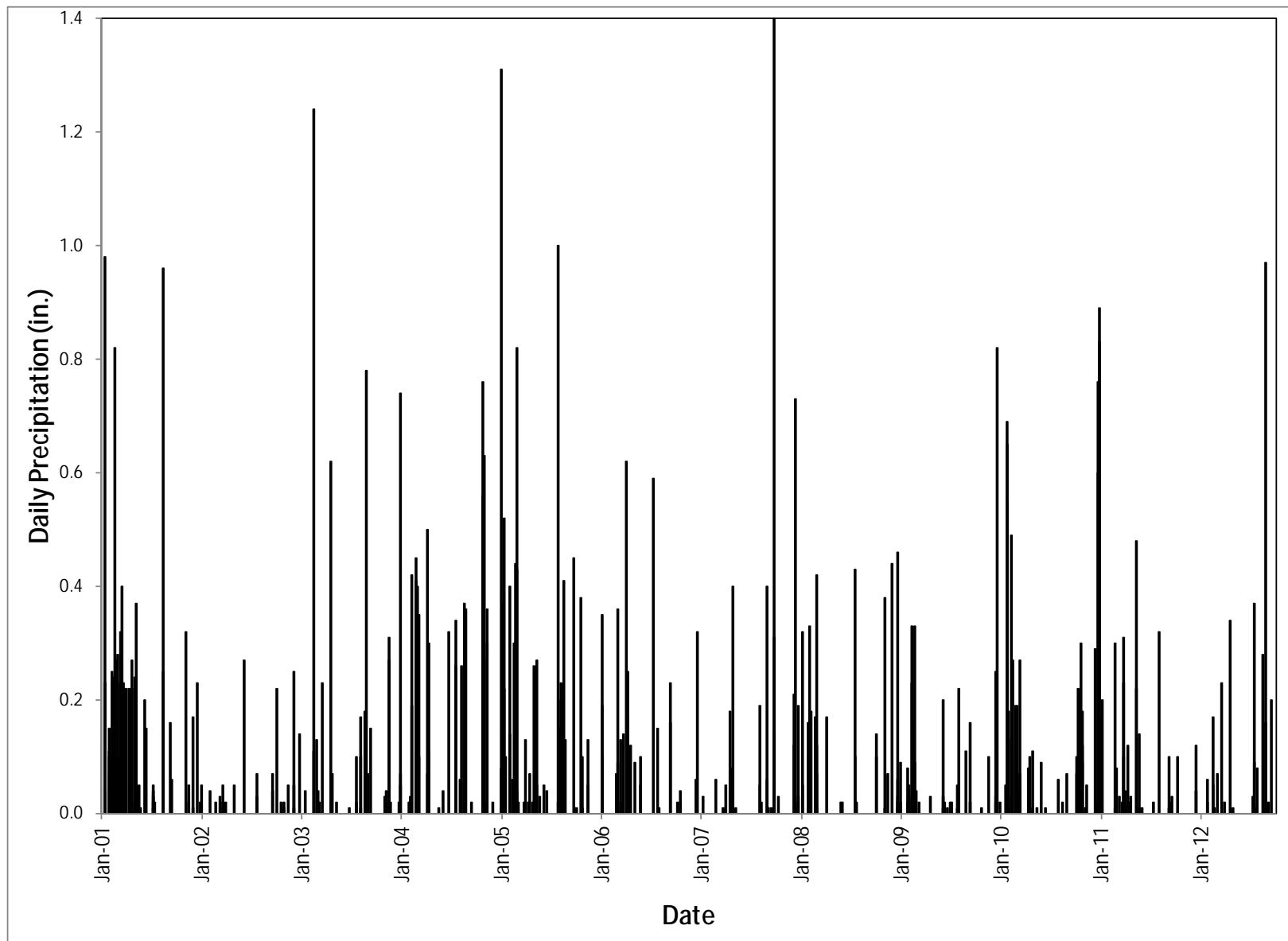
- The averaged water content of the three deepest TDR probes (6 ft, 7 ft, and 8 ft) is greater than 32 percent volumetric moisture content for a continuous 6-month period.

Using conservative assumptions for the soil properties, 32 percent volumetric moisture content equates to 80 percent saturation of the soil. If the average volumetric moisture content of the three deepest TDR probes (6 ft, 7 ft, and 8 ft) exceeds 32 percent for a continuous 6-month period, the compliance criterion has been exceeded. If this occurs, NDEP will be notified, and a path forward will be proposed.

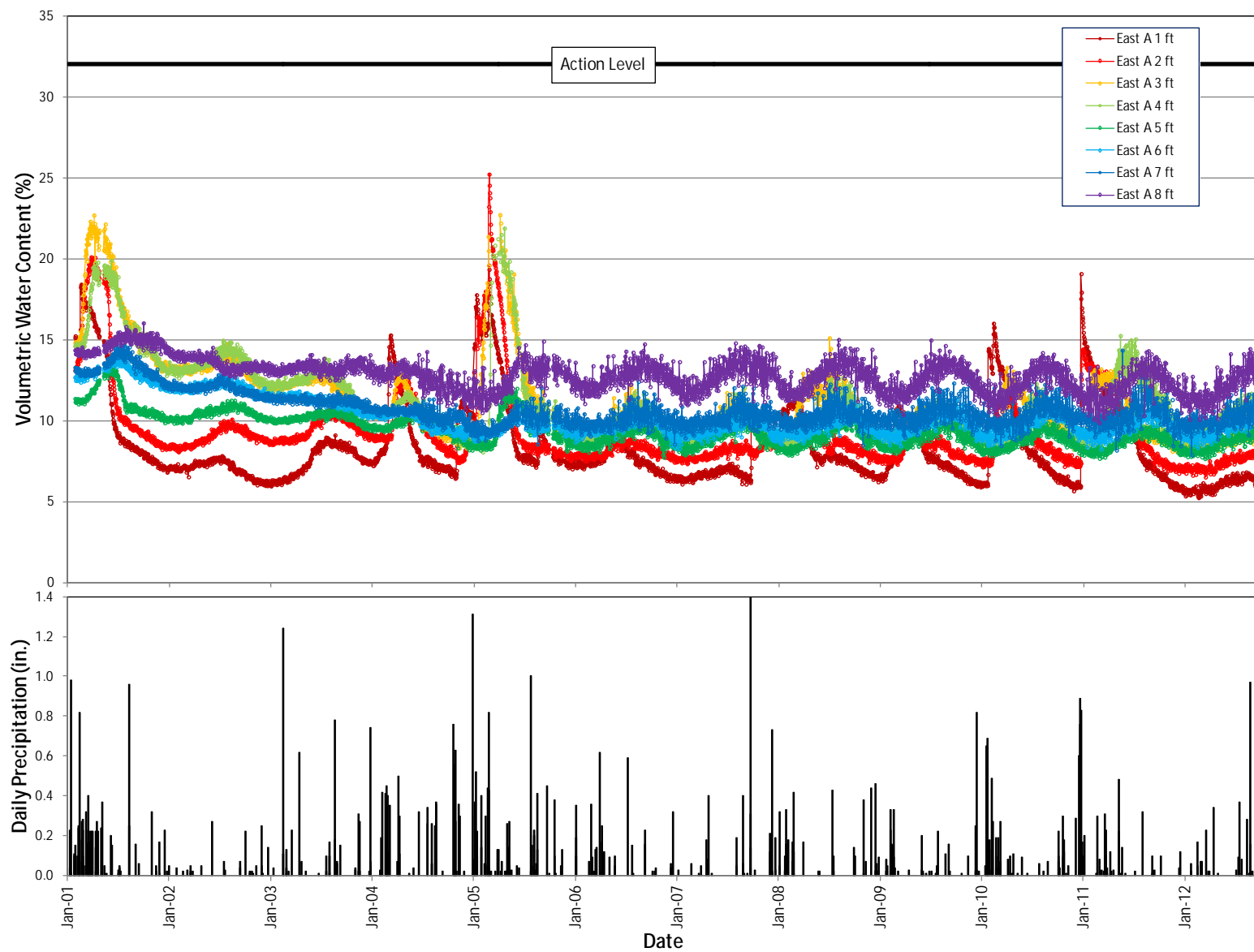
The action level is illustrated in Figures 3 through 6. The action level was not exceeded.



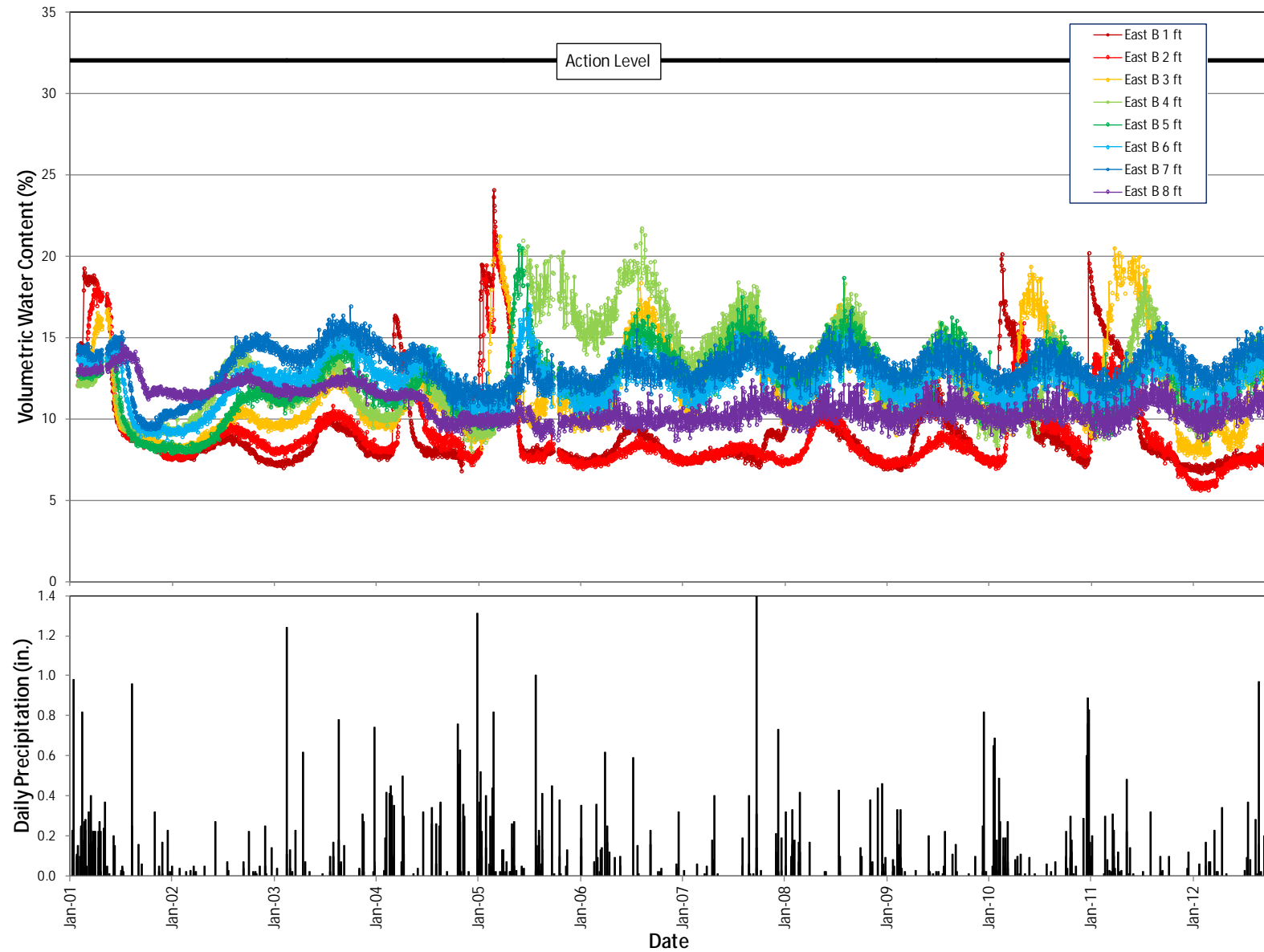
**FIGURE 1**  
**CORRECTIVE ACTION UNIT 110 TIME DOMAIN REFLECTOMETRY LOCATIONS**



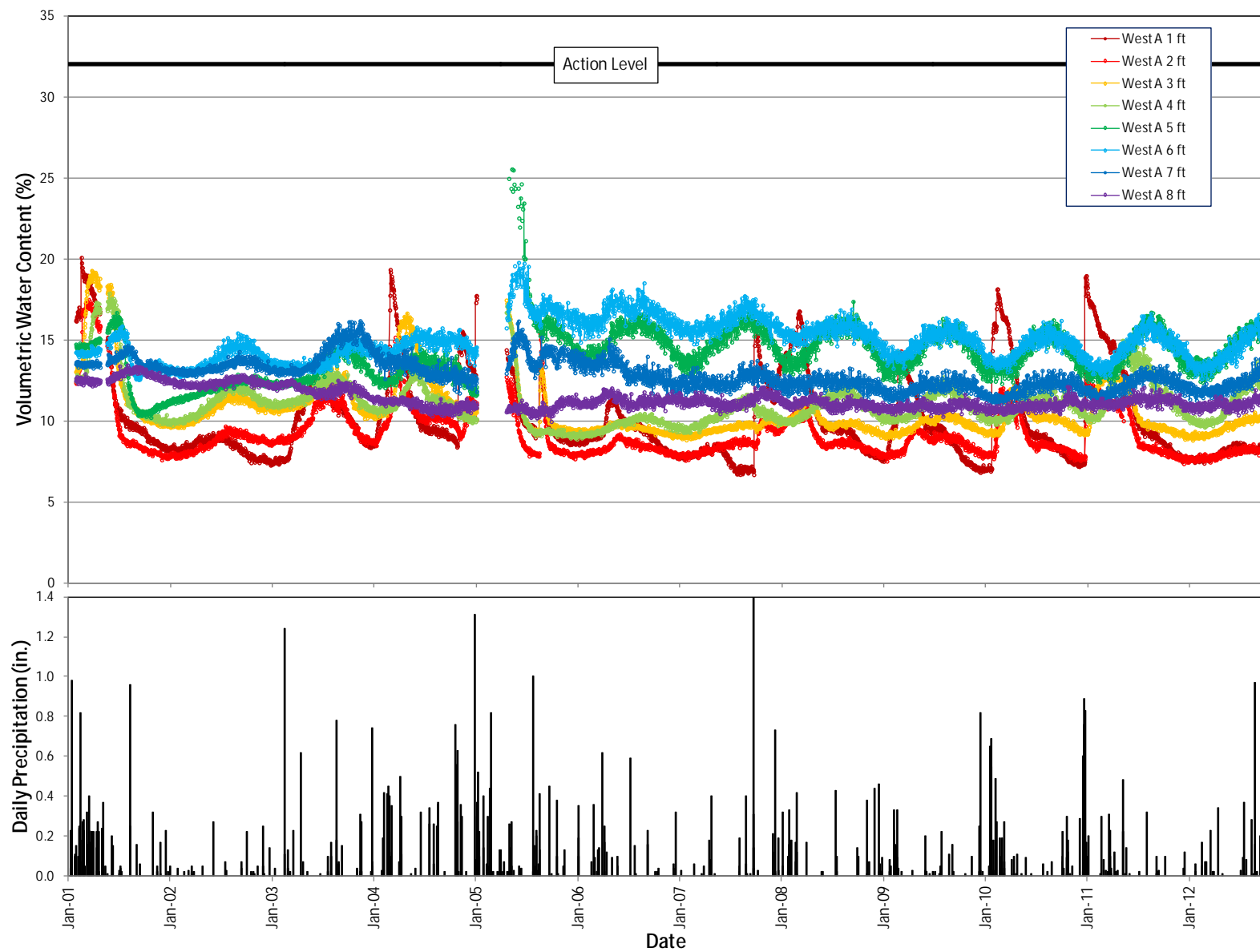
**FIGURE 2. PRECIPITATION DATA FOR METEOROLOGICAL STATION BUSTER JANGLE Y**



**FIGURE 3. EAST TDR NEST A SOIL MOISTURE CONTENT PROFILE**

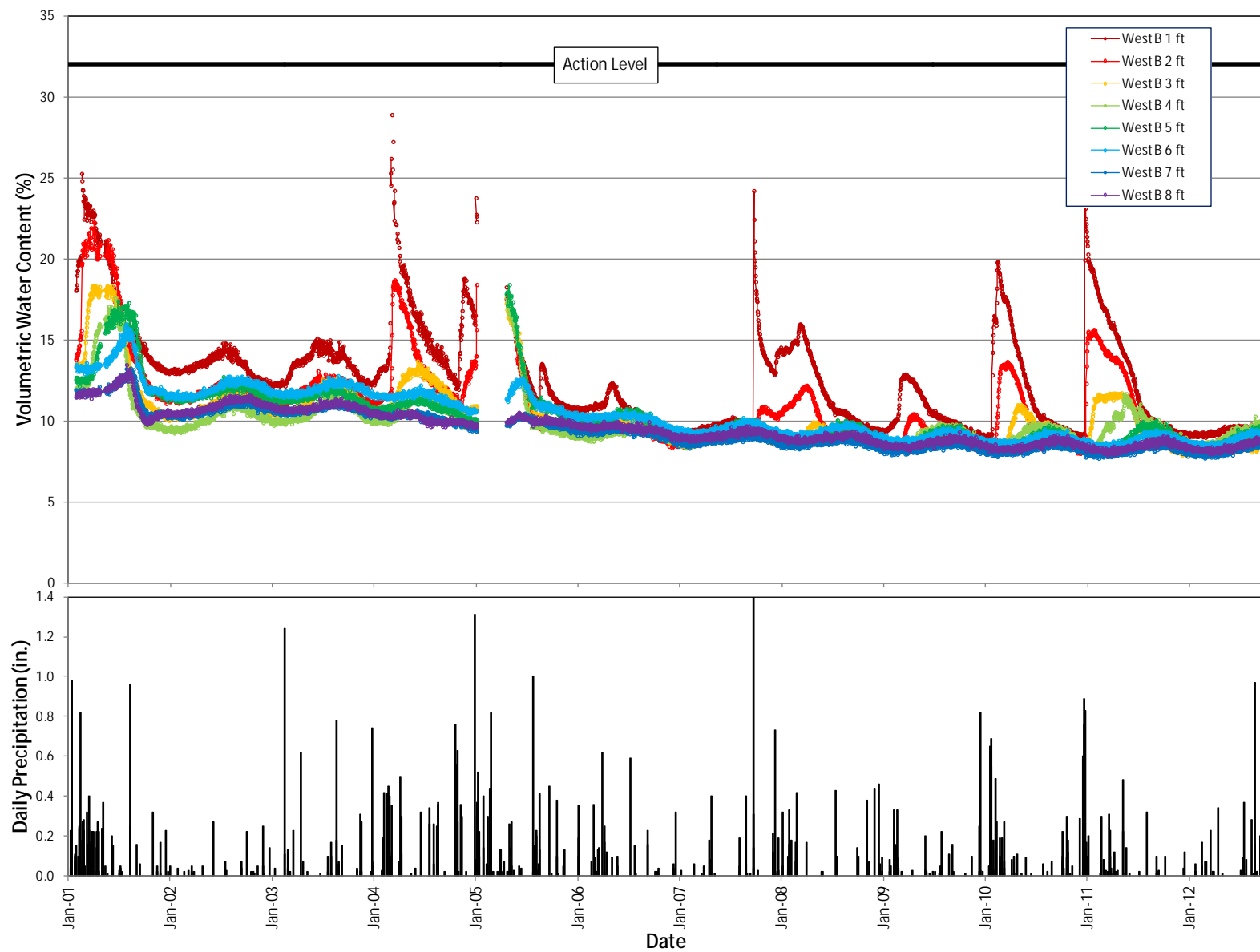


**FIGURE 4. EAST TDR NEST B SOIL MOISTURE CONTENT PROFILE**



**FIGURE 5. WEST TDR NEST A SOIL MOISTURE CONTENT PROFILE**





**FIGURE 6. WEST TDR NEST B SOIL MOISTURE CONTENT PROFILE**

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## **4.0 CONCLUSIONS AND RECOMMENDATIONS**

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### **4.1 CORRECTIVE ACTION UNIT 90, AREA 2 BITCUTTER CONTAINMENT**

Semiannual inspections were performed as required. It is recommended to continue semiannual inspections.

### **4.2 CORRECTIVE ACTION UNIT 91, AREA 3 U-3FI INJECTION WELL**

Semiannual inspections were performed as required. During the last inspection, sparse vegetation was present on the cover, and the red “WARNING” text on one of the signs was faded. A new “WARNING” sticker was placed on the sign and vegetation removal was completed within 60 days and will be reported in the next annual report. No additional maintenance or repairs were required. It is recommended to continue semiannual inspections.

### **4.3 CORRECTIVE ACTION UNIT 92, AREA 6 DECON POND FACILITY**

Quarterly inspections were performed as required and after precipitation events in excess of 0.50 in. During the last inspection, vegetation was present on the cover. Vegetation removal activities were completed within 60 days and will be reported in the next annual report. No additional maintenance or repairs were required. It is recommended to continue inspections quarterly and after precipitation events.

### **4.4 CORRECTIVE ACTION UNIT 110, AREA 3 WMD U-3AX/BL CRATER**

Quarterly inspections were performed as required. During the last inspection, one area of subsidence was observed. The subsidence was repaired within 60 days and will be reported in the next annual report. No additional maintenance or repairs were required. Subsidence survey results indicate that no significant subsidence is occurring. Soil moisture results indicate that the cover is functioning as designed, and the action level was not exceeded. It is recommended to continue quarterly inspections, annual vegetation monitoring, soil moisture monitoring, and biennial subsidence surveys.

### **4.5 CORRECTIVE ACTION UNIT 111, AREA 5 WMD RETIRED MIXED WASTE PITS**

Quarterly inspections were performed as required and after precipitation events in excess of 1.0 in. During the last inspection, a crack was observed on the north cover that required repair. The crack was repaired within 60 days and will be reported in the next annual report. No additional maintenance or repairs were required. It is recommended to continue inspections quarterly and after precipitation events. Results of additional monitoring at CAU 111 are documented annually in the *Nevada National Security Site Waste Management Monitoring Report Area 3 and Area 5 Radioactive Waste Management Sites* and in the *Nevada National Security Site Data Report: Groundwater Monitoring Program Area 5 Radioactive Waste Management Site*. A copy of these reports will be submitted to NDEP when they are prepared in approximately June 2013. Additional monitoring will continue as scheduled.

#### **4.6 CORRECTIVE ACTION UNIT 112, AREA 23 HAZARDOUS WASTE TRENCHES**

Quarterly inspections were performed as scheduled. During the last inspection, a section of the barbed wire fence was loose. The fence was repaired within 60 days and will be reported in the next annual report. No additional maintenance or repairs were required. It is recommended to continue quarterly inspections.

## **APPENDIX A**

# **INSPECTION CHECKLISTS**

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## **CORRECTIVE ACTION UNIT 90 INSPECTION CHECKLISTS**

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## POST-CLOSURE INSPECTION CHECKLIST

CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater PitInspection Date and Time: *12/15/11 12/13/11 10:40*Reason for Inspection: *Semi-Annual*Date of Last Post-Closure Inspection: *6/29/11*Reason for Last Post-Closure Inspection: *Semi-Annual*

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: *Rebecca King* Title: *Project Manager* Organization: Environmental RestorationAssistant Inspector: *NA* Title: Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 90 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Has the Post-Closure Permit been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Has the Post-Closure Permit application been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Has the Post-Closure Plan been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Have the site as-built plans and site base map been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Have the previous inspection reports been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
a. Were anomalies or trends detected on previous inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Was maintenance performed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Backfilling burrows.</i>
6. Have the site maintenance and repair records been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
a. If so, has site repair resulted in a change from as-built conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>NA</i>
b. If yes (to 6a), are revised as-built plans available that reflect repair changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>NA</i>

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit

## D. SITE INSPECTION

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fences, gates, and signs (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Have any fenceposts been damaged or their anchoring weakened?		✓	
c. Is the gate intact and functional?	✓		
d. Does the gate show evidence of tampering or damage?		✓	
e. Was the gate locked?	✓		
f. Are any of the use restriction signs damaged or missing?		✓	
g. Are all use restriction signs legible?	✓		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA ✓
3. Waste unit cover (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?	✓		several small burrows on cover
g. Is vegetation growing on the cover?	✓		minor vegetation on edge of cover
h. Other (including trash, debris, etc within fenced area)?			NA ✓



## POST-CLOSURE INSPECTION CHECKLIST

CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit

4. Fences, gates, and signs (West Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Have any fenceposts been damaged or their anchoring weakened?		✓	
c. Is the gate intact and functional?		✓	gate appears functional but padlock is frozen and needs replacing
d. Does the gate show evidence of tampering or damage?		✓	
e. Was the gate locked?	✓		
f. Are any of the use restriction signs damaged or missing?		✓	
g. Are all use restriction signs legible?	✓		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA ✓

5. Waste unit cover (West Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?	✓		burrows requires backfill
g. Is vegetation growing on the cover?	✓		vegetation requires removal
h. Other (including trash, debris, etc within fenced area)?			NA ✓

6. Photograph Instructions:

- A standard set of color photographs is required. Six photographs must be taken during each inspection of CAU 90:
  - Three (3) of the west unit from outside the fence, one in each compass direction (i.e., N, S, E) and
  - Three (3) of the east unit from outside the fence, one in each compass direction (i.e., N, S, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

7. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	✓		
b. Has a photograph log been prepared?	✓		
c. How many photographs were taken?		12	
d. Other?			NA ✓

**POST-CLOSURE INSPECTION CHECKLIST**

**CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)**  
**CAS 02-20-03: Wastewater Pit**

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are previous maintenance/repair actions satisfactory?	✓		
3. Are there any deficiencies that require a remedy other than general housekeeping (i.e., "minor") repairs?	✓		If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
4. Will necessary repairs change the as-built condition of the unit?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Field conclusions/recommendations: <i>East enclosure has some burrowing and sparse vegetation requiring backfill + removal, respectively. West enclosure has burrows that require backfill and vegetation requiring removal. The padlock on West gate cannot be opened and will be replaced. Signs and fencing in good condition. Place stickers on signs with new RCRA permit number.</i>			

**F. CERTIFICATION**

I have conducted an inspection of CAU 90, Area 2 Bitcutter Containment, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Rebecca King

Date: 12/13/11

Printed Name:

*Rebecca King*

Title:

*Project Manager*

**Required Attachments:**

- Field Notes (if any)
- Photos (or note File Location: S:\NTS\ER Share\Photos\CAU 90\2011\12-13-2011\inspection

RAK  
12/13/11

**Distribution:** Original – Industrial Sites Project Manager  
 Copy – Task Manager

**G. VERIFICATION**

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date: 1/3/2012

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



# POST-CLOSURE INSPECTION CHECKLIST

CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit

Inspection Date and Time: 6/19/12 11:50

Reason for Inspection: TAKES 4119 SEMI-ANNUAL

Date of Last Post-Closure Inspection: 12/15/11

Reason for Last Post-Closure Inspection: SEMI-ANNUAL

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: TOM THIELE

Title: P.M.

Organization: Environmental Restoration

Assistant Inspector: ROBERT POLOKIS

Title: P.M.

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 90 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

X

2. Has the Post-Closure Permit application been reviewed?

X

3. Has the Post-Closure Plan been reviewed?

X

4. Have the site as-built plans and site base map been reviewed?

X

5. Have the previous inspection reports been reviewed?

X

a. Were anomalies or trends detected on previous inspections?

X

b. Was maintenance performed?

X

LOCK WAS REPLACED; BURROWS WERE BACK-FILLED; VEGETATION WAS REMOVED.

6. Have the site maintenance and repair records been reviewed?

X

a. If so, has site repair resulted in a change from as-built conditions?

X

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

X

NA

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit

## D. SITE INSPECTION

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		X	
2. Fences, gates, and signs (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		X	
b. Have any fenceposts been damaged or their anchoring weakened?		X	
c. Is the gate intact and functional?	X		
d. Does the gate show evidence of tampering or damage?		X	
e. Was the gate locked?	X		
f. Are any of the use restriction signs damaged or missing?		X	
g. Are all use restriction signs legible?	X		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA
3. Waste unit cover (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		X	
b. Is there evidence of cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of human intrusion onto the cover?		X	
e. Is there evidence of large animal intrusion onto the cover?		X	
f. Is there evidence of animal burrowing?	X		2 MINOR (small) BURROWS
g. Is vegetation growing on the cover?		X	
h. Other (including trash, debris, etc within fenced area)?		X	NA



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit**

4. Fences, gates, and signs (West Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		X	
b. Have any fenceposts been damaged or their anchoring weakened?		X	
c. Is the gate intact and functional?	X		
d. Does the gate show evidence of tampering or damage?		X	
e. Was the gate locked?	X		
f. Are any of the use restriction signs damaged or missing?		X	
g. Are all use restriction signs legible?	X		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA

5. Waste unit cover (West Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		X	
b. Is there evidence of cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of human intrusion onto the cover?		X	
e. Is there evidence of large animal intrusion onto the cover?		X	
f. Is there evidence of animal burrowing?		X	
g. Is vegetation growing on the cover?	X	X	MINOR VEGETATION
h. Other (including trash, debris, etc within fenced area)?		X	NA

6. Photograph Instructions:

- A standard set of color photographs is required. Six photographs must be taken during each inspection of CAU 90:
  - Three (3) of the west unit from outside the fence, one in each compass direction (i.e., N, S, E) and
  - Three (3) of the east unit from outside the fence, one in each compass direction (i.e., N, S, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

7. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	X		
b. Has a photograph log been prepared?	X		
c. How many photographs were taken?		6	
d. Other?			NA

**POST-CLOSURE INSPECTION CHECKLIST**

**CAU 90: AREA 2 BITCUTTER CONTAINMENT - CAS 02-20-01: Bitcutter/PS Inj. Wells (3) (RCRA)  
CAS 02-20-03: Wastewater Pit**

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		X	
2. Are previous maintenance/repair actions satisfactory?	X		
3. Are there any deficiencies that require a remedy other than general housekeeping (i.e., "minor") repairs?	X		If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
4. Will necessary repairs change the as-built condition of the unit?		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Field conclusions/recommendations: MINOR VEGETATION ON WEST COVER SHOULD BE REMOVED. THE 2 SMALL BURROWS DON'T REQUIRE FILLING. FENCES AND SIGNS WERE IN GOOD CONDITION.			

**F. CERTIFICATION**

I have conducted an inspection of CAU 90, Area 2 Bitcutter Containment, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Tom Thiele

Date:

6/19/12

Printed Name:

TOM THIELE

Title:

P.M.

**Required Attachments:**

1. Field Notes (if any)
2. Photos (or note File Location: S:\NTS\ER Share\PHOTOS\CAU90\2012\06-19-2012\CAU90 INSPECTIONS

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

**G. VERIFICATION**

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date:

6/26/12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



## **CORRECTIVE ACTION UNIT 91 INSPECTION CHECKLISTS**

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# POST-CLOSURE INSPECTION CHECKLIST

**CAU 91: AREA 3 U-3fi INJECTION WELL - CAS 03-20-03: UD-6 and UD-6s Disposal Holes**

Inspection Date and Time: 3-13-12 10am

Reason for Inspection: Semi-Annual

Date of Last Post-Closure Inspection: 9-13-11

Reason for Last Post-Closure Inspection: Semi-Annual

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca King

Title: Project Manager

Organization: Environmental Restoration

Assistant Inspector: —

Title: —

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 91 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Has the Post-Closure Permit been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Has the Post-Closure Permit application been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Has the Post-Closure Plan been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Have the site as-built plans and site base map been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Have the previous inspection reports been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
a. Were anomalies or trends detected on previous inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Was maintenance performed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Backfilling animal burrows and vegetation removal</u>
6. Have the site maintenance and repair records been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
a. If so, has site repair resulted in a change from as-built conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NA
b. If yes (to 6a), are revised as-built plans available that reflect repair changes?	<input type="checkbox"/>	<input type="checkbox"/>	NA <input checked="" type="checkbox"/>

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

CAU 91: AREA 3 U-3fi INJECTION WELL - CAS 03-20-03: UD-6 and UD-6s Disposal Holes

## D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site (i.e., the area within 1,000 feet of U-3fi and ER-3-3), including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. The checklist should be completed during the site inspection. Every monument, site marker, sign, monitoring well access, and erosion control marker will be inspected.*
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fences, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Have any fence posts been damaged or their anchoring weakened?		✓	
c. Is the gate intact and functional?	✓		
d. Does the gate show evidence of tampering or damage?		✓	
e. Was the gate locked?	✓		
f. Are any of the use restriction signs damaged or missing?		✓	
g. Are all use restriction signs legible?	✓		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA ✓
3. Waste unit cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is vegetation growing on the cover?		✓	
h. Other (including trash, debris, etc within fenced area)?			NA ✓



# POST-CLOSURE INSPECTION CHECKLIST

CAU 91: AREA 3 U-3fi INJECTION WELL - CAS 03-20-03: UD-6 and UD-6s Disposal Holes

## 4. Photograph Instructions:

- A standard set of ten (10) color photographs is required to be taken during each inspection of CAU 91:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction
  - Two (2) of the ER3-3 monitoring well surface with compass directions (N and S) noted on the photograph log
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

## 5. Photograph Documentation:

YES	NO	EXPLANATION (required if shaded box is checked)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	10	
		NA <input checked="" type="checkbox"/>

## E. FIELD CONCLUSIONS

YES	NO	EXPLANATION (required if shaded box is checked)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

7. Field conclusions/recommendations: Gate, fences, signs, cover, pads and monuments are all in good condition. No issues.

# POST-CLOSURE INSPECTION CHECKLIST

CAU 91: AREA 3 U-3fi INJECTION WELL - CAS 03-20-03: UD-6 and UD-6s Disposal Holes

## F. CERTIFICATION

I have conducted an inspection of CAU 91, Area 3 U-3fi Injection Well, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/: Rebecca King

Date: 3-13-12

Printed Name: Rebecca King

Title: Project Manager

### Required Attachments:

1. Field Notes (if any)
2. Photos (or note File Location: S:\NTS\ER Share\Photos\CAU 91\2012\03-13-2012 Inspection

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

## G. VERIFICATION

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/: Reed Poderis

Date: 3/29/12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



## POST-CLOSURE INSPECTION CHECKLIST

## CAU 91, AREA 3 U-3FI INJECTION WELL – CAS 03-20-03, U-3FI WASTE DISPOSAL UNIT (RCRA)

Inspection Date and Time: 9/11/12 11:40	Reason for Inspection: Semi Annual
Date of Last Post-Closure Inspection: 3/13/12	Reason for Last Post-Closure Inspection: Semi Annual
Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: Rebecca King	Title: Project Mgr
Assistant Inspector: Tom Thiele	Title: Proj. Mgr

## A. GENERAL INSTRUCTIONS

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.
- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?		✓	
2. Were maintenance or repair activities performed since the last inspection?		✓	
a. If yes, has site repair resulted in a change from as-built conditions?		NA	✓
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?		NA	✓

## C. SITE INSPECTION (To be completed during the site visit)

1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		✓	
2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to the gate or gate lock?		✓	
b. Is there damage to or a break in the fence?		✓	
c. Have any fenceposts been damaged or their anchoring weakened?		✓	
d. Are all use restriction signs legible?		✓	warning text faded on east sign
e. Are any use restriction signs damaged or missing?		✓	
f. How many damaged or missing signs need to be replaced?		0	
g. Are any use restriction signs down or loose?		✓	
h. How many down or loose signs need to be re-hung?		0	
i. Is there damage to the monument or monitoring well?		✓	
3. Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?		✓	
b. Is there evidence of erosion (wind or water)?		✓	

# POST-CLOSURE INSPECTION CHECKLIST

CAU 91, AREA 3 U-3FI INJECTION WELL – CAS 03-20-03, U-3FI WASTE DISPOSAL UNIT (RCRA)

c. Is there evidence of human intrusion onto the site?

✓

d. Is there evidence of large animal intrusion onto the site?

✓

e. Is there evidence of animal burrowing?

✓

f. Is there vegetation growing on the cover?

✓

*sparse but wide spread*

g. Is there trash or debris within the fenced area?

✓

## Photograph Instructions:

- The following photographs must be taken during each inspection:
  - Four from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four of the unit from outside the fence, one in each compass direction
  - Two of the monitoring well surface (N and S)
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.
- Photographs will be filed electronically.

## 4. Photograph Documentation:

YES

NO

EXPLANATION (required if shaded box is checked)

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

✓

## D. FIELD CONCLUSIONS

YES

NO

EXPLANATION (required if shaded box is checked)

1. Is maintenance/repair necessary?

✓

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

✓

3. Field Conclusions/Recommendations:

*Fence in good condition, as is gate + lock. Monuments and cover in good shape. Sparse but wide spread vegetation to be removed. 'Warning' text on east facing UK sign needs to be replaced.*

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

Chief Inspector's Signature: /s/: Rebecca King

Date: 9/11/12

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

Signature: /s/: Reed Poderis

Date: 9/13/12

Printed Name: Thomas A. Thiele (or designee)



## **CORRECTIVE ACTION UNIT 92 INSPECTION CHECKLISTS**

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**Inspection Requirements:**

- (1) Quarterly, or
- (2) Rain Event of >0.5 inches in 24 hours

## POST-CLOSURE INSPECTION CHECKLIST

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

Inspection Date and Time: <u>12/13/11</u> <u>11:50</u>	Reason for Inspection: <u>Quarterly</u>
If this inspection is for a rain event, date of event: <u>9/13/11</u>	Quantity of Rainfall: <u>—</u> inches <u>—</u>
Date of Last Post-Closure Inspection:	Reason for Last Post-Closure Inspection: <u>Quarterly</u>
Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: <u>Rebecca King</u>	Title: <u>Project Manager</u> Organization: Environmental Restoration
Assistant Inspector: <u>NA</u>	Title: Organization: Environmental Restoration

### A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Has the Post-Closure Permit been reviewed?	✓		
2. Has the Post-Closure Permit application been reviewed?	✓		
3. Has the Post-Closure Plan been reviewed?	✓		
4. Have the site as-built plans and site base map been reviewed?	✓		
5. Have the previous inspection reports been reviewed?	✓		
a. Were anomalies or trends detected on previous inspections?		✓	
b. Was maintenance performed?	✓		Sign Replacement, wave barrier repair, sign removal
If maintenance was performed, are copies of all maintenance records in the project file?	✓		
6. Have the site maintenance and repair records been reviewed?	✓		
a. If so, has site repair resulted in a change from as-built conditions?		✓	NA
b. If yes (to 6a), are revised as-built plans available that reflect repair changes?		✓	NA

### C. SITE INSPECTION PREPARATION

- Assemble the following, as needed, to conduct inspections:
- a. Camera, digital storage drive, and extra batteries
  - b. Keys to locks
  - c. Clipboard
  - d. Tape measure
  - e. Radio, pager, etc.
  - f. Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
  - g. Other miscellaneous support equipment

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Have any fence posts been damaged or their anchoring weakened?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any of the use restriction signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Are all use restriction signs legible?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 signs on SW fence are faded & require replacement
e. How many use restriction signs need to be replaced?		2	
f. Are any of the URMA signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Are all URMA signs legible?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
h. How many URMA signs need to be replaced?		0	
i. Is the gate intact and functional?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
j. Does the gate show evidence of tampering or damage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
k. Was the gate locked?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
l. Does the wave barrier require repair?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NW side of barrier requires repair or replacement
m. Is there standing water within or at the fenceline?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FRAX 12/13/11
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?		0	
n. Other?		NA	<input checked="" type="checkbox"/>
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
b. Is there evidence of cracking?		✓		
c. Is there evidence of erosion (wind or water)?		✓		
d. Is there evidence of human intrusion onto the cover?		✓		
e. Is there evidence of large animal intrusion onto the cover?		✓		
f. Is there evidence of animal burrowing?		✓		
g. Is vegetation growing on the cover?	✓		space on cover and edges	
h. Other (including trash, debris, etc within fenced area)?			NA	✓

4. Subsidence survey markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		✓	
b. Do natural processes threaten the integrity of any subsidence survey marker?		✓	
c. Is there excessive vegetation around the subsidence survey markers?		✓	
d. Other?			NA

5. Photograph Instructions:

- A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	✓		
b. Has a photograph log been prepared?	✓		
c. How many photographs were taken?		15	
d. Other?			NA

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small – less than 2 inches deep – cracks or settling imperfections of the cover)? [minor repairs]	✓		If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 2 inches deep) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations: <i>Signage in good condition except 2 UR signs are faded and require replacement. Fencing, gate, lock, and surface-grade monuments in good condition. Sparse vegetation at <sup>RAH-12/13/11</sup> edges and very sparse on cover, to be removed. No evidence of subsidence or settling on cover. No evidence of animal burrowing. Wave barrier on NW fence requires repair or replacement. This appears to be an ongoing issue. Recommend evaluation of benefits of wave barrier. Need to place stickers on UR signs with the new RCRA permit number.</i>			

**F. CERTIFICATION**

I have conducted an inspection of CAU 92, Area 6 Decon Pond Facility, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Rebecca King

Date: 12/13/11

Printed Name: Rebecca King V

Title: Project Manager

**Required Attachments:**

1. Field Notes

2. Photos (or note File Location: S:\NTS\ER Share\Photos\CAU 92\2011\12-13-2011 Inspection

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

**G. VERIFICATION**

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date: 1/3/2011

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**Inspection Date and Time: 3-13-12 11:20Reason for Inspection: QuarterlyIf this inspection is for a rain event, date of event: —Quantity of Rainfall: — inches —Date of Last Post-Closure Inspection: 12-13-11Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca KingTitle: Project Manager

Organization: Environmental Restoration

Assistant Inspector: —Title: —

Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

**B. PREPARATION** (To be completed prior to site visit)

YES

NO

EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

☒☐

2. Has the Post-Closure Permit application been reviewed?

☒☐

3. Has the Post-Closure Plan been reviewed?

☒☐

4. Have the site as-built plans and site base map been reviewed?

☒☐

5. Have the previous inspection reports been reviewed?

☒☐

a. Were anomalies or trends detected on previous inspections?

☐☒

b. Was maintenance performed?

☒☐

If maintenance was performed, are copies of all maintenance records in the project file?

☒☐

NA

sign repair and vegetation removal

6. Have the site maintenance and repair records been reviewed?

☒☐

a. If so, has site repair resulted in a change from as-built conditions?

☐☒

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

☐☐

NA

☒**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of >0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Have any fence posts been damaged or their anchoring weakened?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any of the use restriction signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Are all use restriction signs legible?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 signs have faded warning but are still legible
e. How many use restriction signs need to be replaced?	<input type="checkbox"/>	<input type="checkbox"/>	0
f. Are any of the URMA signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Are all URMA signs legible?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
h. How many URMA signs need to be replaced?	<input type="checkbox"/>	<input type="checkbox"/>	0
i. Is the gate intact and functional?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
j. Does the gate show evidence of tampering or damage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
k. Was the gate locked?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
l. Does the wave barrier require repair?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
m. Is there standing water within or at the fenceline?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?	<input type="checkbox"/>	<input type="checkbox"/>	/
n. Other?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NA
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is vegetation growing on the cover?		✓	
h. Other (including trash, debris, etc within fenced area)?			NA ✓

Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.

4. Subsidence survey markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		✓	
b. Do natural processes threaten the integrity of any subsidence survey marker?		✓	
c. Is there excessive vegetation around the subsidence survey markers?		✓	
d. Other?			NA ✓

5. Photograph Instructions:

- A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	✓		
b. Has a photograph log been prepared?	✓		
c. How many photographs were taken?		9	
d. Other?			NA ✓

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small – less than 2 inches deep – cracks or settling imperfections of the cover)? [minor repairs]	✓		If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

(2) Rain Event of >0.5 inches in 24 hours

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

**Distribution:** Original – Task Manager



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

Inspection Date and Time: 4/16/2012

Reason for Inspection: precipitation event

If this inspection is for a rain event, date of event: 4/13-4/14

Quantity of Rainfall: 0.57 inches

Date of Last Post-Closure Inspection: 3/13/2012

Reason for Last Post-Closure Inspection: Quarterly Event

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: PAUL E. DEWITT

Title: MANAGER

Organization: Environmental Restoration

Assistant Inspector: Reed Padon

Title: Project Manager

Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

**B. PREPARATION** (To be completed prior to site visit)

YES

NO

EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

✓

2. Has the Post-Closure Permit application been reviewed?

✓

3. Has the Post-Closure Plan been reviewed?

✓

4. Have the site as-built plans and site base map been reviewed?

✓

5. Have the previous inspection reports been reviewed?

✓

a. Were anomalies or trends detected on previous inspections?

✓

b. Was maintenance performed?

✓

If maintenance was performed, are copies of all maintenance records in the project file?

✓

New "warning" stickers were applied

NA

NA

6. Have the site maintenance and repair records been reviewed?

✓

a. If so, has site repair resulted in a change from as-built conditions?

✓

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

✓

NA

✓

**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Have any fence posts been damaged or their anchoring weakened?		✓	
c. Are any of the use restriction signs damaged or missing?		✓	
d. Are all use restriction signs legible?	✓		
e. How many use restriction signs need to be replaced?		0	
f. Are any of the URMA signs damaged or missing?		✓	
g. Are all URMA signs legible?	✓		
h. How many URMA signs need to be replaced?		0	
i. Is the gate intact and functional?	✓		
j. Does the gate show evidence of tampering or damage?		✓	
k. Was the gate locked?	✓		
l. Does the wave barrier require repair?		✓	
m. Is there standing water within or at the fenceline?		✓	
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?		NA	
n. Other?		✓	NA
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		✓	



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
b. Is there evidence of cracking?		✓		
c. Is there evidence of erosion (wind or water)?		✓		
d. Is there evidence of human intrusion onto the cover?		✓		
e. Is there evidence of large animal intrusion onto the cover?		✓		
f. Is there evidence of animal burrowing?		✓		
g. Is vegetation growing on the cover?		✓		
h. Other (including trash, debris, etc within fenced area)?		✓	NA	

4. Subsidence survey markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		✓	
b. Do natural processes threaten the integrity of any subsidence survey marker?		✓	
c. Is there excessive vegetation around the subsidence survey markers?		✓	
d. Other?		✓	NA

5. Photograph Instructions:

- A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?		✓	not required for precip inspection.
b. Has a photograph log been prepared?		✓	none taken
c. How many photographs were taken?		0	
d. Other?		✓	NA

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small – less than 2 inches deep – cracks or settling imperfections of the cover)? [minor repairs]		✓	If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

(2) Rain Event of  $>0.5$  inches in 24 hours

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

Inspection Date and Time: 4/19/12 12:15 PM	Reason for Inspection: QUARTERLY
If this inspection is for a rain event, date of event: 4/13-14/12 TAT 6/19	Quantity of Rainfall: inches
Date of Last Post-Closure Inspection: 4/14/12	Reason for Last Post-Closure Inspection: PRECIPITATION EVENT
Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: TOM THIELE	Title: P.M. Organization: Environmental Restoration
Assistant Inspector: RAND PODERIS	Title: P.M. Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

<b>B. PREPARATION</b> (To be completed prior to site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Has the Post-Closure Permit been reviewed?	X		
2. Has the Post-Closure Permit application been reviewed?	X		
3. Has the Post-Closure Plan been reviewed?	X		
4. Have the site as-built plans and site base map been reviewed?	X		
5. Have the previous inspection reports been reviewed?	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?	X		NEW "WARNING" STICKERS WERE APPLIED ON 2 SIGNS.
If maintenance was performed, are copies of all maintenance records in the project file?	X		NA
6. Have the site maintenance and repair records been reviewed?	X		
a. If so, has site repair resulted in a change from as-built conditions?		X	NA
b. If yes (to 6a), are revised as-built plans available that reflect repair changes?			NA X

**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(URM) NW SIDE NEEDS TO BE RE-ATTACHED
b. Have any fence posts been damaged or their anchoring weakened?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any of the use restriction signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Are all use restriction signs legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5 SIGNS NEED "WARNING" SIGNS
e. How many use restriction signs need to be replaced?	<input type="checkbox"/>	<input type="checkbox"/>	0 NEED "WARNING" STICKERS ON 5 SIGNS
f. Are any of the URMA signs damaged or missing?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Are all URMA signs legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
h. How many URMA signs need to be replaced?	<input type="checkbox"/>	<input type="checkbox"/>	0
i. Is the gate intact and functional?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
j. Does the gate show evidence of tampering or damage?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
k. Was the gate locked?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
l. Does the wave barrier require repair?	<input type="checkbox"/>	<input type="checkbox"/>	NA - WAVE BARRIER WAS REMOVED
m. Is there standing water within or at the fenceline?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?			
n. Other?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NA
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
b. Is there evidence of cracking?		X		
c. Is there evidence of erosion (wind or water)?		X		
d. Is there evidence of human intrusion onto the cover?		X		
e. Is there evidence of large animal intrusion onto the cover?		X		
f. Is there evidence of animal burrowing?		X		
g. Is vegetation growing on the cover?		X		
h. Other (including trash, debris, etc within fenced area)?		X	NA	

4. Subsidence survey markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		X	
b. Do natural processes threaten the integrity of any subsidence survey marker?		X	
c. Is there excessive vegetation around the subsidence survey markers?		X	
d. Other?		X	NA

5. Photograph Instructions:

- A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	X		
b. Has a photograph log been prepared?	X		
c. How many photographs were taken?		9	
d. Other?			NA X

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		X	
2. Are existing maintenance/repair actions satisfactory?	X		
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small - less than 2 inches deep - cracks or settling imperfections of the cover)? [minor repairs]	X	X	If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

4/19

(1) Quarterly, or

## POST-CLOSURE INSPECTION CHECKLIST

### E. FIELD CONCLUSIONS (continued)

YES

NO

EXPLANATION (required if shaded box is checked)

4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 2 inches deep) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]

X

If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

5. Will necessary repairs change the as-built condition of the unit?

X

If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

6. Field conclusions/recommendations: THE "WARNING" TEXT ON 5 SIGNS IS FADED.  
NEW STICKERS SHOULD BE PLACED ON THEM.

I have conducted an inspection of CAU 92, Area 6 Decon Pond Facility, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Tom Thiele

Date: 6/19/12

Printed Name: TOM THULE

Title: PM

## 1. Field Notes

2. Photos (or note File Location: S:\NTS\ER Share\PHOTOS\CAU92\2012\06-19-2012 CAU92 INSPECTIONS

**Distribution:** Original – Industrial Sites Project Manager

### Copy – Task Manager

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/: Reed Poderis

Date: 6/26/12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

Inspection Date and Time: 7/16/12

Reason for Inspection: Precipitation

If this inspection is for a rain event, date of event: 7/13/12

Quantity of Rainfall: 0.70 inches

Date of Last Post-Closure Inspection: 6/19/12

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Christopher McGowan Title: Field supervisor

Organization: Environmental Restoration

Assistant Inspector: NA

Title:

Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

**B. PREPARATION** (To be completed prior to site visit)

YES

NO

EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

✓

2. Has the Post-Closure Permit application been reviewed?

✓

3. Has the Post-Closure Plan been reviewed?

✓

4. Have the site as-built plans and site base map been reviewed?

✓

5. Have the previous inspection reports been reviewed?

✓

a. Were anomalies or trends detected on previous inspections?

X

b. Was maintenance performed?

X

If maintenance was performed, are copies of all maintenance records in the project file?

NA

X

6. Have the site maintenance and repair records been reviewed?

✓

a. If so, has site repair resulted in a change from as-built conditions?

✓

NA

X

RAK 7/16/12

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

✓

NA

✓

**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)****D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		X	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		X	
b. Have any fence posts been damaged or their anchoring weakened?		X	
c. Are any of the use restriction signs damaged or missing?		X	
d. Are all use restriction signs legible?	X		
e. How many use restriction signs need to be replaced?		N/A	
f. Are any of the URMA signs damaged or missing?		X	
g. Are all URMA signs legible?	X		
h. How many URMA signs need to be replaced?		N/A	
i. Is the gate intact and functional?	X		
j. Does the gate show evidence of tampering or damage?		X	
k. Was the gate locked?	X		
l. Does the wave barrier require repair?		X	
m. Is there standing water within or at the fenceline?		X	
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?		N/A	
n. Other?			NA
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		X	



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION	
b. Is there evidence of cracking?		X	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.	
c. Is there evidence of erosion (wind or water)?		X		
d. Is there evidence of human intrusion onto the cover?		X		
e. Is there evidence of large animal intrusion onto the cover?		X		
f. Is there evidence of animal burrowing?		X		
g. Is vegetation growing on the cover?		X		
h. Other (including trash, debris, etc within fenced area)?				NA
4. Subsidence survey markers:	YES	NO		EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		X		
b. Do natural processes threaten the integrity of any subsidence survey marker?		X		
c. Is there excessive vegetation around the subsidence survey markers?		X		
d. Other?			NA	
5. Photograph Instructions:				
<ul style="list-style-type: none"> <li>A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92: <ul style="list-style-type: none"> <li>Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)</li> <li>Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).</li> </ul> </li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>				
6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have all photographs been taken as required by the photograph instructions?	X			
b. Has a photograph log been prepared?	X			
c. How many photographs were taken?		4		
d. Other?			NA	
<b>E. FIELD CONCLUSIONS</b>				
	YES	NO	EXPLANATION (required if shaded box is checked)	
1. Are more frequent inspections required?		X		
2. Are existing maintenance/repair actions satisfactory?	X			
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small - less than 2 inches deep - cracks or settling imperfections of the cover)? [minor repairs]		X	If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)	

(1) Quarterly, or

(2) Rain Event of  $>0.5$  inches in 24 hours

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 2 inches deep) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations: <u>NO issues from precipitation. Repair of loose bottom of fence identified in prior inspection scheduled for July 23.</u>			
F. CERTIFICATION			
I have conducted an inspection of CAU 92, Area 6 Decon Pond Facility, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.			
Chief Inspector's Signature: /s/ Christopher McGowin		Date: 7-16-2012	
Printed Name: Christopher McGowin		Title:	

1. Field Notes *N/A*

2. Photos (or note File Location: S:\NTS\ER Share\ CAU92\2012\7-16-2012

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/: Reed Poderis

Date: 7-23-12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

 Inspection Date and Time: **7-24-2012 0809**

 Reason for Inspection: **Precip**

 If this inspection is for a rain event, date of event: **7-23-12**

 Quantity of Rainfall: **0.73** inches

 Date of Last Post-Closure Inspection: **7-16-12**

 Reason for Last Post-Closure Inspection: **Precip**

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

 Chief Inspector: **Christopher McGwin** Title: **field supervisor**

Organization: Environmental Restoration

 Assistant Inspector: **NA**

Title:

Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

**B. PREPARATION** (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

☒
☐

2. Has the Post-Closure Permit application been reviewed?

☒
☐

3. Has the Post-Closure Plan been reviewed?

☒
☐

4. Have the site as-built plans and site base map been reviewed?

☒
☐

5. Have the previous inspection reports been reviewed?

☒
☐

a. Were anomalies or trends detected on previous inspections?

☐
☒

replaced warning stickers

b. Was maintenance performed?

☒
☐

↓ RSP 8/6/12

If maintenance was performed, are copies of all maintenance records in the project file?

☒
☐

NA RAK 7-24-12

6. Have the site maintenance and repair records been reviewed?

☒
☐

a. If so, has site repair resulted in a change from as-built conditions?

☐
☒

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

☐
☒

NA

**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment



**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST**
**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features on Yucca Lake that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		X	
2. Fencing, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?	X		fence need Repair NW, SW side
b. Have any fence posts been damaged or their anchoring weakened?		X	
c. Are any of the use restriction signs damaged or missing?		X	
d. Are all use restriction signs legible?	X		
e. How many use restriction signs need to be replaced?		N/A	
f. Are any of the URMA signs damaged or missing?		X	
g. Are all URMA signs legible?	X		
h. How many URMA signs need to be replaced?		N/A	
i. Is the gate intact and functional?	X		
j. Does the gate show evidence of tampering or damage?		X	
k. Was the gate locked?	X		
l. Does the wave barrier require repair?		X	
m. Is there standing water within or at the fenceline?		X	
If yes, what is the playa water elevation, as measured on the depth gauge attached to the fence perimeter?		N/A	
n. Other?		X	NA
3. Waste unit cover:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		X	

**Inspection Requirements:**

(1) Quarterly, or

(2) Rain Event of &gt;0.5 inches in 24 hours

**POST-CLOSURE INSPECTION CHECKLIST****CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

3. Waste unit cover (continued):	YES	NO	EXPLANATION	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
b. Is there evidence of cracking?		X		
c. Is there evidence of erosion (wind or water)?		X		
d. Is there evidence of human intrusion onto the cover?		X		
e. Is there evidence of large animal intrusion onto the cover?		X		
f. Is there evidence of animal burrowing?		X		
g. Is vegetation growing on the cover?		X		
h. Other (including trash, debris, etc within fenced area)?			NA	X

4. Subsidence survey markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the five (5) subsidence survey markers been disturbed?		X	
b. Do natural processes threaten the integrity of any subsidence survey marker?		X	
c. Is there excessive vegetation around the subsidence survey markers?		X	
d. Other?			NA

5. Photograph Instructions:

- A standard set of color photographs is required. Eight photographs must be taken during each inspection of CAU 92:
  - Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.
- Additional photographs may also be taken.
- A photograph log entry will be made for each photograph taken.

6. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	X		
b. Has a photograph log been prepared?	X		
c. How many photographs were taken?		4	
d. Other?		X	NA

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		X	
2. Are existing maintenance/repair actions satisfactory?	X		
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes small – less than 2 inches deep – cracks or settling imperfections of the cover)? [minor repairs]		X	If "yes", describe in Field conclusions/recommendations and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

(2) Rain Event of >0.5 inches in 24 hours

**CAU 92: AREA 6 DECON POND FACILITY - CAS 06-05-02: Decontamination Pond (RCRA)**

Title: field supervisor

## POST-CLOSURE INSPECTION CHECKLIST

CAU 92, AREA 6 DECON POND FACILITY – CAS 06-05-02, DECONTAMINATION POND (RCRA)

Inspection Date and Time: 8/23/2012	Reason for Inspection: Precip
If this inspection is for a rain event, date of event: 8/22/2012	Quantity of Rainfall: 1 inches
Date of Last Post-Closure Inspection: 7/24/2012	Reason for Last Post-Closure Inspection: Precip
Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: Reed Poders	Title: PM
Assistant Inspector: Brian Konrad	Title: Field Sup

### A. GENERAL INSTRUCTIONS

- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

### B. PREPARATION (To be completed prior to site visit)

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?		✓	
2. Were maintenance or repair activities performed since the last inspection?	✓		Minor fence repair
a. If yes, has repair resulted in a change from as-built conditions?		✓	NA
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?		✓	NA

### C. SITE INSPECTION

The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. Complete this checklist during the site inspection.

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Adjacent Offsite Features:			
a. Are there any new activities or offsite features that could potentially affect the site?		✓	
2. Site Markers:			
a. Is there damage to the gate or gate lock?		✓	
b. Is there damage to the fence or fence posts?		✓	
c. Are all use restriction signs legible?	✓		
d. Are any use restriction signs damaged or missing?		✓	
e. How many damaged or missing signs need to be replaced?	0		
f. Are any use restriction signs down or loose?		✓	
g. How many down or loose signs need to be re-hung?	0		
h. Do any Underground Radioactive Material Area signs need to be replaced or re-hung?		✓	
i. Is there damage to any of the subsidence survey markers?		✓	
j. Is there standing water within the fenced area?	✓		small amount along north fence
k. Is there trash or other debris within the fenced area?		✓	



## POST-CLOSURE INSPECTION CHECKLIST

### CAU 92, AREA 6 DECON POND FACILITY – CAS 06-05-02, DECONTAMINATION POND (RCRA)

3. Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?		✓	
b. Is there evidence of erosion (wind or water)?		✓	
c. Is there evidence of human intrusion onto the site?		✓	
d. Is there evidence of large animal intrusion or animal burrowing?		✓	
e. Is vegetation growing on the cover?		✓	
f. Is there standing water on the cover?		✓	

**Photograph Instructions:**

- The following photographs must be taken during each inspection:
  - Four from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.

4. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all required photographs of the site been taken?	✓		
b. How many photos were taken?	5		
c. Has a photograph log been prepared?	✓		File Location: S:\NTS\ER Share\Photos\CAU 092\ 08-23-2012 CAU 92 Precip Inspection

D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Is general housekeeping or minor repair (including cracks or settling less than 2 inches deep on the cover) required?		✓	
4. Are there deficiencies that require a remedy other than general housekeeping or minor repair? (For example, are there cracks greater than 2 inches deep on the cover?)		✓	
5. Is there an imminent hazard to the integrity of the landfill cover?		✓	

6. Field Conclusions/Recommendations: No issues

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**E. CERTIFICATION:** I have conducted this inspection in accordance with the Post-Closure Plan as recorded on this checklist and attachments.

Chief Inspector's Signature: /s/ Reed Poderis

Date: 8/24/2012

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

Signature: /s/ Thomas Thiele

Date: 8/27/12

Printed Name: Thomas A. Thiele (or designee)

## POST-CLOSURE INSPECTION CHECKLIST

CAU 92, AREA 6 DECON POND FACILITY – CAS 06-05-02, DECONTAMINATION POND (RCRA)

Inspection Date and Time: 9/13/12 <sup>RK 9/13/12 10:12:00</sup>	Reason for Inspection: Quarterly
If this inspection is for a rain event, date of event:	Quantity of Rainfall: inches
Date of Last Post-Closure Inspection: 8/23/12	Reason for Last Post-Closure Inspection: Precip
Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: Rebecca Kiny	Title: Proj. Mgr
Assistant Inspector: Reed Poders	Title: Mgr

### A. GENERAL INSTRUCTIONS

- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?		✓	
2. Were maintenance or repair activities performed since the last inspection?	✓		warning text replaced + fence repairs
a. If yes, has repair resulted in a change from as-built conditions?		✓	NA
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?		✓	NA

### C. SITE INSPECTION

The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. Complete this checklist during the site inspection.

1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		✓	

2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to the gate or gate lock?		✓	
b. Is there damage to the fence or fence posts?		✓	
c. Are all use restriction signs legible?	✓		
d. Are any use restriction signs damaged or missing?		✓	
e. How many damaged or missing signs need to be replaced?		0	
f. Are any use restriction signs down or loose?		✓	
g. How many down or loose signs need to be re-hung?		0	
h. Do any Underground Radioactive Material Area signs need to be replaced or re-hung?		✓	
i. Is there damage to any of the subsidence survey markers?		✓	
j. Is there standing water within the fenced area?		✓	
k. Is there trash or other debris within the fenced area?		✓	



## POST-CLOSURE INSPECTION CHECKLIST

### CAU 92, AREA 6 DECON POND FACILITY – CAS 06-05-02, DECONTAMINATION POND (RCRA)

3. Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?		✓	
b. Is there evidence of erosion (wind or water)?		✓	
c. Is there evidence of human intrusion onto the site?		✓	
d. Is there evidence of large animal intrusion or animal burrowing?		✓	
e. Is vegetation growing on the cover?	✓		some vegetation requires removal
f. Is there standing water on the cover?		✓	

Photograph Instructions:

- The following photographs must be taken during each inspection:
  - Four from the center of the unit, one in each compass direction (i.e., N, S, E, W)
  - Four of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.

4. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all required photographs of the site been taken?	✓		
b. How many photos were taken?		8	
c. Has a photograph log been prepared?	✓		File Location: S:\NTS\ER Share\Photos\CAU 092\ 2012\ 09-13-2012 Quarterly Inspections

D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Is general housekeeping or minor repair (including cracks or settling less than 2 inches deep on the cover) required?	✓		vegetation Removal
4. Are there deficiencies that require a remedy other than general housekeeping or minor repair? (For example, are there cracks greater than 2 inches deep on the cover?)		✓	
5. Is there an imminent hazard to the integrity of the landfill cover?		✓	

6. Field Conclusions/Recommendations: Fencing, signage, markers and cover in good condition. Some vegetation on cover to be removed.

**E. CERTIFICATION:** I have conducted this inspection in accordance with the Post-Closure Plan as recorded on this checklist and attachments.

Chief Inspector's Signature: /s/: Rebecca King	Date: 9/13/12
------------------------------------------------	---------------

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

Signature: /s/: Reed Poderis	Date: 9/20/12
Printed Name: Thomas A. Thiele (or designee)	

## **CORRECTIVE ACTION UNIT 110 INSPECTION CHECKLISTS**

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# POST-CLOSURE INSPECTION CHECKLIST

**CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater**

Inspection Date and Time: 12/13/11 11:05

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 9/13/11

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca King Title: Project Manager Organization: Environmental Restoration

Assistant Inspector: NA Title: Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 91 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

✓

2. Has the Post-Closure Permit application been reviewed?

✓

3. Has the Post-Closure Plan been reviewed?

✓

4. Have the site as-built plans and site base map been reviewed?

✓

5. Have the previous inspection reports been reviewed?

✓

a. Were anomalies or trends detected on previous inspections?

✓

b. Was maintenance performed?

✓

Backfill barrier. Fence repair.

6. Have the site maintenance and repair records been reviewed?

✓

a. If so, has site repair resulted in a change from as-built conditions?

✓

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

✓

NA

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment



## POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

## D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fences, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Is there damage to or a break in the chicken wire fence?		✓	
c. Have any fenceposts been damaged or their anchoring weakened?		✓	
d. Is the gate intact and functional?	✓		
e. Does the gate show evidence of tampering or damage?		✓	
f. Was the gate locked?	✓		
g. Are any of the use restriction signs damaged or missing?		✓	
h. Are all use restriction signs legible?	✓		
i. How many use restriction signs need to be replaced?		0	
3. Waste unit cover (Western portion, "ax"):	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?	✓		substantial burrowing present
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		✓	
h. Other (including trash, debris, etc within fenced area)?			NA ✓

## POST-CLOSURE INSPECTION CHECKLIST

## CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

	YES	NO	EXPLANATION
4. Waste unit cover (Eastern portion, "bl"): Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.			
a. Is there evidence of settling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1 small area to Reinvestigate - may be beginning of Subsidence
b. Is there evidence of cracking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Is there evidence of erosion (wind or water)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Is there evidence of human intrusion onto the cover?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e. Is there evidence of large animal intrusion onto the cover?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
f. Is there evidence of animal burrowing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Substantial burrowing over cover
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
h. Other (including trash, debris, etc within fenced area)?	<input type="checkbox"/>	<input type="checkbox"/>	NA <input checked="" type="checkbox"/>
5. Subsidence survey markers and TDR Probes:			
a. Have any of the seven (7) subsidence survey markers been disturbed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Do natural processes threaten the integrity of any subsidence survey marker?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Is there excessive vegetation around the subsidence survey markers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Is there any evidence that TDR probes have been disturbed or the wires damaged?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e. Other?	<input type="checkbox"/>	<input type="checkbox"/>	NA <input checked="" type="checkbox"/>
6. Photograph Instructions:			
<ul style="list-style-type: none"> <li>A standard set of eight (8) color photographs is required to be taken during each inspection of CAU 110:               <ul style="list-style-type: none"> <li>Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)</li> <li>Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).</li> </ul> </li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>			
7. Photograph Documentation:			
a. Have all photographs been taken as required by the photograph instructions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Has a photograph log been prepared?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. How many photographs were taken?		15	
d. Other?	<input type="checkbox"/>	<input type="checkbox"/>	NA <input checked="" type="checkbox"/>
E. FIELD CONCLUSIONS			
1. Are more frequent inspections required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Are existing maintenance/repair actions satisfactory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



# **POST-CLOSURE INSPECTION CHECKLIST**

**CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater**

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes cracks or settling imperfections less than 6 inches deep that extend less than 3 feet on the cover)? [minor repairs]	<input checked="" type="checkbox"/>		If "yes", describe in Field conclusions/recommendations
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 6 inches deep and 3 feet long) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		<input checked="" type="checkbox"/>	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations: <i>Gate, lock, fencing, signage, TDR, and survey monuments are in good condition. There is considerable animal burrowing over entire cover requiring backfilling. Vegetation is in good condition. Areas of prior subsidence repair are in good condition. Small area just off edge of east cover requires followup inspection by SIME to determine if burrowing or the beginning of subsidence. No other issues. Upon further consideration only the area of most extensive burrowing will be. Place stickers on all LR signs with new RCRA permit number.</i>			
<b>F. CERTIFICATION</b>			
I have conducted an inspection of CAU 110, Area 3 WMD U-3ax/bl Crater, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.			
Chief Inspector's Signature: /s/ Rebecca King		Date: 12/13/11	
Printed Name: Rebecca King		Title: Project Manager	

**Required Attachments:**

- Field Notes
- Photos (or note File Location: S:\NTS\ER Share\Photos\CAU 110\2011\12-13-2011 Inspection

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

<b>G. VERIFICATION</b>	
I have reviewed this checklist and attachments and have verified that it is complete.	
Signature: /s/ Reed Poderis	Date: 1/3/2011
Printed Name: Thomas A. Thiele (or designee)	

**Distribution:** Original – Task Manager

# POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

Inspection Date and Time: 3-13-12 10:30

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 1-2-2012

Reason for Last Post-Closure Inspection: follow up on potential subsidence

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca King

Title: Project Manager

Organization: Environmental Restoration

Assistant Inspector:

Title:

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 91 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

☒
☐

2. Has the Post-Closure Permit application been reviewed?

☒
☐

3. Has the Post-Closure Plan been reviewed?

☒
☐

4. Have the site as-built plans and site base map been reviewed?

☒
☐

5. Have the previous inspection reports been reviewed?

☒
☐

a. Were anomalies or trends detected on previous inspections?

☐
☒

b. Was maintenance performed?

☒
☐

backfilling burrows

6. Have the site maintenance and repair records been reviewed?

☒
☐

a. If so, has site repair resulted in a change from as-built conditions?

☐
☒

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

☐
☐

NA

☒

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment



# POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

## D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fences, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Is there damage to or a break in the chicken wire fence?		✓	
c. Have any fenceposts been damaged or their anchoring weakened?		✓	
d. Is the gate intact and functional?	✓		
e. Does the gate show evidence of tampering or damage?		✓	
f. Was the gate locked?	✓		
g. Are any of the use restriction signs damaged or missing?		✓	
h. Are all use restriction signs legible?	✓		Handwritten: To have faded 'Warning' and sign will be replaced.
i. How many use restriction signs need to be replaced?	0		RAK 3/19/12
3. Waste unit cover (Western portion, "ax"):	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		✓	
h. Other (including trash, debris, etc within fenced area)?			NA ✓

# POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

4. Waste unit cover (Eastern portion, "bl"):	YES	NO	EXPLANATION
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?	✓		Potential crack/subsidence on east edge of east cover
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		✓	
h. Other (including trash, debris, etc within fenced area)?			NA ✓
5. Subsidence survey markers and TDR Probes:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any of the seven (7) subsidence survey markers been disturbed?		✓	
b. Do natural processes threaten the integrity of any subsidence survey marker?		✓	
c. Is there excessive vegetation around the subsidence survey markers?		✓	
d. Is there any evidence that TDR probes have been disturbed or the wires damaged?		✓	
e. Other?		✓	NA
6. Photograph Instructions:			
<ul style="list-style-type: none"> <li>A standard set of eight (8) color photographs is required to be taken during each inspection of CAU 110: <ul style="list-style-type: none"> <li>Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)</li> <li>Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).</li> </ul> </li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>			
7. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all photographs been taken as required by the photograph instructions?	✓		
b. Has a photograph log been prepared?	✓		
c. How many photographs were taken?		17	
d. Other?			NA ✓
E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		



# POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes cracks or settling imperfections less than 6 inches deep that extend less than 3 feet on the cover)? [minor repairs]	✓		If "yes", describe in Field conclusions/recommendations
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 6 inches deep and 3 feet long) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations: <i>BMP - repair snow fence gate on outer fence access fence. Area of apparent subsidence/cracking on edge of east cover. Follow up inspection will be conducted with engineering geologist. <sup>RAK 3/13/12</sup> Signs all legible and in good condition, however to have faded warning text <sup>RAK 3/13/12</sup> which will be replaced with labels. Rest of the site including fencing, vegetation, monuments + TDR probes in good condition.</i>			

## F. CERTIFICATION

I have conducted an inspection of CAU 110, Area 3 WMD U-3ax/bl Crater, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/: Rebecca King

Date: 3/13/12

Printed Name: Rebecca King

Title: Project Manager

### Required Attachments:

1. Field Notes

2. Photos (or note File Location: S:\NTS\ER Share\ <sup>RAK 3/13/12</sup> CAU 110\2012\03-13-2012 Inspection

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

## G. VERIFICATION

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/: Reed Poderis

Date: 3/29/2012

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater**

Inspection Date and Time: 10/19/12 10:55	Reason for Inspection: QUARTERLY
Date of Last Post-Closure Inspection: 4/9/12	Reason for Last Post-Closure Inspection: QUARTERLY TAT 4/11/12
Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: TOM THIELE	Title: P.M.
Assistant Inspector: REED PODERIS	Title: P.M.
Organization: Environmental Restoration	

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 91 dated 2/15/2008).
- All documentation must be legible and clear.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Has the Post-Closure Permit been reviewed?	X		
2. Has the Post-Closure Permit application been reviewed?	X		
3. Has the Post-Closure Plan been reviewed?	X		
4. Have the site as-built plans and site base map been reviewed?	X		
5. Have the previous inspection reports been reviewed?	X		
a. Were anomalies or trends detected on previous inspections?		X	
b. Was maintenance performed?	X		SUBSIDENCE REPAIR, WARNING SIGN ON IG SIGN, SUBSIDENCE REPAIR
6. Have the site maintenance and repair records been reviewed?	X		
a. If so, has site repair resulted in a change from as-built conditions?		X	NA
b. If yes (to 6a), are revised as-built plans available that reflect repair changes?		X	NA

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater

## D. SITE INSPECTION

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		X	
2. Fences, gates, and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		X	
b. Is there damage to or a break in the chicken wire fence?		X	
c. Have any fenceposts been damaged or their anchoring weakened?		X	
d. Is the gate intact and functional?	X		
e. Does the gate show evidence of tampering or damage?		X	
f. Was the gate locked?	X		
g. Are any of the use restriction signs damaged or missing?		X	
h. Are all use restriction signs legible?	X		
i. How many use restriction signs need to be replaced?		0	
3. Waste unit cover (Western portion, "ax"):	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		X	
b. Is there evidence of cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of human intrusion onto the cover?		X	
e. Is there evidence of large animal intrusion onto the cover?		X	
f. Is there evidence of animal burrowing?	X		MINOR BURROWING NOTED, NO REPAIRS REQUIRED
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		X	
h. Other (including trash, debris, etc within fenced area)?		X	NA



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater**

4. Waste unit cover (Eastern portion, "bl"):	YES	NO	EXPLANATION	Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		X		
b. Is there evidence of cracking?		X		
c. Is there evidence of erosion (wind or water)?		X		
d. Is there evidence of human intrusion onto the cover?		X		
e. Is there evidence of large animal intrusion onto the cover?		X		
f. Is there evidence of animal burrowing?	X		MINOR BURROWING NOTED; NO REPAIR REQUIRED.	
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		X		
h. Other (including trash, debris, etc within fenced area)?		X	NA	
5. Subsidence survey markers and TDR Probes:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have any of the seven (7) subsidence survey markers been disturbed?		X		
b. Do natural processes threaten the integrity of any subsidence survey marker?		X		
c. Is there excessive vegetation around the subsidence survey markers?		X		
d. Is there any evidence that TDR probes have been disturbed or the wires damaged?		X		
e. Other?		X	NA	
6. Photograph Instructions:				
<ul style="list-style-type: none"> <li>A standard set of eight (8) color photographs is required to be taken during each quarterly inspection of CAU 110: <ul style="list-style-type: none"> <li>Four (4) from the center of the unit, one in each compass direction (i.e., N, S, E, W)</li> <li>Four (4) of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W).</li> </ul> </li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> </ul>				
7. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have all photographs been taken as required by the photograph instructions?	X			
b. Has a photograph log been prepared?	X			
c. How many photographs were taken?		8		
d. Other?		X	NA	
<b>E. FIELD CONCLUSIONS</b>				
1. Are more frequent inspections required?		X		
2. Are existing maintenance/repair actions satisfactory?	X			

# **POST-CLOSURE INSPECTION CHECKLIST**

**CAU 110: AREA 3 WMD U-3ax/bl CRATER - CAS 03-23-04: U-3axbl Subsidence Crater**

	YES	NO	EXPLANATION (required if shaded box is checked)
<b>E. FIELD CONCLUSIONS (continued)</b>			
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes cracks or settling imperfections less than 6 inches deep that extend less than 3 feet on the cover)? [minor repairs]		X	If "yes", describe in Field conclusions/recommendations
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 6 inches deep and 3 feet long) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations: <u>FENCE AND SIGNS WERE IN GOOD CONDITION. SMALL BURGLES AT VARIOUS LOCATIONS, BUT NONE THAT REQUIRE REPAIR. ONE SMALL AREA OF SUBSIDENCE WAS NOTED IN THE INNER FENCED LOCATION ON THE EAST SIDE. NO REPAIR REQUIRED AT THIS TIME, BUT THE AREA SHOULD BE CHECKED AT THE NEXT INSPECTION.</u>			

**F. CERTIFICATION**

I have conducted an inspection of CAU 110, Area 3 WMD U-3ax/bl Crater, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Tom Thiele

Date: 6/19/12

Printed Name: TOM THIELE

Title: P.M.

**Required Attachments:**

- Field Notes
- Photos (or note File Location: S:\NTS\ER Share\PHOTOS\CAU 110\2012\06-19-2012 CAU 110 INSPECTION)

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

**G. VERIFICATION**

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date: 6/26/12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



## POST-CLOSURE INSPECTION CHECKLIST

CAU 110, AREA 3 WMD U-3AX/BL CRATER – CAS 03-23-04, U-3AXBL SUBSIDENCE CRATER

Inspection Date and Time: 9/13/12 11:20

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 6/19/12

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca King

Title: Project Mgr

Assistant Inspector: Reed Podersis

Title: Mgr

## A. GENERAL INSTRUCTIONS

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.
- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

## B. PREPARATION (To be completed prior to the site visit)

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?		✓	
2. Were maintenance or repair activities performed since the last inspection?		✓	
a. If yes, has repair resulted in a change from as-built conditions?		NA	✓
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?		NA	✓

## C. SITE INSPECTION (To be completed during the site visit)

1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		✓	
2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to the gate or gate lock?		✓	
b. Is there damage to or a break in the fence?		✓	
c. Have any fenceposts been damaged or their anchoring weakened?		✓	
d. Is there damage to or a break in the chicken wire fence?		✓	
e. Are all use restriction signs legible?	✓		
f. Are any use restriction signs damaged or missing?		✓	
g. How many damaged or missing signs need to be replaced?		0	
h. Are any use restriction signs down or loose?		✓	
i. How many down or loose signs need to be re-hung?		0	
j. Do any Underground Radioactive Material Area signs need to be replaced or re-hung?		✓	
k. Is there damage to any of the subsidence survey markers?		✓	

## POST-CLOSURE INSPECTION CHECKLIST

CAU 110, AREA 3 WMD U-3AX/BL CRATER – CAS 03-23-04, U-3AXBL SUBSIDENCE CRATER

1. Is there any evidence that TDR probes have been disturbed or the wires damaged?		✓	
m. Is there trash or other debris within the fenced area?		✓	
3. Waste Unit Cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	✓		one area of subsidence on east end - requires repair
b. Is there evidence of erosion (wind or water)?		✓	
c. Is there evidence of human intrusion onto the site?		✓	
d. Is there evidence of large animal intrusion onto the site?		✓	
e. Is there evidence of animal burrowing?	✓		minor - no action required
f. Is there a change in the vegetation growing on the cover?	✓		distressed - no action required
Photograph Instructions:			
<ul style="list-style-type: none"> <li>The following photographs must be taken during each inspection: <ul style="list-style-type: none"> <li>Four from the center of the unit, one in each compass direction (i.e., N, S, E, W)</li> <li>Four of the unit from outside the fence, one in each compass direction (i.e., N, S, E, W)</li> </ul> </li> <li>Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.</li> <li>Photographs will be filed electronically.</li> </ul>			
4. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have all required photographs of the site been taken?	✓		
D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Is general housekeeping or minor repair (including cracks or settling imperfections less than 6 inches deep that extend less than 3 feet on the cover) required?		✓	
2. Are there deficiencies that require a remedy other than general housekeeping or minor repair? (For example, are there cracks greater than 6 inches deep and 3 feet long on the cover?) Maintenance or repairs of cracks or settling imperfections greater than 6 inches deep and 3 feet long on the cover shall be completed within 60 days of discovery.	✓		
3. Is there an imminent hazard to the integrity of the landfill cover?		✓	
4. Field Conclusions/Recommendations: Fencing, signage, TDR probes, SURVEY, RAK markers in good condition. Vegetation stressed and 9/13/12 minor burrowing - no action required. Cover has one area of subsidence - meets criteria of repair within 60 days.			
E. CERTIFICATION: I have conducted this inspection in accordance with the post-closure requirements as recorded on this checklist and attachments.			
Chief Inspector's Signature: /s/ Rebecca King			Date: 9/13/12
F. VERIFICATION: I have reviewed this checklist and attachments and have verified that they are complete.			
Signature: /s/ Reed Poderis			Date: 9/20/12
Printed Name: Thomas A. Thiele (or designee)			

## **CORRECTIVE ACTION UNIT 111 INSPECTION CHECKLISTS**

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## POST-CLOSURE INSPECTION CHECKLIST

**CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits**

Inspection Date and Time: <u>3/29/12</u> <u>12:40</u>	Reason for Inspection: <u>Quarterly</u>
Date of Last Post-Closure Inspection: <u>NA</u>	Reason for Last Post-Closure Inspection: <u>NA</u>
Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: <u>Rebecca King</u>	Title: <u>Project Manager</u>
Assistant Inspector: <u>Reed Podersis</u>	Title: <u>Manager</u>
Organization: Environmental Restoration	

### A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 111 dated 2/15/2012).
- All documentation must be legible and clear.

B. PREPARATION (To be completed prior to site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Have the post-closure requirements been reviewed?	✓		
2. Have the previous inspection reports been reviewed?		✓	<u>This is the first inspection</u>
a. Were anomalies or trends detected on previous inspections?		✓	
b. Was maintenance performed?		✓	
3. Have the site maintenance and repair records been reviewed?		✓	<u>This is the first inspection</u>
a. If so, has site repair resulted in a change from as-built conditions?			NA ✓
b. If yes (to 3a), are revised as-built plans available that reflect repair changes?			NA ✓

### C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- a. Camera, digital storage drive, and extra batteries
- b. Keys to locks
- c. Clipboard
- d. Tape measure
- e. Radio, pager, etc.
- f. Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- g. Other miscellaneous support equipment

### D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

# POST-CLOSURE INSPECTION CHECKLIST

## CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Monuments and signs:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have any sign posts been damaged or their anchoring weakened?		✓	
b. Have any monuments been damaged?		✓	
c. Are any of the use restriction signs damaged or missing?		✓	
d. Are all use restriction signs legible?	✓		
e. How many use restriction signs need to be replaced?		0	
3. Waste unit covers:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		✓	
h. Other (including trash, debris, etc within landfill boundary)?			NA ✓
4. Photograph Instructions:			
<ul style="list-style-type: none"> <li>Photographs should be taken to document maintenance/repair needs at the site.</li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>			
5. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have photographs been taken of the site?	✓		
b. Has a photograph log been prepared?	✓		
c. How many photographs were taken?		32	
d. Other?			NA ✓
E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		

# POST-CLOSURE INSPECTION CHECKLIST

CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes cracks or settling imperfections less than 15 centimeters deep that extend less than 1 meter on the cover)? [minor repairs]		✓	If "yes", describe in Field conclusions/recommendations
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 15 centimeters deep and 1 meter long) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		✓	If "yes", describe in Field conclusions/recommendations
5. Will necessary repairs change the as-built condition of the unit?		✓	
6. Field conclusions/recommendations: <i>Walked several transects of all cover sections and boundary. All covers in good condition. Seeded vegetation currently, under irrigation is beginning to sprout. Signs, monuments and cover slopes are all in good condition. No issues</i>			

## F. CERTIFICATION

I have conducted this inspection in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.

Chief Inspector's Signature: /s/ Rebecca King

Date: 3/29/12

Printed Name: Rebecca King

Title: Project Manager

## G. VERIFICATION

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date: 4/9/2012

Printed Name: Thomas A. Thiele (or designee)



## POST-CLOSURE INSPECTION CHECKLIST

CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits

Inspection Date and Time: 6/26/2012

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 3/29/2012

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Reed Poderis

Title: PM

Organization: Environmental Restoration

Assistant Inspector: Brian Forskett

Title: RCT

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 111 dated 2/15/2012).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Have the post-closure requirements been reviewed?

✓

2. Have the previous inspection reports been reviewed?

✓

a. Were anomalies or trends detected on previous inspections?

✓

b. Was maintenance performed?

✓

3. Have the site maintenance and repair records been reviewed?

NA

None

a. If so, has site repair resulted in a change from as-built conditions?

NA

✓

b. If yes (to 3a), are revised as-built plans available that reflect repair changes?

NA

✓

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

## D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.



# POST-CLOSURE INSPECTION CHECKLIST

## CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓		
2. Monuments and signs:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have any sign posts been damaged or their anchoring weakened?		✓		
b. Have any monuments been damaged?		✓		
c. Are any of the use restriction signs damaged or missing?		✓		
d. Are all use restriction signs legible?	✓			
e. How many use restriction signs need to be replaced?	0			
3. Waste unit covers:	YES	NO	EXPLANATION { Required if shaded box is checked. If checked, specify dimensions, quantity, and/or other information to describe conditions.	
a. Is there evidence of settling?		✓		
b. Is there evidence of cracking?		✓		
c. Is there evidence of erosion (wind or water)?		✓		
d. Is there evidence of human intrusion onto the cover?		✓		
e. Is there evidence of large animal intrusion onto the cover?		✓		
f. Is there evidence of animal burrowing?		✓		
g. Is there a change or difference in vegetation (i.e., is the vegetation growing on the cover inconsistent with the naturally-occurring vegetation growing outside of the unit)?		✓		
h. Other (including trash, debris, etc within landfill boundary)?		✓	NA	
4. Photograph Instructions:				
<ul style="list-style-type: none"> <li>Photographs should be taken to document maintenance/repair needs at the site.</li> <li>In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed.</li> <li>Additional photographs may also be taken.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>				
5. Photograph Documentation:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have photographs been taken of the site?	✓			
b. Has a photograph log been prepared?	✓			
c. How many photographs were taken?	12			
d. Other?		✓	NA	
E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)	
1. Are more frequent inspections required?		✓		
2. Are existing maintenance/repair actions satisfactory?	✓			

# POST-CLOSURE INSPECTION CHECKLIST

CAU 111: Area 5 WMD Retired Mixed Waste Pits - CAS 05-21-01: Mixed Waste Pits

E. FIELD CONCLUSIONS (continued)	YES	NO	EXPLANATION (required if shaded box is checked)
3. Are general housekeeping (i.e., "minor") maintenance/repair actions needed (includes cracks or settling imperfections less than 15 centimeters deep that extend less than 1 meter on the cover)? [minor repairs]		✓	If "yes", describe in Field conclusions/recommendations
4. Are there any deficiencies that require a remedy other than general housekeeping or small (less than 15 centimeters deep and 1 meter long) cracks or settling imperfections of the cover? [i.e., more than "minor repairs"]		✓	If "yes", describe in Field conclusions/recommendations
5. Will necessary repairs change the as-built condition of the unit?		✓	
6. Field conclusions/recommendations: <u>NO issues identified. There is significantly more vegetation growing on the upper north cover than the others. Also Area 5 was notified of an apparent leaking irrigation unit on the lower north cover.</u>			
F. CERTIFICATION			
I have conducted this inspection in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photographs, and photograph logs.			
Chief Inspector's Signature: /s/ Reed Poderis		Date: 6/26/12	
Printed Name: Reed J. Poderis		Title: Project Manager	
G. VERIFICATION			
I have reviewed this checklist and attachments and have verified that it is complete.			
Signature: /s/ Thomas Thiele		Date: 7/9/12	
Printed Name: Thomas A. Thiele (or designee)			

## POST-CLOSURE INSPECTION CHECKLIST

**CAU 111, AREA 5 WMD RETIRED MIXED WASTE PITS – CAS 05-21-01, MIXED WASTE PITS**

Inspection Date and Time: <u>8/23/2012 13<sup>00</sup></u>	Reason for Inspection: <u>Precip</u>
If this inspection is for a rain event, date of event: <u>8/22/2012</u>	Quantity of Rainfall: <u>1.18</u> inches
Date of Last Post-Closure Inspection: <u>6/26/2012</u>	Reason for Last Post-Closure Inspection: <u>Quarterly</u>
Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: <u>Reed Polaris</u>	Title: <u>PM</u>
Assistant Inspector: <u>Brian Konrad</u>	Title: <u>Field Sup</u>

### A. GENERAL INSTRUCTIONS

- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

### B. PREPARATION (To be completed prior to site visit)

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Were maintenance or repair activities performed since the last inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
a. If yes, has repair resulted in a change from as-built conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NA
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NA

### C. SITE INSPECTION

*The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. Complete this checklist during the site inspection.*

1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are all use restriction signs legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Are any use restriction signs damaged or missing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. How many damaged or missing signs need to be replaced?		<u>0</u>	
d. Are any use restriction signs down or loose?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	One UR sign + 2 pad signs down/loose on west side of west cover
e. How many down or loose signs need to be re-hung?	<u>1 UR</u> <u>2 Rad</u>	<input type="checkbox"/>	
f. Is there damage to any of the monuments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	two monuments toppled, need to re-set.
3. Waste Unit Covers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Is there evidence of erosion (wind or water)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	many erosion rills on cover slopes some greater than 6"
c. Is there evidence of human intrusion onto the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Is there evidence of large animal intrusion or animal burrowing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



## POST-CLOSURE INSPECTION CHECKLIST

**CAU 111, AREA 5 WMD RETIRED MIXED WASTE PITS – CAS 05-21-01, MIXED WASTE PITS**

e. Is there a change in the vegetation growing on the cover?

✓

f. Is there trash or debris on the cover?

✓

**Photograph Instructions:**

- Standard photographs must be taken during each inspection.
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.

**4. Photograph Documentation:**

YES

NO

EXPLANATION (required if shaded box is checked)

a. Have photographs of the site been taken?

✓

b. How many photos were taken?

23

c. Has a photograph log been prepared?

File Location: S:\NTS\ER Share\Photos\CAU 111\

08-23-2012 CAU 111 Precip Inspection

**D. FIELD CONCLUSIONS**

YES

NO

EXPLANATION (required if shaded box is checked)

1. Are more frequent inspections required?

✓

2. Are existing maintenance/repair actions satisfactory?

NA

3. Is general housekeeping or minor repair (including cracks or settling imperfections less than 15 centimeters deep that extend less than 1 meter on the cover) required?

✓

many locations of erosion rills to be filled.

4. Are there deficiencies that require a remedy other than general housekeeping or minor repair? (For example, are there cracks greater than 15 centimeters deep and 1 meter long on the cover?)

✓

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

✓

6. Field Conclusions/Recommendations: Signs on west end to be re-hung. Erosion rills throughout on cover slopes to be filled. Need to evaluate drainage ditches for potential silting up.

**E. CERTIFICATION:** I have conducted this inspection in accordance with the Post-Closure Plan as recorded on this checklist and attachments.

Chief Inspector's Signature: /s/ Reed Poderis

Date: 8/24/2012

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

Signature: /s/ Thomas Thiele

Date: 8/24/12

Printed Name: Thomas A. Thiele (or designee)



## POST-CLOSURE INSPECTION CHECKLIST

## CAU 111, AREA 5 WMD RETIRED MIXED WASTE PITS – CAS 05-21-01, MIXED WASTE PITS

Inspection Date and Time: 9/13/12 9am	Reason for Inspection: Quarterly
If this inspection is for a rain event, date of event:	Quantity of Rainfall: inches
Date of Last Post-Closure Inspection: 8/23/12	Reason for Last Post-Closure Inspection: Precip.
Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada	
Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project	
Chief Inspector: Rebecca King	Title: Proj. Mgr
Assistant Inspector: Reed Poderis	Title: Mgr

## A. GENERAL INSTRUCTIONS

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist. Complete this checklist during the site inspection.
- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

B. PREPARATION (To be completed prior to the site visit)	YES	NO	EXPLANATION (required if shaded box is checked)
1. Were anomalies or trends detected on previous inspections?		✓	
2. Were maintenance or repair activities performed since the last inspection?		✓	
a. If yes, has repair resulted in a change from as-built conditions?		NA	✓
b. If yes (to 4a), are revised as-built plans available that reflect repair changes?		NA	✓

## C. SITE INSPECTION (To be completed during the site visit)

1. Adjacent Offsite Features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or offsite features that could potentially affect the site?		✓	
2. Site Markers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are all use restriction signs legible?	✓		
b. Are any use restriction signs damaged or missing?		✓	
c. How many damaged or missing signs need to be replaced?		0	
d. Are any use restriction signs down or loose?	✓		1 down
e. How many down or loose signs need to be re-hung?		1	
f. Is there damage to any of the monuments?	✓		2 down
3. Waste Unit Covers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?	✓		north corner has N-S fracture ~ 200 ft long
b. Is there evidence of erosion (wind or water)?	✓		Rills on cover slopes
c. Is there evidence of human intrusion onto the site?		✓	
d. Is there evidence of large animal intrusion onto the site?		✓	

## POST-CLOSURE INSPECTION CHECKLIST

**CAU 111, AREA 5 WMD RETIRED MIXED WASTE PITS – CAS 05-21-01, MIXED WASTE PITS**

c. Is there evidence of animal burrowing?

✓

f. Is there a change in the vegetation growing on the cover?

✓

g. Is there trash or debris on the cover?

✓

**Photograph Instructions:**

- Standard photographs must be taken during each inspection.
- Photographs should also be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.
- Photographs will be filed electronically.

**4. Photograph Documentation:**

YES

NO

EXPLANATION (required if shaded box is checked)

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

✓

**D. FIELD CONCLUSIONS**

YES

NO

EXPLANATION (required if shaded box is checked)

1. Is general housekeeping or minor repair (including cracks or settling imperfections less than 15 centimeters deep that extend less than 1 meter on the cover) required?

✓

monuments/pills/sign to repair

2. Are there deficiencies that require a remedy other than general housekeeping or minor repair? (For example, are there cracks greater than 15 centimeters deep and 1 meter long on the cover?) Maintenance or repairs of cracks or settling imperfections greater than 15 centimeters deep and 1 meter long on the cover shall be completed within 60 days of discovery. Damaged or missing UR warning signs will be repaired or replaced within 60 days of discovery.

✓

Pills + fracture need Repair

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

✓

4. Field Conclusions/Recommendations: 1 UR sign + 2 monuments need to be Reanchored. Numerous erosion pills on all 4 cones need Repair. 150-200 ft fracture on Upper north cover requires Repair. Rest of site in good condition - vegetation looks good.

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

Chief Inspector's Signature: /s/: Rebecca King

Date: 9/16/12

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

Signature: /s/: Thomas Thiele

Date: 9/20/12

Printed Name: Thomas A. Thiele (or designee)

## **CORRECTIVE ACTION UNIT 112 INSPECTION CHECKLISTS**

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**POST-CLOSURE INSPECTION CHECKLIST****CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**Inspection Date and Time: 12/13/11 12:25Reason for Inspection: QuarterlyDate of Last Post-Closure Inspection: 9/13/11Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca KingTitle: Project Manager

Organization: Environmental Restoration

Assistant Inspector: NATitle: —

Organization: Environmental Restoration

**A. GENERAL INSTRUCTIONS**

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

**B. PREPARATION** (To be completed prior to site visit)

YES

NO

EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

✓

2. Has the Post-Closure Permit application been reviewed?

✓

3. Has the Post-Closure Plan been reviewed?

✓

4. Have the site as-built plans and site base map been reviewed?

✓

5. Have the previous inspection reports been reviewed?

✓

a. Were anomalies or trends detected on previous inspections?

✓

b. Was maintenance performed?

✓

wind blown debris removal

6. Have the site maintenance and repair records been reviewed?

✓

a. If so, has site repair resulted in a change from as-built conditions?

✓

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

✓

NA

**C. SITE INSPECTION PREPARATION**

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		✓	
2. Fences, gates, and signs (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		✓	
b. Have any fenceposts been damaged or their anchoring weakened?		✓	
c. Is the gate intact and functional?	✓		
d. Does the gate show evidence of tampering or damage?		✓	
e. Was the gate locked?	✓		
f. Are any of the use restriction signs damaged or missing?	✓		1 UR sign on East has a loose corner
g. Are all use restriction signs legible?	✓		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA ✓
3. Monuments:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have landfill monuments been disturbed?		✓	
b. Do natural processes threaten the integrity of any landfill monuments?		✓	
c. Is there excessive vegetation around the landfill monuments?		✓	
d. Other?			NA ✓
4. Neutron Access Pads:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have neutron access pads been disturbed?		✓	
b. Are well covers for neutron access tubes broken, lost, or otherwise damaged?		✓	
c. Other?			NA ✓



## POST-CLOSURE INSPECTION CHECKLIST

CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)

5. Waste unit cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is vegetation growing on the cover?		✓	
h. Is there any obvious damage to the cover or plastic liner?		✓	
i. Other (including trash, debris, etc within fenced area)?		NA	✓

## 6. Photograph Instructions:

- Photographs should be taken to document maintenance/repair needs at the site. These will be used to plan maintenance/repair activities and are not intended for use in the post-closure annual report.
- Anomalous features or new features (such as changes in adjacent area land use) should be photographed.
- Other photographs are optional.
- A photograph log entry will be made for each photograph taken.

## 7. Photograph Documentation:

	YES	NO	EXPLANATION
a. Have photographs been taken of the site?	✓		
If yes, how many photos were taken?		2	
If yes, has a photographic log been prepared?	✓		

## E. FIELD CONCLUSIONS

	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Is other maintenance/repair necessary?	✓		If yes, describe below
4. Is there obvious damage to the cover or plastic liner?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

## 6. Field conclusions/recommendations:

Fencing, cover, monuments, and monitoring wells in good condition. One U.R. side on east fence has a loose corner. Vegetation on west near monitoring wells needs to be removed. Place stickers on U.R. signs with

# **POST-CLOSURE INSPECTION CHECKLIST**

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**
**E. FIELD CONCLUSIONS (continued)**

 6. Field conclusions/recommendations (continued): new RCRA permit number. No other issues.
**F. CERTIFICATION**

I have conducted an inspection of CAU 112, Area 23 Hazardous Waste Trenches, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, and field notes.

 Chief Inspector's Signature: /s/ Rebecca King

 Date: 12/13/11

Printed Name:

Rebecca King

Title:

Project Manager
**Required Attachments:**

1. Field Notes (if any)
2. Photos (or note File Location: S:\NTS\ER Share\Photos(CAU 112)2011\12-13-2011\inspection)

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

**G. VERIFICATION**

I have reviewed this checklist and attachments and have verified that it is complete.

 Signature: /s/ Reed Poderis

 Date: 1/3/2012

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**

Inspection Date and Time: 3-13-12 12:15

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 12-13-11

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca King

Title: Project Mgr

Organization: Environmental Restoration

Assistant Inspector:

Title:

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

☒
☐

2. Has the Post-Closure Permit application been reviewed?

☒
☐

3. Has the Post-Closure Plan been reviewed?

☒
☐

4. Have the site as-built plans and site base map been reviewed?

☒
☐

5. Have the previous inspection reports been reviewed?

☒
☐

a. Were anomalies or trends detected on previous inspections?

☐
☒

b. Was maintenance performed?

☒
☐

vegetation removal

6. Have the site maintenance and repair records been reviewed?

☒
☐

a. If so, has site repair resulted in a change from as-built conditions?

☐
☒

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

☐
☒

NA

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**
**D. SITE INSPECTION**

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		<input checked="" type="checkbox"/>	
2. Fences, gates, and signs (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there damage to or a break in the fence?		<input checked="" type="checkbox"/>	
b. Have any fenceposts been damaged or their anchoring weakened?		<input checked="" type="checkbox"/>	
c. Is the gate intact and functional?	<input checked="" type="checkbox"/>		
d. Does the gate show evidence of tampering or damage?		<input checked="" type="checkbox"/>	
e. Was the gate locked?	<input checked="" type="checkbox"/>		
f. Are any of the use restriction signs damaged or missing?		<input checked="" type="checkbox"/>	
g. Are all use restriction signs legible?	<input checked="" type="checkbox"/>		
h. How many use restriction signs need to be replaced?		0	
i. Other?			NA <input checked="" type="checkbox"/>
3. Monuments:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have landfill monuments been disturbed?		<input checked="" type="checkbox"/>	
b. Do natural processes threaten the integrity of any landfill monuments?		<input checked="" type="checkbox"/>	
c. Is there excessive vegetation around the landfill monuments?		<input checked="" type="checkbox"/>	
d. Other?			NA <input checked="" type="checkbox"/>
4. Neutron Access Pads:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Have neutron access pads been disturbed?		<input checked="" type="checkbox"/>	
b. Are well covers for neutron access tubes broken, lost, or otherwise damaged?		<input checked="" type="checkbox"/>	
c. Other?			NA <input checked="" type="checkbox"/>



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**

5. Waste unit cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		✓	
b. Is there evidence of cracking?		✓	
c. Is there evidence of erosion (wind or water)?		✓	
d. Is there evidence of human intrusion onto the cover?		✓	
e. Is there evidence of large animal intrusion onto the cover?		✓	
f. Is there evidence of animal burrowing?		✓	
g. Is vegetation growing on the cover?		✓	
h. Is there any obvious damage to the cover or plastic liner?		✓	
i. Other (including trash, debris, etc within fenced area)?			NA ✓

6. Photograph Instructions:

- Photographs should be taken to document maintenance/repair needs at the site. These will be used to plan maintenance/repair activities and are not intended for use in the post-closure annual report.
- Anomalous features or new features (such as changes in adjacent area land use) should be photographed.
- Other photographs are optional.
- A photograph log entry will be made for each photograph taken.

7. Photograph Documentation:	YES	NO	EXPLANATION
a. Have photographs been taken of the site?	✓		
If yes, how many photos were taken?		1	
If yes, has a photographic log been prepared?	✓		

E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		✓	
2. Are existing maintenance/repair actions satisfactory?	✓		
3. Is other maintenance/repair necessary?		✓	If yes, describe below
4. Is there obvious damage to the cover or plastic liner?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		✓	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)

6. Field conclusions/recommendations: No issues. Site is in good condition

# POST-CLOSURE INSPECTION CHECKLIST

CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)

## E. FIELD CONCLUSIONS (continued)

6. Field conclusions/recommendations (continued):

## F. CERTIFICATION

I have conducted an inspection of CAU 112, Area 23 Hazardous Waste Trenches, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, and field notes.

Chief Inspector's Signature: /s/: Rebecca King

Date: 3-13-2012

Printed Name:

Rebecca King

Title:

Project Mgr

### Required Attachments:

1. Field Notes (if any)

2. Photos (or note File Location: S:\NTS\ER Share\Photos\CAU 112\2012\03-13-2012 Inspection

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

## G. VERIFICATION

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/: Reed Poderis

Date: 3/29/2012

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



# POST-CLOSURE INSPECTION CHECKLIST

**CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)**

Inspection Date and Time: 6/19/12 1315

Reason for Inspection: QUARTERLY

Date of Last Post-Closure Inspection: 3-13-12

Reason for Last Post-Closure Inspection: QUARTERLY

Responsible Entity: NSTec Environmental Restoration, Nevada Test Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: TOM THIELE

Title: P.M.

Organization: Environmental Restoration

Assistant Inspector: RICH PODGERS

Title: P.M.

Organization: Environmental Restoration

## A. GENERAL INSTRUCTIONS

- Complete all checklist items.
- If a SHADED BOX is checked, provide detailed information regarding what was found and/or appropriate references to other documents that have the information (e.g., Maintenance Order Form for CAU 92 dated 2/15/2008).
- All documentation must be legible and clear.

## B. PREPARATION (To be completed prior to site visit)

YES NO EXPLANATION (required if shaded box is checked)

1. Has the Post-Closure Permit been reviewed?

X

2. Has the Post-Closure Permit application been reviewed?

X

3. Has the Post-Closure Plan been reviewed?

X

4. Have the site as-built plans and site base map been reviewed?

X

5. Have the previous inspection reports been reviewed?

X

a. Were anomalies or trends detected on previous inspections?

X

b. Was maintenance performed?

X

6. Have the site maintenance and repair records been reviewed?

X

a. If so, has site repair resulted in a change from as-built conditions?

X

NA

b. If yes (to 6a), are revised as-built plans available that reflect repair changes?

NA

## C. SITE INSPECTION PREPARATION

Assemble the following, as needed, to conduct inspections:

- Camera, digital storage drive, and extra batteries
- Keys to locks
- Clipboard
- Tape measure
- Radio, pager, etc.
- Previous Post-Closure Report, Inspection Checklists, repair records, and as-built plans
- Other miscellaneous support equipment

# POST-CLOSURE INSPECTION CHECKLIST

CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)

## D. SITE INSPECTION

- *The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.* The checklist should be completed during the site inspection.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. Information can take the form of written narrative, sketches, measurements, and annotated site maps, all of which should be placed on additional attachments (if needed) and cross-reference appropriately. Attach the additional pages and number all pages upon completion of the inspection. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

1. Adjacent off-site features:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Are there any new activities or features in the vicinity that could potentially affect the site (e.g., activities that change the flow of surface water or are encroaching the unit)?		X		
2. Fences, gates, and signs (East Fenced Enclosure):	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Is there damage to or a break in the fence?		X		
b. Have any fenceposts been damaged or their anchoring weakened?		X		
c. Is the gate intact and functional?	X			
d. Does the gate show evidence of tampering or damage?		X		
e. Was the gate locked?	X			
f. Are any of the use restriction signs damaged or missing?		X		
g. Are all use restriction signs legible?	X			
h. How many use restriction signs need to be replaced?		0		
i. Other?		X	NA	
3. Monuments:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have landfill monuments been disturbed?		X		
b. Do natural processes threaten the integrity of any landfill monuments?		X		
c. Is there excessive vegetation around the landfill monuments?		X		
d. Other?		X	NA	
4. Neutron Access Pads:	YES	NO	EXPLANATION (required if shaded box is checked)	
a. Have neutron access pads been disturbed?		X		
b. Are well covers for neutron access tubes broken, lost, or otherwise damaged?		X		
c. Other?		X	NA	



# POST-CLOSURE INSPECTION CHECKLIST

## CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)

5. Waste unit cover:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling?		X	
b. Is there evidence of cracking?		X	
c. Is there evidence of erosion (wind or water)?		X	
d. Is there evidence of human intrusion onto the cover?		X	
e. Is there evidence of large animal intrusion onto the cover?		X	
f. Is there evidence of animal burrowing?		X	
g. Is vegetation growing on the cover?		X	
h. Is there any obvious damage to the cover or plastic liner?		X	
i. Other (including trash, debris, etc within fenced area)?			NA X
6. Photograph Instructions:			
<ul style="list-style-type: none"> <li>Photographs should be taken to document maintenance/repair needs at the site. These will be used to plan maintenance/repair activities and are not intended for use in the post-closure annual report.</li> <li>Anomalous features or new features (such as changes in adjacent area land use) should be photographed.</li> <li>Other photographs are optional.</li> <li>A photograph log entry will be made for each photograph taken.</li> </ul>			
7. Photograph Documentation:	YES	NO	EXPLANATION
a. Have photographs been taken of the site?		X	
If yes, how many photos were taken?		0	
If yes, has a photographic log been prepared?		X	
E. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Are more frequent inspections required?		X	
2. Are existing maintenance/repair actions satisfactory?	X		
3. Is other maintenance/repair necessary?		X	If yes, describe below
4. Is there obvious damage to the cover or plastic liner?		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
5. Will necessary repairs change the as-built condition of the unit?		X	If "yes", describe below and the Task Manager must complete the "Follow-up Actions" (not part of checklist)
6. Field conclusions/recommendations:			

# POST-CLOSURE INSPECTION CHECKLIST

CAU 112: AREA 23 HAZARDOUS WASTE TRENCHES - CAS 23-21-02: Area 23 Haz. Waste Trenches (RCRA)

## E. FIELD CONCLUSIONS (continued)

6. Field conclusions/recommendations (continued): NO ISSUES. SITE IS IN GOOD CONDITION.

## F. CERTIFICATION

I have conducted an inspection of CAU 112, Area 23 Hazardous Waste Trenches, in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, and field notes.

Chief Inspector's Signature: /s/ Tom Thiele

Date: 6/19/12

Printed Name: TOM THIELE

Title: P.M.

### Required Attachments:

1. Field Notes (if any)
2. Photos (or note File Location: S:\NTS\ER Share) NO PICTURES WERE TAKEN

**Distribution:** Original – Industrial Sites Project Manager  
Copy – Task Manager

## G. VERIFICATION

I have reviewed this checklist and attachments and have verified that it is complete.

Signature: /s/ Reed Poderis

Date: 6/26/12

Printed Name: Thomas A. Thiele (or designee)

**Distribution:** Original – Task Manager



# POST-CLOSURE INSPECTION CHECKLIST

CAU 112, AREA 23 HAZARDOUS WASTE TRENCHES –  
CAS 23-21-02, AREA 23 HAZ. WASTE TRENCHES (RCRA)

Inspection Date and Time: 9/11/12 12:40

Reason for Inspection: Quarterly

Date of Last Post-Closure Inspection: 6/19/12

Reason for Last Post-Closure Inspection: Quarterly

Responsible Entity: NSTec Environmental Restoration, Nevada National Security Site, Mercury, Nevada

Responsible Facility Owner: Thomas A. Thiele, Project Manager, Industrial Sites, Environmental Restoration Project

Chief Inspector: Rebecca Knig

Title: Project Manager

Assistant Inspector: Thomas Thiele

Title: Project Manager

## A. GENERAL INSTRUCTIONS

- The site inspection is a walking inspection of the entire site including the perimeter and sufficient transects to be able to inspect the entire surface and all features specifically described in this checklist.
- All documentation must be legible and clear. Complete all checklist items.
- If a shaded box is checked, add detailed comments to document the results of the site inspection. Information provided should be of sufficient detail to enable reconstruction of observations regarding field conditions. The completed checklist is part of the field record of the inspection.
- Field notes taken to assist in completion of this checklist will become part of the inspection record. No form is specified for field notes, and additional field notes are not required if the checklist and associated attachments adequately describe site conditions.

## B. PREPARATION (To be completed prior to the site visit)

YES NO EXPLANATION (required if shaded box is checked)

- Were anomalies or trends detected on previous inspections?
- Were maintenance or repair activities performed since the last inspection?
  - If yes, has repair resulted in a change from as-built conditions?
  - If yes (to 4a), are revised as-built plans available that reflect repair changes?

YES NO EXPLANATION (required if shaded box is checked)

## C. SITE INSPECTION (To be completed during the site visit)

### 1. Adjacent Offsite Features:

YES NO EXPLANATION (required if shaded box is checked)

- Are there any new activities or offsite features that could potentially affect the site?

### 2. Site Markers:

YES NO EXPLANATION (required if shaded box is checked)

- Is there damage to the gate or gate lock?
- Is there damage to or a break in the fence?
- Have any fenceposts been damaged or their anchoring weakened?
- Are all use restriction signs legible?
- Are any use restriction signs damaged or missing?
- How many damaged or missing signs need to be replaced?
- Are any use restriction signs down or loose?
- How many down or loose signs need to be re-hung?
- Is there damage to any of the monuments?
- Have neutron access pads been disturbed?
- Are well covers for neutron access tubes broken, lost, or otherwise damaged?

YES NO EXPLANATION (required if shaded box is checked)

bottom string of barbs were off in small section on S. fence

# POST-CLOSURE INSPECTION CHECKLIST

CAU 112, AREA 23 HAZARDOUS WASTE TRENCHES –  
CAS 23-21-02, AREA 23 HAZ. WASTE TRENCHES (RCRA)

3. Waste Unit Covers:	YES	NO	EXPLANATION (required if shaded box is checked)
a. Is there evidence of settling or cracking?		✓	
b. Is there evidence of erosion (wind or water)?		✓	
c. Is there evidence of human intrusion onto the site?		✓	
d. Is there evidence of large animal intrusion onto the site?		✓	
e. Is there evidence of animal burrowing?		✓	
f. Is there vegetation growing on the cover?	✓		minor - watch + check on next inspection
g. Is there trash or debris within the fenced area?		✓	

## Photograph Instructions:

- Photographs should be taken to document maintenance/repair needs, anomalous features, or new features (such as changes in adjacent area land use). These will be used to plan maintenance/repair activities and are not intended for use in the annual post-closure report.
- Other photographs are optional.
- Photographs will be filed electronically.

4. Photograph Documentation:	YES	NO	EXPLANATION
a. Have photographs of the site been taken?		✓	

D. FIELD CONCLUSIONS	YES	NO	EXPLANATION (required if shaded box is checked)
1. Is maintenance/repair necessary?	✓		Reconnect barb wire on S fence
2. Is there an imminent hazard to the integrity of the landfill cover?		✓	

3. Field Conclusions/Recommendations: Small area of fencing barbed wire needs to be repaired. Rest of site in good condition.  
Minor vegetation - check on next inspection

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

Chief Inspector's Signature: /s/: Rebecca King

Date: 9/11/12

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

Signature: /s/: Reed Poderis

Date: 9/13/12

Printed Name: Thomas A. Thiele (or designee)

## **APPENDIX B**

## **PHOTOGRAPHS**



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### PHOTOGRAPH LOG

CORRECTIVE ACTION UNIT	DATE	PHOTOGRAPH NUMBER	DESCRIPTION
90	12/13/2011	1	West Unit Facing North
		2	West Unit Facing East
		3	West Unit Facing South
		4	East Unit Facing South
		5	East Unit Facing West
		6	East Unit Facing North
	06/19/2012	7	West Unit Facing North
		8	West Unit Facing East
		9	West Unit Facing South
		10	East Unit Facing South
		11	East Unit Facing West
		12	East Unit Facing North
91	03/13/2012	13	Inside Facing North
		14	Inside Facing East
		15	Inside Facing South
		16	Inside Facing West
		17	Surface Monument Facing South
		18	Surface Monitoring Well Facing South
		19	Outside Facing North
		20	Outside Facing East
		21	Outside Facing South
		22	Outside Facing West
	09/11/2012	23	Inside Facing North
		24	Inside Facing East
		25	Inside Facing South
		26	Inside Facing West
		27	Outside Facing North
		28	Outside Facing East
		29	Outside Facing South
		30	Outside Facing West

### PHOTOGRAPH LOG

CORRECTIVE ACTION UNIT	DATE	PHOTOGRAPH NUMBER	DESCRIPTION
92	12/13/2011	31	Inside Facing North
		32	Inside Facing East
		33	Inside Facing South
		34	Inside Facing West
		35	Outside Facing North
		36	Outside Facing East
		37	Outside Facing South
		38	Outside Facing West
	03/13/2012	39	Inside Facing North
		40	Inside Facing East
		41	Inside Facing South
		42	Inside Facing West
		43	Outside Facing North
		44	Outside Facing East
		45	Outside Facing South
		46	Outside Facing West
	06/19/2012	47	Inside Facing North
		48	Inside Facing East
		49	Inside Facing South
		50	Inside Facing West
		51	Outside Facing North
		52	Outside Facing East
		53	Outside Facing South
		54	Outside Facing West
	09/13/2012	55	Inside Facing North
		56	Inside Facing East
		57	Inside Facing South
		58	Inside Facing West
		59	Outside Facing North
		60	Outside Facing East
		61	Outside Facing South
		62	Outside Facing West



### PHOTOGRAPH LOG

CORRECTIVE ACTION UNIT	DATE	PHOTOGRAPH NUMBER	DESCRIPTION
110	12/13/2011	63	Inside Facing North
		64	Inside Facing East
		65	Inside Facing South
		66	Inside Facing West
		67	Outside Facing North
		68	Outside Facing East
		69	Outside Facing South
		70	Outside Facing West
	03/13/2012	71	Inside Facing North
		72	Inside Facing East
		73	Inside Facing South
		74	Inside Facing West
		75	Outside Facing North
		76	Outside Facing East
		77	Outside Facing South
		78	Outside Facing West
	06/19/2012	79	Inside Facing North
		80	Inside Facing East
		81	Inside Facing South
		82	Inside Facing West
		83	Outside Facing North
		84	Outside Facing East
		85	Outside Facing South
		86	Outside Facing West
	09/13/2012	87	Inside Facing North
		88	Inside Facing East
		89	Inside Facing South
		90	Inside Facing West
		91	Outside Facing North
		92	Outside Facing East
		93	Outside Facing South
		94	Outside Facing West

### PHOTOGRAPH LOG

CORRECTIVE ACTION UNIT	DATE	PHOTOGRAPH NUMBER	DESCRIPTION
111	03/29/2012	95	Lower North Cover Facing West
		96	Center of Lower North Cover Facing East
		97	Center of South Cover Facing East
		98	Center of Upper North Cover Facing East
		99	Lower North Cover Facing South
		100	Center of West Cover Facing North
		101	South Cover Facing North
		102	Center of South Cover Facing North
		103	Arizona Crossing Facing West
	06/26/2012	104	Lower North Cover Facing Northwest
		105	Center of Lower North Cover Facing East
		106	Center of South Cover Facing East
		107	Upper North Cover Facing East
		108	Lower North Cover Facing South
		109	Center of West Cover Facing North
		110	South Cover Facing North
		111	South Cover Facing Northwest
		112	Arizona Crossing Facing West
	09/13/2012	113	Lower North Cover Facing Northwest
		114	Center of Lower North Cover Facing East
		115	Center of South Cover Facing East
		116	Upper North Cover Facing East
		117	Lower North Cover Facing South
		118	Center of West Cover Facing North
		119	South Cover Facing North
		120	South Cover Facing Northwest
		121	Arizona Crossing Facing West



Photograph 1: CAU 90, West Unit Facing North, 12/13/2011



Photograph 2: CAU 90, West Unit Facing East, 12/13/2011





Photograph 3: CAU 90, West Unit Facing South, 12/13/2011



Photograph 4: CAU 90, East Unit Facing South, 12/13/2011



Photograph 5: CAU 90, East Unit Facing West, 12/13/2011



Photograph 6: CAU 90, East Unit Facing North, 12/13/2011



Photograph 7: CAU 90, West Unit Facing North, 06/19/2012



Photograph 8: CAU 90, West Unit Facing East, 06/19/2012





Photograph 9: CAU 90, West Unit Facing South, 06/19/2012



Photograph 10: CAU 90, East Unit Facing South, 06/19/2012



Photograph 11: CAU 90, East Unit Facing West, 06/19/2012



Photograph 12: CAU 90, East Unit Facing North, 06/19/2012



Photograph 13: CAU 91, Inside Facing North, 03/13/2012



Photograph 14: CAU 91, Inside Facing East, 03/13/2012





Photograph 15: CAU 91, Inside Facing South, 03/13/2012



Photograph 16: CAU 91, Inside Facing West, 03/13/2012



Photograph 17: CAU 91, Surface Monument Facing South, 03/13/2012



Photograph 18: CAU 91, Surface Monitoring Well Facing South, 03/13/2012





Photograph 19: CAU 91, Outside Facing North, 03/13/2012



Photograph 20: CAU 91, Outside Facing East, 03/13/2012



Photograph 21: CAU 91, Outside Facing South, 03/13/2012



Photograph 22: CAU 91, Outside Facing West, 03/13/2012





Photograph 23: CAU 91, Inside Facing North, 09/11/2012



Photograph 24: CAU 91, Inside Facing East, 09/11/2012



Photograph 25: CAU 91, Inside Facing South, 09/11/2012



Photograph 26: CAU 91, Inside Facing West, 09/11/2012



Photograph 27: CAU 91, Outside Facing North, 09/11/2012



Photograph 28: CAU 91, Outside Facing East, 09/11/2012





Photograph 29: CAU 91, Outside Facing South, 09/11/2012



Photograph 30: CAU 91, Outside Facing West, 09/11/2012



Photograph 31: CAU 92, Inside Facing North, 12/13/2011



Photograph 32: CAU 92, Inside Facing East, 12/13/2011



Photograph 33: CAU 92, Inside Facing South, 12/13/2011



Photograph 34: CAU 92, Inside Facing West, 12/13/2011





Photograph 35: CAU 92, Outside Facing North, 12/13/2011



Photograph 36: CAU 92, Outside Facing East, 12/13/2011



Photograph 37: CAU 92, Outside Facing South, 12/13/2011



Photograph 38: CAU 92, Outside Facing West, 12/13/2011



Photograph 39: CAU 92, Inside Facing North, 03/13/2012



Photograph 40: CAU 92, Inside Facing East, 03/13/2012





Photograph 41: CAU 92, Inside Facing South, 03/13/2012



Photograph 42: CAU 92, Inside Facing West, 03/13/2012



Photograph 43: CAU 92, Outside Facing North, 03/13/2012



Photograph 44: CAU 92, Outside Facing East, 03/13/2012



Photograph 45: CAU 92, Outside Facing South, 03/13/2012



Photograph 46: CAU 92, Outside Facing West, 03/13/2012





Photograph 47: CAU 92, Inside Facing North, 06/19/2012



Photograph 48: CAU 92, Inside Facing East, 06/19/2012



Photograph 49: CAU 92, Inside Facing South, 06/19/2012



Photograph 50: CAU 92, Inside Facing West, 06/19/2012



Photograph 51: CAU 92, Outside Facing North, 06/19/2012



Photograph 52: CAU 92, Outside Facing East, 06/19/2012





Photograph 53: CAU 92, Outside Facing South, 06/19/2012



Photograph 54: CAU 92, Outside Facing West, 06/19/2012



Photograph 55: CAU 92, Inside Facing North, 09/13/2012



Photograph 56: CAU 92, Inside Facing East, 09/13/2012



Photograph 57: CAU 92, Inside Facing South, 09/13/2012



Photograph 58: CAU 92, Inside Facing West, 09/13/2012





Photograph 59: CAU 92, Outside Facing North, 09/13/2012



Photograph 60: CAU 92, Outside Facing East, 09/13/2012



Photograph 61: CAU 92, Outside Facing South, 09/13/2012



Photograph 62: CAU 92, Outside Facing West, 09/13/2012



Photograph 63: CAU 110, Inside Facing North, 12/13/2011



Photograph 64: CAU 110, Inside Facing East, 12/13/2011





Photograph 65: CAU 110, Inside Facing South, 12/13/2011



Photograph 66: CAU 110, Inside Facing West, 12/13/2011



Photograph 67: CAU 110, Outside Facing North, 12/13/2011



Photograph 68: CAU 110, Outside Facing East, 12/13/2011



Photograph 69: CAU 110, Outside Facing South, 12/13/2011



Photograph 70: CAU 110, Outside Facing West, 12/13/2011





Photograph 71: CAU 110, Inside Facing North, 03/13/2012



Photograph 72: CAU 110, Inside Facing East, 03/13/2012



Photograph 73: CAU 110, Inside Facing South, 03/13/2012



Photograph 74: CAU 110, Inside Facing West, 03/13/2012



Photograph 75: CAU 110, Outside Facing North, 03/13/2012



Photograph 76: CAU 110, Outside Facing East, 03/13/2012





Photograph 77: CAU 110, Outside Facing South, 03/13/2012



Photograph 78: CAU 110, Outside Facing West, 03/13/2012



Photograph 79: CAU 110, Inside Facing North, 06/19/2012



Photograph 80: CAU 110, Inside Facing East, 06/19/2012



Photograph 81: CAU 110, Inside Facing South, 06/19/2012



Photograph 82: CAU 110, Inside Facing West, 06/19/2012





Photograph 83: CAU 110, Outside Facing North, 06/19/2012



Photograph 84: CAU 110, Outside Facing East, 06/19/2012



Photograph 85: CAU 110, Outside Facing South, 06/19/2012



Photograph 86: CAU 110, Outside Facing West, 06/19/2012



Photograph 87: CAU 110, Inside Facing North, 09/13/2012



Photograph 88: CAU 110, Inside Facing East, 09/13/2012





Photograph 89: CAU 110, Inside Facing South, 09/13/2012



Photograph 90: CAU 110, Inside Facing West, 09/13/2012



Photograph 91: CAU 110, Outside Facing North, 09/13/2012



Photograph 92: CAU 110, Outside Facing East, 09/13/2012



Photograph 93: CAU 110, Outside Facing South, 09/13/2012



Photograph 94: CAU 110, Outside Facing West, 09/13/2012





Photograph 95: CAU 111, Lower North Cover Facing West, 03/29/2012



Photograph 96: CAU 111, Center of Lower North Cover Facing East, 03/29/2012



Photograph 97: CAU 111, Center of South Cover Facing East, 03/29/2012



Photograph 98: CAU 111, Center of Upper North Cover Facing East, 03/29/2012



Photograph 99: CAU 111, Lower North Cover Facing South, 03/29/2012



Photograph 100: CAU 111, Center of West Cover Facing North, 03/29/2012





Photograph 101: CAU 111, South Cover Facing North, 03/29/2012



Photograph 102: CAU 111, Center of South Cover Facing North, 03/29/2012



Photograph 103: CAU 111, Arizona Crossing Facing West, 03/29/2012



Photograph 104: CAU 111, Lower North Cover Facing Northwest, 06/26/2012



Photograph 105: CAU 111, Center of Lower North Cover Facing East, 06/26/2012





Photograph 106: CAU 111, Center of South Cover Facing East, 06/26/2012



Photograph 107: CAU 111, Upper North Cover Facing East, 06/26/2012



Photograph 108: CAU 111, Lower North Cover Facing South, 06/26/2012



Photograph 109: CAU 111, Center of West Cover Facing North, 06/26/2012



Photograph 110: CAU 111, South Cover Facing North, 06/26/2012



Photograph 111: CAU 111, South Cover Facing Northwest, 06/26/2012





Photograph 112: CAU 111, Arizona Crossing Facing West, 06/26/2012



Photograph 113: CAU 111, Lower North Cover Facing Northwest, 09/13/2012



Photograph 114: CAU 111, Center of Lower North Cover Facing East, 09/13/2012



Photograph 115: CAU 111, Center of South Cover Facing East, 09/13/2012



Photograph 116: CAU 111, Upper North Cover Facing East, 09/13/2012





Photograph 117: CAU 111, Lower North Cover Facing South, 09/13/2012



Photograph 118: CAU 111, Center of West Cover Facing North, 09/13/2012



Photograph 119: CAU 111, South Cover Facing North, 09/13/2012



Photograph 120: CAU 111, South Cover Facing Northwest, 09/13/2012



Photograph 121: CAU 111, Arizona Crossing Facing West, 09/13/2012



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