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Accession #: D196023624

Document #: SD-WM-ATR-111

Title/Desc:
ROTARY MODE CORE SAMPLING SERVICE TRAILER ACCEPTANCE TEST REPORT

Pages: 60
2. To: (Receiving Organization)  
Characterization Plant Engineering

3. From: (Originating Organization)  
Characterization Equipment Improvement

5. Proj./Prog./Dest./Div.:  
ETN-94-0023-E

6. Cog. Engr.:  
J.L. Smalley

8. Originator Remarks:  
The attached Acceptance Test Report documents compliance with the requirements stated in WHC-S-056 Rev.2. Please review and approve by the requested date.

11. Receiver Remarks:

15. DATA TRANSMITTED

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<th>(B) Document/Drawing No.</th>
<th>(C) Sheet No.</th>
<th>(D) Rev. No.</th>
<th>(E) Title or Description of Data Transmitted</th>
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<th>Reason for Transmittal</th>
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18. A.J. Kostelnik  
Signature of EDT  
Date  
Originator

19.  
TO:  
Authorized Representative for Receiving Organization

20.  
Date  
Significant Manager

21. DOE APPROVAL (if required)  
Ctrl. No.  
[ ] Approved  
[ ] Approved w/comments  
[ ] Disapproved w/comments
ROTARY MODE CORE SAMPLING SERVICE TRAILER ACCEPTANCE TEST REPORT

ALOIS J. KOSTELNIK
WESTINGHOUSE HANFORD COMPANY, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

EDT/ECN: 612068     UC: 2070
Org Code: 75230     Charge Code: N4H2B
B&R Code: EJN 2074     Total Pages: 58

Key Words: ETN-94-0023-E, Core Sampling, Service Trailer, Specification WHC-S-056, Aluminum Body Corporation, ABC, Purchase Order 404878, Core Sampling Ancillary Equipment

Abstract: This Acceptance Test Report documents compliance with the requirements of specification WHC-S-056. The equipment was tested according to WHC-SD-WM-ATP-111 Rev.1.

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Approved for Public Release

A-6400-073 (10/95) GEF321
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SUMMARY

APPENDIX A (ATP results for Trailer SN 1M9GV323R1217191)  Page A1

APPENDIX B (ATP results for Trailer SN 1M0GV323R1217190)  Page B1

APPENDIX C (NEC Inspection Results)  Page C1

APPENDIX D (Receipt Inspection Report)  Page D1
SUMMARY

The test was performed at the Aluminum Body Corporation (ABC) facility in Montebello, CA. Two Acceptance Tests were performed on the trailers. All steps and exceptions were completed during the second test. The initial release of the ATP, prepared by ABC, was confusing to work through. To improve the ATP, it was revised prior to the second attempt. The first ATP was attempted when the trailers were not complete and identified several deficiencies. The initial NEC Inspection also discovered several items that needed repair. The mechanical deficiencies and the electrical systems were repaired and were acceptable for the final inspection.

The attached Appendix A contains the Acceptance Test Results for Trailer SN 1M9GV3325R1217191. Appendix B contains the Acceptance Test Results for Trailer SN 1M9GV3323R1217190. Appendix C contains the two Internal Memos from Electrical Power Systems Engineering which include the NEC Inspection results for both Trailers. Appendix D includes the Platform Weld inspection results and Receipt Inspection Reports for both Trailers.
2. ECN Category (mark one)
   - Supplemental
   - Direct Revision (X)
   - Change ECN
   - Temporary
   - Standby
   - Supersede
   - Cancel/ Void

3. Originator's Name, Organization, MSIN, and Telephone No.
   Alois Kostelnik, 71510, RI-17, 373-0788

4. Date
   November 28, 1994

5. Project Title/No./Work Order No.
   Rotary Mode Core Sample Truck ETN-94-0023-E

   200 General

7. Impact Level
   Q

8. Document Numbers Changed by this ECN (includes sheet no. and rev.)
   WHC-SD-WM-ATP-111 Rev. 0

9. Related ECN No(s).
   N/A

10. Related PO No.
    404878

11a. Modification Work
     [ ] Yes (fill out Blk. 11b)
     [X] No (NA Blks. 11b, 11c, 11d)

11b. Work Package No.
     N/A

11c. Modification Work Complete
     N/A

11d. Restored to Original Condition (Temp. or Standby ECN only)
     N/A

12. Description of Change
    ETN-94-0023-E

    Complete revision of ATP.

13a. Justification (mark one)
     - Criteria Change
     - Design Improvement
     - Environmental

     As-found
     - Facilitate Const.
     - Const. Error/Omission
     - Design Error/Omission

13b. Justification Details
    The original ATP was too difficult to follow in an earlier attempt at testing.

14. Distribution (include name, MSIN, and no. of copies)
    - AJ Kostelnik RI-17 (1) R Robert G4-05 (1)
    - AP Mousel S6-85 (1) JJ Verberber S1-57 (1)
    - JL Smalley RI-17 (1) BR Johns S6-85 (1)
    - CENTRAL FILES L8-04 (1) OSTI L8-07 (2)

RELEASE STAMP
OFFICIAL RELEASE BY WHO
DATE DEC 01 1994
## ENGINEERING CHANGE NOTICE

### 15. Design Verification Required
- [x] Yes
- [ ] No

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### 18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

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### 19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

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<td>7-28-94</td>
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RELEASE AUTHORIZATION

Document Number: WHC-SD-WM-ATP-111, REV.1

Document Title: Rotary Mode Core Sampling Service Trailer Acceptance Test Plan

Release Date: December 1, 1994

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

[Signature]

Kara M. Broz

December 1, 1994

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Springfield, VA 22161
Telephone: (703) 487-4650
<p>| 2. Title | Rotary Mode Core Sampling Service Trailer Acceptance Test Plan |
| 3. Number | WHC-SD-WM-ATP-111 |
| 4. Rev No. | 1 |
| 5. Key Words | ETN-94-0023-E Core Sampling, Service Trailer, WHC-S-056, Aluminum Body Corporation, ABC, Purchase Order 404878, Core Sampling Auxiliary Equipment |
| 6. Author | Alois J Kostelnik |
| | Signature |
| | Organization/Charge Code 71510 / N4X81 |
| 7. Abstract | This Acceptance Test Procedure (ATP) will document compliance with the requirements of specification WHC-S-056 Rev.2 including ECNs 608798 and 616386. The equipment being tested is a furniture type trailer with storage cabinets, lighting and HVAC systems installed. The unit was purchased as a Design and Fabrication procurement activity. The ATP be performed by representatives of the Westinghouse Hanford Company with the assistance of the Seller at the Seller's location. |
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| 9. Impact Level | Q |
| 10. RELEASE STAMP | OFFICIAL RELEASE BY NHC DATE DEC 01 1994 |</p>
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TEST EXCEPTIONS .......................................................... 8
1.0 SCOPE

This Acceptance Test Procedure shall verify the requirements for the fabrication of a Service Trailer as defined in WHC-S-056 are met. The Service Trailer will be used in conjunction with the Rotary Mode Core Sampling Truck.

2.0 TEST PERFORMANCE

Westinghouse Hanford Company (WHC) will complete the following test with the assistance of Aluminum Body Corporation (ABC) personnel. WHC personnel shall perform the inspection portion of the test. All steps will be completed and any exceptions shall be noted on the attached exception sheet along with the resolution. Only one exception shall be listed on an exception sheet. ABC shall resolve all exceptions with the concurrence of WHC.

3.0 TEST RECORDS

The original test record shall be maintained by WHC. Copies of all documents which are referenced during testing which document requirement compliance or exceptions shall be retained as part of the test results.

4.0 APPLICABLE DOCUMENTS

The following documents, form a part of the Basis of Design defined in specification WHC-S-056. Applicable sections of the document referenced shall be considered for acceptance of the finished item.

4.1 Government Documents

49 CFR Code of Federal Regulations (Federal Motor Carrier Regulations)

29 CFR Code of Federal Regulations (Occupational Safety and Health Act Standards)

4.2 Non-Government Documents

NFPA 70 National Electrical Code (1993)

4.3 Any document determined to be a record of an agreement between the buyer and seller may be referenced and a copy shall be included in this acceptance test results.
5.0 INSPECTION and OPERABILITY

**Exception #1 5.1** The trailer is identified per the manufacturer's standard markings, as a minimum they shall include the manufacturer's name, model number, serial number, empty trailer weight, maximum payload, and date of fabrication. Record the manufacturer name, manufacture date, model and serial numbers of the trailer.

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5.2 The trailer is a van trailer, (furniture type), in accordance with all applicable OSHA Standards, and 49CFR, Sections 390 through 397.

5.3 The external dimensions of the trailer are nominally 33 feet long, 8 feet wide, and 11 feet overall high. The trailer has a drop deck. The upper deck is 8 feet long minimum.

5.4 The trailer has a minimum payload capacity of 25,000 lbs.

5.5 The trailer is equipped with a 2-1/2 inch king pin set at 30 inches. Off loading front support consists of a manually operated, multi-speed, landing gear with sand pads. Demonstrate operation of each.

5.6 The trailer is equipped with running lights, air suspension air brakes and all typical features required for normal road travel and speeds. Demonstrate that brake lights, clearance lights, and turn lights function.

5.7 Two (2) manually operated, 2-speed stabilization jacks are mounted on the rear corners. The jacks are for stationary trailer use only and must be retractable higher than the bottom of the wheel rim. Demonstrate operation of each.

5.8 Two rear panel type doors, side hinged, providing a total minimum width opening of 90% of the trailer width is provided. The minimum height of the door opening is 7 feet. The edge of the doors and doorway is edged with steel to provide structural reinforcement against minor impact. The locking mechanism is releasable from the inside and outside. Demonstrate door release operation.

**Exception #2 5.9** One 36 inch wide curbside, solid, door is located near the front of the trailer. The door is right side hinged and slam lockable with inside/outside lock releases. Demonstrate door release operation.
Locks are supplied to lock the trailer doors when not in use.

Lightweight retractable steps and platform extends across the back of the trailer. Removable handrails are incorporated on both sides of the platform and steps. Handrails are 42" high. Demonstrate rear steps and platform can be folded up and anchored to provide for over the road travel.

Steps and platform are provided for the curbside door. Handrails are incorporated on both sides of the steps. Handrails are 42" high. Steps and platform for the curbside door can be fastened to the trailer and are removable. Handrails are removable.

The inside and outside walls and roof are a minimum of 0.040 inch thick, white, prepainted aluminum. The finish is in good condition.

The flooring is commercial grade, steel safety plate, 1/8 inch minimum thickness.

All seams and penetrations of the trailer have been adequately sealed. Verify roof penetrations will not leak when water is present.

The underside of the trailer is undercoated.

The exterior walls, roof, and floor is insulated with a minimum of 1-1/4 inch polystyrene (styrofoam, R-4/inch) or other material of equal R value.

Three (3) horizontal interior wall fixture support beams are equally spaced on the interior walls. Beams are hardwood, 1"x4" nominal size. Beams are fastened to each vertical stud with bolts.

Two (2) sealed skylights are installed, sized not to interfere with the air condition/heater or interior fluorescent lighting. Located on top of trailer near the front and rear.

A manually operated roof vent is approximately in the center of the trailer. Demonstrate operation of the roof vent.

One (1) cable reel with 4/C #6 W cable is mounted on the front of the trailer. Cable has an Appleton # ACP-1034CD plug. The cable is 225 feet in length ±25 feet. The reel has a manual hand crank to retract the cable.
The following cabinets are mechanically fastened to the trailer, constructed of steel and painted. All doors and drawers have mechanical latching. The dimensions contained in this section are nominal.

5.22.1 One open top work bench, 60" long x 24" wide x 34" high. Steel legs, hardwood top, back and side tabletop stops. A pegboard is mounted on the wall behind the work bench. Pegboard is perforated masonite, 48" high x 60" wide 1/4" thick with 9/32" holes on 1" straight centers.

5.22.2 Two steel, seven drawer cabinets, 28 inches wide x 22 inches deep. Two bottom drawers 7 inches deep, 4 upper drawers 5-1/2 inches deep, and one top drawer 2-1/2 inches deep.

5.22.3 One steel, five drawer cabinet, 28 inches wide x 22 inches deep. Four lower drawers 11 inches deep and one top drawer 7 inches deep.

5.22.4 One steel, two door combination cabinet, 36 inches wide x 18 inches deep x 6 feet high. Left half is a wardrobe with a top shelf, right half has six shelves.

5.22.5 One steel, two door cabinet, 36 inches wide x 18 inches deep x 6 feet minimum high with five shelves.

5.22.6 Three metal shelves 3 feet wide x 6 feet minimum high x 18 inches deep. Spacing between each shelf is to be a maximum of 1 foot. A 3 inch high retaining strip is on the bottom of each shelf.

Two (2) external roll supports are installed nominally 36" wide with 2" diameter support tube.

Three external roll supports are installed nominally 60" wide with 2" diameter support tube.

Two (2) Type A/B/C fire extinguishers, minimum 20 lbs, are mounted inside trailer at floor level near each door.

A 240 VAC, 1Ø, 3 ton capacity electric air condition/heater is installed and is operational. The air conditioner/heater is thermostatically regulated with no outside to inside air exchange. Verify operation for 15 minutes in both cooling and heating mode.

The fluorescent light fixtures have been installed as shown on the sketches contained in WHC-S-056. Demonstrate operation of lighting and controls.
5.28 External floodlights: five (5) 300 watt floodlights are installed. Four of the lights are mounted on the sides of the trailer on telescoping shafts extendable to 6 feet above the top of the trailer. The lights are positioned to distribute light evenly. The fifth light is centered over the rear of the trailer at a fixed height. Demonstrate height adjustment, operation, and removal/installation of the lights.

5.29 Electrical fixtures and outlets are installed and wired approximately as shown on the sketches contained in WHC-S-056.

5.30 All electrical installations conform to the latest edition of the National Electrical Code. Electrical components are UL approved.

5.31 Any fasteners with headmarks matching those on the U. S. Customs Fasteners Headmark list contained in WHC-S-056 are not used on this contract.

5.32 Review/compare the drawings provided by the Seller with the equipment for As-Built configuration.

5.33 All steps of the ATP have been completed and the Exceptions have been dispositioned.

Exceptions 1-4.
TEST EXCEPTIONS

TEST STEP # 5.1  EXCEPTION # 1

DESCRIPTION of EXCEPTION and RESOLUTION

Empty Trailer Weight Not Included on Manufacturer
Label. ASK 12-5-94. Empty trailer weight
meta abnormal requirement on the ID plate
RED 12-5-94

EXCEPTION and RESOLUTION CONCURRENCE:

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<tr>
<td>Dick Anderson</td>
<td>ABC</td>
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* Make additional copies as required.
TEST EXCEPTIONS

TEST STEP # 5.9  EXCEPTION # 2

DESCRIPTION of EXCEPTION and RESOLUTION

Door is not slam lockable. All, 12-5-94
Slam locks on trailer doors are not used for safety reasons. A positive door latch on the top and bottom of the door frame is required to prevent doors opening during transit. All, 12-5-94

---

EXCEPTION and RESOLUTION CONCURRENCE:

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<td>Dick Anderson</td>
<td>ABC</td>
<td>Dick Anderson</td>
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* Make additional copies as required.
TEST EXCEPTIONS

TEST STEP # 5.10 EXCEPTION # 3

DESCRIPTION of EXCEPTION and RESOLUTION

Locks are not provided. All 12-5-94.

Padlocks will be provided when training is

shipped. All 12-5-94


EXCEPTION and RESOLUTION CONCURRENCE:

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* Make additional copies as required.
TEST EXCEPTIONS

TEST STEP # 5.23  EXCEPTION # 4

DESCRIPTION of EXCEPTION and RESOLUTION

Roll support pipe / rods not installed. A/K 12-5-94

Completed. No Action Required. A/K 12-5-94

EXCEPTION and RESOLUTION CONCURRENCE:

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* Make additional copies as required.
Complete revision of ATP.

The original ATP was too difficult to follow in an earlier attempt at testing.
### Engineering Change Notice

**Page 2 of 2**

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#### 18. Change Impact Review

Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

- **SOD/DD:** [ ] Seismic/Stress Analysis [ ] Tank Calibration Manual [ ]
- **Functional Design Criteria:** [ ] Stress/Design Report [ ] Health Physics Procedure [ ]
- **Operating Specification:** [ ] Interface Control Drawing [ ] Soars Multiple Unit Listing [ ]
- **Criticality Specification:** [ ] Calibration Procedure [ ] Test Procedures/Specification [ ]
- **Conceptual Design Report:** [ ] Installation Procedure [ ] Component Index [ ]
- **Equipment Spec.:** [ ] Maintenance Procedure [ ] ASME Coded Item [ ]
- **Const. Spec.:** [ ] Engineering Procedure [ ] Human Factor Consideration [ ]
- **Procurement Spec.:** [ ] Operating Instruction [ ] Computer Software [ ]
- **Vendor Information:** [ ] Operating Procedure [ ] Electric Circuit Schedule [ ]
- **OM Manual:** [ ] Operational Safety Requirements [ ] ICRS Procedure [ ]
- **FSAR/SAR:** [ ] EPR Drawing [ ] Process Control Manual/Plan [ ]
- **Safety Equipment List:** [ ] Cell Arrangement Drawing [ ] Process Flow Chart [ ]
- **Radiation Work Permit:** [ ] Essential Material Specification [ ] Purchase Request [X]
- **Environmental Impact Statement:** [ ] Fac. Proc. Semp. Schedule [ ]
- **Environmental Report:** [ ] Inspection Plan [ ]
- **Environmental Permit:** [ ] Inventory Adjustment Request [ ]

#### 19. Other Affected Documents

*(NOTE: Documents listed below will not be revised by this ECN.)*

- Document Number/Revision
- Document Number/Revision
- Purchase Requisition 404878

#### 20. Approvals

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<td>1/21/94</td>
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<td></td>
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## RELEASE AUTHORIZATION

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<td>Release Date:</td>
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This document was reviewed following the procedures described in WHC-CM-3-4 and is:

**APPROVED FOR PUBLIC RELEASE**

**WHC Information Release Administration Specialist:**

[Signature]

December 1, 1994

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5285 Port Royal Road
Springfield, VA 22161
Telephone: (703) 487-6500
## SUPPORTING DOCUMENT

### 2. Title
Rotary Mode Core Sampling Service Trailer
Acceptance Test Plan

### 5. Key Words
ETN-94-0023-E
Core Sampling, Service Trailer, WHC-S-056,
Aluminum Body Corporation, ABC, Purchase Order
404878, Core Sampling Auxiliary Equipment

### 7. Abstract
This Acceptance Test Procedure (ATP) will document compliance with the requirements of specification WHC-S-056 Rev.2 including ECNs 608798 and 616386. The equipment being tested is a furniture type trailer with storage cabinets, lighting and HVAC systems installed. The unit was purchased as a Design and Fabrication procurement activity. The ATP be performed by representatives of the Westinghouse Hanford Company with the assistance of the Seller at the Seller's location.

### 8. PURPOSE AND USE OF DOCUMENT
This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

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Record of Revision

(2) Title
Rotary Mode Core Sampling Service Trailer Acceptance Test Plan

CHANGE CONTROL RECORD

(3) Revision (4) Description of Change - Replace, Add, and Delete Pages (5) Cog. Engr. (6) Cog. Mgr. Date
0 EDT 609603 11/1/94 JL Smalley RJ Blanchard
1 Complete revision per ECN 618304 AR 12-1-94 JL Smalley RJ Blanchard

A-7320-005 (08/91) WEF168
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1.0 SCOPE ................................................................. 3
2.0 TEST PERFORMANCE .................................................. 3
3.0 TEST RECORDS ......................................................... 3
4.0 APPLICABLE DOCUMENTS ............................................. 3
5.0 INSPECTION and OPERABILITY ...................................... 4
TEST EXCEPTIONS .......................................................... 8
1.0 SCOPE

This Acceptance Test Procedure shall verify the requirements for the fabrication of a Service Trailer as defined in WHC-S-056 are met. The Service Trailer will be used in conjunction with the Rotary Mode Core Sampling Truck.

2.0 TEST PERFORMANCE

Westinghouse Hanford Company (WHC) will complete the following test with the assistance of Aluminum Body Corporation (ABC) personnel. WHC personnel shall perform the inspection portion of the test. All steps will be completed and any exceptions shall be noted on the attached exception sheet along with the resolution. Only one exception shall be listed on an exception sheet. ABC shall resolve all exceptions with the concurrence of WHC.

3.0 TEST RECORDS

The original test record shall be maintained by WHC. Copies of all documents which are referenced during testing which document requirement compliance or exceptions shall be retained as part of the test results.

4.0 APPLICABLE DOCUMENTS

The following documents, form a part of the Basis of Design defined in specification WHC-S-056. Applicable sections of the document referenced shall be considered for acceptance of the finished item.

4.1 Government Documents

49 CFR Code of Federal Regulations (Federal Motor Carrier Regulations)

29 CFR Code of Federal Regulations (Occupational Safety and Health Act Standards)

4.2 Non-Government Documents

NFPA 70 National Electrical Code (1993)

4.3 Any document determined to be a record of an agreement between the buyer and seller may be referenced and a copy shall be included in this acceptance test results.
5.0 ININSPECTION and OPERABILITY

Exception 1 5.1 The trailer is identified per the manufacturer's standard markings, as a minimum they shall include the manufacturer's name, model number, serial number, empty trailer weight, maximum payload, and date of fabrication. Record the manufacturer name, manufacture date, model and serial numbers of the Trailer.

<table>
<thead>
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5.2 The trailer is a van trailer, (furniture type), in accordance with all applicable OSHA Standards, and 49CFR, Sections 390 through 397.

5.3 The external dimensions of the trailer are nominally 33 feet long, 8 feet wide, and 11 feet overall high. The trailer has a drop deck. The upper deck is 8 feet long minimum.

5.4 The trailer has a minimum payload capacity of 25,000 lbs.

5.5 The trailer is equipped with a 2-1/2 inch king pin set at 30 inches. Off loading front support consists of a manually operated, multi-speed, landing gear with sand pads. Demonstrate operation of each.

5.6 The trailer is equipped with running lights, air suspension air brakes and all typical features required for normal road travel and speeds. Demonstrate that brake lights, clearance lights, and turn lights function.

5.7 Two (2) manually operated, 2-speed stabilization jacks are mounted on the rear corners. The jacks are for stationary trailer use only and must be retractable higher than the bottom of the wheel rim. Demonstrate operation of each.

5.8 Two rear panel type doors, side hinged, providing a total minimum width opening of 90% of the trailer width is provided. The minimum height of the door opening is 7 feet. The edge of the doors and doorway is edged with steel to provide structural reinforcement against minor impact. The locking mechanism is releasable from the inside and outside. Demonstrate door release operation.

Exception 2 5.9 One 36 inch wide curbside, solid, door is located near the front of the trailer. The door is right side hinged and slam lockable with inside/outside lock releases. Demonstrate door release operation.
Exception 3 5.10 Locks are supplied to lock the trailer doors when not in use.

5.11 Lightweight retractable steps and platform extends across the back of the trailer. Removable handrails are incorporated on both sides of the platform and steps. Handrails are 42" high. Demonstrate rear steps and platform can be folded up and anchored to provide for over the road travel.

5.12 Steps and platform are provided for the curbside door. Handrails are incorporated on both sides of the steps. Handrails are 42" high. Steps and platform for the curbside door can be fastened to the trailer and are removable. Handrails are removable.

5.13 The inside and outside walls and roof are a minimum of 0.040 inch thick, white, prepainted aluminum. The finish is in good condition.

5.14 The flooring is commercial grade, steel safety plate, 1/8 inch minimum thickness.

5.15 All seams and penetrations of the trailer have been adequately sealed. Verify roof penetrations will not leak when water is present.

5.16 The underside of the trailer is undercoated.

5.17 The exterior walls, roof, and floor is insulated with a minimum of 1-1/4 inch polystyrene (styrofoam, R-4/inch) or other material of equal R value.

5.18 Three (3) horizontal interior wall fixture support beams are equally spaced on the interior walls. Beams are hardwood, 1"x4" nominal size. Beams are fastened to each vertical stud with bolts.

5.19 Two (2) sealed skylights are installed, sized not to interfere with the air condition/heater or interior fluorescent lighting. Located on top of trailer near the front and rear.

5.20 A manually operated roof vent is approximately in the center of the trailer. Demonstrate operation of the roof vent.

5.21 One (1) cable reel with 4/C #6 W cable is mounted on the front of the trailer. Cable has an Appleton # ACP-1034CO plug. The cable is 225 feet in length ±25 feet. The reel has a manual hand crank to retract the cable.
5.22 The following cabinets are mechanically fastened to the trailer, constructed of steel and painted. All doors and drawers have mechanical latching. The dimensions contained in this section are nominal.

5.22.1 One open top work bench, 60" long x 24" wide x 34" high. Steel legs, hardwood top, back and side tabletop stops. A pegboard is mounted on the wall behind the work bench. Pegboard is perforated masonite, 48" high x 60" wide 1/4" thick with 9/32" holes on 1" straight centers.

5.22.2 Two steel, seven drawer cabinets, 28 inches wide x 22 inches deep. Two bottom drawers 7 inches deep, 4 upper drawers 5-1/2 inches deep, and one top drawer 2-1/2 inches deep.

5.22.3 One steel, five drawer cabinet, 28 inches wide x 22 inches deep. Four lower drawers 11 inches deep and one top drawer 7 inches deep.

5.22.4 One steel, two door combination cabinet, 36 inches wide x 18 inches deep x 6 feet high. Left half is a wardrobe with a top shelf, right half has six shelves.

5.22.5 One steel, two door cabinet, 36 inches wide x 18 inches deep x 6 feet minimum high with five shelves.

5.22.6 Three metal shelves 3 feet wide x 6 feet high minimum x 18 inches deep. Spacing between each shelf is to be a maximum of 1 foot. A 3 inch high retaining strip is on the bottom of each shelf.

Exception 5.23 Two (2) external roll supports are installed nominally 36" wide with 2" diameter support tube.

Exception 5.24 Three external roll supports are installed nominally 60" wide with 2" diameter support tube.

5.25 Two (2) Type A/B/C fire extinguishers, minimum 20 lbs, are mounted inside trailer at floor level near each door.

5.26 A 240 VAC, 10, 3 ton capacity electric air condition/heater is installed and is operational. The air conditioner/heater is thermostatically regulated with no outside to inside air exchange. Verify operation for 15 minutes in both cooling and heating mode.

5.27 The fluorescent light fixtures have been installed as shown on the sketches contained in WHC-S-056. Demonstrate operation of lighting and controls.
5.28 External floodlights: five (5) 300 watt floodlights are installed. Four of the lights are mounted on the sides of the trailer on telescoping shafts extendable to 6 feet above the top of the trailer. The lights are positioned to distribute light evenly. The fifth light is centered over the rear of the trailer at a fixed height. Demonstrate height adjustment, operation, and removal/installation of the lights.

5.29 Electrical fixtures and outlets are installed and wired approximately as shown on the sketches contained in WHC-S-056.

5.30 All electrical installations conform to the latest edition of the National Electrical Code. Electrical components are UL approved.

5.31 Any fasteners with headmarks matching those on the U. S. Customs Fasteners Headmark list contained in WHC-S-056 are not used on this contract.

5.32 Review/compare the drawings provided by the Seller with the equipment for As-Built configuration.

5.33 All steps of the ATP have been completed and the Exceptions have been dispositioned.

Exceptions 1-4.
TEST EXCEPTIONS

TEST STEP # 5.1  EXCEPTION # 1

DESCRIPTION of EXCEPTION and RESOLUTION

Empty Trailer Weight Not Included on Manufacturer label. A/K 12-5-94. Empty trailer weight not a normal requirement on the ID plate. A/K 12-5-94.

EXCEPTION and RESOLUTION CONCURRENCE:

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* Make additional copies as required.
TEST EXCEPTIONS

TEST STEP # 5.9  EXCEPTION # 2

DESCRIPTION of EXCEPTION and RESOLUTION

Door is not slam lockable. Allegedly, 12-5-94
Slam locks on trailer doors are not used for safety reasons. A positive door latch on the top and bottom of the door frame is required to prevent door opening during transit. 12-5-94

EXCEPTION and RESOLUTION CONCURRENCE:

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* Make additional copies as required.
**TEST EXCEPTIONS**

**TEST STEP # 5.10 EXCEPTION # 3**

DESCRIPTION of EXCEPTION and RESOLUTION

blocks are not provided. All 12-5-94
Padlocks will be provided when teacher is
shipped. 12-5-94

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TEST EXCEPTIONS

TEST STEP # 3.23  EXCEPTION # 4

DESCRIPTION of EXCEPTION and RESOLUTION

Roll support pipe/rods not installed. AK 12-5-94

Completed. No Action Required. AK 12-5-94

EXCEPTION and RESOLUTION CONCURRENCE:

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* Make additional copies as required.
December 5, 1994, a visit was made to the Aluminum Body Corporation to determine the acceptability of two trailers assembled by them for use at Hanford.

The items of concern, noted in the November 12 memo to you have all been satisfactorily corrected. The heat and air conditioners have been operated at full potential for 15 minutes each. There were no remarkable events during the heat and air conditioner testing.

A change was made at their facility before the units were approved for shipment. A 40 amp breaker supplying outdoor 240 volt receptacles was replaced with a 20 amp breaker. This now provides the proper protection for the receptacles and branch circuit wiring.

I noted this change on the electrical drawing along with a change of the equipment ground as shown on the same drawing. I have not verified the electrical drawing changes were made.

The appearance and workmanship of the corrections was greatly improved from that noted during my last visit. I concur with your decision to accept these units for use.

C. M. Monasmith
WHC NEC Interpretive Authority
tjm
The inspection of two trailers assembled by Aluminum Body Corporation, 1600 West Washington Avenue, Montebello, California was performed at their facility. One trailer, identified as MacLander model number 33, serial number 1M9GV3323R1217190, was ready for inspection. This report is intended to provide guidance to correct deficiencies in the inspected trailer and to reduce the impact of changes to the remaining trailer.

The investigation revealed three areas where corrections are required before the units should be accepted for use by WHC.

These three areas are: air conditioner installation, wiring methods and grounding. A fourth area of concern will be described in this report. However, this area is only of concern from the standpoint of maintenance and final appearances. The items noted in the fourth section are not required to be corrected and are only mentioned to provide forewarning for persons performing maintenance or other similar tasks on this equipment. The 1993 edition of National Electrical Code (NEC) was used for all code references.

Description of equipment inspected

A trailer designed to be towed by a semi-tractor has been modified by Aluminum Body Corporation to be used as a "command center" for sampling equipment in the tank farms. The trailer is fitted with a cord reel and two hundred feet of type W power cable to be supplied by an 80 amp breaker on a generator unit procured for this purpose. The trailer is equipped with a 120/240 volt single phase panelboard having a 150 amp main circuit breaker and branch circuit breakers for an air conditioner with auxiliary resistance heat, inside lights and 120 volt receptacles, and outside lights and 120 and 240 volt outside receptacles. All receptacles are ground fault circuit interrupts (GFCI) protected. Branch circuits from the panelboard are routed through a wireway system around the front and two sides of the trailer perimeter near the ceiling. Electrical metallic tubing (EMT) raceways are used to route conductors from the wireways to the utilization devices and equipment.
I. Air Conditioner Installation.

a. There is no individual overcurrent device in the distribution panelboard to supply the air conditioner. The air conditioner is supplied from a 60 amp circuit breaker that also supplies the auxiliary resistance heater. Correction of this discrepancy must include installation of a Heating Air Conditioning and Refrigeration (HACR) rated circuit breaker that is sized no larger than indicated by the air conditioner nameplate. NEC Article 240-3.

b. The circuit supplying the auxiliary resistance heat is routed through a short section of running thread. The running thread is located near the top front of the trailer from the outside trailer skin to the air conditioner unit. Typically running thread does not have galvanizing or any other type of corrosion protection. Resolution is to provide corrosion protection for this conduit. NEC Article 300-6.

II. Wiring Methods.

a. EMT raceways are joined to the wireway system by being attached to the hinged cover. Most EMT raceways are associated with interior lighting. The hinged cover must be capable of being opened completely so that conductors can be installed without having to pull around obstructions such as cut cover section with conduit junctions. This discrepancy also creates a problem with the hinge points and length of the modified hinged covers. At least one cover has been cut off so that it is no longer five feet long but only about four feet long with one remaining hinge point near one end. NEC 300-15(a) exception #1. NEC Article 362-7.

b. A 240 volt 40 amp circuit breaker installed in the panelboard to supply outdoor 240 volt circuits has two conductors connected to each terminal. This circuit breaker has terminals approved and tested by UL for only one conductor per terminal. The 240 volt circuit splice must be located outside of the panelboard enclosure. NEC Article 110-14(a).

c. A fabricated aluminum enclosure has been installed above the panelboard as a raceway for conductors between the panelboard and the wireway. This enclosure is not Underwriters Laboratory (UL) Listed. This enclosure must be removed and replaced by a
completed wireway with a UL Listed raceway from the panelboard to the wireway system. NEC Article 110-3.

d. The panelboard does not have a completed panel directory as required by NEC Article 110-23 and 384-13.

III. Grounding.

a. The equipment ground is not continuous through the cord reel to the panelboard. There are only three slip rings provided in a cord reel that is labeled for four conductors. There is provision in the slip ring assembly for a fourth slip ring and brush. The equipment ground must not be bonded to the neutral conductor anywhere throughout the system. NEC Article 250-51.

b. The green equipment ground conductor and the white neutral conductor are spliced together in the slip ring assembly housing. The equipment grounding conductor and the neutral conductor must be isolated from each other throughout the trailer electrical system. NEC Article 250-23.

c. The main bonding screw is present in the panelboard, although it is not installed. There is a main bonding jumper identified with green tape and connected to the neutral bar next to the incoming neutral terminal. The other end of the bonding jumper is connected to the panelboard enclosure below the panelboard. This jumper and the green main bonding screw must be removed to maintain the isolation between the equipment ground and the neutral conductor. NEC Article 250-23.

d. The equipment grounding conductor in the disconnect for the air conditioner is not bonded to the disconnect enclosure. NEC Article 250-114(a).

IV. Observations.

a. There are no corrective actions associated with the observation described in section four of this report.

b. There are an excessive number of splices of branch circuits in the wireway. This indicates a lack of forethought in the routing of branch circuit conductors. Splices contained in light fixtures and switch and receptacle boxes are viewed as the industry accepted method of conductor routing and splice locations. This observation is included in the report to provide possible guidance for corrective maintenance activities associated with this electrical system.
air conditioner are not consistent with the use of a separate raceway for the thermostat circuit. The thermostat circuit uses insulated conductors approved for the highest voltage available in the wireway system.

d. The Aluminum Body Corporation allowed the inspection team to use their 1984 edition National Electrical Code for reference during this visit. The WHC specification requiring the NEC implies the most recent edition (1993) be used.

Comments and Conclusions

If the findings described in sections I, II and III are satisfactorily corrected the trailers may safely be used to the full extent of their design. A completed electrical as-built drawing should be provided. Completion of a more detailed electrical design, submitted for approval before construction, may have prevented the rework associated with this project.

C. M. Monasmith, WHC NEC Interpretive Authority
Electrical Engineering and Code Compliance

flb
# QUALITY ASSURANCE INSPECTION PLAN

**Item Title:** Service Trailer  
**Drawing/Spec. No.:** WHC-5-056  
**Revision:** 2  
**Safety Class:** 3

**Item Description:** Tandem axle furniture type trailer equipped with cabinets, HVAC system, lights, doors, access steps and platforms.

**Supplier:** Aluminum Body Corporation  
**Inspection No.:** J848

<table>
<thead>
<tr>
<th>Char. No.</th>
<th>Inspection Characteristics</th>
<th>INSPECTION STATUS</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>SAMPLE SIZE DETERMINATION</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Sample size (number of items to be inspected in a lot), shall be determined by using Table I and Table III-A of the latest edition of MIL-STD-105 as follows:</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>- Select the Sample Size Code Letter from Table I, based on the lot size of material received and the General Inspection Level indicated by the QAIP (Level I, II, or III).</td>
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<tr>
<td></td>
<td>- Select the sample size from Table III-A using the Sample Size Code Letter obtained from Table I and the AQI number specified by the QAIP.</td>
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<tr>
<td></td>
<td>- The minimum sample size utilizing Level II, AQI 4.0, Table III-A shall be 8 or 100%, if the lot size is less than 8.</td>
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<tr>
<td></td>
<td><strong>NOTE:</strong> If any samples are found nonconforming, the entire lot shall be placed on HOLD pending engineering evaluation and NCR disposition.</td>
<td></td>
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</tr>
</tbody>
</table>

1. Verify installation of 2 wardrobe type metal cabinets.  
2. Verify installation of 3 multiple drawer cabinets.  
3. Verify the installation of 3 shelf units with edging installed to prevent items from sliding off the shelves.  
4. Verify pipe is included which can be placed on the roll racks beneath the trailer to support bag rolls. (Bag rolls not included.)  
5. Verify there are no Suspect Fasteners on the trailer or mounted equipment.
## QUALITY ASSURANCE INSPECTION PLAN

### (Continuation Sheet)

<table>
<thead>
<tr>
<th>Item Title</th>
<th>Service Trailer</th>
</tr>
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</table>

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<tr>
<th>Char. No.</th>
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<th>Remarks</th>
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<tbody>
<tr>
<td>6</td>
<td>Verify there are steps, and railings provided for the curbside door, including 2 support legs which support the steps/platform.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Verify there are steps, and railings provided for the rear door, including 2 support legs which support the steps/platform.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Verify there was no damage during shipping.</td>
<td></td>
</tr>
</tbody>
</table>
| 9         | Verify Receipt of 8 copies of Vendor Data.  
- A. Assembly drawings showing general equipment layout, subassembly details, interface dimensions and identification of all major components.  
- B. Schematic electrical drawings of wiring systems, control panels.  
- C. Operating and maintenance instructions.  
- D. Pictorial parts list and part numbers.  
- E. Recommended spare parts list.  
- F. Recommended maintenance procedures. |     |
### QUALITY ASSURANCE INSPECTION PLAN

**Item Title**: Service Trailer

**Drawing/Spec. No.**: WHC-S-056

**Item Description**: Tandem axle furniture type trailer equipped with cabinets, HVAC system, lights, doors, access steps and platforms.

**Supplier**: Aluminum Body Corporation

**P.O. Subcontract**: 404870

**Inspection No.**: S04100

**Prepared by**: AJ Kostelnik

**Date**: 11-14-94

**Inspection Characteristics**

**SAMPLE SIZE DETERMINATION**

Sample size (number of items to be inspected in a lot), shall be determined by using Table I and Table III-A of the latest edition of MIL-STD-105 as follows:

- Select the Sample Size Code Letter from Table I, based on the lot size of material received and the General Inspection Level indicated by the QAIP (Level I, II, or III).
- Select the sample size from Table III-A using the Sample Size Code Letter obtained from Table I and the AQL number specified by the QAIP.
- The minimum sample size utilizing Level II, AQL 4.0, Table III-A shall be 8 or 100%, if the lot size is less than 8.

**NOTE**: If any samples are found nonconforming, the entire lot shall be placed on HOLD pending engineering evaluation and NCR disposition.

### INSPECTION STATUS

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<td>HD Tag</td>
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Appendix D-3 of D-20

A-6700-119.1 (12/92) WEI205
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<th>Char. No.</th>
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<td>1</td>
<td>Verify welds on aluminum safety platforms are visually acceptable per sections 1-7, visual inspection criteria. Welds are field run, weld map to be made during inspection to document which welds were inspected. Two platforms are provided, one each for the curbside door and rear door of the trailer. (No documentation review required.) 1. Welds have no cracks except as in 3 below. 2. Thorough fusion exists between adjacent layers of weld metal, and between weld metal and base metal. 3. Shrinkage cracks are contained entirely within the crater area of an intermittent fillet weld. 4. Weld profiles are in accordance with the figures shown on page 3. 5. Undercut does not exceed 1/32-inch (except that undercut may be 1/16-inch for an accumulated length of 2-inches or less in any 12-inch length of weld). 6. Fillet welds in any single continuous weld may be less than the nominal fillet weld size required by 1/16-inch without correction, provided that the undersized portion of the weld does not exceed 10% of the length of the weld. On web-to-flange welds in girders, no undersized fillets are permitted at the ends for a length equal to twice the width of the flange. 7. Weld size shall be greater than or equal to the minimum base metal thickness at the joint.</td>
</tr>
<tr>
<td>2</td>
<td>Verify there are no suspect fasteners installed on the service trailer.</td>
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</tbody>
</table>
## QUALITY ASSURANCE INSPECTION PLAN
(Continuation Sheet)

<table>
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<tr>
<td>Service Trailer</td>
<td>WHC-S-056</td>
<td>404870</td>
<td>1</td>
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</tbody>
</table>

**Note:** Reinforcement R shall not exceed 1/8 in.

**Diagram:**
- (A) Desired fillet weld profile
- (B) Acceptable fillet weld profile
- (C) Unacceptable fillet weld profile
- (D) Acceptable groove weld profile in butt joint
- (E) Unacceptable groove weld profiles in joints
QUALITY ASSURANCE INSPECTION PLAN

Item Title
Service Trailer

Prepared by
AJ Kostelnik

Date
11-14-94

Inspection Characteristics

SAMPLE SIZE DETERMINATION
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NOTE: If any samples are found nonconforming, the entire lot shall be placed on HOLD pending engineering evaluation and NCR disposition.

Reference

INSPECTION STATUS

Acc | Htd Tag | Rej | NCR | Cond Acc | Remarks

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QUALITY ASSURANCE INSPECTION PLAN  
(Continuation Sheet)  

Item Title: Service Trailer  
Drawing/Spec. No. WHC-S-056  
P.O. No. 404870  
Item No. 1  

(A) Desired fillet weld profiles  
(B) Acceptable fillet weld profiles  
(C) Unacceptable fillet weld profiles  
(D) Acceptable groove weld profile in butt joint  
(E) Unacceptable groove weld profiles in joints  

Note: Reinforcement R shall not exceed 1/8 in.
near Stairway

Stair Support

11-17-94

Deck Support

11-17-94

11-17-94

11-17-94

11-17-94
Rear Stairway

Driver's Side
Stair Support

| 1M90V332381217190 |

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Deck Support