Area 2 Bitcutter and Post-Shot Injection Wells Corrective Action Unit 90 Post-Closure Inspection Annual Report
DISCLAIMER STATEMENT
Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the U.S. Government or any agency thereof or its contractors or subcontractors.

AVAILABILITY STATEMENT

Available for sale to the public from—
U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Phone: 800.553.6847
Fax: 703.605.6900
Email: orders@ntis.fedworld.gov
Online ordering: http://www.ntis.gov/ordering.htm

Available electronically at http://www.doe.gov.bridge

Available for a processing fee to U.S. Department of Energy and its contractors, in paper, from—
U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062
Phone: 865.576.8401
Fax: 865.576.5728
Email: reports@adonis.osti.gov
AREA 2 BITCUTTER AND POST-SHOT INJECTION WELLS CORRECTIVE ACTION UNIT 90 POST-CLOSURE INSPECTION ANNUAL REPORT

September 2001

Prepared for the U.S. Department of Energy National Nuclear Security Administration
Nevada Operations Office
under contract No. DE-AC08-96NV11718
AREA 2 BITCUTTER AND POST-SHOT INJECTION WELLS CORRECTIVE ACTION UNIT 90 POST-CLOSURE INSPECTION ANNUAL REPORT

Approved By:  
Jaquet L. Appenzeller-Wing, Project Manager  
Industrial Sites Project

Date: 9/14/01

Approved By:  
Runore C. Wycoff, Division Director  
Nevada Environmental Restoration Project

Date: 9/14/01
THIS PAGE INTENTIONALLY LEFT BLANK
INTRODUCTION

Area 2 Bitcutter and Post-Shot Containment Wells Corrective Action Unit (CAU) 90 Post-Closure Monitoring requirements are described in § VII.B.8.b of the Nevada Test Site Resource Conservation and Recovery Act Permit for a Hazardous Waste Management Facility No. NEV HW009, reissued November 20, 2000, Revision 4.

Post-closure care consists of the following:

- Semiannual inspections of the unit using an inspection checklist.
- Photographic documentation.
- Field note documentation.
- Preparation and submittal of an annual report.

The report includes copies of the inspection checklist, photographs, and recommendations and conclusions. The Post-Closure Inspection Checklists are found in Attachment A, a copy of the field notes is found in Attachment B, and a copy of the inspection photographs is found in Attachment C.

RESULTS OF THE INSPECTIONS

The first inspection for the 2001 post-closure monitoring at CAU 90 was performed on December 27, 2000. Between July and December of 2000, small animal burrows were periodically backfilled and vegetation removed from the units. No problems were noted during the December inspection, and no further maintenance or repairs were recommended.

The second inspection for the 2001 post-closure monitoring was performed on June 18, 2001. Between January and June of 2001, several animal burrows were backfilled and small vegetation was removed from the units. No problems were noted during the June inspection, and no further maintenance or repairs were recommended.

RECOMMENDATIONS AND CONCLUSIONS

The overland runoff is being properly diverted around the site. There is no evidence of drainage or erosion through the site. Inspectors should continue to backfill small animal burrows and remove vegetation from the unit. There are no significant modifications or repairs that are foreseeable in the near future.
ATTACHMENT A

INSPECTION CHECKLISTS
AREA 2, BITCUTTER & POSTSHOT INJECTION WELLS, POST-CLOSURE INSPECTION CHECKLIST

Date of Last Post-Closure Inspection: 6/29/2000
Reason for Last Post-Closure Inspection: Semi-annual

Responsible Agency: Bechtel Nevada Environmental Restoration
Program Manager: Wayne Johnson, Project Manager

Inspection Date: 12/27/2000 at 9:00

Inspector (name, title, organization): James Traynor, Associate Scientist, BN-Environmental Restoration
Assistant Inspector (name, title, organization): Dennis Gustafson, Senior Scientist, BN-Environmental Restoration

A. GENERAL INSTRUCTIONS
1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is made. Attach the additional pages and number all pages upon completion of the inspection.

3. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector’s rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, annotated site maps.

4. 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.

5. A standard set of color 35mm photographs is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.

6. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

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

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Site as-built plans and site base map reviewed.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Previous inspection reports reviewed.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>a. Were anomalies or trends detected on previous inspections?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b. Was maintenance performed?</td>
<td>Minor vegetation was removed</td>
<td></td>
</tr>
<tr>
<td>3. Site maintenance and repair records reviewed.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>a. Has site repair resulted in a change from as-built conditions?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b. Are revised as-builts available that reflect repair changes?</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

C. SITE INSPECTION (To be completed during inspection)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adjacent off-site features within watershed areas.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>a. Have there been any changes in use of adjacent area?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b. Are there any new roads or trails?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c. Has there been a change in the position of nearby washes?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>d. Has there been lateral excursion or erosion/deposition of nearby washes?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e. Are there new drainage channels?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>f. Change in surrounding vegetation?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Security fence, signs.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>a. Displacement of fences, site markers, boundary markers, or monuments?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b. Have any signs been damaged or removed? (Number of signs replaced: 1)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c. Were gates locked?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### AREA 2, BITCUTTER & POSTSHOT INJECTION WELLS, POST-CLOSURE INSPECTION CHECKLIST

#### 3. Waste Unit covers.

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is there evidence of settling?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b. Is there cracking?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c. Is there evidence of erosion around the cap (wind or water)?</td>
<td>X</td>
<td></td>
<td>Minor, backfilled during inspection</td>
</tr>
<tr>
<td>d. Is there evidence of animal burrowing?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Have the site markers been disturbed by man or natural processes?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Do natural processes threaten the integrity of any cover or site marker?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Other (including trash and debris in or around unit)?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4. Photo Documentation

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Has a photo log been prepared?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>c. Number of photos exposed</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

#### D. FIELD CONCLUSIONS

1. Is there an imminent hazard to the integrity of the unit? (Immediate report required) | X  |

Person/Agency to whom report made:

2. Are more frequent inspections required? | X  |

3. Are existing maintenance/repair actions satisfactory? | X  |

4. Is other maintenance/repair necessary? | X  |

5. Rationale for field conclusions:

There is no evidence of erosion, cracking, or any type of deterioration. CONCLUSION: No repairs or maintenance needed. Conduct inspections on normal schedule and as needed after unusual weather conditions.

#### E. CERTIFICATION

I have conducted an inspection of the Area 2 Bitcutter & Postshot Shop Containment Injection Wells, Corrective Action Unit 90, at the NTS in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: [Signature]

Printed Name: James Traynor

Title: Associate Scientist

Date: 12/27/2000
AREA 2, BITCUTTER & POSTSHOT INJECTION WELLS, POST-CLOSURE INSPECTION CHECKLIST

Date of Last Post-Closure Inspection: 12/27/2000  
Reason for Last Post-Closure Inspection: Semi-annual

Responsible Agency: Bechtel Nevada Environmental Restoration  
Program Manager: Wayne Johnson, Project Manager

Inspector (name, title, organization): James Traynor, Associate Scientist, BN- Environmental Restoration

Assistant Inspector (name, title, organization):

A. GENERAL INSTRUCTIONS
1. All checklist items must be completed and detailed comments made to document the results of the site inspection. The completed checklist is part of the field record of the inspection. Additional pages should be used as necessary to ensure that a complete record is made. Attach the additional pages and number all pages upon completion of the inspection.
2. Any checklist line item marked by an inspector in a SHADED BOX, must be fully explained or an appropriate reference to previous reports provided. The purpose of this requirement is to provide a written explanation of inspector observations and the inspector's rationale for conclusions and recommendations. Explanations are to be placed on additional attachments and cross-referenced appropriately. Explanations, in addition to narrative, will take the form of sketches, measurements, annotated site maps.
3. 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.
4. A standard set of color 35mm photographs is required. In addition, all anomalous features or new features (such as changes in adjacent area land use) are to be photographed. A photo log entry will be made for each photograph taken.
5. This unit will be inspected biannually with formal reporting to the Nevada Division of Environmental Protection to be done annually. The annual report will include an executive summary, this inspection checklist with field notes and photo log attached, and recommendations and conclusions.

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

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

1. Site as-built plans and site base map reviewed.
2. Previous inspection reports reviewed.
   a. Were anomalies or trends detected on previous inspections? X
   b. Was maintenance performed? X
3. Site maintenance and repair records reviewed.
   a. Has site repair resulted in a change from as-built conditions? X
   b. Are revised as-builts available that reflect repair changes? N/A

C. SITE INSPECTION (To be completed during inspection)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

1. Adjacent off-site features within watershed areas.
   a. Have there been any changes in use of adjacent area? X
   b. Are there any new roads or trails? X
   c. Has there been a change in the position of nearby washes? X
   d. Has there been lateral excursion or erosion/deposition of nearby washes? X
   e. Are there new drainage channels? X
   f. Change in surrounding vegetation? X
2. Security fence, signs.
   a. Displacement of fences, site markers, boundary markers, or monuments? X
   b. Have any signs been damaged or removed? (Number of signs replaced: ) X
   c. Were gates locked? X
## AREA 2, BITCUTTER & POSTSHOT INJECTION WELLS, POST-CLOSURE INSPECTION CHECKLIST

### 3. Waste Unit covers.
- a. Is there evidence of settling? **X**
- b. Is there cracking? **X**
- c. Is there evidence of erosion around the cap (wind or water)? **X**
- d. Is there evidence of animal burrowing? **X**
- e. Have the site markers been disturbed by man or natural processes? **X**
- f. Do natural processes threaten the integrity of any cover or site marker? **X**
- g. Other (including trash and debris in or around unit)? **X**

### 4. Photo Documentation
- a. Has a photo log been prepared? **X**
- c. Number of photos exposed ( 6 )

### D. FIELD CONCLUSIONS
1. Is there an imminent hazard to the integrity of the unit? (Immediate report required) **X**
   - Person/Agency to whom report made:
2. Are more frequent inspections required? **X**
3. Are existing maintenance/repair actions satisfactory? **X**
4. Is other maintenance/repair necessary? **X**
5. Rationale for field conclusions:
   - There is no evidence of erosion, cracking, or any type of deterioration.

CONCLUSION: No repairs or maintenance needed. Conduct inspections on normal schedule and as needed after unusual weather conditions. No issues or concerns.

### E. CERTIFICATION
I have conducted an inspection of the Area 2 Bitcutter & Postshot Shop Containment Injection Wells, Corrective Action Unit 90, at the NTS in accordance with the procedures of the Post-Closure Permit (including the Post-Closure Plan) as recorded on this checklist, attached sheets, field notes, photo logs, and photographs.

Chief Inspector's Signature: [Signature]
Printed Name: James Traynor
Title: Associate Scientist
Date: 06/18/2001
ATTACHMENT B

FIELD NOTES
9:00 Arrived on site. Weather: cool & breezy

Caps: Some animal burrows backfilled during inspection.

Monuments: good

Sights: good

Other: none

Photo #1 Looking north from east unit
#2 Looking north from west unit
#3 Looking south from west unit
#4 Looking west from east unit
#5 Looking east from west unit
#6 Looking south from east unit

Conclusions/Recommendations: Continue inspections as scheduled.
**8:30** Arrived on site  
Weather: hot & calm

Caps: good  
Monuments: good  
Signs: good

Fencing: good  
Other: None

Photos:

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Direction</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Looking north</td>
<td>From east unit</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Looking north</td>
<td>From west unit</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Looking south</td>
<td>From west unit</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Looking west</td>
<td>From east unit</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Looking east</td>
<td>From west unit</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Looking south</td>
<td>From east unit</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusions/Recommendation:**

Unit in good condition  
Continue inspections as scheduled.
ATTACHMENT C

PHOTOGRAPHS
<table>
<thead>
<tr>
<th>PHOTO NUMBER</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12/27/2000</td>
<td>View looking north from east unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12/27/2000</td>
<td>View looking north from west unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>12/27/2000</td>
<td>View looking south from west unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>12/27/2000</td>
<td>View looking west from east unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12/27/2000</td>
<td>View looking east from west unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>12/27/2000</td>
<td>View looking south from east unit.</td>
</tr>
<tr>
<td></td>
<td>6/18/2001</td>
<td></td>
</tr>
</tbody>
</table>
DISTRIBUTION LIST

*Provide copy of initial distribution of Revision 0; remainder of list gets Revision 0 if approved without changes. The entire list receives Revision 1, if issued.

Nevada Department of Environmental Protection

Paul Liebendorfer 2 (Controlled) *
Bureau of Federal Facilities
Division of Environmental Protection
333 W. Nye Lane, Room 13B
Carson City, NV 89706-0866

Mike McKinnon, Las Vegas Office 1 (Controlled) *
Bureau of Federal Facilities
Division of Environmental Protection
555 E. Washington, Suite 4300
Las Vegas, NV 89101-1049

U.S. Department of Energy

Janet Appenzeller-Wing 1 (Uncontrolled) *
Environmental Restoration Division
U.S. Department of Energy
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Sabine Curtis 1 (Uncontrolled) *
Environmental Restoration Division
U.S. Department of Energy
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518

Sabrina Lawrence 1 (Controlled) *
Environmental Restoration Division
U.S. Department of Energy
National Nuclear Security Administration
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518
DISTRIBUTION LIST (Continued)

U.S. Department of Energy (continued)

U.S. Department of Energy
National Nuclear Security Administration
Technical Information Resource Center
P.O. Box 98521 M/S 505
Las Vegas, NV 89193-8521

1 (Uncontrolled)

U.S. Department of Energy
Office of Scientific and Technical Information
175 Oak Ridge Turnpike
P.O. Box 62
Oak Ridge, TN 37831-0062

1 (Uncontrolled, electronic copy)

U.S. Department of Energy
Public Reading Room
P.O. Box 98521 M/S NLV 040
Las Vegas, NV 89193-8521

1 (Controlled) &
1 (Uncontrolled)

FFACO Public Reading Room Coordinator
IT Corporation
P.O. Box 93838
Las Vegas, NV 89193

1 (Controlled) &
1 (Uncontrolled, to Northern Nevada FFACO Public Reading Room)

Bechtel Nevada

Correspondence Control
Bechtel Nevada
P.O. Box 98521 M/S NLV008
Las Vegas, NV 89193-8521

1 (Uncontrolled) *

Environmental Management Library
Bechtel Nevada
P.O. Box 98521 M/S NLV080
Las Vegas, NV 89193-8521

1 (Uncontrolled) *

Ann Heidema
Bechtel Nevada
P.O. Box 98521 M/S NLV022
Las Vegas, NV 89193-8521

1 (Uncontrolled) *
**DISTRIBUTION LIST (Continued)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Address</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wayne Johnson</td>
<td></td>
<td>Bechtel Nevada P.O. Box 98521 M/S NTS306</td>
<td>1 (Uncontrolled) *</td>
</tr>
<tr>
<td>Steve Nacht</td>
<td></td>
<td>Bechtel Nevada P.O. Box 98521 M/S NTS306</td>
<td>1 (Uncontrolled) *</td>
</tr>
<tr>
<td>Jeff Smith</td>
<td></td>
<td>Bechtel Nevada P.O. Box 98521 M/S NTS306</td>
<td>1 (Uncontrolled) *</td>
</tr>
<tr>
<td>Daniel Tobiason</td>
<td></td>
<td>Bechtel Nevada P.O. Box 98521 M/S NTS306</td>
<td>1 (Uncontrolled) *</td>
</tr>
<tr>
<td>James Traynor</td>
<td></td>
<td>Bechtel Nevada P.O. Box 98521 M/S NTS306</td>
<td>1 (Uncontrolled) *</td>
</tr>
<tr>
<td>Lynn Kidman</td>
<td></td>
<td>IT Corporation P.O. Box 93838</td>
<td>1 (Uncontrolled) *</td>
</tr>
</tbody>
</table>