



DEPARTMENT OF THE ARMY
U.S. ARMY RESEARCH DEVELOPMENT AND ENGINEERING COMMAND
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5424

REPLY TO
ATTENTION OF:

6 January 2005

Dr. Tom McLaughlin, Decommissioning Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. McLaughlin,

Reference Nuclear Regulatory Commission License No. 19-10306-02, Docket No. 030-36574 for the authorization of Building 7304 located at Fort Belvoir, Virginia.

Provided as enclosure is NRC Form 314, Certificate of Disposition of Materials and the disposal records for the radioactive materials authorized by the reference NRC license. These records are identified by the date of the disposal and include the records used in the historical search for the closeout of Building 363, a facility previously authorized for the use of radioactive materials,

I am forwarding a copy of this letter to the Safety Office (AMCPE-SF), US Army Materiel Command, 9301 Chapek Road, Fort Belvoir, Virginia 22060-5527.

Questions regarding this action should be addressed to Ms. Joyce Kuykendall, RDECOM Radiation Program Manager, at telephone (410) 436-7118, by email at joyce.kuykendall@us.army.mil, or by facsimile at (410) 612-5377.

Sincerely,

A handwritten signature in black ink, appearing to read "Joyce E. Kuykendall", is written over the typed name.

JOYCE E. KUYKENDALL
RDECOM Radiation Program Manager

Enclosures

(6-2004)
10 CFR 30.36(j)(1); 40.42(j)(1);
70.38(j)(1); and 72.54(j)(1)

CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to Infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE NAME AND ADDRESS

Department of the Army, US Army Research, Development and Engineering Command, ATTN: AMSRD-MSF, 5183 Blackhawk Road, Aberdeen Proving Ground, MD 21010-5424

LICENSE NUMBER

19-10306-02

DOCKET NUMBER

030-36574

LICENSE EXPIRATION DATE

09/30/2010

- ☐ This license has expired. ☒ **A. LICENSE STATUS (Check the appropriate box)**
This license has not yet expired; please terminate it.

B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- ☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- ☒ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.
- ☐ a. Transfer of radioactive materials to the licensee listed below:
- ☒ b. Disposal of radioactive materials:
- ☐ 1. Directly by the licensee:
- ☐ 2. By licensed disposal site:
- ☒ 3. By waste contractor:
- US Army radioactive materials are disposed of through coordination with the DOD Radioactive Waste Manager, HQ, Operations Support Command, Safety/Rad Waste Team, ATTN: AMSOS-SF, 1 Rock Island Arsenal, Rock Island, IL 61299-6000. The DOD Radioactive Waste Manager contracts with several disposal site and radioactive waste brokers for the processing of radioactive waste for the US Army.
- ☒ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

- ☒ 1. A radiation survey was conducted by the licensee. The survey confirms:
- ☒ a. the absence of licensed radioactive materials
- ☐ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- ☒ 2. A copy of the radiation survey results:
- ☐ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: 05/29/2002
- Date
- ☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
- ☒ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

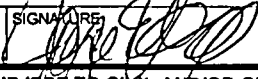
The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Joyce E. Kuykendall	Health Physicist, RDECOM Radiation Program Manager	(410) 436-7118	joyce.kuykendall@

Mail all future correspondence regarding this license to:

US Army Research, Development and Engineering Command, ATTN: AMSRD-MS, 5183 Blackhawk Road, Aberdeen Proving Ground, MD 21010

C. CERTIFYING OFFICIAL
I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE	SIGNATURE	DATE
Joyce E. Kuykendall, Health Physicist		01/06/2005

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

NRC Form 314 CERTIFICATE OF DISPOSITION OF MATERIALS

C. Surveys Performed and Reported.

Radioactive materials were stored in Building 329, the Laboratory facility, and in Building 7304, the storage vault. A Final Status Survey of Building 329 was provided to the NRC on 29 May 2002 and was accepted by the NRC Region II by letter dated July 2, 2002. Building 7304 decommissioning is currently being coordinated with NRC HQ.

Other facilities authorized to operate under this NRC license have previously been surveyed and released for unrestricted use after coordination with the NRC Region II.

Documentation of disposal and the required leak testing is provided as an attachment.

2004

Carrier No. _____

Date 5/02/04

(Name of Carrier)

FOR SHIPMENT STATUS
CALL 1-800-ROADWAY
155 155-009650-7

RECEIVED subject to in- classifications and taxatively filed tariffs in effect on the date of the issue of receipt by the carrier of the property described in the Original Bill of Lading, the property described above in apparent good order. Except as noted, contents and condition of contents of packages unknown, marked, consigned, and destined as indicated above, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to said destination, and to deliver at said destination, or at its route, whomever to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier or all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Commodity Freight Bill of Lading set forth in Uniform Freight Classifications in effect on the date hereof, if this is a bill of lading, or a bill of lading, or in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

- MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS
For further details on SHIPPING HAZARDOUS MATERIALS see Federal Regulations 49 CFR, Part 173.

JL SHEPHERD & ASSOCIATES

1010 ARROYO AVE., SAN FERNANDO, CALIFORNIA 91340-1822

818-898-2361 FAX 818-361-8095

SHIPPING DOCUMENT

TO: Nuclear Sources & Services, Inc (from NWT/Aberdeen Proving Grounds) 984929

LICENSE: TX: L0181, Amendment 43, under timely renewal

SOURCE: (RQ) 141.5 GBq (3,824 mCi.) Am-241, chemical form: Americium Oxide
0.746 GBq (20 mCi.) Cs-137, chemical form: Cesium Chloride
(RQ) 2.22 GBq (60 mCi.) Am-Be-241, chemical form: Americium Oxide

PACKAGING: U.S. Department of Transportation specification 2R container, S.N. 22381,
Inside a U.S. Department of Transportation specification 20WC5 Overpack.
S.N. 22481
UN # 2982, Radioactive Material, n.o.s.

RADIATION LEVEL AT SURFACE: 0.4 mR/hrRADIATION LEVEL AT 1 METER: 0.4 mR/hrINSTRUMENT: Eberline E-520, S.N. 758SURFACE CONTAMINATION: ≤ 300 dpm/300 cm²LEAK TEST: 5×10^{-3} μ Ci.TRANSPORTATION INDEX: NARADIOACTIVE LABEL REQUIRED: WTTRUCK PLACARDS REQUIRED: NO

WEIGHT: 467.1 Kg / 1030 lbs.

SECURITY SEAL #: 233025

24 HOUR EMERGENCY - CALL 1-800-424-9300

DATE: 6/2/04

J.L. SHEPHERD AND ASSOCIATES

PERFORMED BY: Ralph Jacob

APPROVED BY: _____

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA 91340

DOT 2R Shipment - Quality Assurance Checklist

QUALITY RECORD

S/N: 22381 Date: 6/2/04

Job No. 984929

To (From) JLS+A AT ABERDEEN

Empty: ✓ Loaded:

Visual Inspection Results

Accept

Reject

External Body:

1. Dents that have not penetrated the body.
2. Welds (if applicable) are intact.
3. Primer &/or paint (if applicable).

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

Closure/containment System.

1. Tight fit at closure interface.
2. Dents that have not penetrated materials.

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

FOR OUTGOING SHIPMENTS, ATTACH HEALTH PHYSICS FINAL SURVEY, ROUTINE DETERMINATIONS (QAM/QP 13.4)

Markings

USA-DOT-2R, RADIOACTIVE MATERIAL.
Serial Number

Security Seal Number: 3230 233024

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

Outer Smear Result: MDCR

List smears as ≤ 300 dpm/300 cm² or MDCR. Smear should be a 300 cm² wipe. OK to use outgoing smear results within 72 hrs, conditional if it has not been in a contaminated area.

*Any reject is an indication that the package is not in compliance. Repair may be required.

Notify Quality Assurance immediately.

If all "accept" lines are checked, the 2R may be kept in service. Place original copy in appropriate 2R shipping file.

FIELD SHIPMENTS: FAX TO QA FOR APPROVAL BEFORE SHIPMENT.

INSPECTED BY: Ralph T. Goral DATE: 6/2/04

REVIEWED BY: DATE:

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA 91340

QUALITY RECORD

To (From) JLS&A AT ABERDEEN

Quality Assurance Checklist for Overpack Shipment, 20WC 3 through 5

DOT 20WC 5

S/N: 22481

Empty: X Loaded:

Job No. 984929

Date:

Visual Inspection Results

1. Labels as determined by Health Physics (See Health Physics Final Survey)

(Not applicable for incoming shipments)

2. Tie Rods. Threads intact and rods not bent. No cracks or corrosion.
(Visible Portion Only)

3. Plywood. Rings must not be separated. All minor voids filled.

4. Lag Bolts. Installed and undamaged.

5. Break Line/Lid Joint. These may not be co-planar with the end of
the inner container.

6. Nuts. Must be steel, locking type.

7. Washers:

8. Paint. Minor chipping acceptable. Large gouges, breaks, or
dings in excess of 1/2" deep require repair and are not acceptable.

9. Skid/Pallet. Skid/Pallet is functional. Fittings are secure.
No fork holes through base plate.

10. Markings. Trefoil engraved plate. (USA-DOT-20-WC- ,
TYPE B, RADIOACTIVE MATERIAL)

11. Tare Weight Plate: 740 lbs.

12. Maximum Gross Weight (See Stenciled information on Overpack).

13. Serial Number Plate Attached.

14. JLS&A Address Stencil

15. RQ, Radioactive Material Special Form N.O.S. or Radioactive
Material N.O.S. (Normal Form) Stencil

16. Security Seal (If Loaded). Number: NA

17. Health Physics: Outer Smear Result: MDCR (List as $\leq 300\text{dpm}/300\text{cm}^2$ or MDCR. Smear should be
300cm² wipe).

18. For any outgoing shipment, the Health Physics Final Survey Routine Determinations Form must
be completed and included. (See QAM/QP 13.4)

*Any reject indication results in quarantine of the package. RED TAG. DO NOT SHIP. Repair may be required. Notify
Quality Assurance. If all eighteen "accept" lines are checked, the overpack may be kept in service. Send original copy to
JLS&A Quality Assurance for filing in appropriate overpack shipping file.

INSPECTED BY: Ralph J. J. J.

DATE: 6/2/04

QA APPROVED:

DATE:

NOTE: The Quality Assurance Department maintains records of annual conformance inspections relative to the
maintenance and use of this package.

Form 13-1-4, Rev. 1, 5-9-03

SHIPPING CHECKLIST

984929 ABERDEEN → NSS/

- ☒ Address Labels attached to package?
- ☒ Shipping Document attached?
- ☒ Radioactive Materials Stenciling visible? (Covered with paper if empty)
- ☒ Radioactive Materials Label with Transport Index attached? (N/A if Empty)
- ☒ Completed Health Physics Survey Form included?
- ☒ Completed Overpack Outgoing Inspection Form included?
- ☒ Final QA paperwork and Operational check paperwork for item included?
- ☒ Are Certifications included for inner package (DOT 7A)? (N/A if empty). *2R*
- ☒ Overpack documentation included? (See Paragraph 5.4, QAM/QP 13.4) .
(Not required of a Type A Quantity).
- MA* ☒ Other documentation required for Air or International Shipments included?
(See Paragraph 5.3, QAM/QP 13.4).
- ☒ Carrier: *Seaboard*

NOTE: Direct questions concerning any of the above requirements to the Quality Assurance Department.

Prepared By:

Ralph J. Jacob

Reviewed and Released By: _____ Date: _____

DOMESTIC MOTOR FREIGHT
HEALTH PHYSICS FINAL SURVEY, ROUTINE DETERMINATIONS,
CHECK LIST FOR CLASS 7, RADIOACTIVE MATERIAL SHIPMENTS

This Survey Check List is to be used to generate Shipping Document & Bill of Lading information & should be attached to all copies of the Shipping Document for record keeping distribution.

Customer: NSSI (DWT/ABERDEEN)

Job #: 984929

License #: LO1811

Expiration Date: Under Review

EMPTY: (If empty, affix UN2910 label TO EACH SIDE and proceed to page 2.

YES / NO

Does this shipment contain DU? (Check drawing)
If yes, list on Shipping Document and Bill of Lading:

YES / NO

Does this shipment contain any other hazardous material?
If yes, list on Shipping Document and Bill of Lading as:

YES / NO

Is this shipment made in another type of Class 7 DOT approved packaging, such as Excepted Packages, LSA or SCO:
If yes, list on Shipping Document as:

YES / NO

License Review, check customer license against SS&D sheet for source &/or device info to determine if license is correct & JLS&A paperwork, as applicable.

Ship to info is on license: (Circle appropriate response)

YES / NO / NA

Isotope is correct:

YES / NO / NA

Capsule type is correct:

YES / NO / NA

Curie amount is correct:

YES / NO / NA

Device type is correct:

YES / NO / NA

Source information

CS-137 RQ = 1 Ci, CO-60 RQ = 10 Ci (See 49CFR172.101 Table 2 for other isotopes)

RQ: YES / NO

For multiple sources, list total:

Total SI conversion:

Capsule type(s):

Am-241 3.884 Ci = 143.708 GBq
CS-137 20 mCi (0.02 Ci) = 0.74 GBq

Special Form info on file?

YES / NO

UN2974: YES / NO

Proper shipping name: Radioactive material special form, n.o.s.

ERG # 164 should be attached to driver's copy of Bill of Lading or in Hazmat pouch

If NO, the shipment must be made as normal form:

UN2982: YES / NO

Proper shipping name: Radioactive material, n.o.s.

ERG # 163 should be attached to driver's copy of Bill of Lading or in Hazmat pouch.

*this pg completed
info 5/20/04*

Packaging Information

^{2R mfs}
DOT 7A INCLUDED? (Circle Correct Response)
DOT 7A S.N.? 22381 ^{mfs}
DOT 7A check list complete? (Attach copy).
Weight in label displayed as: "kg/lbs" on 7A? 2R
^{2R} Note: per 49.172.310 - gross wt. over 100 lbs. must be on package
DOT 7A Cert on file:

YES / NO ^{mfs 5/20/04}
YES / NO
YES / NO ^{under 100 lbs mfs 5/20/04}
YES / NO ^{mfs 5/20/04}
YES / NO ^{mfs 5/20/04}

TYPE "A" QUANTITY?
(A₁ Cesium-137 = 54.1 Curies / A₁ Cobalt-60 = 10.8 Curies)
For of Bill of Lading, Type A shipment: 7A's are packaged per 49CFR173.415

TYPE "B" QUANTITY?
20WC Series to be used (for shipment over A₁ quantities):
if YES, is the 20WC Outgoing Inspection Check List complete:
20WC must be inspected before 7A is loaded into it, attach copy.
Shipping must have a completed copy before truck can be called.

YES / NO ^{mfs 5/20/04}
YES / NO
YES / NO

SERIAL NO: 2248 ^{mfs}

Total Curies: 3,884 mCi AM-241, 910 mCi Co-137, 0.883 mCi Sr-90

The maximum allowable is 100 watts for a 20WC.

Do not ship in this package if Curie total is over 100 watts.

Cesium-137 = 21,500 Ci. = 100 watts / Cobalt-60 = 6,500 Ci. = 100 watts

For Bill of Lading, Type B shipment: special form is packaged per 49CFR143.416(e), normal form (2R) is packaged per 49CFR173.416(d).

SURVEY DATA

Radiation survey for shipment on loaded and complete package:

JLS&A Instrument used: E520 S.N.: 758 QA Cal. Due date: 7/5/04

Radiation Level at Surface: 0.4 mR/hr

Radiation Level at 1 meter from Surface: 0.26 mR/hr TI: KA

Radioactive (Diamond) Label required? Type: W I

2 each Diamond Labels on shipment?

Truck placards required?

Security Seal # assigned: 233025

YES / NO
YES / NO

Surface Contamination on any empty or loaded package shipped:

JLS&A Scaler or Survey Instrument Used: E520 S.N.: 758

QA Cal. Due date: 7/5/04

Surface contamination: MDCR

(Use ≤300dpm/300cm² removable contamination (maximum allowable)).

Package Shipment Weight: 467.1 kg (1030 lbs) ^{mfs 5/20/04}

20WC maximum gross weights: -1 = 500 lbs, -3 = 1,000 lbs, -4 = 2,000 lbs, -5 = 4,000 lbs, -6 = 6,000 lbs

Note: If different HP personnel perform individual surveys or verifications of sections of this form, sign & date that section.

Survey performed by: Ralph J. Jocal Date: 6/2/04

Reviewed & Approved by: _____ Date: _____

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA 91340

DOT 2R Shipment - Quality Assurance Checklist

QUALITY RECORD

S/N: 22381 Date: 6/2/04 Job No. 984929

To/From: NSSI FROM ABERDEEN Empty: Loaded: X

Visual Inspection Results

Accept

Reject

External Body:

1. Dents that have not penetrated the body.
2. Welds (if applicable) are intact.
3. Primer &/or paint (if applicable).

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

Closure/containment System.

1. Tight fit at closure interface.
2. Dents that have not penetrated materials.

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

FOR OUTGOING SHIPMENTS, ATTACH HEALTH PHYSICS FINAL SURVEY, ROUTINE DETERMINATIONS (QAM/QP 13.4)

Markings

USA-DOT-2R, RADIOACTIVE MATERIAL
Serial Number

Security Seal Number: 233024

<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>
<u>✓</u>	<u> </u>

Outer Smear Result: MDCR

List smears as ≤ 300 dpm/300 cm² or MDCR. Smear should be a 300 cm² wipe. OK to use outgoing smear results within 72 hrs, conditional if it has not been in a contaminated area.

*Any reject is an indication that the package is not in compliance. Repair may be required.

Notify Quality Assurance immediately.

If all "accept" lines are checked, the 2R may be kept in service. Place original copy in appropriate 2R shipping file.

FIELD SHIPMENTS: FAX TO QA FOR APPROVAL BEFORE SHIPMENT.

INSPECTED BY: Ralph J. [Signature] DATE: 6/2/04

REVIEWED BY: DATE:

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA 91340

QUALITY RECORD

(To) From: NSSI FROM ABERDEEN

Quality Assurance Checklist for Overpack Shipment, 20WC 3 through 5

DOT 20WC 5

S/N: 22481

Empty: Loaded: X

Job No. 984929

Date:

Visual Inspection Results

1. Labels as determined by Health Physics (See Health Physics Final Survey)

(Not applicable for incoming shipments)

2. Tie Rods. Threads intact and rods not bent. No cracks or corrosion.

(Visible Portion Only)

3. Plywood. Rings must not be separated. All minor voids filled.

4. Lag Bolts. Installed and undamaged.

5. Break Line/Lid Joint. These may not be co-planar with the end of the inner container.

6. Nuts. Must be steel, locking type.

7. Washers:

8. Paint. Minor chipping acceptable. Large gouges, breaks, or Dings in excess of 1/8" deep require repair and are not acceptable.

9. Skid/Pallet. Skid/Pallet is functional. Fittings are secure. No fork holes through base plate.

10. Markings. Trefoil engraved plate. (USA-DOT-20-WC-
TYPE B, RADIOACTIVE MATERIAL

11. Tare Weight Plate: 740 lbs.

12. Maximum Gross Weight (See Stenciled Information on Overpack).

13. Serial Number Plate Attached.

14. JLS&A Address Stencil

15. RQ, Radioactive Material Special Form N.O.S. or Radioactive Material N.O.S. (Normal Form) Stencil

16. Security Seal (If Loaded). Number: 233025

17. Health Physics: Outer Smear Result: MDCR (List as $\leq 300\text{dpm}/300\text{cm}^2$ or MDCR. Smear should be 300cm^2 wipe).

18. For any outgoing shipment, the Health Physics Final Survey Routine Determinations Form must be completed and included. (See QAM/QP 13.4)

*Any reject indication results in quarantine of the package. RED TAG. DO NOT SHIP. Repair may be required. Notify Quality Assurance. If all eighteen "accept" lines are checked, the overpack may be kept in service. Send original copy to JLS&A Quality Assurance for filing in appropriate overpack shipping file.

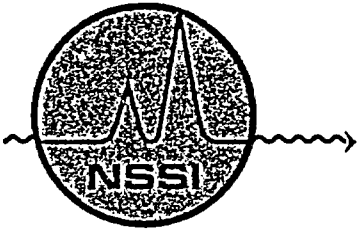
INSPECTED BY: Ralph T. Jacob

DATE: 6/2/04

QA APPROVED:

DATE:

NOTE: The Quality Assurance Department maintains records of annual conformance inspections relative to the maintenance and use of this package.



RECEIVED JUL 23 2004

NSSI/SOURCES & SERVICES, INC.

P.O. BOX 34042 HOUSTON, TEXAS 77234
PH: (713) 641-0391 www.nssihouston.com FAX: (713) 641-6153

July 16, 2004

Attn: Victoria Croll
New World Technology
448 Commerce Way
Livermore, CA 94550

TEL 925 443-7967
FAX 925 443-0119

Dear Victoria:

Per your request, I have attached copies of the acceptance documents for the Ft. Belvoir Sr-90 source.

If you need additional information or clarification, please contact me.

Sincerely,

Robert D. Gallagher
Robert D. Gallagher
President

RDG/vla
Ref. #0716401.let
Rdg 07164A1



JUL - 1 2004

27 June, 2004

Robert Gallagher
NSSI
5711 Etheridge Street
Houston, TX 77087

Reference: Radioactive Waste Shipment – Shipment ID Number: 12377

Dear Mr. Gallagher,

As required by 10 CFR, Part 20 (Appendix F), South Carolina Title A (3.55.3.4.1), and Barnwell Waste Management Facility Disposal Criteria (S20-AD-010), this letter is notification that the shipment referenced above has been received at the Barnwell Waste Management Facility. A signed copy of this shipment's Form 540 is enclosed.

When this shipment is inspected and disposed of, a letter noting the shipment's compliance with the site's license and waste acceptance criteria will be sent to you.

If you have any questions regarding this letter, please contact the Prior Notification Plan Department at (803) 541-5017.

Sincerely,

James W. Latham
Vice President, Barnwell Operations

enclosure

SDG

AS# 73476

FORM 840 BARNWELL WASTE MANAGEMENT FACILITY UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				1. SHIPPER - NAME AND FACILITY HSS/Recovery Services, Inc. 8111 Esheridge St Houston, TX 77063		SHIPMENT ID NUMBER 0604-12377		7. FORM 542 AND 542A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		8. CONSIGNEE - Name and Facility Address Barnwell Waste Management Facility Operated By Chem-Nuclear Systems 740 Osborne Road Barnwell, SC 29812		9. MANIFEST NUMBER (Use the number on all contribution pages) 062004b			
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 713-641-0381				5. C. TRANSPORT PERMIT NUMBER 1541-43 04-X		6. SHIPMENT NUMBER 0604-12377		COLLECTOR		PROCESSOR		CONTACT LICENSING DEPARTMENT			
ORGANIZATION HSS/Recovery Services, Inc.				CONTACT Robert D. Gallagher		TELEPHONE NUMBER (Include Area Code) 713-641-0381		GENERATOR TYPE (Specify) 0		TELEPHONE NUMBER (Include Area Code) 803-289-1781		DATE 6/23/04			
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ***** 21		4. CARRIER - Name and Address Tri-State Motor Transport Corp P.O. Box 113 Joplin, MO 64802		EPA ID NUMBER H0009503999		SIGNATURE - Authorized consignee acknowledging waste receipt <i>Robert D. Gallagher</i>		10. CERTIFICATION			
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number: ***** <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				EPA MANIFEST NUMBER NA		CONTACT Cecilia Gardner		TELEPHONE NUMBER (Include Area Code) 800-568-1898		DATE		10. CERTIFICATION This is to certify that the herein named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 26 and 61, or equivalent state regulations.			
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)				12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIOISOTOPES		16. TOTAL PACKAGE ACTIVITY M24			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow III		2.0		Solid Solid		Co-60 Cs-137		1.1032E+06 2.8817E+04 27816.6			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow III		2.0		Solid Solid		Co-60 Cs-137		1.0027E+06 2.7099E+04 NA			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow III		0.0		Solid Solid		Co-60 Cs-137		1.1013E+06 2.8766E+04 27765.341			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow III		0.0		Solid Solid		Co-60 Cs-137		1.1003E+06 2.8746E+04 27745.3			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow III		2.0		Solid Solid		Co-60 Cs-137 Fe-55		1.0395E+06 2.8083E+04 28683.25			
Waste, Radioactive material, n.o.s., 7, UN2982 Sealed Sources				Yellow II		5		Solid Solid		Co-60 Cs-137		1.0662E+06 2.8584E+04 NA			
17. LSA/SCO CLASS				18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE									
NA				1238. LBS; 7.5 FT3		101x									
NA				1238. LBS; 7.5 FT3		102x									
NA				1245. LBS; 7.8 FT3		103x									
NA				1235. LBS; 7.5 FT3		104x									
NA				1262. LBS; 7.5 FT3		105x									
NA				1209. LBS; 7.5 FT3		106x									
20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been prepared in accordance with a radioactive waste management program which has been approved by the Nuclear Regulatory Commission or an Agreement State regulatory agency and has been inspected in accordance with the requirements of South Carolina Radioactive Material License No. 097 as amended and the effective Barnwell Site Disposal Criteria within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules, and regulations.												Date 06-23-04		Signature <i>Robert D. Gallagher</i>	
Title and Organization President HSS/												Telephone No. (713) 641-0381			

FORM 840 (10-66)

BLU CNS
6-27-04



740 Osborn Road • Barnwell, South Carolina 29812

7 July, 2004

JUL 12 2004

Robert Gallagher
NSSI
5711 Etheridge Street
Houston, TX 77087

Reference: Radioactive Waste Shipment – Shipment ID Number: 12377

Dear Mr. Gallagher,

As required by 10 CFR, Part 20 (Appendix F), South Carolina Title A (3.55.3.4.1), and Barnwell Waste Management Facility Disposal Criteria (S20-AD-010), this letter is notification that the shipment referenced above has been disposed of at the Barnwell Waste Management Facility. This waste meets all the Barnwell Waste Management Facility acceptance requirements and was disposed of in accordance with the Barnwell Site's License.

If you have any questions regarding this letter, please contact the Prior Notification Plan Department at (803) 541-5017.

Sincerely,

James W. Latham
Vice President, Barnwell Operations

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION (CONTINUATION)

3. PAGE 2 OF 2 PAGE(S)

4. SC TRANSPORT PERMIT NUMBER	5. GENERATOR NAME AND TELEPHONE NO.	6. GENERATOR FACILITY ADDRESS	6A. WASTE DESCRIPTION (NOMENCLATURE)	7. PREPROCESSED WASTE (OR MATERIAL) VOLUME		8. MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9. WASTE CODE P = PROCESSED C = COLLECTED	10. ORIGINATING COMPACT REGION OR STATE	11. A. SOURCE MATERIAL		B. SNM	C. ACTIVITY		D. VOLUME		E. WEIGHT	F. MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr)
				(m ³)	(m ³)				(m ³)	(m ³)	(m ³)	(MBq)	(mCi)	(m ³)	(m ³)		
NA	291 254	11 South 1st Street Pine, TX		0.0028	0.0989	3044184 (06/19/2004)	C	TX	0.0000E+00	0.0000E+00	0.0000E+00	1170	30	0.0028	0.1	5	<1
3025-31-04-Y	1-3 711	4150th Street NY		0.0028	0.0989	3174985 (06/24/2004)	C	NY	0.0000E+00	0.0000E+00	0.0000E+00	1.24	0.01	0.0028	0.1	1	<1
0137-00-04-E	U.S. Army 823-443-7967	3330 Ricketts Point Road Edgewood Arms Aberdeen Proving Grounds, MD 21018		0.0028	0.0989	USA2004-025-A834-1 (05/26/2004)	C	MD	0.0000E+00	0.0000E+00	0.0000E+00	27	1	0.0028	0.1	2	<1

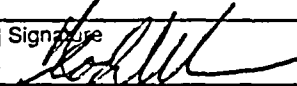
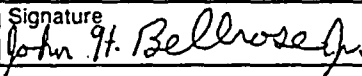
2003

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. VA7213720087		Manifest Document No. 62041		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address US Army SBCCOM Radiation Lab. 5905 Richmond Rd, Fort Belvoir, VA 22308						A. State Manifest Document Number							
4. Generator's Phone (410) 421-7118						B. State Generator's ID							
5. Transporter 1 Company Name R+R Trucking						C. State Transporter's ID 2242							
6. US EPA ID Number MDR000501973						D. Transporter's Phone 866-252-2762							
7. Transporter 2 Company Name J						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Phone							
9. Designated Facility Name and Site Address Penna-Fix of Florida 1940 N.W. 67th Place Gainesville, FL 32606						G. State Facility's ID							
10. US EPA ID Number FLD980711071						H. Facility's Phone 352-372-6066							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <input checked="" type="checkbox"/> Waste, Radioactive material, LSA, A.C.S. (RQ-DO08), 7, UN 2912						No. Type						DO08	
b.													
c.													
d.													
J. Additional Descriptions for Materials Listed Above Profile # RS 3146 Delivery Confirmation # 01211						K. Handling Codes for Wastes Listed Above							
15. Special Handling Instructions and Additional Information ERG # 162						Emergency 24hr Contacts Chemtrek (800) 424-9200							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway, according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name T. H. EASTMAN						Signature [Signature]				Month Day Year 11/3/03			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name T. H. EASTMAN JR						Signature [Signature]				Month Day Year 11/3/03			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Month Day Year			
19. Discrepancy Indication Space													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name						Signature				Month Day Year			



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. VA721314006212241		Manifest Document No. 12241		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.		
3. Generator's Name and Mailing Address US Army SERCOM Reduction Lab. 5105 Potomac Rd. Fort Belvoir, VA 22060						A. State Manifest Document Number				
4. Generator's Phone (410) 417-5716						B. State Generator's ID				
5. Transporter 1 Company Name R+R Trucking						C. State Transporter's ID				
6. US EPA ID Number MDR000501973						D. Transporter's Phone 811-731-7631				
7. Transporter 2 Company Name						E. State Transporter's ID				
8. US EPA ID Number						F. Transporter's Phone				
9. Designated Facility Name and Site Address Herna-Fix of Florida 1940 N.W. 67th Place Gainesville, FL 32606						10. US EPA ID Number FLD990711071				
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity	14. Unit W/Vol	15. Waste No.
a. <input checked="" type="checkbox"/> HM Waste, Radioactive Material, LSA, A.C.S. (RQ-1008), 7, UN 2912						No. Type				DO08
b.										
c.										
d.										
J. Additional Descriptions for Materials Listed Above Profile # RS 3146 Delivery Confirmation # 01211						K. Handling Codes for Wastes Listed Above				
15. Special Handling Instructions and Additional Information LRG # 162						Emergency 24hr Contacts Chem-Tek (800) 424-9700				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.										
Printed/Typed Name T. J. MONTGOMERY						Signature [Signature]			Month Day Year 11/21/02	
17. Transporter 1 Acknowledgement of Receipt of Materials										
Printed/Typed Name T. J. MONTGOMERY						Signature [Signature]			Month Day Year 11/21/02	
18. Transporter 2 Acknowledgement of Receipt of Materials										
Printed/Typed Name						Signature			Month Day Year	
19. Discrepancy Indication Space										
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.										
Printed/Typed Name						Signature			Month Day Year	



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. VA721372008202041		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address Radiation Lab. 5905 Putnam Rd. Fort Belvoir, VA 22308						A. State Manifest Document Number							
4. Generator's Phone (410) 436-7118						B. State Generator's ID							
5. Transporter 1 Company Name R+R Trucking			6. US EPA ID Number MDR000301973			C. State Transporter's ID 86K							
7. Transporter 2 Company Name			8. US EPA ID Number			D. Transporter's Phone 866-252-2784							
9. Designated Facility Name and Site Address Perma-Fix of Florida 1940 N.W. 67th Place Gainesville, FL 32606						E. State Transporter's ID							
10. US EPA ID Number FLD980711071						F. Transporter's Phone							
						G. State Facility's ID							
						H. Facility's Phone 352-373-6066							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <input checked="" type="checkbox"/> Waste, Radioactive Material, LSA, N.O.S. (RQ-DOOB), 7, UN 2912						No. 001 Type CM0438DP						DOOB	
b.													
c.													
d.													
J. Additional Descriptions for Materials Listed Above Profile # RS 3146 Delivery Confirmation # 01211						K. Handling Codes for Wastes Listed Above							
15. Special Handling Instructions and Additional Information ERG # 162						Emergency 24hr Contact: Chemtrek (800) 424-9300							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name Todd EASTMAN						Signature 				Month Day Year 10/13/03			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name John H. Bellrose Jr						Signature 				Month Day Year 10/13/03			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Month Day Year			
19. Discrepancy Indication Space													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name						Signature				Month Day Year			

The waste was loaded during light rain and may contain trace moisture/condensation.

Truck was loaded in snow storm

EMERGENCY CONTACT: CHEMTREC (800) 424-9300Shipping Date: 1/30/03Manifest No.: USA 2002-0411

Proper Shipping Name	Hazard Class	ID Number
<input checked="" type="checkbox"/> Radioactive Material, LSA, n.o.s.,	7	UN2912
<input type="checkbox"/> Radioactive Material, SCO,	7	UN2913

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity. This poses little risk to people.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels.
- Placards, markings, and shipping papers provide identification.
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard: so follow this guide as well as the response guide for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments. •Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily. •Nitrates are oxidizers and may ignite other combustibles (see guide 141).
- Uranium and Thorium metal cutting or granules may ignite spontaneously if exposed to air (see Guide 136).

PUBLIC SAFETY

- Call Thom Dias at (925) 443-7967
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small Fires

- Dry chemicals, CO2, Water spray or regular foam.

Large Fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.
- Cover powder spill with plastic sheet or tarp to minimize spreading.
- Dike to collect large liquid spills.

FIRST AID

- Medical problems take priority over radiological concerns. •Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person. •Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

The above information is intended to satisfy the requirements of 49 CFR parts 172.600, 172.602 & 172.604.

INSTRUCTIONS FOR EXCLUSIVE USE OF VEHICLES

Shipment No. LSA 2004-041-1

Date 1/30/03

CFR 49, sections 173.403 and 173.441(b) and (c), require that specific instructions for maintenance of exclusive-use shipments controls be provided by the shipper to the carrier. These instructions must be included with the shipment documents.

The following instructions shall be complied with for all exclusive-use shipments.

- ☒ The shipper must be notified prior to changing of the tractor or making fifth wheel adjustments.
- ☒ Do not move or transfer packages on the transport vehicle from the original configuration.
- ☒ The shipment must be loaded by the consignor and unloaded by the consignee from the transport vehicle on which it was originally loaded.
- ☒ The shipment must be blocked and braced so as to prevent leakage or shifting of load under incidents normal to transportation.
- ☒ If placards are required, the vehicle must be placarded on four (4) sides of the transport vehicle in a clearly visible position with the appropriate placards.
- ☒ Notify shipper immediately if the vehicle is involved in an accident or is required to apply emergency breaking which could shift the load and change radiation levels.

In case of accident, vehicle malfunction or deviation from the above instructions, immediately contact one of the following CABRERA employees:

Todd Eastman	Office (803) 356-3717
	Home (803) 808-6966
	Cell (860) 508-0455

Deviations from these instructions are violations of federal laws and could result in carrier penalties.

I have read and understand the above statements concerning the maintenance of exclusive use vehicles.

John H. Bellherso Jr.
Signature of Driver

1-30-03
Date

TRUCK INSPECTION CHECKLIST

CARRIER: <u>R&R Trucking</u>		
TRACTOR NO.: <u>5885</u>		
TRAILER NO.: <u>3830085RR</u> TYPE: <u>Flatbed</u>		
ITEM	SAT	UNSAT
INCOMING SURVEYS COMPLETE, WITHIN LIMITS AND DOCUMENTED	<input checked="" type="checkbox"/>	
VEHICLE IS FREE OF DIRT AND DEBRIS	<input checked="" type="checkbox"/>	
INTERIOR SURFACES ARE FREE OF PROTRUSIONS	<input checked="" type="checkbox"/>	
TIRES - MINIMUM 3/32" OF TREAD	<input checked="" type="checkbox"/>	
WHEELS AND RIMS - LESS THAN 20% BROKEN OR MISSING BOLTS	<input checked="" type="checkbox"/>	
ALL LIGHTS ARE OPERATIONAL	<input checked="" type="checkbox"/>	
ENSURE BRAKES (NORMAL AND EMERGENCY) AND LOW AIR WARNING ALARMS OPERATIONAL	<input checked="" type="checkbox"/>	
FRAME IS FREE OF CRACKS OR BREAKS	<input checked="" type="checkbox"/>	
HORN IS OPERATIONAL	<input checked="" type="checkbox"/>	
WINDSHIELD WIPERS ARE OPERATIONAL	<input checked="" type="checkbox"/>	
DRIVER HAS COMPLETED HIS DAILY SAFETY INSPECTION	<input checked="" type="checkbox"/>	
VEHICLE IS LICENSED AND PERMITTED FOR THE STATES IT MUST TRAVEL THROUGH	<input checked="" type="checkbox"/>	
REMARKS:		
SIGNATURES: <u>Todd P. Miller</u>		
INSPECTOR: <u>[Signature]</u>	DATE <u>1-13-03</u>	
DRIVER: <u>John H. Bellrose Jr</u>	DATE <u>1-30-03</u>	

VEHICLE SURVEY REPORT

SHIPMENT SURVEY FORM

Date: <u>1/30/05</u>	Time: <u>13:42</u>	Surveyor (printed name): <u>EASTMAN</u>	
Surveyor (signature): <u>[Signature]</u>	Reviewed by: <u>NA</u>	Date: <u>NA</u>	
Purpose of Survey: <u>checking shipment for contamination</u>			
Location: <u>1007 E. 1st St. S. #100</u>			

INSTRUMENTS USED

MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. <u>Dicron 4 Rem</u>	<u>B8374</u>	<u>6/18/03</u>	<u>12 uR/hr</u>
2. <u>Model 3/44-9</u>	<u>79511/137499</u>	<u>12/3/03</u>	<u>60 cpm</u>
3.			

ITEM OR LOCATION * Smear locations are circled	Dose Rate mR/hr uR/hr.	Contamination counts/minute per 100 cm ²	Distance or smear location
		Alpha B-G	
1. Max D/R on the sides of the vehicle	<u>12 uR/hr</u>	<u>NA</u> <u>NA</u>	<u>1"</u>
2. Max D/R 2- M from the sides of the vehicle	<u>12</u>	<u>↓</u> <u>↓</u>	<u>2-Meter</u>
3. Max D/R in the occupied portion of the cab	<u>12</u>	<u>↓</u> <u>↓</u>	<u>Field</u>
4. Max D/R on the underside of the vehicle	<u>15</u>	<u>↓</u> <u>↓</u>	<u>1"</u>
5. Max D/R on the top of the vehicle	<u>23</u>	<u>↓</u> <u>↓</u>	<u>1"</u>
6. Max D/R on the containers' surface	<u>85</u>	<u>↓</u> <u>↓</u>	<u>1"</u>
7 Smears of the vehicle prior to loading	<u>NA</u>	<u>ND</u> <u>ND</u>	<u>smear</u>
8 Smears of containers prior to loading	<u>↓</u>	<u>↓</u> <u>↓</u>	<u>smear</u>
9.			
10.			
11.			

2 Meters Surface	<u>12</u> <u>12</u>	<u>12</u> <u>12</u>	<u>12</u> <u>12</u>	Surface 2 M <u>12</u> <u>12</u> <u>12</u> <u>12</u>
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Cab <u>12</u> </div>	<div style="border: 1px solid black; padding: 10px; display: inline-block;"> Top <u>23</u> Bottom <u>84</u> </div>			
Surface 2 Meters	<u>12</u> <u>12</u>	<u>12</u> <u>12</u>	<u>12</u> <u>12</u>	

Remarks:

SHIPMENT ACKNOWLEDGMENT

Consignee:

Please sign below after receiving and accepting this shipment. If a NRC² form 540 is included with this shipment, please sign block 9, "Authorized consignee acknowledging waste receipt."

Please fax both to:

CABRERA Services, Inc.
FAX: (803) 356-3717

Shipment No. :	USA 2002-041
Manifest No. :	USA 2002-041
Consignee:	Perma-Fix of Florida, 1940 N.W. Place, Gainesville, FL 32606
Date of Shipment:	Thursday, January 30, 2003

Signature of Consignee:	
Date of Receipt:	

This above information is intended to satisfy the requirements of 10 CFR 20, appendix F.

NRC FORM 540 (7-2001)		U.S. NUCLEAR REGULATORY COMMISSION		5. SHIPPER - NAME AND FACILITY US Army, SBCCOM Radiation Lab. 5905 Putnam Road Attn: Joyce Kuykendall Fort Belvoir, VA 22308		SHIPPER I.D. NUMBER Confirmation # 01211		7. NRC FORM 540 AND 540A NRC FORM 541 AND 541A NRC FORM 542 AND 542A ADDITIONAL INFORMATION		PAGE 1 OF 1 PAGE(S) 1 PAGE(S) None PAGE(S) None PAGE(S)		8. MANIFEST NUMBER (Use this number on all continuation pages) USA 2002-041-01					
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				USER PERMIT NUMBER Profile # RS 3146		SHIPMENT NUMBER USA 2002-041		<input checked="" type="checkbox"/> GENERATOR TYPE (Specify) G		9. CONSIGNEE - Name and Facility Perma-Fix of Florida 1940 N.W. 67th Place Gainesville, FL 32606		CONTACT Mr. Raymond Whittle					
1. EMERGENCY TELEPHONE NUMBER (800) 424-9300				CONTACT Mr. Todd Eastman, CABRERA		TELEPHONE NUMBER (Include Area Code) (803) 356-3717		EPA I.D. NUMBER MOR 000501973		SIGNATURE - Authorized consignee acknowledging waste receipt		TELEPHONE (Include Area Code) (352) 373-6066					
ORGANIZATION Chemtrek				6. CARRIER - Name and Address R & R Trucking, Inc. PO Box 645 Duenweg, MO 64841		SHIPPING DATE 01/30/2003		TELEPHONE (Include Area Code) (800) 625-6885		10. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the applicable requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.		DATE					
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1		EPA MANIFEST NUMBER 02041		CONTACT Don Ritchie		DATE 1-30-03		AUTHORIZED SIGNATURE Todd Eastman		TITLE Agent for US Army, OSC					
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number =====>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		EPA MANIFEST NUMBER 02041		SIGNATURE - Authorized carrier acknowledging waste receipt John H. Bellwether		DATE 1-30-03		AUTHORIZED SIGNATURE Todd Eastman		TITLE Agent for US Army, OSC					
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY (MBq)		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
Waste, Radioactive Material, LSA, n.o.s. (RQ D008), 7, UN2912 (radioactively contaminated lead)		NA		NA		Solid Metal Alloy		Am-241 Cs-137 Ni-63 Tc-99 U-nat		5.4995E-01		LSA-II		5040 LBS; 92 FT3		B-1	
FOR CONSIGNEE USE ONLY																	

<div>NRC FORM 541 (7-2001)</div> <div>U.S. NUCLEAR REGULATORY COMMISSION</div> <div>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</div> <div>CONTAINER AND WASTE DESCRIPTION</div> <div>Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste</div>			1. MANIFEST TOTALS						2. MANIFEST NUMBER USA 2002-041-01					
			NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME (m3)	NET WASTE WEIGHT (kg)	SPECIAL NUCLEAR MATERIAL (grams)				3. PAGE 1 OF 1 PAGE(S)				
						U-233	U-235	Pu	Total					
			1	0.45	1987	NP	NP	NP	NP					
			ALL NUCLIDES		TRITIUM	C-14	Tc-99	I-129	SOURCE (kg)	4. SHIPPER NAME US Army, SBCCOM Radiation Lab. Confirmation # 01211 SHIPPER ID NUMBER				
5.4995E-01		NP	NP	2.7528E-01	NP	1.5300E-07								
DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					16. WASTE CLASSIFI- CATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C		
5. CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIP- TION (See Note 1)	7. VOLUME (m3)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL <input checked="" type="checkbox"/> (μSv/hr) <input type="checkbox"/> (mSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm2) ALPHA BETA- GAMMA		11. WASTE DESCRIP- TOR (See Note 2)		12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT		WEIGHT % CHELATING AGENT IF > 0.1%	15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (mBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
B-1/Belvoir	2	2.61	2286	1.0000E+00	<3.6740E-06	<3.6740E-05	28.59-Rad actively contaminat ed Lead,59-P ROFILE/C	0.45	100 100	Metal Alloy/None Present	0	Am-241 1.9869E-05 Cs-137 2.7454E-01 Ni-63 1.0804E-04 Tc-99 2.7528E-01 U-nat 6.8450E-06 [1.5300E-07 kg] Total 5.4995E-01 MBq	AU	

Note 1: Container Description Codes. For containers/
waste requiring disposal in approved structural overpacks
the numerical code must be followed by "-OP."

1. Wooden Box or Crate

2. Metal Box

3. Plastic Drum or Pail

4. Metal Drum or Pail

5. Metal Tank or Liner

6. Concrete Tank or Liner

7. Polyethylene Tank or

8. Fiberglass Tank or Liner

9. Demineralizer

10. Gas Cylinder

11. Bulk, Unpackaged Waste

12. Unpackaged Components

13. High Integrity Container

19. Other. Describe in Item 8,
or additional page

Note 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal

21. Incinerator Ash

22. Soil

23. Gas

24. Oil

25. Aqueous Liquid

26. Filter Media

27. Mechanical Filter

28. EPA or State Hazardous

29. Demolition Rubble

30. Cation Ion-exchange Media

31. Anion Ion-exchange Media

32. Mixed Bed Ion-exchange Media

33. Contaminated Equipment

34. Organic Liquid (except oil)

35. Glassware or Labware

36. Sealed Source/Device

37. Paint or Plating

38. Evaporator Bottoms/Sludges/Concentrates

39. Compactible Trash

40. Noncompactible Trash

41. Animal Carcass

42. Biological Material (except animal carcass)

43. Activated Material

59. Other. Describe in Item 11,
or additional page

Note3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "-S."
For all solidification media, the vendor (manufacturer) and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.

Sorption

60. Speedi Dri

61. Celeborn

62. Floor Dry/
Superfine

63. Hi Dri

64. Safe T Sorb

65. Safe N Dri

66. Florco

67. Florco X

68. Solid A Sorb

69. Chemsil 30

70. Chemsil 50

71. Chemsil 3030

72. Dicapert HP200

73. Dicapert HP500

74. Petrosel

75. Petrosel II

76. Aquaset II

77. Aquaset II

89. Other. Describe in
Item 13, or
additional
page.

90. Cement

91. Concrete
(encapsulation)

92. Bitumen

93. Vinyl Chloride

94. Vinyl Ester Styrene

99. Other. Describe
in Item 13, or
additional page

100. None Required.

NRC FORM 541 (7-2001)

2001

T R O X L E R

July 11, 2001

US Army SBCCOM
Attn: Joyce Kuykendall
AMSSB-RCB-RS
5183 Black Hawk Rd.
Aberdeen Proving Grounds, MD 21010

Ms. Kuykendall,

This is to acknowledge receipt of the below-referenced nuclear gauge for disposal under North Carolina Radioactive Materials License #032-0182-1. You should retain this letter in your files to document transfer of the gauge.

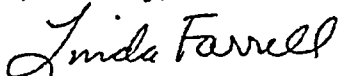
Model: 3411

S/N: 8856

RECEIVED: June 27, 2001

Any questions may be directed to me at (919) 485-2244

Sincerely,



Linda Farrell
Service Department Clerk

Troxler Electronic Laboratories, Inc. • Troxler International, Ltd.

3008 Cornwallis Road, P.O. Box 12057, Research Triangle Park, North Carolina 27709, U.S.A.
Telephone 919/549-8661 • FAX 919/549-0761



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5424

AMSSB-RCB-RS

MEMORANDUM FOR RECORD

SUBJECT:

BILL OF LADING
for Troxler Moisture Density Gauge

Name of Shipper:	Lindsey Bender, SBCCOM AMSSB-RCB-RSR 5905 Putnam Road, Suite 1 Fort Belvoir, VA 22060-5847	POC: Joyce Kuykendall SBCCOM AMSSB-CB-RS 5183 Black Hawk Rd APG, MD 21010-5424 Phone: 410-436-7118
Description of Contents:	RQ, Radioactive Materials, Special Form, NOS, 7, UN 2974	
Package:	TYPE A Package	
Isotope & Activity:	Special Form Cs-137 0.3 GBq (7.8 mCi) Special Form Am-241:Be 1.48 GBq (40.0 mCi)	
Labeling:	Radioactive Yellow II Label	
Transport Index:	TI = 0.6	

*******EMERGENCY CONTACT(919)839-2676*******

TROXLER, Research Triangle Park, NC
Ft. Belvoir (703) 704-2807/1988/1979, Pager (703) 826-5051
Home #s (703) 360-3259

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulation of the Department of Transportation.

Shipper

2001

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. VA72.13720.082011.B3		Manifest Document No. 011.B3		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address Directorate of Installation Support, Environmental/Natural Resource Division, 9430 Jackson Loop, Suite 107 Fort Belvoir, VA 22060-5130						A. State Manifest Document Number							
4. Generator's Phone (703) 806-0020 (Ann Engelberger)						B. State Generator's ID							
5. Transporter 1 Company Name R & R Trucking, Inc						C. State Transporter's ID							
6. US EPA ID Number MDR000501973						D. Transporter's Phone 417-623-6885							
7. Transporter 2 Company Name						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Phone							
9. Designated Facility Name and Site Address Perma-Fix of Florida 1940 NW 67th Place Gainesville, FL 32606						G. State Facility's ID							
10. US EPA ID Number FLD980711071						H. Facility's Phone 352-373-6066							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <input checked="" type="checkbox"/> Waste, Uranyl Nitrate, Solid, 7, 5.1, UN2981						0.01 DM		0.0015 P				D001	
b. <input checked="" type="checkbox"/> Waste, flammable liquid, NOS, (contains toluene, D001), 3, UN1993, PG II, Limited quantity of radioactive material.						0.01 DM		0.0150 P				F005, D001	
c.													
d.													
J. Additional Descriptions for Materials Listed Above 11a profile # RS1657 11b profile # RS1658						K. Handling Codes for Wastes Listed Above							
15. Special Handling Instructions and Additional Information ERG 11a #162 11b #128 Emergency 24 hr Contact: Chemtrec (800) 424-9300													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name MARTHA A. ENGELBERGER						Signature <i>Martha A. Engelberger</i>				Month Day Year 08/27/01			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name John Duxbury						Signature <i>John Duxbury</i>				Month Day Year 08/27/01			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Month Day Year			
19. Discrepancy Indication Space													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name						Signature				Month Day Year			

LAB PACK- DRUM INVENTORY

Generator Name: Fort Belvoir CCC Profile No: RS 1658
DOT Shipping Name: Waste, Flammable Liquid Generator Drum No: RS 1658
Hazard Class 3 (UN/NA ID No. 1993 PG III Outer Container Type/Size: UN1A2/Y - 30gal
NOTE: Line item numbers on this sheet must be entered on labels affixed to inner containers holding the materials/chemicals identified on the corresponding line.
Chemicals/Materials that appear in the "U" or "P" hazardous waste list must have the EPA hazardous waste code; otherwise, enter 'used', 'spent' or 'more than one active ingredient', if it applies to explain why the code is not assigned.

[illegible]

CERTIFICATION: The listing above is an accurate and complete description of the contents of this drum, and they are packed in accordance to 49 CFR 173.12.

GENERATOR NAME: Todd Eastman Sr and SIGNATURE [Signature] PACKED BY: EASTMAN
Fort Belvoir

* Physical State: S=Solid; L=Liquid; R=Residue (sludge), A=Aerosol; G=Gas

****Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder**

LAB PACK- DRUM INVENTORY

Generator Name: Fort Belvoir CCC Profile No: RS 1657
DOT Shipping Name: Waste Uranyl Nitrate Generator Drum No: RS 1657
Hazard Class 7 UN/NA ID No. 2981 PG NA Outer Container Type/Size: 11A/1A2/X 10gal
NOTE: Line Item numbers on this sheet must be entered on labels affixed to inner containers holding the materials/chemicals identified on the corresponding line.
Chemicals/Materials that appear in the "U" or "P" hazardous waste list must have the EPA hazardous waste code; otherwise, enter 'used', 'spent' or 'more than one active ingredient', if it applies to explain why the code is not assigned.

[illegible]

CERTIFICATION: The listing above is an accurate and complete description of the contents of this drum, and they are packed in accordance to 49 CFR 173.12.

GENERATOR NAME: Todd Eastman for Fort Belvoir and SIGNATURE [Signature] PACKED BY: EASTMAN

* Physical State: S=Solid; L=Liquid; R=Residue (sludge), A=Aerosol; G=Gas

*Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder

LAB PACK- DRUM INVENTORY

(1 of 2)

Generator Name: Fort Belvoir, VA CCC Profile No: RS 1659
 DOT Shipping Name: RAM LSA Generator Drum No: RS 1659(1)
 Hazard Class 7 UN/NA ID No. 2912 PG NA Outer Container Type/Size: metal OH 55gal

NOTE: Line Item numbers on this sheet must be entered on labels affixed to inner containers holding the materials/chemicals identified on the corresponding line. Chemicals/Materials that appear in the "U" or "P" hazardous waste list must have the EPA hazardous waste code; otherwise, enter 'used', 'spent' or 'more than one active ingredient', if it applies to explain why the code is not assigned.

Line Item No.	Quantity and Unit	Material/Chemical Name or Description	EPA Haz Waste Code	Physical State	Container Type	Comments
1	4L	Aqueous Non-RCRA Liquid	NA	L	P	1449A
2	3L					1687-3-1
3	1L					1687-3-2
4	1L					1700
5	4L					1729
6	5L					1744
7	1L					1620
8	1L					1618
9	4L					1663
10	1L					1414
11	1L					1475
12	0.5L					1635
13	.5L					1647B
14	.5L					1662
15	.5L					1647A
16	.5L					1647A-2 (150ml)
17	.5L					1647B-2 (150ml)
18	.5L					1428-2 (150ml)
19	.5L					1662-2 (200ml)
20	.5L					1667 (200ml)
21	.5L					1650 (250ml)
22	.5L					1627 (300ml)

CERTIFICATION: The listing above is an accurate and complete description of the contents of this drum, and they are packed in accordance to 49 CFR 173.12.

GENERATOR NAME: Todd Eastman for Fort Belvoir and SIGNATURE [Signature] PACKED BY: EASTMAN

* Physical State: S=Solid; L=Liquid; R=Residue (sludge), A=Aerosol; G=Gas

**Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder

$$(2062)$$
CCC Profile No. 151659

Generator Drum No: 1659(1)

Outer Container Type/Size: metal OH 55gal

Line Item No.	Quantity and Unit	Material/Chemical Name or Description	EPA Haz Waste Code	Physical State	Container Type	Comments
23	.5 l	Aqueous Non-RCRA Liquids	NA	L	P	1618-2 (150ml)
24	.5l					1603 (150ml)
25	.5l					1958
26	.5l					1679
27	.5l					1559 (350ml)
28	.5l					1537
29	.5l					1640
30	.5l					1675
	.5l					1566
	.5l					1622 (200ml)
	.5l					1529 (300ml)
	.5l					1558
	.5l					1637 (300ml)
	.5l					1483 (400ml)
	.5l					1644 (150ml)
	.5l					1672
	.5l					1673-1 (300ml)
	.5l					1673-2 (250ml)
	.5					1492 (250ml)
						X X X X X

GENERATOR NAME: Todd EASTMAN for and SIGNATURE: [Signature] PACKED BY: EASTMAN
Fort Belvoir

****Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder**

LAB PACK- DRUM INVENTORY

(1 of 2)

Generator Name: Fort Belvoir, VACCC Profile No: RS 1659DOT Shipping Name: Ram LSAGenerator Drum No: RS 1659(2)Hazard Class 7 UN/NA ID No. 2912 PG NAOuter Container Type/Size: UN/11A2/Y 55gal

NOTE: Line item numbers on this sheet must be entered on labels affixed to inner containers holding the materials/chemicals identified on the corresponding line. Chemicals/Materials that appear in the "U" or "P" hazardous waste list must have the EPA hazardous waste code; otherwise, enter 'used', 'spent' or 'more than one active ingredient'. If it applies to explain why the code is not assigned.

Line Item No.	Quantity and Unit	Material/Chemical Name or Description	EPA Haz Waste Code	Physical State	Container Type	Comments
1	1 l	Aqueous Non-RCRA liquid	NA	L	P	1512
2	0.5 l					1644-2
3	0.5 l					1639A (400ml)
4	0.5 l					1667-2 (400ml)
5	0.5 l					1622-1 (400ml)
6	0.5 l					1657-2
7	0.5 l					1637-2
8	0.5 l					1699-1
9	0.5 l					1650-2
10	0.5 l					1697-1
11	3 l					1639
12	4 l					1678
13	0.5 l					1574 (350ml)
14	0.5 l					1594 (400ml)
15	0.5 l					1512-2 (
16	0.5 l					1681
17	0.5 l					1692
18	0.5 l					1699-2 (250ml)
19	0.5 l					1707
20	0.5 l					1693
21	0.5 l					1702
22	1 l		✓	✓	✓	1510C1

CERTIFICATION: The listing above is an accurate and complete description of the contents of this drum, and they are packed in accordance to 49 CFR 173.12.

GENERATOR NAME: Todd EASTMAN for Fort Belvoir and SIGNATURE: [Signature] PACKED BY: EASTMAN

* Physical State: S=Solid; L=Liquid; R=Residue (sludge), A=Aerosol; G=Gas

**Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder

LAB PACK- DRUM INVENTORY

(2 of 2)

Generator Name: Fort Belvoir, VACCC Profile No: RS 1659DOT Shipping Name: RAM LSAGenerator Drum No: RS 1659/2Hazard Class 7 (UN) NA ID No. 2912 PG NAOuter Container Type/Size: UN 1142/X (55 gal)

NOTE: Line item numbers on this sheet must be entered on labels affixed to inner containers holding the materials/chemicals identified on the corresponding line.

Chemicals/Materials that appear in the "U" or "P" hazardous waste list must have the EPA hazardous waste code; otherwise, enter 'used', 'spent' or 'more than one active ingredient'. If it applies to explain why the code is not assigned.

Line Item No.	Quantity and Unit	Material/Chemical Name or Description	EPA Haz Waste Code	Physical State	Container Type	Comments
23	1 L	Aqueous Non-RCRA L. liquids	NA	L	P	1510C2
24	1 L					1510C3
25	1 L					1510C4
26	.5 L					1710A
27	.5 P					1691A
28	1 L					1611
29	.5 L					1611-2
30	.5 L					1710B
31	.5 L					1697-2 (250ml) R
32	.5 L					1700
33	.5 L					1720
34	.5 L					1711
35	.5 L					1691B
36	.5				↓	161462C
37	.5				G	1531 (400ml)
38	.5				P	1694B
39	1 L					1694A
40	1 L					1483
41	.5 L					1483-2
42	.5 L					1701
43	.5 L				↓	1697-2
	X	X X X	X	X	X	X X X

CERTIFICATION: The listing above is an accurate and complete description of the contents of this drum, and they are packed in accordance to 49 CFR 173.12.

GENERATOR NAME: Todd Eastman for and SIGNATURE [Signature] PACKED BY: EASTMAN
Fort Belvoir

* Physical State: S=Solid; L=Liquid; R=Residue (sludge), A=Aerosol; G=Gas

** Container Type: G=Glass; M=Metal; P=Plastic; F=Fiber; A=Aerosol Can; C=Gas Cylinder

TRUCK INSPECTION CHECKLIST

CARRIER: <u>D+R Trucking</u>		
TRACTOR NO.: <u>5925</u>		
TRAILER NO.: <u>7810116</u> TYPE: <u>Close-Van</u>		
ITEM	SAT	UNSAT
INCOMING SURVEYS COMPLETE, WITHIN LIMITS AND DOCUMENTED	✓	
VEHICLE IS FREE OF DIRT AND DEBRIS	✓	
INTERIOR SURFACES ARE FREE OF PROTRUSIONS	✓	
TIRES - MINIMUM 3/32" OF TREAD	✓	
WHEELS AND RIMS - LESS THAN 20% BROKEN OR MISSING BOLTS	✓	
ALL LIGHTS ARE OPERATIONAL	✓	
ENSURE BRAKES (NORMAL AND EMERGENCY) AND LOW AIR WARNING ALARMS OPERATIONAL	✓	
FRAME IS FREE OF CRACKS OR BREAKS	✓	
HORN IS OPERATIONAL	✓	
WINDSHIELD WIPERS ARE OPERATIONAL	✓	
DRIVER HAS COMPLETED HIS DAILY SAFETY INSPECTION	✓	
VEHICLE IS LICENSED AND PERMITTED FOR THE STATES IT MUST TRAVEL THROUGH	✓	
REMARKS:		
SIGNATURES:		
INSPECTOR: <u>Todd Eastman</u> DATE <u>8/27/2001</u>		
DRIVER: <u>John Alex Lury</u> DATE <u>8/27/01</u>		

CERTIFICATION FOR EXCEPTED RADIOACTIVE MATERIALS

Consigned By:	Consigned To:
<u>Fort Belvoir</u> <u>Directorate of Installation Support</u> <u>9430 Jackson Loop, Ste 107</u> <u>Fort Belvoir, VA 22060-5130</u> Attention: <u>Todd EASTMAN</u>	<u>Perma-Tex of Florida</u> <u>1940 NW 67th place</u> <u>Gainesville, FL 32606</u> Attention: <u>Raymond</u> <u>Whittle</u>

CHECK APPLICABLE NOTICE

- ☒ "This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material, excepted package - limited quantity of material, UN2910."
- ☐ "This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material, excepted package-instruments or articles, UN 2910."
- ☐ "This package conforms to the conditions and limitations specified in 49 CFR 173.428 for radioactive material, excepted package-empty package, UN2910."
- ☐ "This package conforms to the conditions and limitations specified in 49 CFR 173.426 for radioactive material, excepted package-articles manufactured from natural or depleted uranium, or natural thorium, UN2910."

Shipment Date: <u>8/30/2001</u>	Shipment Number: <u>USA 2001-0441</u>
Signature: <u>[Signature]</u>	Manifest Number: <u>"</u>
Title: <u>Agent for US Army</u>	
Package numbers applicable to this certification:	
<div style="font-size: 24px; font-family: cursive;">0251658</div>	

INSTRUCTIONS FOR EXCLUSIVE USE OF VEHICLES

Shipment No. USA 2001-044-1

Date 8/27/01

CFR 49, sections 173.403 and 173.441(b) and (c), require that specific instructions for maintenance of exclusive-use shipments controls be provided by the shipper to the carrier. These instructions must be included with the shipment documents.

The following instructions shall be complied with for all exclusive-use shipments.

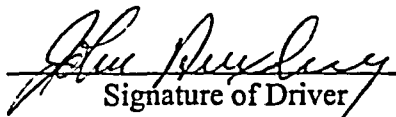
- ☐ The shipper must be notified prior to changing of the tractor or making fifth wheel adjustments.
- ☐ Do not move or transfer packages on the transport vehicle from the original configuration.
- ☐ The shipment must be loaded by the consignor and unloaded by the consignee from the transport vehicle on which it was originally loaded.
- ☐ The shipment must be blocked and braced so as to prevent leakage or shifting of load under incidents normal to transportation.
- ☐ If placards are required, the vehicle must be placarded on four (4) sides of the transport vehicle in a clearly visible position with the appropriate placards.
- ☐ Notify shipper immediately if the vehicle is involved in an accident or is required to apply emergency braking which could shift the load and change radiation levels.

In case of accident, vehicle malfunction or deviation from the above instructions, immediately contact one of the following CABRERA employees:

Todd Eastman Office (803) 356-3717
Home (803) 808-6966
Cell (860) 508-0455

Deviations from these instructions are violations of federal laws and could result in carrier penalties.

I have read and understand the above statements concerning the maintenance of exclusive use vehicles.


Signature of Driver

8/27/01
Date

SHIPMENT ACKNOWLEDGMENT


Consignee:

Please sign below after receiving and accepting this shipment. If a NRC form 540 is included with this shipment, please sign block 9, "Authorized consignee acknowledging waste receipt."

Please fax both to:

CABRERA Services, Inc.
FAX: (860) 289-2261

Shipment No. :	USA 2001-0441 @ Ft. Belvoir
Manifest No. :	11
Consignee:	Perma-Fix of Florida
Date of Shipment:	8/27/2001

Signature of Consignee:	
Date of Receipt:	

This above information is intended to satisfy the requirements of 10 CFR 20, appendix F.



LAND DISPOSAL RESTRICTION & CERTIFICATION FORM

Please check the facility you are shipping to:

☐ Perma-Fix of Florida, Inc.
Hazardous and Mixed Waste
1940 NW 67th Place
Gainesville, FL 32653
(352) 373-6066
EPA ID # FLD 980 711 071

☐ Perma-Fix of Dayton, Inc.
Hazardous Waste/Wastewater
300 South West End Ave.
Dayton, OH 45427
(937) 268-6501
EPA ID # OHD 004 274 031

☐ Perma-Fix of Memphis, Inc.
Hazardous Waste
901 East Bodley
Memphis, TN 38106
(901) 774-2050
EPA ID # TND 991 279 480

☐ Perma-Fix Treatment Services, Inc.
Hazardous Waste/Wastewater
2700 South 25th West Ave.
Tulsa, OK 74107
(918) 582-9595
EPA ID # OKD 000 402 396

Generator Name Directorate of Installation Support,
Environmental/Natural Resources Div. Generator USEPA ID No. VA 721372-0082
Generator Address 9430 Jackson Loop, Ste 107, Fort Belvoir, VA 22060-5130
State Manifest No. 01183 Manifest Doc. No. USA 2001-044-1

INSTRUCTIONS

- In Column 1 identify all USEPA hazardous waste codes that apply to this waste shipment.
- In Column 2, choose the appropriate treatability group: Non-Wastewater (NWW) or Wastewater (WW).
- In Column 3, enter the appropriate Subcategory, if applicable, and also enter "Contaminated Soil" or "Debris" if the waste will be treated using one of the alternative treatment technologies provided by 268.49(c) (soil) or 268.45 (debris).
- In Column 4, circle the letter of the appropriate LDR management categories on the back of this form.
- In Column 5, for F001-F005, D001-D043, Debris & Contaminated Soil wastes, enter the Reference Number(s) from the attached LDR/UHC Constituent Table for any constituents subject to treatment in your waste stream.

Manifest Line Item #	1. USEPA HAZARDOUS WASTE CODE(S)	2. NWW or WW	3. SUBCATEGORY	4. HOW MUST THE WASTE BE MANAGED (Circle one)	5. REFERENCE NUMBER(s) of Hazardous Constituents contained in the waste. Complete for F001-F005, D001 - D043, Soil & Debris wastes
11.A	D001	<input checked="" type="checkbox"/> NWW <input type="checkbox"/> WW		<input checked="" type="radio"/> A B C D E F G H S	(Nitrates)
11.B	F005, D001	<input checked="" type="checkbox"/> NWW <input type="checkbox"/> WW		<input checked="" type="radio"/> A B C D E F G H S	184
11.C		<input type="checkbox"/> NWW <input type="checkbox"/> WW		A B C D E F G H S	
11.D		<input type="checkbox"/> NWW <input type="checkbox"/> WW		A B C D E F G H S	

I hereby certify that all information submitted on this and all associated documents is complete and accurate to the best of my knowledge and information.

Generator Signature Martha A. Engelberg Title Sup. Env. Specialist
Printed Name MARTHA A. ENGBERG Date 8/27/01

How Must The Waste Be Managed?

LDR MANAGEMENT CATEGORIES

- A. THIS RESTRICTED WASTE REQUIRES TREATMENT TO THE APPLICABLE STANDARD. This waste must be treated to the applicable performance based treatment standard set forth in 40CFR Part 268 Subpart C, 268.32, Subpart D, 268.40 or RCRA Section 3004(d) prior to land disposal.
- B. THIS HAZARDOUS DEBRIS IS SUBJECT TO THE DEBRIS ALTERNATIVE TREATMENT STANDARDS OF 40 CFR 268.45. I certify under penalty of law that I personally have examined and am familiar with the waste and that the statement above is true and that this waste meets the definition of debris and can be treated using the alternate methods specified in 40 CFR 268.45. I am aware that there are significant penalties for submitting a false certification including possibility of fine or imprisonment.
- C. THIS RESTRICTED WASTE, FOR WHICH THE TREATMENT STANDARD IS EXPRESSED AS A SPECIFIED TECHNOLOGY, HAS BEEN TREATED BY THE SPECIFIED TECHNOLOGY. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.
- D. THIS RESTRICTED DEBRIS HAS BEEN TREATED IN ACCORDANCE WITH 40 CFR 268.45. I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making false certification, including the possibility of a fine and imprisonment.
- E. THIS LAB PACK DOES NOT CONTAIN ANY WASTES IDENTIFIED AT APPENDIX IV TO PART 268. I certify under penalty of law that I personally have examined and am familiar with the waste and that the statement above is true and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification including possibility of fine or imprisonment.
- F. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.
- G. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC AND BEEN TREATED FOR UNDERLYING HAZARDOUS CONSTITUENTS. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic, and that underlying hazardous constituents, as defined in 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting false certification, including the possibility of fine and imprisonment.
- H. THIS RESTRICTED WASTE IS SUBJECT TO AN EXEMPTION FROM LAND DISPOSAL. *(Please include the date the waste is subject to the prohibitions in Column 5)* This waste is subject to an exemption from a prohibition on the type of land disposal method utilized for the waste (such as, but not limited to, a case-by-case extension under 40 CFR Part 268.5, or an exemption under 40 CFR 268.6.

For S, circle the appropriate response for the 3 *italicized* options:

- S. THIS CONTAMINATED SOIL ☐ DOES ☐ DOES NOT CONTAIN LISTED HAZARDOUS WASTE AND ☐ DOES ☐ DOES NOT EXHIBIT A CHARACTERISTIC OF HAZARDOUS WASTE AND ☐ IS SUBJECT TO ☐ COMPLIES WITH THE SOIL TREATMENT STANDARDS AS PROVIDED BY 268.49(c) OR THE UNIVERSAL TREATMENT STANDARDS. I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process Used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

**Resource Guide -
Underlying Hazardous Constituents (UHC)
LDR (Land Disposal Restriction) Constituents**

Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
1	Acenaphthene	83-32-9	3.4	0.059	
2	Acenaphthylene	208-96-8	3.4	0.059	
3	Acetone	67-64-1	160	0.28	
4	Acetonitrile	75-05-8	38	5.6	
5	Acetophenone	96-86-2	9.7	0.010	
6	2-Acetylaminofluorene	53-96-3	140	0.059	
7	Acrolein	107-02-8	NA	0.29	
8	Acrylonitrile	107-13-1	84	0.24	
9	Acrylamide	79-06-1	23	19	
10	Aldrin	309-00-2	0.066	0.021	
11	4-Aminobiphenyl	92-67-1	NA	0.13	
12	Aniline	62-53-3	14	0.81	
13	Anthracene	120-12-7	3.4	0.059	
14	Aramite	140-57-8	NA	0.36	
15	alpha-BHC	319-84-6	0.066	0.00014	
16	beta-BHC	319-85-7	0.066	0.00014	
17	delta-BHC	319-86-8	0.066	0.023	
18	gamma-BHC (Lindane)	58-89-9	0.066	0.0017	
19	Benz(a)anthracene	56-55-3	3.4	0.059	
20	Benzal chloride	98-87-3	6	0.055	
21	Benzene	71-43-2	10	0.14	
22	Benzo(a)pyrene	50-32-8	3.4	0.061	
23	Benzo(b)fluoranthene	205-99-2	6.8	0.11	
24	Benzo(k)fluoranthene	207-08-9	6.8	0.11	
25	Benzo(g,h,i)perylene	191-24-2	1.8	0.0055	
26	bis(2-Chloroethoxy)methane	111-91-1	7.2	0.036	
27	bis(2-Chloroethyl)ether	111-44-4	6	0.033	
28	bis(2-Chloroisopropyl) ether	39638-32-9	7.2	0.055	
29	bis(2-Ethylhexyl) phthalate	117-81-7	28	0.28	
30	Bromodichloromethane	75-27-4	15	0.35	
31	Bromomethane (Methyl bromide)	74-83-9	15	0.11	
32	4-Bromophenyl phenyl ether	101-55-3	15	0.055	
33	n-Butyl alcohol	71-36-3	2.6	5.6	
34	Butyl benzyl phthalate	85-68-7	28	0.017	
35	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	2.5	0.066	
36	Carbon disulfide	75-15-0	4.8*	3.8	
37	Carbon tetrachloride	56-23-5	6	0.057	
38	Chlordane (alpha and gamma isomers)	57-74-9	0.26	0.0033	
39	p-Chloroaniline	106-47-8	16	0.46	
40	Chlorobenzene	108-90-7	6	0.057	
41	Chlorobenzilate	510-15-6	NA	0.10	
42	2-Chloro-1, 3-butadiene (Chloroprene)	126-99-8	0.28	0.057	
43	Chlorodibromomethane	124-48-1	15	0.057	
44	Chloroethane	75-00-3	6	0.27	
45	Chloroform	67-66-3	6	0.046	
46	p-Chloro-m-cresol	59-50-7	14	0.018	
47	2-Chloroethyl vinyl ether	110-75-8	NA	0.062	
48	Chloromethane (Methyl chloride)	74-87-3	30	0.19	
49	2-Chloronaphthalene	91-58-7	5.6	0.055	

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Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
50	2-Chlorophenol	95-57-8	5.7	0.044	
51	3-Chloropropylene (Allyl Chloride)	107-05-1	30	0.036	
52	Chrysene	218-01-9	3.4	0.059	
53	o-Cresol (2-Methyl phenol)	95-48-7	5.6	0.11	
54	m-Cresol (3-Methyl phenol)	108-39-4	5.6	0.77	
55	p-Cresol (4-Methyl phenol)	106-44-5	5.6	0.77	
56	Cyclohexanone	108-94-1	0.75*	0.36	
57	o,p'-DDD	53-19-0	0.087	0.023	
58	p,p'-DDD	72-54-8	0.087	0.023	
59	o,p'-DDE	3424-82-6	0.087	0.031	
60	p,p'-DDE	72-55-9	0.087	0.031	
61	o,p'-DDT	789-02-6	0.087	0.0039	
62	p,p'-DDT	50-29-3	0.087	0.0039	
63	Dibenz(a,h)anthracene	53-70-3	8.2	0.055	
64	Dibenz(a,e)pyrene	192-65-4	NA	0.061	
65	1,2-Dibromo-3-chloropropane	96-12-8	15	0.11	
66	1,2-Dibromoethane (Ethylene dibromide)	106-93-4	15	0.028	
67	Dibromomethane	74-95-3	15	0.11	
68	m-Dichlorobenzene (1,3-Dichlorobenzene)	541-73-1	6	0.036	
69	o-Dichlorobenzene (1,2-Dichlorobenzene)	95-50-1	6	0.088	
70	p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	6	0.090	
71	Dichlorodifluoromethane	75-71-8	7.2	0.23	
72	1,1-Dichloroethane	75-34-3	6	0.059	
73	1,2-Dichloroethane	107-06-2	6	0.21	
74	1,1-Dichloroethylene	75-35-4	6	0.025	
75	trans-1,2-Dichloroethylene	156-60-5	30	0.054	
76	2,4-Dichlorophenol	120-83-2	14	0.044	
77	2,6-Dichlorophenol	87-65-0	14	0.044	
78	2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	10	0.72	
79	1,2-Dichloropropane	78-87-5	18	0.85	
80	cis-1,3-Dichloropropylene	10061-01-5	18	0.036	
81	trans-1,3-Dichloropropylene	10061-02-6	18	0.036	
82	Dieldrin	60-57-1	0.13	0.017	
83	Diethyl phthalate	84-66-2	28	0.2	
84	p-Dimethylaminoazobenzene	60-11-7	NA	0.13	
85	2,4-Dimethyl phenol	105-67-9	14	0.036	
86	Dimethyl phthalate	131-11-3	28	0.047	
87	Di-n-butyl phthalate	84-74-2	28	0.057	
88	1,4-Dinitrobenzene	100-25-4	2.3	0.32	
89	4,6-Dinitro-o-cresol	534-52-1	160	0.28	
90	2,4-Dinitrophenol	51-28-5	160	0.12	
91	12,4-Dinitrotoluene	121-14-2	140	0.32	
92	2,6-Dinitrotoluene	606-20-2	28	0.55	
93	Di-n-octyl phthalate	117-84-0	28	0.017	
94	Di-n-propylnitrosamine	621-64-7	14	0.40	
95	1,4-Dioxane	123-91-1	170	12	
96	Diphenylamine	122-39-4	13	0.92	
97	Diphenylnitrosamine	86-30-6	13	0.92	
98	1,2-Diphenylhydrazine	122-66-7	NA	0.087	

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Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
99	Disulfoton	298-04-3	6.2	0.017	
100	Endosulfan 1	959-98-9	0.066	0.023	
101	Endosulfan 11	33213-65-9	0.13	0.029	
102	Endosulfan sulfate	1031-07-8	0.13	0.029	
103	Endrin	72-20-8	0.13	0.0028	
104	Endrin aldehyde	7421-93-4	0.13	0.025	
105	2-Ethoxyethanol (FO05)+		INCIN	INCIN	
106	Ethyl acetate	141-78-6	33	0.34	
107	Ethyl benzene	100-41-4	10	0.057	
108	Ethyl ether	60-29-7	160	0.12	
109	Ethyl methacrylate	97-63-2	160	0.14	
110	Ethylene oxide	75-21-8	NA	0.12	
111	Famphur	52-85-7	15	0.017	
112	Fluoranthene	206-44-0	3.4	0.068	
113	Fluorene	86-73-7	3.4	0.059	
114	Heptachlor	76-44-8	0.066	0.0012	
115	Heptachlor epoxide	1024-57-3	0.066	0.016	
116	Hexachlorobenzene	118-74-1	10	0.055	
117	Hexachlorobutadiene	87-68-3	5.6	0.055	
118	Hexachlorocyclopentadiene	77-47-4	2.4	0.057	
119	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.001	0.000063	
120	HxCDFs (All Hexachlorodibenzofurans)	NA	0.001	0.000063	
121	Hexachloroethane	67-72-1	30	0.055	
122	Hexachloropropylene	1888-71-7	30	0.035	
123	Indeno (1,2,3-c,d) pyrene	193-39-5	3.4	0.0055	
124	Iodomethane	74-88-4	65	0.19	
125	Isobutyl alcohol (Isobutanol)	78-83-1	170	5.6	
126	Isodrin	465-73-6	0.066	0.021	
127	Isosafrole	120-58-1	2.6	0.081	
128	Kepone	143-50-0	0.13	0.0011	
129	Methacrylonitrile	126-98-7	84	0.24	
130	Methanol	67-56-1	0.75*	5.6	
131	Methapyrilene	91-80-5	1.5	0.081	
132	Methoxychlor	72-43-5	0.18	0.25	
133	3-Methylchloroanthrene	56-49-5	15	0.0055	
134	4,4-Methylene bis (2-chloroaniline)	101-14-4	30	0.5	
135	Methylene chloride	75-09-2	30	0.089	
136	Methyl ethyl ketone	78-93-3	36	0.28	
137	Methyl isobutyl ketone	108-10-1	33	0.14	
138	Methyl methacrylate	80-62-6	160	0.14	
139	Methyl methansulfonate	66-27-3	NA	0.018	
140	Methyl parathion	298-00-0	4.6	0.014	
141	Naphthalene	91-20-3	5.6	0.059	
142	2-Naphthylamine	91-59-8	N/A	0.52	
143	o-Nitroaniline	88-74-4	14	0.27	
144	p-Nitroaniline	100-01-6	28	0.028	
145	Nitrobenzene	98-95-3	14	0.068	
146	5-Nitro-o-toluidine	99-55-8	28	0.32	
147	o-Nitrophenol	88-75-5	13	0.028	

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Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
148	p-Nitrophenol	100-02-7	29	0.12	
149	2-Nitropropane (FO05)+		INCIN	INCIN	
150	N-Nitrosodiethylamine	55-18-5	28	0.4	
151	N-Nitrosodimethylamine	62-75-9	2.3	0.4	
152	N-Nitroso-di-n-butylamine	924-16-3	17	0.4	
153	N-Nitrosomethylethylamine	10595-95-6	2.3	0.4	
154	N-Nitrosomorpholine	59-89-2	2.3	0.4	
155	N-Nitrosopiperidine	100-75-4	35	0.013	
156	N-Nitrosopyrrolidine	930-55-2	35	0.013	
157	Parathion	56-38-2	4.6	0.014	
158	Total PCBs	1336-36-3	10	0.1	
159	Pentachlorobenzene	608-93-5	10	0.055	
160	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.001	0.000063	
161	PeCDFs (All Pentachlorodibenzofurans)	NA	0.001	0.000035	
162	Pentachloroethane	76-01-7	6	0.055	
163	Pentachloronitrobenzene	82-68-8	4.8	0.055	
164	Pentachlorophenol	87- 86-5	7.4	0.089	
165	Phenacetin	62-44-2	16	0.081	
166	Phenanthrene	85-01-8	5.6	0.059	
167	Phenol	108-95-2	6.2	0.039	
168	Phorate	298-02-2	4.6	0.021	
169	Phthalic acid	100-21-0	28	0.055	
170	Phthalic anhydride	85-44-9	28	0.055	
171	Pronamide	23950-58-5	1.5	0.093	
172	Propanenitrile (Ethyl cyanide)	107-12-0	360	0.24	
173	Pyrene	129-00-0	8.2	0.067	
174	Pyridine	110-86-1	16	0.014	
175	Safrole	94-59-7	22	0.081	
176	Silvex (2,4,5-TP)	93-72-1	7.9	0.72	
177	1,2,4,5-Tetrachlorobenzene	95-94-3	14	0.055	
178	TCDDs (All Tetachlorodibenzo-p-dioxins)	NA	0.001	0.000063	
179	TCDFs (All Tetrachlorodibenzofurans)	NA	0.001	0.000063	
180	1,1,1,2-Tetrachloroethane	630-20-6	6	0.057	
181	1, 1,2,2-Tetrachloroethane	79-34-5	6	0.057	
182	Tetrachloroethylene	127-18-4	6	0.056	
183	2,3,4,6-Tetrachlorophenol	58-90-2	7.4	0.03	
184	Toluene	108-88-3	10	0.080	
185	Toxaphene	8001-35-2	2.6	0.0095	
186	Tribromomethane (Bromoform)	75-25-2	15	0.63	
187	1,2,4-Trichlorobenzene	120-82-1	19	0.055	
188	1, 1, 1 -Trichloroethane	71-55-6	6	0.054	
189	1, 1,2-Trichloroethane	79-00-5	6	0.054	
190	Trichloroethylene	79-01-6	6	0.054	
191	Trichloromonofluoromethane	75-69-4	30	0.02	
192	2,4,5-Trichlorophenol	95-95-4	7.4	0.18	
193	2,4,6-Trichlorophenol	88-06-2	7.4	0.035	
194	2,4,5-Trichlorophenoxyacetic acid/2,4,5-T	93-76-5	7.9	0.72	
195	1,2,3-Trichloropropane	96-18-4	30	0.85	
196	1,1,2-Trichloro- 2,2,2-trifluoroethane	76-13-1	30	0.057	

**Resource Guide -
Underlying Hazardous Constituents (UHC)
LDR (Land Disposal Restriction) Constituents**

Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
197	tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.1	0.011	
198	Vinyl chloride	75-01-4	6	0.27	
199	Xylenes	1330-20-7	30	0.32	
200	Antimony	7440-36-0	1.15*,‡	1.9	
201	Arsenic	7440-38-2	5.0*	1.4	
202	Barium	7440-39-3	21*,‡	1.2	
203	Beryllium	7440-41-7	1.22*,‡	0.82	
204	Cadmium	7440-43-9	0.11*,‡	0.69	
205	Chromium (Total)	7440-47-3	0.60*,‡	2.77	
206	Cyanides (Total)	57-12-5	590	1.2	
207	Cyanides (Amenable)	57-12-5	30	0.86	
208	Fluoride	16984-48-8	NA	35	
209	Lead	7439-92-1	0.75*,‡	0.69	
210	Mercury (retort residues)	7439-97-6	0.20*	NA	
211	Mercury (all others)	7439-97-6	0.025*	0.15	
212	Nickel	7440-02-0	11 *,‡	3.98	
213	Selenium	7782-49-2	5.7*,**	0.82	
214	Silver	7440-22-4	0.14,‡	0.43	
215	Sulfide	18496-25-8	NA	14	
216	Thallium	7440-28-0	0.20*,‡	1.4	
217	Vanadium	7440-62-2	1.6*,**,‡	4.3	
218	Zinc	7440-66-6	4.3*,**,‡	2.61	
219	A2213	30558-43-1	1.4	0.042***	
220	Aldicarb sulfone	1646-88-4	0.28	0.056	
221	Barban	101-27-9	1.4	0.056	
222	Bendiocarb	22781-23-3	1.4	0.056	
223	Bendiocarb phenol	22961-82-6	1.4	0.056	
224	Benomyl	17804-35-2	1.4	0.056	
225	Butylate	2008-41-5	1.4	0.042***	
226	Carbaryl	63-25-2	0.14	0.006	
227	Carbenzadim	10605-21-7	1.4	0.056	
228	Carbofuran	1563-66-2	0.14	0.006	
229	Carbofuran phenol	1563-38-8	1.4	0.056	
230	Carbosulfan	55285-14-8	1.4	0.028	
231	m-Cumenyl methylcarbamate	64-00-6	1.4	0.056	
232	Cycloate**	1134-23-2	1.4	0.042***	
233	Diethylene glycol, dicarbamate	5952-26-1	1.4	0.056	
234	Dimetilan	644-64-4	1.4	0.056	
235	Dithiocarbamates (total)	137-30-4	28	0.028	
236	EPTC	759-94-4	1.4	0.042	
237	Formetanate hydrochloride	23422-53-9	1.4	0.056	
238	Formparanate	17702-57-7	1.4	0.056	
239	3-Iodo-2-propynyl n-butylcarbamate**	55406-53-6	1.4	0.056	
240	Isolan	119-38-0	1.4	0.056	
241	Methiocarb	2032-65-7	1.4	0.056	
242	Methomyl	16752-77-5	0.14	0.028	
243	Metolcarb	1129-41-5	1.4	0.056	
244	Mexacarbate	315-18-4	1.4	0.056	
245	Molinate	2212-67-1	1.4	0.042	

**Resource Guide -
Underlying Hazardous Constituents (UHC)
LDR (Land Disposal Restriction) Constituents**

Ref. #	Hazardous Constituent	CAS NO.	NWW mg/Kg	WW mg/Kg	Concentration
246	Oxamyl	23135-22-0	0.28	0.056	
247	Pebulate	1114-71-2	1.4	0.042	
248	o-Phenylenediamine	95-54-5	5.6	0.056	
249	Physostigmine	57-47-6	1.4	0.056	
250	Physostigmine salicylate	57-64-7	1.4	0.056	
251	Promecarb	2631-37-0	1.4	0.056	
252	Proparn	122-42-9	1.4	0.056	
253	Propoxur	114-26-1	1.4	0.056	
254	Prosulfocarb	52888-80-9	1.4	0.042	
255	Thiodicarb	59669-26-0	1.4	0.019	
256	Thiophanate-methyl	23564-05-8	1.4	0.056	
257	Tirpate	26419-73-8	0.28	0.056	
258	Triallate	2303-17-5	1.4	0.042	
259	Triethylarnine-	101-44-8	1.5	0.081	
260	Vernolate	1929-77-7	1.4	0.042	
*	"Concentration in mg/l TCLP"				
**	Not Underlying Hazardous Constituents. (See 60 FR, Jan. 3, 1995)				
***	The preamble to the final rule (61 FR 15584) clearly indicates that the wastewater treatment standard for thiocarbamate constituents has been revised to 0.042mg/l. However, the §268.48 universal treatment standards table still shows 0.003 mg/l.				
‡	These UTS levels are effective on August 24, 1998 as established in 63 FR 28556-28753) the finalized Phase IV restrictions (LDR) rule.				

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity but risks to people are not great.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels. • Placards, markings, and shipping papers provide identification.
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard; so follow this Guide as well as the response Guide for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily.
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see Guide 136).
- Nitrates are oxidizers and may ignite other combustibles (see Guide 141).

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. • Stay upwind. • Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

Small Fires

- Dry chemical, CO₂, water spray or regular foam.

Large Fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Cover liquid spill with sand, earth or other noncombustible absorbent material.
- Dike to collect large liquid spills.
- Cover powder spill with plastic sheet or tarp to minimize spreading.

FIRST AID

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

GUIDE 128

FLAMMABLE LIQUIDS (NON-POLAR/WATER-IMMISCIBLE)

ERG2000

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.

HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

EMERGENCY RESPONSE**FIRE**

CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

Small Fires

- Dry chemical, CO₂, water spray or regular foam.

Large Fires

- Water spray, fog or regular foam.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

Large Spills

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

EMERGENCY CONTACT: CHEMTREC (800) 424-9300

Shipping Date: 8/27/2001Manifest No.: USA 2001-044-1

Proper Shipping Name

Hazard Class

ID Number

- ☒ Radioactive Material, LSA, n.o.s.,
☐ Radioactive Material, SCO,

7 UN2912
 7 UN2913

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity. This poses little risk to people.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels.
- Placards, markings, and shipping papers provide identification.
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard: so follow this guide as well as the response guide for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments. •Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily. •Nitrates are oxidizers and may ignite other combustibles (see guide 141).
- Uranium and Thorium metal cutting or granules may ignite spontaneously if exposed to air (see Guide 136).

PUBLIC SAFETY

- Call Thom Dias at (925) 443-7967
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small Fires

- Dry chemicals, CO₂, Water spray or regular foam.

Large Fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.
- Cover powder spill with plastic sheet or tarp to minimize spreading.
- Dike to collect large liquid spills.

FIRST AID

- Medical problems take priority over radiological concerns. •Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person. •Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

NRC FORM 540 (5-1998)		U.S. NUCLEAR REGULATORY COMMISSION UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		5. SHIPPER - NAME AND FACILITY Directorate of Installation Support Environmental/Natural Resource 8430 Jackson Loop, Suite 107 Fort Belvoir VA 22060-5130		SHIPPER I.D. NUMBER USA 2001-044-1		7. NRC FORM 540 AND 540A NRC FORM 541 AND 541A NRC FORM 542 AND 542A ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages) USA 2001-044-1	
1. EMERGENCY TELEPHONE NUMBER (800) 424-9300		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 4		USER PERMIT NUMBER		SHIPMENT NUMBER USA 2001-044-1		COLLECTOR		CONTACT Mr. Raymond Whittle	
ORGANIZATION Chemtec		4. DOES EPA REGULATE WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number		EPA MANIFEST NUMBER 01183 (DIS-ENRD)		6. CARRIER - Name and Address R&R Trucking, Inc. PO Box 545 Duenweg MO 64841		EPA I.D. NUMBER MOR000501973		9. CONSIGNEE - Name and Facility Address Perma-Fix of Florida 1940 N.W. 87th Place Gainesville FL 32606	
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		EPA MANIFEST NUMBER 01183 (DIS-ENRD)		CONTACT Mr. Don Ritchie		TELEPHONE NUMBER (Include Area Code) 800-625-6885		SHIPPING DATE 08/27/01		SIGNATURE - Authorized consignee acknowledging waste receipt	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY (MBq)	
Waste, Uranyl Nitrate, solid, 7, 5.1, UN2981 (Uranyl Nitrate reagent)	White - I	N/A	Liquid/Uranyl Nitrate	U-nat		2.6607E+00	NA	15. LBS; 1.3 FT3	RS 1657		
Waste, Flammable liquid, nos (contains toluene, D001), 3, UN1993, PGL, limited quantity of radioactive material. (Liquid scintillation fluids)	NA	N/A	Liquid/Toluene	Am-241Ba-133 Co-60 Cs-134	C-14 Cd-109 Ce-139 Co-67 Cs-137 Eu-152 H-3 Hg-203	1.6013E+01	NA	160. LBS; 4.01 FT3	RS 1658		
				Ni-63 Pa-234 Sr-85 Sr-90	Pm-147Ra-226 Ra-228 Sn-113 Th-234 U-234 U-235 U-238						
				U-nat Y-88	Zn-65						
Radioactive material, low specific activity, n.o.s., 7, UN2912 (aqueous Non-RCRA liquids)	NA	N/A	Solid /Oxides	Am-241Ba-133 Cr-51 Cs-134	Cd-109 Ce-139 Co-57 Co-60 Cs-137 H-3 Hg-203 K-40	2.5050E-01	LSA-II	240. LBS; 7.01 FT3	RS 1659 (1)		
				Ra-226 Ra-228 Sr-90 Th-230	Ru-106 Sn-113 Sr-85 Sr-89 U-238 U-nat Zn-65						

FOR CONSIGNEE USE ONLY

8. **MANIFEST NUMBER**
(Use this number on all continuation pages)
USA 2001-044-1

[illegible]

NRC FORM 541 (5-1998)		U.S. NUCLEAR REGULATORY COMMISSION		1. MANIFEST TOTALS							2. MANIFEST NUMBER USA 2001-044-1								
				SPECIAL NUCLEAR MATERIAL (grams)															
				NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME (m3)	NET WASTE WEIGHT (kg)	U-233	U-235	Pu	TOTAL									
				4	0.2062	105.6	NP	1.2800E-03 2 Containers	NP	1.2800E-03									
				ACTIVITY (MBq)									SOURCE (kg)						
ALL NUCLIDES		TRITIUM	C-14	Tc-99	I-129														
2.8363E+01		7.5103E-01	8.1400E-02	NP	NP	2.1652E-01	3. PAGE 1 OF 3 PAGE(S)												
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				4. SHIPPER NAME Directorate of Installation Support															
				USA 2001-044-1 SHIPPER ID NUMBER															
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
5. CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIP- TION (See Note 1)	7. VOLUME (m3)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL	10. SURFACE CONTAMINATION MBq/100 cm2		11. WASTE DESCRIP- TOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0.1%	15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	16. WASTE CLASSIFI- CATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C						
				√ (μSv/hr) (mSv/hr)	ALPHA	BETA- GAMMA													
RS 1657/F1 Behr/Haz	4	0.0368	6.8	<8.0000E-01	<1.6700E-06	<1.6700E-05	28.59- REAGEN TS	0.0001	100 100	Uranyl Nitrate/None Present	0.00	U-nat 2.6607E+00 [1.0100E-01 kg]	AU						
												Total 2.6607E+00 MBq							
RS 1658/F1 Behr/Haz	4	0.1136	72.6	<8.0000E-01	<1.6700E-06	<1.6700E-05	28.59- LIQUID SCINTILL ATION FLUIDS	0.0079	89- VERMICULITE 100	Toluene/None Present	0.00	Am-241 1.6687E-03 Ba-133 2.8120E-05 C-14 8.1400E-02 Cd-109 9.6200E-02 Ce-139 4.8100E-03	AU						
												Co-57 3.7000E-03 Co-60 5.9200E-02 Cs-134 7.4000E-07 Cs-137 1.8130E-02 Eu-152 7.4000E-01							
												H-3 7.0300E-01 Hg-203 1.3320E-02 Ni-63 1.0360E+01 Pa-234 8.1400E-04 Pm-147 3.8110E+00							
												Ra-226 2.4050E-07 Ra-228 2.9970E-07 Sn-113 1.7760E-02 Sr-85 2.2570E-02 Sr-90 9.6940E-04							

NOTE 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "-OP."

- | | |
|-------------------------------|--|
| 1. Wooden Box or Crate | 8. Demineralizer |
| 2. Metal Box | 10. Gas Cylinder |
| 3. Plastic Drum or Pail | 11. Bulk, Unpackaged Waste |
| 4. Metal Drum or Pail | 12. Unpackaged Components |
| 5. Metal Tank or Liner | 13. High Integrity Container |
| 6. Concrete Tank or Liner | 19. Other, Describe in Item 6, or additional page. |
| 7. Polyethylene Tank or Liner | |
| 8. Fiberglass Tank or Liner | |

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

- | | | |
|----------------------------|----------------------------------|--|
| 20. Charcoal | 29. Demolition Rubble | 38. Evaporator Bottoms/Sludges/Concentrates |
| 21. Incinerator Ash | 30. Cation Ion-exchange Media | 39. Compactible Trash |
| 22. Soil | 31. Anion Ion-exchange Media | 40. Noncompactible Trash |
| 23. Gas | 32. Mixed Bed Ion-exchange Media | 41. Animal Carcass |
| 24. Oil | 33. Contaminated Equipment | 42. Biological Material (except animal carcass) |
| 25. Aqueous Liquid | 34. Organic Liquid (except oil) | 43. Activated Material |
| 26. Filter Media | 35. Glassware or Labware | 59. Other, Describe in Item 11, or additional page |
| 27. Mechanical Filter | 36. Sealed Source/Device | |
| 28. EPA or State Hazardous | 37. Paint or Plating | |

Note 3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "-S." For all solidification media, the vendor (manufacturer) and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.

- | | | | | | | | |
|--------------------------|------------------|--------------------|-----------------|---|------------------------------|--|--|
| Sorption | | | | Solidification | | | |
| 60. Speedi Dri | 64. Safe T Sorb | 69. Chemill 30 | 74. Petrosel | 89. Other, Describe in Item 13, or additional page. | 90. Cement | 94. Vinyl Ester Styrene | |
| 61. Celatom | 65. Safe N Dri | 70. Chemill 50 | 75. Petrosel II | | 91. Concrete (encapsulation) | 99. Other, Describe in Item 13, or additional page | |
| 62. Floor Dry/ Superfine | 66. Florco | 71. Chemill 3030 | 76. Aquaset | | 92. Bitumen | | |
| 63. Hi Dri | 67. Florco X | 72. Dicapril HP200 | 77. Aquaset II | | 93. Vinyl Chloride | 100. None Required. | |
| | 68. Solid A Sorb | 73. Dicapril HP500 | | | | | |

NRC FORM 541A (5-1998)		UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										U.S. NUCLEAR REGULATORY COMMISSION				2. MANIFEST NUMBER USA 2001-044-1	
CONTAINER AND WASTE DESCRIPTION																3. PAGE 2 OF 3 PAGE(S)	
DISPOSAL CONTAINER DESCRIPTION								WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFI- CATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
5. CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIP- TION (See Note 1)	7. VOLUME (m3)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL		10. SURFACE CONTAMINATION MBq/100 cm2		11. WASTE DESCRIP- TOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
				√ (μ Sv/hr) (mSv/hr)		ALPHA	BETA- GAMMA					WEIGHT % CHELATING AGENT IF>0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
														Th-234 8.1400E-04 U-234 8.1400E-04 U-235 9.2500E-05 U-238 8.1400E-04 U-nat 1.6280E-03	4.6000E-15 kg 7.7000E-09 kg 1.1000E-03 g 6.5000E-05 kg 3.1000E-04 kg		
														Y-88 7.4000E-02 Zn-65 2.3310E-06			
														Total 1.6013E+01 MBq			
RS 1859 (1)Fort Belvoir	NA	0.1985	108.9	1.0000E+00	<1.6700E-06	<1.6700E-05	25.59- NON- RCRA LIQUID	0.0991	100 100	Oxides/None	0.00	Am-241 1.6952E-03 Ba-133 5.1800E-05 Cd-109 9.5090E-02 Ce-139 4.9950E-03 Co-57 4.2125E-02					
												Co-60 1.8870E-05 Cr-51 4.3716E-04 Cs-134 1.9481E-05 Cs-137 1.4497E-02 H-3 3.9409E-02					
												Hg-203 1.2567E-02 K-40 4.0700E-06 Ra-226 5.3280E-06 Ra-228 8.3250E-06 Ru-106 3.1672E-05					
												Sn-113 1.7554E-02 Sr-85 2.1719E-02 Sr-89 3.1080E-06 Sr-90 1.7760E-06 Th-230 1.1100E-06	1.4000E-12 kg				
												U-238 1.3727E-04 U-nat 7.4000E-05 Zn-65 5.2873E-05	1.6900E-03 kg 2.8200E-06 kg				
												Total 2.5050E-01 MBq					

NRC FORM 541A (5-1998)		UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										U.S. NUCLEAR REGULATORY COMMISSION		2. MANIFEST NUMBER USA 2001-044-1	
CONTAINER AND WASTE DESCRIPTION														3. PAGE 3 OF 3 PAGE(S)	
DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							18. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
5. CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m3)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL		10. SURFACE CONTAMINATION MBq/100 cm2		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION		
				√ (μ Sv/hr) (mSv/hr)		ALPHA	BETA-GAMMA				CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0.1%			INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
RS-1859 (2)/Fort Belvoir	NA	0.1985	104.3	1.0000E+00		<1.5700E-08	<1.5700E-05	25.58- NON- RCRA LIQUID	0.0991	100 100	Oxides/None	0.00	Am-241 6.4417E-03 Ba-133 1.3320E-05 Cd-109 7.0300E-02 Ce-139 3.5187E-03 Co-57 2.8009E-03	HA	
													Co-60 1.8211E-02 Cs-134 8.5100E-06 Cs-137 1.4615E-02 H-3 8.6210E-03 Hg-203 9.9900E-03		
													I-131 2.8120E-05 Ni-63 3.8554E+00 Pa-234 4.0700E-04 Pb-210 1.6354E-05 Pm-147 5.3613E+00		
													Ra-226 2.2200E-03 Ra-228 5.9200E-04 Ru-106 6.4750E-06 Sn-113 1.3320E-02 Sr-85 1.6872E-02		
													Sr-89 1.2839E-02 Sr-90 9.2870E-04 Th-230 6.9930E-07 Th-232 1.8500E-03 Th-234 4.0700E-04	9.0000E-13 kg 4.5500E-04 kg 4.8000E-16 kg	
													U-234 4.5140E-04 U-235 1.4800E-05 U-238 9.2500E-03 Y-88 2.7306E-02 Zn-65 1.4907E-03	2.0000E-09 kg 1.8000E-04 g 1.1300E-01 kg	
													Total 9.4392E+00 MBq		

<div>NRC FORM 542 (5-1998)</div> <div>U.S. NUCLEAR REGULATORY COMMISSION</div> <div>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</div> <div>MANIFEST INDEX AND REGIONAL COMPACT TABULATION</div>		1. WASTE COLLECTOR/PROCESSOR						2. MANIFEST NUMBER			
		NAME Directorate of Installation Support			SHIPPER USE ONLY			USA 2001-044-1			
		IDENTIFICATION NUMBER									
		SHIPPING DATE 08/27/01									
List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators.						3. PAGE 1 OF 1 PAGE(S)					
4. GENERATOR IDENTIFICATION NUMBER	5. GENERATOR NAME PERMIT NUMBER (IF APPLICABLE), AND TELEPHONE NUMBER	6. GENERATOR FACILITY ADDRESS	7. PREPROCESSED WASTE (OR MATERIAL) VOLUME (m3)	8. MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9. WASTE CODE P = PROCESSED C = COLLECTED	10. ORIGINATING COMPACT REGION OR STATE	11. AS PROCESSED/COLLECTED TOTAL				
							A. SOURCE MATERIAL (kg)	B. SNM (g)	C. ACTIVITY (MBq)	D. VOLUME (m3)	
Fort Belvoir	SBCCOM Radiation Lab. (309) 782-0338	5905 Putnam Road (Attn: AMSSB-RCB-RSR Fort Belvoir, VA 22308	0.1982	N/A (/ /)	C	VA	1.1515E-01	1.8000E-04	9.6896E+00	0.1982	
Ft Belvoir Haz	Directorate of Installation Support (703) 806-0020	Environmental/Natural Resource 9430 Jackson Loop, Suite 107 Fort Belvoir, VA 22060-5130	0.0080	N/A (/ /)	C	VA	1.0138E-01	1.1000E-03	1.8674E+01	0.0080	
TOTALS OF ALL PAGES (FORMS 542 AND 542A)							2.1653E-01	1.2800E-03	2.8384E+01	0.2062	

Shipper No. USA 2001-044

Carrier No. _____

R & R Trucking

(Name of Carrier)

(SCAC)

Date: 8/27/01

From:

Shipper SBCCOM, Radiation Lab.

Street Bldg329, 5905 Putnam Road

City	Ft. Belvoir	State	VA	Zip Code	22060
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Zip Code 21010

24 Hr. Emergency Contact Tel. No. (800) 424-9300, ChemTrec

Vehicle Number

BASIC DESCRIPTION

ITEM	QTY	UNIT	PRICE	TOTAL
1	1	EA	10.00	10.00
2	1	EA	20.00	20.00
3	1	EA	30.00	30.00
4	1	EA	40.00	40.00
5	1	EA	50.00	50.00
6	1	EA	60.00	60.00
7	1	EA	70.00	70.00
8	1	EA	80.00	80.00
9	1	EA	90.00	90.00
10	1	EA	100.00	100.00
11	1	EA	110.00	110.00
12	1	EA	120.00	120.00
13	1	EA	130.00	130.00
14	1	EA	140.00	140.00
15	1	EA	150.00	150.00
16	1	EA	160.00	160.00
17	1	EA	170.00	170.00
18	1	EA	180.00	180.00
19	1	EA	190.00	190.00
20	1	EA	200.00	200.00
21	1	EA	210.00	210.00
22	1	EA	220.00	220.00
23	1	EA	230.00	230.00
24	1	EA	240.00	240.00
25	1	EA	250.00	250.00
26	1	EA	260.00	260.00
27	1	EA	270.00	270.00
28	1	EA	280.00	280.00
29	1	EA	290.00	290.00
30	1	EA	300.00	300.00
31	1	EA	310.00	310.00
32	1	EA	320.00	320.00
33	1	EA	330.00	330.00
34	1	EA	340.00	340.00
35	1	EA	350.00	350.00
36	1	EA	360.00	360.00
37	1	EA	370.00	370.00
38	1	EA	380.00	380.00
39	1	EA	390.00	390.00
40	1	EA	400.00	400.00
41	1	EA	410.00	410.00
42	1	EA	420.00	420.00
43	1	EA	430.00	430.00
44	1	EA	440.00	440.00
45	1	EA	450.00	450.00
46	1	EA	460.00	460.00
47	1	EA	470.00	470.00
48	1	EA	480.00	480.00
49	1	EA	490.00	490.00
50	1	EA	500.00	500.00
51	1	EA	510.00	510.00
52	1	EA	520.00	520.00
53	1	EA	530.00	530.00
54	1	EA	540.00	540.00
55	1	EA	550.00	550.00
56	1	EA	560.00	560.00
57	1	EA	570.00	570.00
58	1	EA	580.00	580.00
59	1	EA	590.00	590.00
60	1	EA	600.00	600.00
61	1	EA	610.00	610.00
62	1	EA	620.00	620.00
63	1	EA	630.00	630.00
64	1	EA	640.00	640.00
65	1	EA	650.00	650.00
66	1	EA	660.00	660.00
67	1	EA	670.00	670.00
68	1	EA	680.00	680.00
69	1	EA	690.00	690.00
70	1	EA	700.00	700.00
71	1	EA	710.00	710.00
72	1	EA	720.00	720.00
73	1	EA	730.00	730.00
74	1	EA	740.00	740.00
75	1	EA	750.00	750.00
76	1	EA	760.00	760.00
77	1	EA	770.00	

WEIGHT

RATE

CHARGES

Proper Shipping Name, Hazard Class,
Identification Number (UN or NA), Packing Group, per 172.101, 172.202, 172.203

340 kg

(one 20WC-4 overpack with inner 2R container of sealed sources and devices)

(750 lb.)

Radionuclide: Am-241

Total Activity: 140,600 MBq (3800 mCi)

Physical Form: Solid

Chemical Form: Oxides

Container Spec: US DOT 20WC-4 with Inner US DOT 2R

Label: Radioactive Yellow-II

Transport Index: 0.1

REMIT C.O.D. to:

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled/picarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

COB

Art: 5

C.O.D. FEE:

Prepaid	<input type="checkbox"/>
Collect	<input type="checkbox"/> \$

Total Charges:	\$
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Freight Charges

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges:

2.

Freight Prepaid
except when box at
right is checked ☐ Check box if charges
are to be
collect

< \$ 0.40 per Pound

Signature

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or portion of

said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER

PER

DATE _____

8/27/01

Fort Belvoir

R-1 (moved to APG)

dr315D	pu-239	0.001495	
dr796	u-238	0.01665	
1626	ra-226	0.026	
1450A	am-241	0.0109	
dr604A	am-241	0.001	
1532A	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1562A	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1562C	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1562B	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1598A	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1598B	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1598C	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1698	am-241	1.90E-08	
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1717	am-241	1.00E-03	
am-241-1-A-A-A #0000174	am-241	1.00E-03	
am241/sr90 #0000176	am-241	1.00E-03	
	sr-90	1.00E-03	
Cs/Am #0000178	Cs-137	1.00E-03	
	am-241	1.00E-03	
th-232-1-A	th-232	1.00E-03	
dr298A	am-241	1.00E-02	
		0.073046	
TOTALS	am-241	0.0259	
	Cs-137	0.001	
	pu-239	0.001495	SNM(g) 2.41E-09
	ra-226	0.026	
	sr-90	0.001	
	th-232	0.001	SM (kg) 9.09E-03
	u-238	0.01665	SM (kg) 7.57E+00
		0.073046	

8/27/01

Fort Belvoir

20WC-4 to APG

dr 261a	am-241	100
dr 261b	am-241	100
dr 303	am-241	300
dr 343	am-241	899.31
dr 343	am-241	899.31
dr 365	am-241	999.365
dr 371d	am-241	112
dr 371e	am-241	112
dr 648	cs-137	7.8
dr 648	am-241	40
rw 072	am-241	200
		<u>3769.785</u>

EMERGENCY CONTACT: CHEMTREC (800) 424-9300Shipping Date: 8/27/01Manifest No.: USA 2001-044

Proper Shipping Name

Hazard Class

ID Number



Radioactive Material, n.o.s.,

7

UN2982

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Type A packages (cartons, boxes, drums, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents involving "Type B" packages except those of utmost severity.
- Radioactive White-I labels indicate radiation levels outside undamaged packages are very low (less than 0.005mS/h (0.5 mRem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mRem/h one-meter from package.
- Commonly available instruments cannot detect some radioactive materials.
- Runoff from control of cargo fire may cause low-level pollution.
- Water from cargo fire control may cause pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily.
- Radioactivity does not change flammability or other properties of materials.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperature of 800°C (1475°F) of a period of 30 minutes.

PUBLIC SAFETY

- Call Thom Dias (925) 443-7967
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
 - Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small Fires

- Dry chemicals, CO₂, Water spray or regular foam.

Large Fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Slightly damaged or damp outer surfaces seldom indicate failure of packages since most have an inner container.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.

FIRST AID

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

(Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.)

See Reverse Side for Instructions

1. Name and Address of Shipper/Generator: H.Q. U.S. Army, Operations Support Command (OSC) (ATTN: AMSOS-SF/Crooks) Rock Island, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: Mr. Kelly Crooks b) Title: Health Physicist c) Telephone: (309) 782-0338	
3. Radioactive Waste Transport Permit No. 0137-00-01-E		4. Shipment Identification No.: USA 2001-044 / <i>SCA-016 92</i> <i>0126-01</i>	
5. Location from which waste will be shipped: SBCCOM Radiation Lab. Fort Belvoir, MD		6. Name and Address of Consignee: Duratek Consolidation & Support Facility Barnwell, SC 29812	
7. Scheduled Date of Departure of Shipment: <i>62</i> - 27-24 Aug-01		8. Estimated Date of Arrival of Shipment: 31-Aug-01	
9. Carrier: R & R Trucking	10. Trailer No. & Owner: (if avail.) R&R Trucking	11. Type Transport Vehicle: Closed Van	
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, US-301, SC-70, SC-64			
13. Type Package Metal Box & Model No.: Metal Drum	14. Type Container in Cask: N/A	15. Package or Cask Spe Strong Tight & US DOT 7A Type A	
16. Complete Waste Description (Be Specific): Sealed Sources, Lab Trash (paper, plastic, metal, glass), solidified aqueous lab reagents			
17. Physical & Chemical Form: Solid Metal & Oxides	18. Total No. of Packages: 3	19. Prominent Radionuclides: <i>C14, Cd109, Ce139, Co57, Al27, Co-60, Am241, Ba133, Cs137, Cs137, H3, Hc203, K135, Mn54, Na22, Np237, Pu238, Pu239, Pu240, Pu241, Pu242, Pu243, Pu244, Pu245, Pu246, Pu247, Pu248, Pu249, Pu250, Pu251, Pu252, Pu253, Pu254, Pu255, Pu256, Pu257, Pu258, Pu259, Pu260, Pu261, Pu262, Pu263, Pu264, Pu265, Pu266, Pu267, Pu268, Pu269, Pu270, Pu271, Pu272, Pu273, Pu274, Pu275, Pu276, Pu277, Pu278, Pu279, Pu280, Pu281, Pu282, Pu283, Pu284, Pu285, Pu286, Pu287, Pu288, Pu289, Pu290, Pu291, Pu292, Pu293, Pu294, Pu295, Pu296, Pu297, Pu298, Pu299, Pu300, Pu301, Pu302, Pu303, Pu304, Pu305, Pu306, Pu307, Pu308, Pu309, Pu310, Pu311, Pu312, Pu313, Pu314, Pu315, Pu316, Pu317, Pu318, Pu319, Pu320, Pu321, Pu322, Pu323, Pu324, Pu325, Pu326, Pu327, Pu328, Pu329, Pu330, Pu331, Pu332, Pu333, Pu334, Pu335, Pu336, Pu337, Pu338, Pu339, Pu340, Pu341, Pu342, Pu343, Pu344, Pu345, Pu346, Pu347, Pu348, Pu349, Pu350, Pu351, Pu352, Pu353, Pu354, Pu355, Pu356, Pu357, Pu358, Pu359, Pu360, Pu361, 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Pu791, Pu792, Pu793, Pu794, Pu795, Pu796, Pu797, Pu798, Pu799, Pu800, Pu801, Pu802, Pu803, Pu804, Pu805, Pu806, Pu807, Pu808, Pu809, Pu810, Pu811, Pu812, Pu813, Pu814, Pu815, Pu816, Pu817, Pu818, Pu819, Pu820, Pu821, Pu822, Pu823, Pu824, Pu825, Pu826, Pu827, Pu828, Pu829, Pu830, Pu831, Pu832, Pu833, Pu834, Pu835, Pu836, Pu837, Pu838, Pu839, Pu840, Pu841, Pu842, Pu843, Pu844, Pu845, Pu846, Pu847, Pu848, Pu849, Pu850, Pu851, Pu852, Pu853, Pu854, Pu855, Pu856, Pu857, Pu858, Pu859, Pu860, Pu861, Pu862, Pu863, Pu864, Pu865, Pu866, Pu867, Pu868, Pu869, Pu870, Pu871, Pu872, Pu873, Pu874, Pu875, Pu876, Pu877, Pu878, Pu879, Pu880, Pu881, Pu882, Pu883, Pu884, Pu885, Pu886, Pu887, Pu888, Pu889, Pu890, Pu891, Pu892, Pu893, Pu894, Pu895, Pu896, Pu897, Pu898, Pu899, Pu900, Pu901, Pu902, Pu903, Pu904, Pu905, Pu906, Pu907, Pu908, Pu909, Pu910, Pu911, Pu912, Pu913, Pu914, Pu915, Pu916, Pu917, Pu918, Pu919, Pu920, Pu921, Pu922, Pu923, Pu924, Pu925, Pu926, Pu927, Pu928, Pu929, Pu930, Pu931, Pu932, Pu933, Pu934, Pu935, Pu936, Pu937, Pu938, Pu939, Pu940, Pu941, Pu942, Pu943, Pu944, Pu945, Pu946, Pu947, Pu948, Pu949, Pu950, Pu951, Pu952, Pu953, Pu954, Pu955, Pu956, Pu957, Pu958, Pu959, Pu960, Pu961, Pu962, Pu963, Pu964, Pu965, Pu966, Pu967, Pu968, Pu969, Pu970, Pu971, Pu972, Pu973, Pu974, Pu975, Pu976, Pu977, Pu978, Pu979, Pu980, Pu981, Pu982, Pu983, Pu984, Pu985, Pu986, Pu987, Pu988, Pu989, Pu990, Pu991, Pu992, Pu993, Pu994, Pu995, Pu996, Pu997, Pu998, Pu999, Pu1000</i>	
20. Total Curies: <i>2000 7.6</i>	21. Waste Class & Stability: AU	22. Total Cubic Feet: <i>37.557</i>	
23. DOT Sub Type: <i><A2</i>	24. DOT Class. & Hazard Class UN No.: UN 2982, Radioactive Material, n.o.s., 7	25. Hwy. Route Controlled: (Large Quantity) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date 8/19/2001

Todd W. Eastman, Agent for U.S. Army, OSC

[Signature]
Typed Name

Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery _____

Signature of Consignee's Authorized Representative _____

Typed or Printed Name and Title _____

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: H.Q. U.S. Army, Operations Support Command (OSC) (ATTN: AMSOS-SF/Crooks) Rock Island, IL 61299-6000 Telephone No. (309) 782-0338	2. Shipment Identification No. USA 2001-044/SCN-0126-01 3. Transport Permit No. 0137-00-01-E
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In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date

8/27/01

Todd W. Eastman, Agent for U.S. Army, OSC
Typed Name and Title of Agent of Shipper

Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: R&R Trucking P.O. Box 545 Duenweg, MO 64841 Telephone No. (800) 625-6885	2. Shipment Identification No. USA 2001-044/SCN-0126-01 3. Transport Trailer No. 7810116
4. Scheduled Date of Departure of Shipment: 08/24/01 8/27/01	5. Estimated Date of Arrival of Shipment: 08/31/01

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date

8/27/01

John Duxbury Driver
Typed or Printed Name and Title

Signature

EMERGENCY CONTACT: CHEMTREC (800) 424-9300Shipping Date: 8/27/2001Manifest No.: USA 2001-044

Proper Shipping Name

Hazard Class

ID Number



Radioactive Material, LSA, n.o.s.,

7

UN2912



Radioactive Material, SCO,

7

UN2913

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity. This poses little risk to people.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels.
- Placards, markings, and shipping papers provide identification.
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard: so follow this guide as well as the response guide for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments. •Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily. •Nitrates are oxidizers and may ignite other combustibles (see guide 141).
- Uranium and Thorium metal cutting or granules may ignite spontaneously if exposed to air (see Guide 136).

PUBLIC SAFETY

- Call Thom Dias at (925) 443-7967
- Priorities for rescue, life saving, first aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small Fires

- Dry chemicals, CO2, Water spray or regular foam.

Large Fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.
- Cover powder spill with plastic sheet or tarp to minimize spreading.
- Dike to collect large liquid spills.

FIRST AID

- Medical problems take priority over radiological concerns. •Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person. •Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

The above information is intended to satisfy the requirements of 49 CFR parts 172.600, 172.602 & 172.604.

SHIPMENT ACKNOWLEDGMENT

Consignee:

Please sign below after receiving and accepting this shipment. If a NRC form 540 is included with this shipment, please sign block 9, "Authorized consignee acknowledging waste receipt."

Please fax both to:

CABRERA Services, Inc.
FAX: (860) 289-2261

Shipment No. :	SCN-0126-01
Manifest No. :	USA 2001-044
Consignee:	Duratek Consolidation & Support Facility, Barnwell, SC
Date of Shipment:	8/27/01

Signature of Consignee:	
Date of Receipt:	

This above information is intended to satisfy the requirements of 10 CFR 20, appendix F.

Fort Belvoir, VA

Lenses	th-nat	0.00857
Fume Hood Parts	cs-137	0.00005
Plkywood	cs-137	0.0000006
Lab Trash	cs-137	0.0000006
1495	cd-109	0.00046
	co-57	0.000017
	ce-139	0.00002
	hg-203	0.000029
	sn-113	0.000066
	sr-85	0.000061
	cs-137	0.000082
	y-88	0.00013
	co-60	0.000096
1496	cd-109	0.00044
	co-57	0.000016
	ce-139	0.0000175
	hg-203	0.000028
	sn-113	0.000064
	sr-85	0.000059
	cs-137	0.0000802
	y-88	0.00013
	co-60	0.000093
1503	u-238	0.000004
1519A	u-nat	0.0000175
1519B	u-nat	0.0000802
1519C	u-nat	0.0000175
1060	cd-109	0.00044
	co-57	0.000016
	ce-139	0.0000175
	hg-203	0.000028
	sn-113	0.000064
	sr-85	0.000059
	cs-137	0.0000802
	y-88	0.00013
	co-60	0.000093
1567	cd-109	0.00044
	co-57	0.000016
	ce-139	0.0000175
	hg-203	0.000028
	sn-113	0.000064
	sr-85	0.000059
	cs-137	0.0000802
	y-88	0.00013
	co-60	0.000093
1579	cd-109	0.00048
	co-57	0.000019
	ce-139	0.000022
	hg-203	0.000042
	sn-113	0.000079
	sr-85	0.000087

Fort Belvoir, VA

	cs-137	0.000085
	y-88	0.000165
	co-60	0.000098
1583	cd-109	0.00048
	co-57	0.00002
	ce-139	2.50E-05
	hg-203	0.000041
	sn-113	7.90E-05
	sr-85	8.40E-05
	cs-137	8.30E-05
	y-88	1.60E-04
	co-60	9.70E-05
1591A	cd-109	4.80E-04
	co-57	1.90E-05
	ce-139	2.40E-05
	hg-203	6.70E-05
	sn-113	9.00E-05
	sr-85	1.14E-04
	cs-137	8.00E-05
	y-88	1.80E-04
	co-60	9.00E-05
1591B	cd-109	4.80E-04
	co-57	1.90E-05
	ce-139	2.40E-05
	hg-203	7.00E-05
	sn-113	9.00E-05
	sr-85	1.10E-04
	cs-137	8.00E-06
	y-88	1.80E-04
	co-60	9.30E-06
1606	cd-109	0.000418919
	co-57	1.49E-05
	ce-139	1.55E-05
	hg-203	1.65E-05
	sn-113	5.22E-05
	sr-85	4.11E-05
	cs-137	8.22E-05
	y-88	0.000102162
	co-60	8.92E-05
1498	ra-226	7.27E-05
1627	h-3	1.40E-04
1628	h-3	1.40E-04
1633	co-57	1.04E-03
1634	cd-109	0.000456757
	co-57	1.59E-05
	ce-139	1.78E-05
	hg-203	2.86E-05
	sn-113	6.16E-05
	sr-85	5.59E-05
	cs-137	8.03E-05

Fort Belvoir, VA

	y-88	0.00012
	co-60	8.76E-05
1630	pm-147	1.41E-04
1629	c-14	1.31E-04
1695	co-57	3.40E-05
	sn-113	1.60E-04
	te-123	4.10E-05
	cd-109	8.70E-04
	cr-51	0.0011
	sr-85	2.10E-04
	cs-137	1.50E-04
	y-88	3.80E-04
	co-60	1.62E-04
1696	co-57	3.30E-05
	cd-109	8.50E-04
	te-123	4.00E-05
	cr-51	0.00104
	sn-113	0.000153
	sr-85	2.10E-04
	cs-137	1.40E-04
	y-88	0.00014
	co-60	0.00016
1706	ra-226	1.80E-05
1722	co-60	1.46E-06
1732	cs-137	2.25E-05
1735	co-60	1.31E-05
1736	cs-137	1.35E-05
dr712-1	ra-226	3.51E-07
	ra-228	2.56E-07
dr604	co-57	1.00E-03
	co-60	1.00E-03
	cs-137	1.00E-03
	mn-54	1.00E-03
	na-22	1.00E-03
1631	c-14	1.12E-04
1502	u-238	1.90E-07
dr600	u-238	1.70E+00
ra-226 lum. Device	ra-226	2.00E-06
1130	cd-109	2.40E-04
	co-57	9.40E-06
	ce-139	1.30E-05
	hg-203	0.0000323
	sn-113	4.50E-05
	sr-85	5.60E-05
	cs-137	4.00E-05
	y-88	9.30E-05
	co-60	4.50E-05
1626	c-14	1.72E-03
	tl-204	6.17E-05
	sr-90	2.08E-06

Fort Belvoir, VA

	tl-204	0.001548649	
dr450	co-57	1.04E-02	
	ba-133	1.07E-02	
fuel gage	ra-226	0.001	
im-174 gage	ra-226	0.001	
press gage	ra-226	0.001	
1436	h-3	120 compass (6971)	
1616-1	h-3	120 compass (6971)	
1641-2	h-3	120 compass (6971)	
1987	h-3	120 compass (6971)	
dr270	h-3	25 Watch	
dr270-1	h-3	25 Watch	
1569	pm-147	1 aiming post	
1532B	am-241	1.90E-08	see variance
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1532C	am-241	1.90E-08	see variance
	sr-90	3.80E-08	
	cs-137	9.00E-09	
1508A	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1507A	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1507B	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1506A	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1506B	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1506C	am-241	3.00E-08	see variance
	sr-90	5.00E-08	
	cs-137	1.80E-07	
1665	po-210	8.62E-05	
dr315A	pu-239	1.23E-06	see variance
dr315B	pu-239	1.24E-06	see variance
dr315C	pu-239	1.23E-04	see variance
1753	pu-239	3.00E-07	see variance
1429B	th-232	3.00E-04	
1429C	kr-85	5.00E+00	
1429a-1	th-230	4.50E-05	
1429a-2	pu-239	5.00E-06	see variance
Electron Tube	kr-85	5.00E-03	
rw029	ra-226	0.046	M-151 black out lights (luminous device)
dr795	u-238	2.50E-02	Standards and sources made from soils and ores
dr794	u-238	1.70E-04	"

Fort Belvoir, VA

dr803	u-238	1.70E-07	"
dr790	u-238	2.82E-04	"
dr784	th-232	2.20E-06	"
dr793	th-232	5.45E-05	"
dr786	th-232	1.10E-04	"
dr800	u-238	1.60E-04	"
dr788 (4 each)	u-238	9.60E-03	"
dr806	u-238	9.60E-03	"
dr805	th-232	5.60E-06	"
dr804	th-232	5.60E-06	"
dr808	u-238	9.60E-03	"
dr792	u-238	1.55E-04	"
dr798	th-232	2.80E-06	"
dr787 (7 each)	th-232	6.30E-09	"
dr712	ra-226	3.50E-07	"
	ra-228	2.60E-09	"
dr785	u-238	3.33E-05	"
dr797	th-232	1.00E-07	"
dr718 (2 each)	ra-226	3.10E-07	"
dr789	th-232	4.80E-03	"
dr801	u-238	8.30E-06	"
dr802	u-238	1.65E-06	"
dr807	u-238	9.60E-03	"
dr791	u-238	9.60E-03	"
dr799	th-232	5.00E-07	"
1435	h-3	3.50E+03	Luminous device
1521A	h-3	2.10E+03	"
1521B	h-3	4.80E+02	"
1723A	h-3	5.00E+01	"
1723B	h-3	1.00E+02	"
1723C	h-3	4.00E+01	"
rw079	h-3	2.16E+02	(24) Aiming post lights
Electron tube	u-238	1.00E-06	
wave guide	pm-147	1.80E+02	
	h-3	3.00E+02	
wave guide	co-60	7.00E-04	
Bag of Planchetts	ni-63	3.50E-04	
	am-241	1.58E-06	
		7503.890658	

am-241	0.000001798
ba-133	0.0107
c-14	0.0019634
cd-109	0.006535676
ce-139	0.000213851
co-57	0.012689292
co-60	0.002927657
cr-51	0.00214

Fort Belvoir, VA

cs-137	0.00215929		
h-3	7316.00028		
hg-203	0.000410489		
kr-85	5.005		
mn-54	0.001		
ni-63	0.000350035		
na-22	0.001		
pm-147	181.000141		
po-210	0.00008622		
pu-239	0.000130571	(2.11E-6g)	
ra-226	0.049093714		
ra-228	2.586E-07		
sn-113	0.001067784		
sr-85	0.001206027		
sr-90	2.45708E-06		
te-123	0.000081		
th-230	0.000045045	SM (kg)	2.15E-09
th-232	0.005281306	SM (kg)	4.80E-02
th-nat	0.00857	SM (kg)	3.90E-02
tl-204	0.001610378		
u-238	1.77381561	SM (kg)	8.06E+02
u-nat	0.0001152	SM (kg)	1.62E-04
y-88	0.002040162		
	<u>7503.890658</u>		

FORM 540		CHEM-NUCLEAR CONSOLIDATION FACILITY		5. SHIPPER - NAME AND FACILITY SBCCOM Radiation Lab. 5905 Putnam Road (Attn: AMSSB-RCB-RSR) Fort Belvoir, VA 22308		SHIPMENT I.D. NUMBER SCN-0126-01		7. FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST						COLLECTOR		PAGE 1 OF 2 3 None None	
SHIPPING PAPER						PROCESSOR			
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) (800) 424-9300		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ===== 3		S.C. TRANSPORT PERMIT NUMBER 0137-00-01-E		SHIPMENT NUMBER USA 2001-044		9. CONSIGNEE - Name and Facility Address Chem-Nuclear Systems, LLC Chem-Nuclear Consolidation Facility Hwy 64 (1 mile west of Snelling) Barnwell, SC 29812	
ORGANIZATION ChemTrec				CONTACT Mr. Kelly Crooks		TELEPHONE NUMBER (Include Area Code) (309) 782-0338			
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				6. CARRIER - Name and Address R&R Trucking, Inc. PO Box 545 Duenweg, MO 64841		EPA I.D. NUMBER MOR006501973		SIGNATURE - Authorized consignee acknowledging receipt	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number =====		EPA MANIFEST NUMBER N/A		CONTACT Mr. Don Ritchie		TELEPHONE NUMBER (Include Area Code) 800-625-6885		10. CERTI This is to certify that the herein-named materials are proper in proper condition for transportation according to the applicable regulations that the materials are classified, packaged, marked, disposal as described in accordance with the requirements.	
				SIGNATURE - Authorized carrier acknowledging waste receipt <i>John R. ...</i>		DATE 8/27/01		AUTHORIZED SIGNATURE <i>Todd ...</i>	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES	
Radioactive material, n.o.s., 7, UN2982 (sources, soil standards, luminous devices, Lab Trash)		Yellow II		0.1		Solid Oxides		Am-241 Ba-133 C-14 Cd-109 Ce-139 Co-57 Co-60 Cr-51	
								Cs-137 H-3 Hg-203 Kr-85 Mn-54 Na-22 Ni-63 Pm-147	
								Po-210 Pu-239 Ra-226 Ra-228 Sn-113 Sr-85 Sr-90 Te-123	
								Th-230 Th-232 Th-nat Tl-204 U-238 U-nat Y-88	
Radioactive material, n.o.s., 7, UN2982 (lab trash-paper, plastic, glass, metal)		Yellow II		0.1		Solid Oxides		Am-241 Ba-133 Co-60 Cs-137 H-3 NI-63 Pb-210 Po-210	
								Ra-226 Sr-90 Th-228 Th-230 Th-232 U-235 U-238 U-nat	
FOR CONSIGNEE USE ONLY				20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that radioactive waste has been inspected in accordance with the requirements of South Carolina Regulations as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, it is made that the inspection revealed no items of non-compliance with all applicable laws, rules, and regulations.					
				Date <u>8/27/01</u> Signature <u>Todd ...</u>					
				Title and Organization <u>Agent for US Army, O.S.C.</u>					
				Telephone No. (803) <u>356-3717</u>					

[illegible]

FORM 541

CHEM-NUCLEAR CONSOLIDATION FACILITY

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1. MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams)				TOTAL
			U-233	U-235	Pu		
3	m3 0.99	kg 436	NP	1.2700E-03	2.1100E-06	1.2721E-03	
	ft3 35.00	lb 960		2 Packages	1 Package		
ACTIVITY							SOURCE
	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129		
MBq	2.7784E+08	2.7076E+08	7.2648E-02	NP	NP	(kgs) 8.9248E-1	
mCi	7.5091E+03	7.3180E+03	1.9634E-03	NP	NP	(lbs) 1.9675E+0	

DISPOSAL CONTAINER DESCRIPTION

5. CONTAINER IDENTIFICATION NUMBER / S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (lb)	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 dpm/100 cm2		11. WASTE DESCRIPTOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 & Note 3A)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	15. RA INDIVID CONTAINER RADIATION	
					ALPHA	BETA-GAMMA						
B-120137-00-01-E	2	1.19	771	3.0000E-02	<1.6700E-08	<1.6700E-05	38,33,39-H	0.58	100 100	Oxides/None	0.00	Am-241 Ba-133 C-14 Cd-109 Ce-139
		42.00	1700	3.0000E+00	<1.000E+02	<1.000E+03		20.00				
												Co-57 Co-60 Cr-51 Cs-137 H-3
												Hg-203 Kr-85 Mn-54 Na-22 Ni-63
												Pm-147 Po-210 Pu-239 Ra-226 Ra-228 [2.11]
												Sn-113 Sr-85 Sr-90 Te-123 Th-230 [2.1500]
												Th-232 [4.8000] Th-nat [3.9000] Tl-204 [8.0800] U-238 [1.6200] U-nat

NOTE 1: Container Description Codes. For containers/ waste requiring disposal in approved structural over- packs the numerical code must be followed by "-OP."

1. Wooden Box or Crate

2. Metal Box

3. Plastic Drum or Pail

4. Metal Drum or Pail

5. Metal Tank or Liner

6. Concrete Tank or Liner

7. Polyethylene Tank or Liner

8. Fiberglass Tank or Liner

9. Demineralizer

10. Gas Cylinder

11. Bulk, Unpackaged Waste

12. Unpackaged Components

13. High Integrity Container

19. Other. Describe in item 6, or additional page.

Note 1A: Barnwell Specific Container Description Codes. (Choose one code as may be applicable.)

A High Integrity Container - Poly

B High Integrity Container - Poly with Steel Shell

C High Integrity Drum Overpack - Poly

D High Integrity Container - Stainless Steel

E High Integrity Container - Fiberglass

F Liner - Steel

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal

21. Incinerator Ash

22. Soil

23. Gas

24. Oil

25. Aqueous Liquid

26. Filter Media

27. Mechanical Filter

28. EPA or State Hazardous

29. Demolition Rubble

30. Cation Ion-exchange Media

31. Anion Ion-exchange Media

32. Mixed Bed Ion-exchange Media

33. Contaminated Equipment

34. Organic Liquid (except oil)

35. Glassware or Labware

36. Sealed Source/Device

37. Paint or Plating

38. Evaporator Bottoms/Sludges/ Concentrates

39. Compactible Trash

40. Noncompactible Trash

41. Animal Carcass

42. Biological Material (except animal carcasses)

43. Activated Material

59. Other. Describe in item 11, or additional page

Note 2A: Barnwell Specific Waste Descriptor Codes (Choose all applicable codes.)

G Dewatered

H Solid

I Combustible

J Non-combustible

K Air Filtration Filters

L Asbestos

Note 3: Solidification Codes. (Choose up to three by volume.) For medi- cal waste, the solidification code must be followed by vendor and brand name in item 13. Code 100

Solidification

90. Cement

91. Concrete (encapsulation)

92. Bitumen

93. Vinyl Chloride

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							
5. CONTAINER IDENTIFICATION NUMBER / S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (LB)	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 dpm/100 cm2		11. WASTE DESCRIPTOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)		13. SOLIDIFICATION OF STABILIZATION MEDIA (See Note 3 & Note 3A)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT		15. RA INDIVIDUAL CONTAINER
					ALPHA	BETA- GAMMA						WEIGHT % CHELATING AGENT IF>0.1%	
													Y-88
													Subtotal
													Total
													SNM: [2.11
													Source: [1.6776
DAW-1/0137-00-01-E	4	0.21	82	8.0000E-03	<1.8700E-06	<1.8700E-06	35,39,59-BROKEN GLASS HAZARD-H	0.21	100 100	Oxides/None	0.00	Am-241 Ba-133 Co-60 Cs-137 H-3	
		7.50	180	8.0000E-01	<1.000E+02	<1.000E+03		7.50					
													Ni-63 Pb-210 Po-210 Ra-226 Sr-90
													Th-228 [2.0600 Th-230 [6.1600 Th-232 [2.1500 U-235 [6.34 U-238 [1.3600
													U-nat [7.9100
													Subtotal
													Total
													SNM: [6.34
													Source: [9.2915
DAW-2/0137-00-01-E	4	0.21	91	3.0000E-02	<1.8700E-06	<1.8700E-06	35,39,59-BROKEN GLASS HAZARD-H	0.21	100 100	Oxides/None	0.00	Am-241 Ba-133 Co-60 Cs-137 H-3	
		7.50	200	3.0000E+00	<1.000E+02	<1.000E+03		7.50					
													Ni-63 Pb-210 Po-210 Ra-226 Sr-90

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								
5. CONTAINER IDENTIFICATION NUMBER / S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (LB)	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 dpm/100 cm2		11. WASTE DESCRIPTOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 & Note 3A)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0.1%	15. RADIONUCLIDES		
					ALPHA	BETA- GAMMA						INDIVIDUAL CONTAINER	RADIONUCLIDES	
													Th-228	[1.9500]
													Th-230	[6.1800]
													Th-232	[1.8200]
													Th-nat	[2.7300]
													U-235	[6.3600]
													U-238	[1.3600]
													U-nat	[3.4500]
													Subtotal	
													Total	
													SNM:	[6.3600]
													Source:	[6.3178]
Shipment Totals		1.61	944										SNM:	[1.2700]
		67.00	2080.00										Source:	[8.9246]

FORM 542		CHEM-NUCLEAR CONSOLIDATION FACILITY		1. WASTE COLLECTOR/PROCESSOR										
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST MANIFEST INDEX AND REGIONAL COMPACT TABULATION List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators.				NAME		SHIPPER USE ONLY								
				SBCCOM Radiation Lab.										
				IDENTIFICATION NUMBER										
		0137-00-01-E		SHIPPING DATE										
		8/27/01												
4.	5.	6.	6A.	7.		8.	9.	10.	11. AS PROCESSED/COLL					
SC TRANSPORT PERMIT NUMBER	GENERATOR NAME AND TELEPHONE NUMBER	GENERATOR FACILITY ADDRESS	WASTE DESCRIPTION (NOMENCLATURE)	PREPROCESSED WASTE (OR MATERIAL) VOLUME		MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	WASTE CODE P = PROCESSED C = COLLECTED	ORIGINATING COMPACT REGION OR STATE	A. SOURCE MATERIAL		B. SNM	C. ACTIVITY		
				(m3)	(l)				(kg)	(lb)	(g)	(MBq)	(mCi)	
0137-00-01-E 33	SBCCOM Radiation Lab. (309) 782-0338	5908 Putnam Road (Attn: AMSSB-RCB-R3R Fort Belvoir, VA 22308	CONTAMINATED EQUIPMENT	0.9900	34.9615	N/A (/ /)	C	VA	8.9248E-01	1.9875E+00	1.2721E-03	2.7784E+05	7.5091E+03	
35			GLASSWARE OR LABWARE											
36			SEALED SOURCE/DEVICE											
39			COMPACTIBLE TRASH											
88			BROKEN GLASS HAZARD											
TOTALS OF ALL PAGES (FORMS 542 AND 542A)									8.9248E-01	1.9875E+00	1.2721E-03	2.7784E+05	7.5091E+03	

1998

HQ, Industrial Operations Command

**AMSIO- DMW
ROCK ISLAND, ILLINIOS 61299-6000
309 782-1886 DSN 793-1886
Fax: 309 782-2988 DSN 793-2988**

FAX TRANSMISSION COVER SHEET

Date: *December 10, 1998*
To: *Tim Mikulskit*
Fax: *703 704-2796*
Subject: *Waste Receipt*
Sender: *JUDY T. WOODSON*

***YOU SHOULD RECEIVE 2 PAGE(S), INCLUDING THIS COVER SHEET. IF YOU
DO NOT RECEIVE ALL THE PAGES, PLEASE CALL 309 782-1886 DSN 793-1886.***

Tim,

Enclosed is the Chem-Nuclear Consolidation Facility waste receipt notification stating they have received the waste we shipped from your installation on the August 98 ECR. Please maintain this copy in your records. If you have any questions just give me a call.

**Thanks,
Judy**



CHEM-NUCLEAR SYSTEMS

CONSOLIDATION FACILITY

16043 Dunbarton Boulevard • Barnwell, South Carolina 29812

August 28, 1998

Department Of The Army
HQ, US Army
Industrial Operations Command
AMSIO-DMW(Kelly Crooks)
Rock Island, Illinois 61299-6000

Attention: Kelly Crooks

Reference: Radioactive Waste Shipment: USA 98-070
SCN-0210-98
Fort Belvoir
Fort Belvoir, Virginia 22060

Dear Mr. Crooks,

As required by 10CFR Part 20, South Carolina Title A, and Chem Nuclear Consolidation Facility Radioactive Material Inventory and Control Procedure (DF-AD-010), you are hereby notified that the shipment referenced above has been received at the Chem Nuclear Consolidation Facility.

A signed copy of the Form 540 for this shipment is attached as acknowledgment of the acceptance of the waste shipment. This waste meets all the requirements of Chem Nuclear Consolidation Facility acceptance criteria at the point of receipt inspection. You will be notified by our facility if the waste is found to be in noncompliance during processing.

If you have any questions regarding this letter, please contact me at (803) 541-5064.

Sincerely,

N. Reynolds Black
Chem Nuclear Consolidation Facility
Facility Broker

U 4 SEP 1998

(803) 259-1781 • Fax (803) 541-7302

FORM 540 CHEM-NUCLEAR CONSOLIDATION FACILITY		3. SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		7. FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages)	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		US Army, TMOE ATTN: NUSAM-TRAD-SB 10115 Duportail Rd, Ste 136 Ft. Belvoir, VA 22060-SB47		USA 98-070		PAGE 1 OF 1 PAGE(S) 1 PAGE(S) 2 PAGE(S) 6		SCN-0210-98	
1. EMERGENCY TELEPHONE NUMBER (include Area Code) (925) 443-7967		S.E. TRANSPORT POINT NUMBER 0137-00-98E		SHIPMENT NUMBER USA98-070		9. CONSIGNEE - Name and Facility Address CHEM-NUCLEAR CONSOLIDATION Facility HWY 84 & MILE WEST OF SNELLING, P.O. Box 828 Spartanburg, SC 29812		CONTACT INVENTORY CONTROL TELEPHONE NUMBER (include Area Code) 803-259-1119	
ORGANIZATION New World Technology		CONTACT Mr. Kelly Brooks		TELEPHONE NUMBER (include Area Code) 781-0138		SIGNATURE [Signature]		DATE 8-24-99	
2. IS THIS AN "EXCLUSIVE USE SHIPMENT"? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 6		6. CARRIER - Name and Address Tri-State Motor Transit, Co East 7th, P.O. Box 113 Joplin, MO 64802		EPA "D" ALIAS NA		10. CERTIFICATION This is to certify that the hazardous materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This is to certify that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 18 CFR Parts 20 and 61, or applicable state regulations.	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		EPA MANIFEST NUMBER NA		TELEPHONE NUMBER (include Area Code) 568-7898		DATE 8/21/98	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES	
Radioactive Material, nos, 7, UN2982		Yellow II		0.1		Solid and oxides		Ra226, KRS, Pm-147 Th-Nat	
Radioactive Material, nos, 7, UN2982		Yellow II		0.2		Solid and oxides/glass		Ra226, Sr90, Cs-137, Th-Nat, Th-232	
Radioactive Material, nos, 7, UN2982		Yellow II		0.3		Solid and oxides/glass		Th-Nat DU	
Radioactive Material, nos, 7, UN2982		Yellow II		0.2		Solid and glass		Th-Nat —	
Radioactive Material, nos, 7, UN2982		Yellow II		0.5		Solid and glass		Th-Nat —	
Radioactive Material, nos, 7, UN2982		Yellow II		0.3		Solid and oxides/glass		Ra226, Co60, H-3, Th-Nat, Th-232	
16. TOTAL PACKAGE ACTIVITY mCi		17. LSAS/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE			
8,367.07 226.137		NA		150 kg (330 lb)		FB-1			
34.543 933.6		NA		118 kg (260 lb)		FB-2			
110.15 2.977		NA		111 kg (245 lb)		FB-3			
44.03 1.19		NA		159 kg (350 lb)		FB-4			
35.19 0.951		NA		145 kg (320 lb)		FB-5			
1,420,871.6 38,400.48		NA		181 kg (400 lb)		FB-6			
FOR CONSIGNEE USE ONLY									
20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina radioactive Materials License No. 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."					Date 8/21/98 Signature [Signature] Todd Eastman Title and Organization Agent for U.S. Army, 20C Telephone No. 803/356-3717 or (925) 443-7967				

FORM 540 (10-98)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

(Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.)

See Reverse Side for Instructions		
1. Name and Address of Shipper/Generator: H.Q. U.S. Army, Industrial Operations Command (IOC) (ATTN: AMSIO-DMW/Crooks) Rock Island, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: Mr. Kelly Crooks b) Title: Health Physicist c) Telephone: (309) 782-0338
3. Radioactive Waste Transport Permit No. 0137-00-98-E		4. Shipment Identification No.: USA 98-070 / <i>SCN 0210-98</i>
5. Location from which waste will be shipped: US Army TMDE Activity, 10115 Duportail Road, Ste 136 Attn: AMSAM-TMD-SB, Fort Belvoir, MD 22060-5847		6. Name and Address of Consignee: Chem-Nuclear Consolidation Facility Snelling, SC 29812
7. Scheduled Date of Departure of Shipment: 21-Aug-98		8. Estimated Date of Arrival of Shipment: 24-Aug-98
9. Carrier: Tri-State Motor Transit Co.	10. Trailer No. & Owner: (if avail.) <i>448876</i> TSMT	11. Type Transport Vehicle: Closed Van
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, US-301, SC -70, SC-64		
13. Type Package or Cask Model No.: Metal Drum	14. Type Container in Cask: N/A	15. Package or Cask Spec.: US DOT 7A Type A
16. Complete Waste Description (Be Specific): Luminous dials and devices, instruments and articles, sealed sources, Thoriated glass lenses, Germanium Windows <i>OK</i>		
17. Physical & Chemical Form: Solid Oxides <i>glass</i>	18. Total No. of Packages: 1	19. Prominent Radionuclides: <i>OK</i> -AM-241, Ra-226, Co-60, Es-137 , Kr-85, Pm-147, Th-232 Sr-90, H-3, <i>Th-232, C-14</i>
20. Total Curies: <i>Q 200-38.7 38.632645</i>	21. Waste Class & Stability: <i>B + AU</i>	22. Total Cubic Feet: <i>328 45</i>
23. DOT Sub Type: <A2	24. DOT Class. & Hazard Class UN No.: UN 2982, Radioactive Material, n.o.s., 7	25. Hwy. Route Controlled: (Large Quantity) [] Yes [X] No

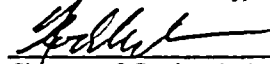
CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date 8/16/1998

Todd W. Eastman, Agent for U.S. Army, IOC

Typed Name



Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery _____

Signature of Consignee's Authorized Representative _____

Typed or Printed Name and Title _____

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: H.Q. U.S. Army, Industrial Operations Command (IOC) (ATTN: AMSIO-DMW/Crooks) (formerly US Army, AMCCOM, Rock Island, IL 61299-6000 AMSMC-RW) Telephone No. (309) 782-0338	2. Shipment Identification No. USA 98-070 / <u>SCN 0210-98</u> 3. Transport Permit No. 0137-00-98-E
---	--

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date

8/21/98

Todd Eastman, Agent for U.S. Army, IOC
Typed Name and Title of Agent of Shipper

Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: Tri-State Motor Transit Co. East 7th, P.O. Box 113 Joplin, Mo 64802 Telephone No. (800) 846-8768	2. Shipment Identification No. USA 98-070 / <u>SCN-0210-98</u> 3. Transport Trailer No. <u>448876</u>
4. Scheduled Date of Departure of Shipment: 08/21/98	5. Estimated Date of Arrival of Shipment: 08/24/98

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date

8/21/98

William Kyle TRK DRIVER
Typed or Printed Name and Title

Signature

William Kyle

EMERGENCY RESPONSE INFORMATION**EMERGENCY RESPONSE GUIDE 163**

New World Technology.
1236 Concannon Blvd. 94550

****24 Hour Emergency Contact**
Tom Dias (925) 443-7967

Shipping Date: 8/21/98

Manifest No.: SCN-0210-98

Proper Shipping Name

Hazard Class

ID Number

☒ Radioactive Material, n.o.s.,

7

UN2982

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Type A packages (cartons, boxes, drums, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents involving "Type B" packages except those of utmost severity.
- Radioactive White-I labels indicate radiation levels outside undamaged packages are very low (less than 0.005mS/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from package.
- Some radioactive materials cannot be detected by commonly available instruments.
- Water from cargo fire control may cause pollution.
- Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperature of 800°C (1475°F) of a period of 30 minutes.
- Radioactivity does not change flammability or other properties of materials.

PUBLIC SAFETY

- Call Tom Dias at (925) 443-7967. IF NO ANSWER, THEN CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY INSTRUCTIONS.
- Priorities for rescue, life-saving, first-aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.
- Keep unauthorized personnel away.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Do not move damaged packages; move undamaged containers out of fire zone.
- Move containers from fire area you can do it without risk.

Small fires

- Dry chemicals, CO2, Water spray or regular foam.

Large fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Slightly damaged or damp outer surfaces seldom indicate failure of packages since most have an inner container.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.

FIRST AID

- Medical problems take priority over radiological concerns.
- Do not delay care and transport of a seriously injured person.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
- Use first aid treatment according to the degree of the injury.
- Apply artificial respiration if victim is not breathing.

The above information is intended to satisfy the requirements of 49 CFR part 172.600, 172.602 & 172.604.

**NWT
EMERGENCY PROCEDURES**

New World Technology
1236 Concannon Blvd.
Livermore CA 94550
(925)443-7967

**** 24 Hour Emergency Contact**
Thomas J. Dias (925) 443-7967

**EMERGENCY PROCEDURE TO BE FOLLOWED BY VEHICLE DRIVER IN THE
EVENT OF AN ACCIDENT:**

1. Perform lifesaving rescue and emergency first aid. Delay other first aid care until victims can be removed from the vicinity of any potentially hazardous material. Notify receiving medical facilities of possible contamination or radiation exposure of the injured.
2. Establish a control zone. The perimeter of this zone will be determined by the accident scene conditions. If there is no release of radioactive material, a distance of 20 feet is required. If the containers are breached and dispersal is a potential increase the control zone as large as possible.
 - A. Limit time near radioactive shipping packages as much as possible.
 - B. Cover spilled radioactive material with plastic sheeting or tarps to prevent or limit dispersal.
 - C. Avoid direct contact with radioactive material. Utilize protective clothing and utilize anything available for remote handling.
3. Detain personnel in the immediate area and items with possible contamination until they can be monitored for radioactive contamination
4. **If there is a fire**, advise individuals and emergency responders that everyone should move upwind, Use respirators if you need to enter the area. Inform the Fire Department that the truck is carrying radioactive materials.
5. The following persons are to be notified in the sequence shown below:
 - A. Thomas J. Dias, Director of Brokerage Operations, Livermore, CA
Day: (925) 443-7967
Night: (510) 581-3244
Pager: (510) 277-6452
 - B. Additional 24 Hour Emergency Contact: Don Wadsworth, Livermore, CA
Day: (925) 443-7967
Night: (510) 443-7982
Pager: (888) 771-9710
 - C. Notify the state and local emergency responders by dialing **911** in the event the emergency contacts above can not be reached or if there is a serious threat to life or property.
 - D. For general information on the chemicals identified in the accident call CHEMTREC at (800) 424-9300.

NWT
INSTRUCTIONS FOR EXCLUSIVE USE OF VEHICLES

Shipment No. SCN-0210-98

Date 8/21/98

CFR 49 sections 173.403(i) and 173.441(c) and (e) require that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier. These instructions must be included with the shipment documents.

The following instructions shall be complied with for all exclusive use shipments.

The shipper must be notified prior to changing of the tractor or making fifth wheel adjustments.

- ◆ Do not move or transfer packages on the transport vehicle from the original configuration.
- ◆ The shipment must be loaded by the consignor and unloaded by the consignee from the transport vehicle on which it was originally loaded.
- ◆ The shipment must be blocked and braced so as to prevent leakage or shifting of load under incidents normal to transportation.
- ◆ If placards are required, The vehicle must be placarded on four (4) sides of the transport vehicle in a clearly visible position with the appropriate placards.
- ◆ Notify shipper immediately if the vehicle is involved in an accident or is required to apply emergency breaking which could shift the load and change radiation levels.

In case of accident, vehicle malfunction or deviation from the above instructions immediately contact one of the following NWT employees:

Thomas J. Dias Office (925) 443-7967
 Home (510) 581-3244
 Pager (510) 277-6452

Don Wadsworth Office (925) 443-7967
 Home (510) 443-7982
 Pager (888) 771-9710

Deviations from these instructions are violations of federal laws and could result in carrier penalties.

I have read and understand the above statements concerning the maintenance of exclusive use vehicles.

William Kyle
Signature of Driver

8/21/98
Date

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-1
 CONTAINER WEIGHT 330
 CONTAMINATION <100/<1000

PAGE NO. 1 of 1
SURFACE DR 0.8
1 METER DR ~~204~~ 0.1
LABELS yellow II

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Radiac Meter	Various	81	Ra226	.0017	.137
2	Mx-7338 Source	Various	7	Kr85	5	25
3	Annunciator - Intrusion	6350-00-179-1854	2	Pu147	30	60
4	IAW Sights	UNK	47	Pu147	3	141
5	Dewar Detectors	UNK	12	Th(Nat)	2E-6	2.4E-5
	Totals					
	Ra226 = 0.137					
	Kr85 = 25					
	Pu147 = 201					
	Th(Nat) = 2.4E-5					
		= 2.4E-4 lb = 1.9E-4 kg				
	226.13702 + mci					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

8/21/98
Date

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-2
 CONTAINER WEIGHT 260
 CONTAMINATION <100/<1000

PAGE NO 1 of 1
 SURFACE DR 5.0
 1 METER DR 0.2
 LABELS Yellow 2H

mCi

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
<u>1</u>	<u>Thoriated glass</u> <u>(8.08 lbs = 3.67 kg)</u>	<u>202 lbs</u> <u>UNK</u>	<u>NA</u>	<u>Th(Nat)</u>	<u>.807</u>	<u>.807</u>
<u>2</u>	<u>check source</u>	<u>UNK</u>	<u>1</u>	<u>Ra226</u>	<u>.001</u>	<u>.001</u>
<u>3</u>	<u>Ice Detector</u>	<u>UNK</u>	<u>1</u>	<u>Sr90</u>	<u>.025</u>	<u>.025</u>
<u>4</u>	<u>check sources</u>	<u>UNK</u>	<u>2</u>	<u>Th-232</u>	<u>.0003</u>	<u>.0006</u>
<u>5</u>	<u>check luminous</u> <u>markers</u>	<u>UNK</u>	<u>2</u>	<u>C-14</u>	<u>.05</u>	<u>.10</u>
	<u>Totals</u>					
	<u>Ra226 = .001</u>					
	<u>Sr90 = .025</u>					
	<u>C-14 = 10.0</u>					
	<u>Th(Nat) = .807 =</u>	<u>8.08 lb / 3.67 kg</u>				
	<u>Th-232 = .0006 =</u>	<u>.012 lb / .00545 kg</u>				
	<u>10.8336</u>					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date

8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-3
 CONTAINER WEIGHT 245
 CONTAMINATION <100 / 21000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.3
LABELS yellow II

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-4
 CONTAINER WEIGHT 289.5 350
 CONTAMINATION <100/4000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.2
LABELS yellow u

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-25
 CONTAINER WEIGHT 320
 CONTAMINATION 4100 / < 1000

PAGE NO 1 of 1
SURFACE DR 5.0
1 METER DR 0.5
LABELS yellow II

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.


Signature

Date 8/2/98

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. USA 98-070
DRUM/PACKAGE NO. FB-6
CONTAINER WEIGHT 400
CONTAMINATION 1100/41000

PAGE NO 1 of 1
SURFACE DR 510
1 METER DR 0.3
LABELS 10 (New) H

MC

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Theriated glass	110 lbs	NA	(Thnat)	.439	.439
2	Sand (5 lbs)	UNK	NA	(ThNat)	.02	.02
3	Radiometers	UNK	4	Ra226	.0017	.0068
4	Check Source	UNK	1	Th232	.0003	.0003
5	Telescope mount	UNK	4	H-3	5810	23,240
6	Waveguides	UNK	14	Co60	0.0007	.0098
7	Com Watches	UNK	40	H-3	25	1,000
8	Gun Sights	UNK	6	H-3	160	960
9	Compasses	UNK 660501-196- 6971	110	H-3	120	13,200
Totals						
✓	H-3 = 38,400					
✓	Ra226 = .0068					
✓	Co60 = .0098					
	Th(Nat) = .459 = 4.6 lbs / 2.09 kg					
	Th232 = .0003 = .006 lb / .00273 kg					
	38,400.476.25					
	38,400.4759					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

Date 5/21/98

NWT
RADIOLOGICAL SURVEY REPORT
SHIPMENT SURVEY FORM

Date: 8/21/98	Time: 18:25	Surveyor (printed name): T. Eastman
Surveyor (Signature): <i>[Signature]</i>	Reviewed by: NA	Date: NA
Purpose of Survey: Outgoing Shipment USA 98-070		
Location: Fort Belvoir, VA		

INSTRUMENTS USED

MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. Model 19	133178	12 NOV 98	0.01 ^{mc} /hr
2. Model 3 w/44-38	32397/pr069310	1 JUL 99	
3. Model 3 w/HP-260	32397/NWT#102	1 JUL 99	50 cpm

ITEM OR LOCATION * Smear locations are circled	Dose Rate mR/hr	Contamination counts/minute		Distance or smear location
		Alpha	B-G	
1. Max D/R on the sides of the vehicle	1.0	NA	NA	1"
2. Max D/R 2- M from the sides of the vehicle	0.1			2-Meter
3. Max D/R in the occupied portion of the cab	0.02			Field
4. Max D/R on the underside of the vehicle	1.0-0.06			1"
5. Max D/R on the top of the vehicle	0.01			1"
6. Max D/R on the containers surface	3.0	↓	↓	1"
7 Smears of the vehicle prior to loading	NA	ND	ND	
8 Smears of containers prior to loading	↓	ND	ND	
9.				
10.				
11.				

2 Meters	0.1	0.01	0.01	Surface 2 M
Surface	0.6	0.03	0.01	
				0.01 0.01
				0.01 0.01
	Cab 0.02	Top 0.01 Bottom 1.0		
Surface	1.0	0.04	0.01	
2 Meters	0.01	0.01	0.01	
Remarks: #0000269/0000153 (Door Seals)				

FORM 540		CHEM-NUCLEAR CONSOLIDATION FACILITY		5. SHIPPER -- NAME AND FACILITY <i>NOTE</i>		SHIPMENT ID NUMBER		7. FORM 540 AND 540A	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				US Army, TMDE AMN: AMUSAM-TMD-SB 10115 Duportail Rd, Ste 136 Ft. Belvoir, VA 22060-SB47		USA 98-070		PAGE 1 OF 1	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code)				S.C. TRANSPORT PERMIT NUMBER		SHIPMENT NUMBER		FORM 541 AND 541A	
(925) 443-7967				0137-00-98E		USA 98-070		FORM 542 AND 542A	
ORGANIZATION				CONTACT		TELEPHONE NUMBER (Include Area Code)		ADDITIONAL INFORMATION	
New World Technology				Mr. Kelly Crooks		782-0338		6	
2. IS THIS AN "EXCLUSIVE USE SHIPMENT?"		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST		6. CARRIER - Name and Address		EPA I.D. NUMBER		9. CONSIGNEE -- Name and Facility Address	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		6		Tri-State Motor Transit, Co East 7th, P.O. Box 113 Joplin, MO 64802		NA		CHEM-NUCLEAR CONSOLIDATION Facility HWY 64 (1 MILE WEST OF SNELLING), P.O. 1 Barnwell, SC 29812	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?		EPA MANIFEST NUMBER		CONTACT		TELEPHONE NUMBER (Include Area Code)		SIGNATURE -- Authorized consignee acknowledging wss	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If "Yes," provide Manifest Number ==>		NA		Mr. Mitch Lunsford		800 568-1898			
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.1		Solid and oxides		Ra226, Kr85, Pm-147	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.2		Solid and oxides / glass		Ra226, Sr90, C-14, Th-Nat, Th-232	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.3		Solid and oxides / glass		Th-Nat Du	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.2		Solid and glass		Th-Nat —	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.5		Solid and glass		Th-Nat —	
Radioactive Material, NOS, 7, UN2982		Yellow II		0.3		Solid and oxides / glass		Ra226, Co60, H-3, Th-Nat, Th-232	
FOR CONSIGNEE USE ONLY				20. "Certification is hereby made to the South Carolina Department of Health and Environment radioactive waste has been inspected in accordance with the requirements of South Carolina No. 287-04 as amended, and the effective consolidation facility acceptance criteria, within 4 certification is made that the inspection revealed no items of non-compliance with all applicable law					
				Date 8/21/98 Signature <i>[Signature]</i> Todd Eastman					
				Title and Organization Agent for U.S. Army, IOE					
				Telephone No. (803) 356-3717 or (925) 443-7967					

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTIONAdditional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and
Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	1. MANIFEST TOTALS				2. MANIFEST NUMBER
			SPECIAL NUCLEAR MATERIAL (grams)				
			U-233	U-235	Pu	TOTAL	
6	m ³ 1.278 l ³ 45	kg 728.02 lb 1605	0	0	0	0	SCN-0210-98
3. PAGE 1 OF 3 PAGE(S)							
4. SHIPPER NAME NUTE							
Ft. Belvoir, VA							
SHIPMENT ID NUMBER							
USA 98-070							

ALL NUCLIDES	TRITIUM	ACTIVITY (MBq/mCi)			SOURCE
		C-14	Tc-99	I-129	
MBq 1,429,708.9865	1,420,800	370 ym	0	0	kg 23.228
mCi 38,632.8645	38,400	0.10	0	0	lb 51.208

DISPOSAL CONTAINER DESCRIPTION

WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME m ³ l ³	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			16. WASTE CLASSIFI- CATION AS-Class A Stable AS-Class A Unstable B-Class B C-Class C
					ALPHA	BETA- GAMMA	11. WASTE DESCRIP- TOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ l ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 & Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
												RADIONUCLIDES	MBq	mCi	
FB-1	3	.21	150	.008	<1.67E-6	<1.67E-5	36H	.21	100	oxides,	0%	Ra226	5.07	0.137	AK
0137-00-98E		7.5	330	.8	<100	<1000		7.5		no Chelates		Kr85	925	25	
												Pm147	7,437	201	
												Th(Nat)	.00089	2.4E-5	
													(1.9E-4 kg)	(2.4E-4 lb)	
												total	8,367.07	226.137	

NOTE 1: Container Description Codes. For containers/
waste requiring disposal in approved structural overpacks,
the numerical code must be followed by "-OP."

- | | |
|-------------------------------|--|
| 1. Wooden Box or Crate | 9. Demineralizer |
| 2. Metal Box | 10. Gas Cylinder |
| 3. Metal Drum or Pail | 11. Bulk, Unpackaged Waste |
| 4. Plastic Drum or Pail | 12. Unpackaged Components |
| 5. Metal Tank or Liner | 13. High Integrity Container |
| 6. Concrete Tank or Liner | 19. Other. Describe in item 6,
or additional page |
| 7. Polyethylene Tank or Liner | |
| 8. Fiberglass Tank or Liner | |

NOTE 1A: Barnwell Specific Container Description
Codes. (Choose one code as may be applicable.)

- | |
|--|
| A High Integrity Container - Poly |
| B High Integrity Container - Poly with Steel Shell |
| C High Integrity Drum Overpack - Poly |
| D High Integrity Container - Stainless Steel |
| E High Integrity Container - Fiberglass |
| F Liner - Steel |

Note 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

- | | | |
|----------------------------|----------------------------------|---|
| 20. Charcoal | 29. Demolition Rubble | 38. Evaporator Bottoms/Sludges/Concentrates |
| 21. Incinerator Ash | 30. Cation Ion-exchange Media | 39. Compactible Trash |
| 22. Soil | 31. Anion Ion-exchange Media | 40. Noncompactible Trash |
| 23. Gas | 32. Mixed Bed Ion-exchange Media | 41. Animal Carcass |
| 24. Oil | 33. Contaminated Equipment | 42. Biological Material (except animal carcass) |
| 25. Aqueous Liquid | 34. Organic Liquid | 43. Activated Material |
| 26. Filter Media | 35. Glassware or Labware | 59. Other. Describe in item 11,
or additional page |
| 27. Mechanical Filter | 36. Sealed Source/Device | |
| 28. EPA or State Hazardous | 37. Paint or Plating | |

Note 2A: Barnwell Specific Waste
Descriptor Codes. (Choose all
applicable codes.)

- | |
|--------------------------|
| G Dewatered |
| H Solid |
| I Combustible |
| J Non-combustible |
| K Air Filtration Filters |
| L Asbestos |

Note 3: Solidification and Stabilization Media
Codes. For media meeting disposal site struc-
tural stability requirements, the numerical code
must be followed by "-S". For all solidification
media, the vendor and brand name must also
be identified in item 13. Code 100=None
Required

- | | |
|--------------------|---|
| Solidification | 94. Vinyl Ester Styrene |
| 90. Cement | 99. Other. Describe
in item 13, or
additional |
| 91. Concrete | 100. None Required |
| 92. Bitumen | |
| 93. Vinyl Chloride | |

Note 3A: Barnwell Specific Solidifica-
tion and Stabilization media Codes.
(Choose this code if applicable.)

- | |
|--------------|
| M Wax Binder |
|--------------|

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

SCN-0210-98

PAGE 2 OF 3 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
5. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME $\frac{m^3}{ft^3}$	8. WASTE AND CONTAINER WEIGHT $\frac{kg}{lb}$	9. SURFACE RADIATION LEVEL $\frac{mSv/hr}{mrem/hr}$	10. SURFACE CONTAMINATION $\frac{MBq/100\text{ cm}^2}{dpm/100\text{ cm}^2}$		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER $\frac{m^3}{ft^3}$	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
												RADIONUCLIDES	MBq	mCi	
FB-2 0137-00-98E	3	.21 7.5	118 260	.05 5.0	1.67E-6 100	1.67E-5 1000	36H	.21 7.5	100	oxides+glass no chelates	0%	Ra226 Sr90 C-14	.037 .925 3.7 HTM 12/10/98	.001 .025 10 0.1 HTM 12/10/98	B
												Th-Nat	29.86 (3.67 kg)	.807 (8.08 lb)	
												Th232	.0222 (.00545 kg)	.0006 (.012 lb)	
												total	40.8432 34.5432	10.8336 0.9336	
FB-3 0137-00-98E	3	.21 7.5	111 245	.03 3.0	1.67E-6 100	1.67E-5 1000	36H 39H	.21 7.5	100	oxides+glass no chelates	0%	Th-nat	26.16 (3.21 kg)	.707 (7.07 lb)	AU
												DU	83.99 (4.54 kg)	2.27 (10 lb)	
													110.15	2.977	

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

SCN-0210-98

PAGE 3 OF 3 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								19. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
5. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME m ³ ft ³	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ ft ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
												RADIONUCLIDES	MBq		mCi
FB-4 0137-00-98E	3	0.21 7.5	159 350	0.03 3.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	glass, no chelates	0%	Th-Nat	44.03 (5.41 kg)	1.19 (11.92 lb)	AU
												Total	44.03	1.19	
FB-A50E 0137-00-98E	3	0.21 7.5	145 320	0.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	glass, no chelates	0%	Th-Nat	35.19 (4.32 kg)	0.951 (9.52 lb)	AU
												Total	35.19	0.951	
FB-6 0137-00-98E	3	0.21 7.5	181 400	0.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	oxides, no chelates	0%	Ra226	0.2516	0.0068	
												Co60	0.3626	0.0098	
												H-3	1,420,800	38,400	B
												Th-Nat	16.983 (2.09 kg)	0.459 (4.6 lb)	
												Th-232	0.0111 (0.00273 kg)	0.0003 (0.006 lb)	
												Total	1,420,817.61	38,400.48	

CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	CONTAINER DESCRIPTION (See Note 1 & Note 1A)	VOLUME $\frac{m^3}{ft^3}$	WASTE AND CONTAINER WEIGHT $\frac{kg}{lb}$	SURFACE RADIATION LEVEL $\frac{mSv/hr}{mrem/hr}$	SURFACE CONTAMINATION $\frac{MBq/100\text{ cm}^2}{dpm/100\text{ cm}^2}$		PHYSICAL DESCRIPTION			CHEMICAL DESCRIPTION		RADIOLOGICAL DESCRIPTION			CLASSIFICATION AS-Class A Stable All-Class A Unstable B-Class B C-Class C
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER $\frac{m^3}{ft^3}$	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	14. CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
												RADIONUCLIDES	MBq	mCi	
FB-4 0137-00-98E	3	.21 7.5	159 350	.03 3.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	glass, no chelates	0%	Th-Nat	44.03 (5.41 kg)	1.19 (11.92 lb)	ALL
												Total	44.03	1.19	
FB-450E 0137-00-98E	3	.21 7.5	145 320	.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	glass, no chelates	0%	Th-Nat	35.19 (4.32 kg)	.951 (9.52 lb)	ALL
												Total	35.19	.951	
FB-6 0137-00-98E	3	.21 7.5	181 400	.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	oxides, no chelates	0%	Ra226	.2516	.0068	
												Co60	.3626	.0098	
												H-3	1,420,800	38,400	B
												Th-Nat	16.983 (2.09 kg)	.459 (4.6 lb)	
												Th-232	.0111 (.00273 kg)	.0003 (.006 lb)	
												Total	1,420,817.61	38,400.48	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

(Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.)

See Reverse Side for Instructions		
1. Name and Address of Shipper/Generator: H.Q. U.S. Army, Industrial Operations Command (IOC) (ATTN: AMSIO-DMW/Crooks) Rock Island, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: Mr. Kelly Crooks b) Title: Health Physicist c) Telephone: (309) 782-0338
3. Radioactive Waste Transport Permit No. 0137-00-98-E		4. Shipment Identification No.: USA 98-070 / <i>SCN 0210-98</i>
5. Location from which waste will be shipped: US Army TMDE Activity, 10115 Duportail Road, Ste 136 Attn: AMSAM-TMD-SB, Fort Belvoir, MD 22060-5847		6. Name and Address of Consignee: Chem-Nuclear Consolidation Facility Snelling, SC 29812
7. Scheduled Date of Departure of Shipment: 21-Aug-98		8. Estimated Date of Arrival of Shipment: 24-Aug-98
9. Carrier: Tri-State Motor Transit Co.	10. Trailer No. & Owner: (if avail.) <i>448876</i> TSMT	11. Type Transport Vehicle: Closed Van
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, US-301, SC -70, SC-64		
13. Type Package or Cask Model No.: Metal Drum	14. Type Container in Cask: N/A	15. Package or Cask Spec.: US DOT 7A Type A
16. Complete Waste Description (Be Specific): Luminous dials and devices, Instruments and articles, sealed sources, Thoriated glass lenses, Germanium Windows <i>OK</i>		
17. Physical & Chemical Form: Solid Oxides <i>glass</i>	18. Total No. of Packages: 1	19. Prominent Radionuclides: <i>OK</i> AM-241, Ra-226, Co-60, Cs-137, Kr-85, Pm-147, Th-232 <i>Sr-90, H-3, Th-232, C-14</i>
20. Total Curies: <i>Q 200 38.4 38.642</i>	21. Waste Class & Stability: <i>B + AU</i>	22. Total Cubic Feet: <i>328 45</i>
23. DOT Sub Type: <A2	24. DOT Class. & Hazard Class UN No.: UN 2982, Radioactive Material, n.o.s., 7	25. Hwy. Route Controlled: (Large Quantity) [] Yes [X] No

CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date 8/16/1998

Todd W. Eastman, Agent for U.S. Army, IOC
Typed Name

[Signature]
Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery _____

Signature of Consignee's Authorized Representative _____

Typed or Printed Name and Title _____

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: H.Q. U.S. Army, Industrial Operations Command (IOC) (ATTN: AMSIO-DMW/Crooks) (formerly US Army, AMCCOM, Rock Island, IL 61299-6000 AMSMC-RW) Telephone No. (309) 782-0338	2. Shipment Identification No. USA 98-070 / <u>SCN0210-98</u> 3. Transport Permit No. 0137-00-98-E
---	---

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date

8/21/98

Todd Eastman, Agent for U.S. Army, IOC
Typed Name and Title of Agent of Shipper

Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: Tri-State Motor Transit Co. East 7th, P.O. Box 113 Joplin, Mo 64802 Telephone No. (800) 846-8768	2. Shipment Identification No. USA 98-070 / <u>SCN-0210-98</u> 3. Transport Trailer No. <u>448876</u>
4. Scheduled Date of Departure of Shipment: <u>08/21/98</u>	5. Estimated Date of Arrival of Shipment: <u>08/24/98</u>

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U. S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U. S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date

8/21/98

William Kyle TRK DRIVER
Typed or Printed Name and Title

Signature

William Kyle

EMERGENCY RESPONSE INFORMATION**EMERGENCY RESPONSE GUIDE 163**

New World Technology.
1236 Concannon Blvd. 94550

****24 Hour Emergency Contact**
Tom Dias (925) 443-7967

Shipping Date: 8/21/98

Manifest No.: SCN-0210-98

Proper Shipping Name

Hazard Class

ID Number



Radioactive Material, n.o.s.,

7

UN2982

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Type A packages (cartons, boxes, drums, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents involving "Type B" packages except those of utmost severity.
- Radioactive White-I labels indicate radiation levels outside undamaged packages are very low (less than 0.005mS/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from package.
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution.
- Water from cargo fire control may cause pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily.
- Radioactivity does not change flammability or other properties of materials.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperature of 800°C (1475°F) of a period of 30 minutes.

PUBLIC SAFETY

- Call Tom Dias at (925) 443-7967. IF NO ANSWER, THEN CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY INSTRUCTIONS.
- Priorities for rescue, life-saving, first-aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small fires

- Dry chemicals, CO₂, Water spray or regular foam.

Large fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Slightly damaged or damp outer surfaces seldom indicate failure of packages since most have an inner container.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.

FIRST AID

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

The above information is intended to satisfy the requirements of 49 CFR part 172.600, 172.602 & 172.604.

**NWT
EMERGENCY PROCEDURES**

New World Technology
1236 Concannon Blvd.
Livermore CA 94550
(925)443-7967

**** 24 Hour Emergency Contact**
Thomas J. Dias (925) 443-7967

**EMERGENCY PROCEDURE TO BE FOLLOWED BY VEHICLE DRIVER IN THE
EVENT OF AN ACCIDENT:**

1. Perform lifesaving rescue and emergency first aid. Delay other first aid care until victims can be removed from the vicinity of any potentially hazardous material. Notify receiving medical facilities of possible contamination or radiation exposure of the injured.
2. Establish a control zone. The perimeter of this zone will be determined by the accident scene conditions. If there is no release of radioactive material, a distance of 20 feet is required. If the containers are breached and dispersal is a potential increase the control zone as large as possible.
 - A. Limit time near radioactive shipping packages as much as possible.
 - B. Cover spilled radioactive material with plastic sheeting or tarps to prevent or limit dispersal.
 - C. Avoid direct contact with radioactive material. Utilize protective clothing and utilize anything available for remote handling.
3. Detain personnel in the immediate area and items with possible contamination until they can be monitored for radioactive contamination
4. **If there is a fire**, advise individuals and emergency responders that everyone should move upwind, Use respirators if you need to enter the area. Inform the Fire Department that the truck is carrying radioactive materials.
5. The following persons are to be notified in the sequence shown below:
 - A. Thomas J. Dias, Director of Brokerage Operations, Livermore, CA
Day: (925) 443-7967
Night: (510) 581-3244
Pager: (510) 277-6452
 - B. Additional 24 Hour Emergency Contact: Don Wadsworth, Livermore, CA
Day: (925) 443-7967
Night: (510) 443-7982
Pager: (888) 771-9710
 - C. Notify the state and local emergency responders by dialing **911** in the event the emergency contacts above can not be reached or if there is a serious threat to life or property.
 - D. For general information on the chemicals identified in the accident call CHEMTREC at (800) 424-9300.

NWT
INSTRUCTIONS FOR EXCLUSIVE USE OF VEHICLES

Shipment No. SCN-0210-98

Date 8/21/98

CFR 49 sections 173.403(i) and 173.441(c) and (e) require that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier. These instructions must be included with the shipment documents.

The following instructions shall be complied with for all exclusive use shipments.

The shipper must be notified prior to changing of the tractor or making fifth wheel adjustments.

- ♦ Do not move or transfer packages on the transport vehicle from the original configuration.
- ♦ The shipment must be loaded by the consignor and unloaded by the consignee from the transport vehicle on which it was originally loaded.
- ♦ The shipment must be blocked and braced so as to prevent leakage or shifting of load under incidents normal to transportation.
- ♦ If placards are required, The vehicle must be placarded on four (4) sides of the transport vehicle in a clearly visible position with the appropriate placards.
- ♦ Notify shipper immediately if the vehicle is involved in an accident or is required to apply emergency breaking which could shift the load and change radiation levels.

In case of accident, vehicle malfunction or deviation from the above instructions immediately contact one of the following NWT employees:

Thomas J. Dias Office (925) 443-7967
 Home (510) 581-3244
 Pager (510) 277-6452

Don Wadsworth Office (925) 443-7967
 Home (510) 443-7982
 Pager (888) 771-9710

Deviations from these instructions are violations of federal laws and could result in carrier penalties.

I have read and understand the above statements concerning the maintenance of exclusive use vehicles.

William Kyle
Signature of Driver

8/21/98
Date

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-1
 CONTAINER WEIGHT 330
 CONTAMINATION <100/1000

PAGE NO. 1 of 1
 SURFACE DR 0.8
 1 METER DR 0.4
 LABELS Yellow II

mCi

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Radiac Meter	Various	81	Ra226	.0017	.137
2	Mx-7338 Source	Various	7	Kr85	5	25
3	Annunciator - Intrusion	6350-00-179-1854	2	Pu147	30	60
4	IAW Sights	UNK	47	Pu147	3	141
5	Dewar Detectors	UNK	12	Th(Nat)	2E-6	2.4E-5
	Totals					
	Ra226 = 0.137					
	Kr85 = 25					
	Pu147 = 201					
	Th(Nat) = 2.4E-5					
		= 2.4E-4 lb				
		= 1.9E-4 kg				
	226.13702 + mCi					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

[Signature]
 Signature

8/21/98
 Date

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-2
 CONTAINER WEIGHT 260
 CONTAMINATION <100/<1000

PAGE NO 1 of 1
 SURFACE DR 5.0
 1 METER DR 0.2
 LABELS Yellow 2H

mCi

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
<u>1</u>	<u>Thoriated glass</u> <u>(8.08 lbs = 3.67 kg)</u>	<u>202 lbs</u> <u>UNK</u>	<u>NA</u>	<u>Th(Nat)</u>	<u>.807</u>	<u>.807</u>
<u>2</u>	<u>check source</u>	<u>UNK</u>	<u>1</u>	<u>Ra226</u>	<u>.001</u>	<u>.001</u>
<u>3</u>	<u>Ice Detector</u>	<u>UNK</u>	<u>1</u>	<u>Sr90</u>	<u>.025</u>	<u>.025</u>
<u>4</u>	<u>check sources</u>	<u>UNK</u>	<u>2</u>	<u>Th-232</u>	<u>.0003</u>	<u>.0006</u>
<u>5</u>	<u>check luminous</u> <u>markers</u>	<u>UNK</u>	<u>2</u>	<u>C-14</u>	<u>5</u>	<u>10</u>
	<u>Totals</u>					
	<u>Ra226 = .001</u>					
	<u>Sr90 = .025</u>					
	<u>C-14 = 10.0</u>					
	<u>Th(Nat) = .807 =</u>	<u>8.08 lb / 3.67 kg</u>				
	<u>Th-232 = .0006 =</u>	<u>.012 lb / .00545 kg</u>				
	<u>10.8336</u>					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date

8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-3
 CONTAINER WEIGHT 245
 CONTAMINATION <100 / 21000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.3
LABELS yellow II

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-4
 CONTAINER WEIGHT ~~2890~~ 350
 CONTAMINATION 2100/4000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.2
LABELS yellow H

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-25
 CONTAINER WEIGHT 320
 CONTAMINATION 4100/41000

PAGE NO 1 of 1
SURFACE DR 5.0
1 METER DR 0.5
LABELS yellow II

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

8/2/98
Date

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-6
 CONTAINER WEIGHT 400
 CONTAMINATION 2100/41000

PAGE NO 1 of 1
SURFACE DR 510
1 METER DR 0.3
LABELS 10/11/2011

 mC_1

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Theriated glass	110 lbs	NA	(Th nat)	.439	.439
2	Sand (5 lbs)	UNK	NA	(Th Nat)	.02	.02
3	Radiometers	UNK	4	Ra226	.0017	.0068
4	Check Source	UNK	1	Th232	.0003	.0003
5	Telescope mount	UNK	4	H-3	5810	23,240
6	Wave guides	UNK	14	Co60	0.0007	.0098
7	Com watches	UNK	40	H-3	25	1,000
8	Gun sights	UNK	6	H-3	160	960
9	Compasses	UNK	110	H-3	120	13,200
		6605-01-196-6971				
	Totals					
	✓ H-3 = 38,400					
	✓ Ra226 = .0068					
	✓ Co60 = .0098					
	Th(nat) = .439 = 4.6 lbs / 2.09 kg					
	Th232 = .0003 = .006 lb / .00273 kg					
	38,400.476.25					
	38,400.4759					

Signature _____

Date 8/21/98

NWT
RADIOLOGICAL SURVEY REPORT
SHIPMENT SURVEY FORM

Date: <u>8/21/98</u>	Time: <u>18:25</u>	Surveyor (printed name): <u>T. Eastman</u>	
Surveyor (Signature): <u>[Signature]</u>	Reviewed by: <u>NA</u>	Date: <u>NA</u>	
Purpose of Survey: <u>Outgoing Shipment USA 98-070</u>			
Location: <u>Fort Belvoir, VA</u>			

INSTRUMENTS USED

MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. Model 19	133178	12 NOV 98	<u>.01 ^{mc}/_{hr}</u>
2. Model 3 w/44-38	32397/pr069310	1 JUL 99	
3. Model 3 w/HP-260	32397/NWT#102	1 JUL 99	<u>50 cpm</u>

ITEM OR LOCATION * Smear locations are circled	Dose Rate mR/hr	Contamination counts/minute		Distance or smear location
		Alpha	B-G	
1. Max D/R on the sides of the vehicle	<u>1.0</u>	<u>NA</u>	<u>NA</u>	<u>1"</u>
2. Max D/R 2- M from the sides of the vehicle	<u>0.1</u>			<u>2-Meter</u>
3. Max D/R in the occupied portion of the cab	<u>.02</u>			<u>Field</u>
4. Max D/R on the underside of the vehicle	<u>1.0 to 1.5</u>			<u>1"</u>
5. Max D/R on the top of the vehicle	<u>.01</u>			<u>1"</u>
6. Max D/R on the containers surface	<u>3.0</u>	<u>↓</u>	<u>↓</u>	<u>1"</u>
7 Smears of the vehicle prior to loading	<u>NA</u>	<u>ND</u>	<u>ND</u>	
8 Smears of containers prior to loading	<u>↓</u>	<u>ND</u>	<u>ND</u>	
9.				
10.				
11.				

2 Meters	<u>.1</u>	<u>.01</u>	<u>.01</u>	
Surface	<u>.6</u>	<u>.03</u>	<u>.01</u>	Surface 2 M
				<u>.01</u> <u>.01</u>
				<u>.01</u> <u>.01</u>

Cab
.02

Top .01 Bottom .00

Surface	<u>1.0</u>	<u>.04</u>	<u>.01</u>	
2 Meters	<u>.01</u>	<u>.01</u>	<u>.01</u>	

Remarks: #0000269/0000153
(Door Seals)

FORM 540		CHEM-NUCLEAR CONSOLIDATION FACILITY		5. SHIPPER - NAME AND FACILITY <i>NOTE</i>		SHIPMENT ID NUMBER		7. FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages)	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				<i>US Army, TMDE Attn: AMSAM-TMD-SB 10115 Duportail Rd, Ste 136 Ft. Belvoir, VA 22060-SB47</i>		<i>USA 98-070</i>		PAGE 1 OF <i>1</i> PAGE(S) PAGE(S) PAGE(S) PAGE(S)		<i>SCN-0210-98</i>	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) <i>(925) 443-7967</i>				S.C. TRANSPORT PERMIT NUMBER <i>0137-00-98E</i>		SHIPMENT NUMBER <i>USA98-070</i>		GENERATOR TYPE (Specify) <i>G</i>		9. CONSIGNEE - Name and Facility Address CHEM-NUCLEAR CONSOLIDATION Facility HWY 84 (1 MILE WEST OF SNELLING), P.O. Box 828 Barnwell, SC 29812	
ORGANIZATION <i>New World Technology</i>				CONTACT <i>Mr. Kelly Crooks</i>		TELEPHONE NUMBER (Include Area Code) <i>782-0338 309</i>		SIGNATURE - Authorized consignee acknowledging waste receipt		CONTACT INVENTORY CONTROL TELEPHONE NUMBER (Include Area Code) <i>803-259-1119</i>	
2. IS THIS AN "EXCLUSIVE USE SHIPMENT?" <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST <i>6</i>		6. CARRIER - Name and Address <i>Tri-State Motor Transit, Co East 7th, P.O. Box 113 Joplin, MO 64802</i>		EPA I.D. NUMBER <i>NA</i>		SHIPPING DATE <i>8/21/98</i>		10. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If "Yes," provide Manifest Number		EPA MANIFEST NUMBER <i>NA</i>		CONTACT <i>Mr. Mitch Lunsford</i>		TELEPHONE NUMBER (Include Area Code) <i>800-568-1898</i>		DATE <i>8/21/98</i>		AUTHORIZED SIGNATURE <i>[Signature]</i>	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE MBq ACTIVITY mCi	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.1</i>		<i>Solid and oxides</i>		<i>Ra226, KrbS, Pm-147 Th-Nat</i>		<i>8,367.07 226.137</i>	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.2</i>		<i>Solid and oxides/glass</i>		<i>Ra226, Sr90, C-14, Th-Nat, Th-232</i>		<i>400.8432 10.8336</i>	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.3</i>		<i>Solid and oxides/glass</i>		<i>Th-Nat DU</i>		<i>110.15 2.977</i>	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.2</i>		<i>Solid and glass</i>		<i>Th-Nat</i>		<i>44.03 1.19</i>	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.5</i>		<i>Solid and glass</i>		<i>Th-Nat</i>		<i>35.19 0.951</i>	
<i>Radioactive Material, NOS, 7, UN2982</i>		<i>Yellow II</i>		<i>0.3</i>		<i>Solid and oxides/glass</i>		<i>Ra226, Co60, H-3, Th-Nat, Th-232</i>		<i>1,420,817.61 38,400.48</i>	
FOR CONSIGNEE USE ONLY				20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina radioactive Materials License No. 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations." Date <i>8/21/98</i> Signature <i>[Signature]</i> <i>Todd Eastman</i> Title and Organization <i>Agent for U.S. Army, IOE</i> Telephone No. <i>803) 356-3717 or (925) 443-7967</i>							

<p>NOTE 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP."</p> <p>1. Wooden Box or Crate 2. Metal Box 3. Metal Drum or Pail 4. Plastic Drum or Pail 5. Metal Tank or Liner 6. Concrete Tank or Liner 7. Polyethylene Tank or Liner 8. Fiberglass Tank or Liner</p> <p>9. Demineralizer 10. Gas Cylinder 11. Bulk, Unpackaged Waste 12. Unpackaged Components 13. High Intensity Container 14. Other. Describe in Item 6, or additional page</p>	<p>NOTE 1A: Barnwell Specific Container Description Codes. (Choose one code as may be applicable.)</p> <p>A High Intensity Container - Poly B High Intensity Container - Poly with Steel Shell C High Intensity Drum Overpack - Poly D High Intensity Container - Stainless Steel E High Intensity Container - Fiberglass F Liner - Steel</p>	<p>NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)</p> <p>20. Charcoal 21. Incinerator Ash 22. Soil 23. Gas 24. Oil 25. Aqueous Liquid 26. Filter Media 27. Mechanical Filter 28. EPA or State Hazardous</p> <p>29. Demolition Rubble 30. Cation Ion-exchange Media 31. Anion Ion-exchange Media 32. Mixed Bed Ion-exchange Media 33. Contaminated Equipment 34. Organic Liquid 35. Glassware or Labware 36. Sealed Source/Device 37. Paint or Plating</p>	<p>NOTE 2A: Barnwell Specific Waste Descriptor Codes (Choose all applicable codes.)</p> <p>G Dewatered H Solid I Combustible J Non-combustible K Air Filtration Filters L Asbestos</p>	<p>NOTE 3: Solidification and Stabilization Media Codes. For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S". For all solidification media, the vendor and brand name must also be identified in Item 13. Code 100=None Required</p> <p>90. Cement 91. Concrete (encapsulation) 92. Bitumen 93. Vinyl Chloride</p> <p>94. Vinyl Ester Styrene 99. Other. Describe in Item 13, or additional 100. None Required</p>
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FORM 541A										CHEM-NUCLEAR CONSOLIDATION FACILITY					2. MANIFEST NUMBER				
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST															SCN-0210-98				
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)															PAGE 2 OF 3 PAGE(S)				
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
5. CONTAINER IDENTIFICATION NUMBER S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME m ³ ft ³	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C				
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ ft ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT							
FB-2	3	.21	118	.05	4.67E-6	4.67E-5	36H	.21	100	oxides+glass		Ra226	.037	.001					
0137-00-98E		7.5	260	5.0	<100	<1000		7.5		no chelates	0%	Sr90	.925	.025	B				
												C-14	370	10.0					
												Th-Nat	29.86	.807					
													(3.67 kg)	(8.08 lb)					
												Th232	.0222	.0006					
													(.00545 kg)	(.012 lb)					
												total	400.8432	10.8336					
FB-3	3	.21	111	.03	4.67E-6	4.67E-5	36H	.21	100	oxides+glass		Th-nat	26.16	.707	AU				
0137-00-98E		7.5	245	3.0	<100	<1000	39H	7.5		no chelates	0%		(3.21 kg)	(7.07 lb)					
												DU	83.99	2.27					
													(4.54 kg)	(10 lb)					
													110.15	2.977					

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										CHEM-NUCLEAR CONSOLIDATION FACILITY		2. MANIFEST NUMBER							
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)												SCN-0210-98							
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C				
5. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME m ³ ft ³	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION							
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ ft ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT							
													RADIONUCLIDES			MBq		mCi	
FB-4 0137-00-98E	3	0.21 7.5	159 350	0.03 3.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	glass, no chelates	0%	Th-Nat	44.03 (5.41 kg)	1.19 (11.92 lb)	AU				
												Total	44.03	1.19					
FB-450E 0137-00-98E	3	0.21 7.5	145 320	0.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	glass, no chelates	0%	Th-Nat	35.19 (4.32 kg)	0.951 (9.52 lb)	AU				
												Total	35.19	0.951					
FB-6 0137-00-98E	3	0.21 7.5	181 400	0.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	0.21 7.5	100	oxides, no chelates	0%	Ra226	0.2516	0.0068					
												Co60	0.3626	0.0098					
												H-3	1,420,800	38,400	B				
												Th-Nat	16.983 (2.09 kg)	0.459 (4.6 lb)					
												Th-232	0.0111 (0.00273 kg)	0.0003 (0.006 lb)					
												Total	1,420,817.61	38,400.48					

1998 AND PRIOR



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT ACTIVITY
PROJECT DEVELOPMENT AND RADIATION RESEARCH OFFICE
10115 DUPORTAIL ROAD, SUITE 136
FORT BELVOIR, VIRGINIA 22060-5847



AMSAM-TMD-SB

S: 8 January 1999
28 December 1998

MEMORANDUM FOR HEADQUARTERS, INDUSTRIAL OPERATIONS COMMAND
AMSIO-SF (K CROOKS), BUILDING 390 4TH FLOOR
ROCK ISLAND ARSENAL, IL 61299-6000

SUBJECT: Historical Review of the Project Development and Radiation
Research Office, Fort Belvoir, Virginia

1. The Project Development and Radiation Research Office (PDRRO) has been tasked to move their operation from Building 363 to Building 329 in the CECOM Research Development and Engineering Center at Fort Belvoir, Virginia.
2. The PDRRO is conducting a historical survey of Building 363 prior to the move. Radiological materials have been used in Building 363 since it was built in the early 1960's. The PDRRO requests that your organization please provide a copy of all paperwork on radioactive waste from Building 363 of the PDRRO that has been sent for burial covering the period of 1960 until the present.
3. Please send the materials by mail at the address given below no later than 8 January 1999.

DEPARTMENT OF THE ARMY
US ARMY TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT ACTIVITY
PROJECT DEVELOPMENT AND RADIATION RESEARCH OFFICE
10115 DUPORTAIL ROAD, SUITE 136
FORT BELVOIR, VIRGINIA 22060-5847

4. POC for this action is the undersigned at commercial (703) 704-1979, DSN 654-1979 or fax commercial (703) 704-2796 DSN 654-2796, or e-mail at rbhat@belvoir.army.mil.

FOR THE DIRECTOR:

RAMACHANDRA K. BHAT, Ph.D, CHP
Supervisory Health Physicist
USATA, AMCOM

CF:
AMSAM-TMD-D (CHEN)
AMCSF-P (MANFRE)

Date

ROUTING AND TRANSMITTAL SLIP

05 January 1999

TO: (Name, office symbol, room number,
building, Agency/Post)

Initials

Date

1. Dr. Bhat

DEPARTMENT OF THE ARMY
US ARMY TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT ACTIVITY
PROJECT DEVELOPMENT AND RADIATION RESEARCH OFFICE

2.

10115 DUPORTAIL ROAD, SUITE 136
FORT BELVOIR, VIRGINIA 22060-5847

3.

4.

5.

Action	File	Note and Return
Approval	For Clearance	Per Conversation
<input checked="" type="checkbox"/> As Requested	For Correction	Prepare Reply
<input type="checkbox"/> Circulate	<input checked="" type="checkbox"/> For Your Information	See Me
<input type="checkbox"/> Comment	Investigate	Signature
<input type="checkbox"/> Coordination	Justify	

REMARKS

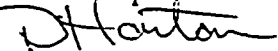
Dr. Bhat,

Enclosed are the manifests that you requested in your letter dated 28 December 1998.

These manifests are for all radioactive waste that we have records of being shipped from Ft. Belvoir. Our records do not show what particular building waste was generated in/shipped from.

Also note that it is our standard practice to leave copies of shipping manifests at the installation prior to the shipment leaving the installation.

Our office took over the Army Rad. waste mission in 1979. There may be records of waste shipped prior to 1979 that our office does not have copies of.



Dave Horton

DO NOT use this form as a RECORD of approvals, concurrences, disposals,
clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

David R. Horton
HQ, IOC
ATTN: AMSIO-SF
ROCK ISLAND, IL 61299-6000Room No.-Bldg.
BLDG 390/ 4th FloorPhone No.
309-782-1759
DSN 793-1759DOD EXCEPTION TO OF41
APPROVED BY GSA/IRMS 4/89OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

USAPPC V1.10

This is an Accountable Form

U.S. GOVERNMENT BILL OF LADING				ORIGINAL		B/L NO. S- 6363716	
TRANSPORTATION COMPANY TENDERED TO TRI-STATE MOTOR TRANSIT COMPANY		TSMT		ROUTE ORDER/RELEASE NO. 1NXX29735A			
STOP THIS CAR OR TRUCK AT		IMPORTANT <small>Regulations require Original, Shipping Order, and Freight Waybill Original and Carrier's Copy to be surrendered to carrier after signature SF 1103-B, Memorandum Copy, must be sent to consignee.</small>		CAR-TRUCK-CONTAINER		MARKED CAPACITY	
FOR				ORDERED	FURNISHED	ORDERED	FURNISHED
CAR, TRUCK OR CONTAINER INITIALS AND NO. 448297		KIND AV		Van Van		7 Oct 66	
				<small>If extra services are ordered see Administrative Directions No. 2 on reverse</small>			
Received by the transportation company named above, subject to conditions named on reverse hereof, the property hereinafter described, in apparent good order and condition (contents and value unknown), to be forwarded to destination by the said company and connecting lines, there to be delivered in like good order and condition to said consignee.				FROM			
				(Shipping point) FORT BELVOIR, VA (250663) FULL NAME OF SHIPPER TRANSPORTATION OFFICE BGAP USAEC&FB FORT BELVOIR, VIRGINIA 22060			
CONSIGNEE (Name, address and ZIP code) CHEM-NUCLEAR SYSTEMS, INC. CONSOLIDATION FACILITY TWO OSBORN ROAD SNELLING, SOUTH CAROLINA 29812				MARKS M/F: HQAMCCOM Control # USA 71-86			
DESTINATION (Name, address and ZIP code of installation) SNELLING, SC 448564				BILL CHARGES TO (Dept. Agency, bureau/office, mailing address and ZIP code) CHIEF, TRANSPORTATION DIVISION U S ARMY FINANCE SUPPORT AGENCY INDIANAPOLIS, IN. 46249			
VIA (Route shipment when advantageous to the Government)				APPROPRIATION CHARGEABLE 2162020 688-4202 P02892-2200 S44-009 A62892E0421:A421			
SEAL NUMBERS		FOR CARRIER'S USE ONLY — WAYBILL NO. OR FREIGHT BILL NO.		Contractor will return unused or canceled bills of lading to the Government of- fice from which received.			
APPLIED BY:							
PACKAGES		DESCRIPTION OF ARTICLES (Use carrier's classification or tariff description if possible; otherwise use a clear nontechnical description.)		NUMBERS ON PACKAGES		WEIGHTS*	
NO.	KIND						
1	SKID w/ metal drum	NMFC 164900 RADIOACTIVE MATERIALS, ARTICLES, OR ISOTOPES, NOI (Surge Arrestors-Devices// RADIOACTIVE MATERIAL/UN2911/no labels required.) "SHIPPER TO LOAD AND CONSIGNEE TO UNLOAD." "THIS PACKAGE CONFORMS TO THE CONDITIONS AND LIMITATIONS SPECIFIED IN 49 CFR 173.422 FOR EXCEPTED RADIOACTIVE MATERIAL, INSTRUMENTS AND ARTICLES, UN2911."		CUBE 30		255#	
				TARIFF OR SPECIAL RATE AUTHORITIES (CL, TL or Vol. only) TSMT4007 tariff			
If this shipment fully loads the car or truck used, check <input type="checkbox"/> YES							
CARRIER FURNISHED SERVICE AT ORIGIN		B/L NO. S- 6363716		FOR USE OF ISSUING OFFICE		CONTRACT OR PURCHASE ORDER NO. OR OTHER AUTHORITY	
<input type="checkbox"/> PICKUP <input type="checkbox"/> TRAP-CAR Initials of shipper's agent:						SR-912-86	
NAME OF TRANSPORTATION COMPANY		TSMT TRI-STATE MOTOR TRANSIT COMPANY		F.O.B. POINT NAMED:			
DATE OF RECEIPT OF SHIPMENT		Initial carrier's agent, by signature below, certifies he received the Original Bill of Lading.		ISSUING OFFICER (Name and title)		DATE	
7 Oct 66				R. G. TANGUAY, CH, LSD		861006	
SIGNATURE OF AGENT		PER		ISSUING OFFICE (Name and complete address)			
<i>[Signature]</i>		TSMT		TRANSPORTATION OFFICE, USAEC&FB BGAP FORT BELVOIR, VIRGINIA 22060 (250663)			
CERTIFICATE OF CARRIER BILLING FOR CHARGES — Consignee must not pay any charges on this shipment							
ON (Date)		AT (Actual delivery point)		THE (Name of delivering carrier)			
DELIVERED THIS CONSIGNMENT COMPLETE AND IN APPARENT GOOD ORDER EXCEPT AS NOTED HEREON				<input type="checkbox"/> SHORTAGE <input type="checkbox"/> DAMAGE <input type="checkbox"/> CARRIER OS&D REPORT ATTACHED		SERVICE FURNISHED BY CARRIER AT DES NATION <input type="checkbox"/> DELIVERY <input type="checkbox"/> TRAP-CAR	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Certification Form

71 52

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: HQS., AMCCOM ROCK ISLAND ARSENAL ROCK ISLAND, IL 61299-6000 Telephone No. (309) 782-2964	2. Shipment Identification No. USA 71-86 - 38
	3. Transport Permit No. EXEMPT

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date X 7 October 86

X Shirley Carlson, Freight Rate Spec
Typed Name and Title of Agent of Shipper

X *Shirley Carlson*
Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: X Tri-State Motor Transit Co. P. O. Box 113 Joplin, MO 64901 Telephone No. ()	2. Shipment Identification No. USA 71-86
	3. Transport Trailer No. X
4. Scheduled Date of Departure of Shipment: X 7 October 86	5. Estimated Date of Arrival of Shipment: X 10 Oct 86

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date X 7 October 86

X DON FRISTO
Typed or Printed Name and Title

Don Fristo
Signature

NAVJAGSAMS/SPH/MORRIS
Rock Island, IL 61299-6000
(309) 782-2964

NAVJAGSAMS/SPH/MORRIS
Radiological Affairs Support Office
(Attn: L. Martin/R. Lowman)
Yorktown, VA 23691
(804) 687-4692

P.O. Box 828
Highway 64 (1 mile west of Snelling)
Snelling, S.C. 29812
803-259-1119

EMERGENCY TELEPHONE: (803) 269-6069

ADDRESS Box 828 Yorktown, VA

TELEPHONE (803) 812-8768

SHIPPING DATE 11-14-93

12-1-93
HQ, U.S. AIR FORCE, SA-ALC
(Attn: SA-ALC/EME: Vaughn)
Kelly AFB TX 78214-5000
(512) 925-8635

ORIGINATING COMMAND: FORT BELVOIR

LOCATION: FT. BELVOIR VIRGINIA

(3) USE THIS NUMBER ON ALL CONTINUATION PAGES	SHIPMENT CONTROL NUMBER <u>USA-95-93A-1281</u>	PAGE <u>1</u> OF <u>4</u>
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(5) TOTAL ACTIVITIES (10CFR20.311)				
ALL ISOTOPES	TRITIUM	C-14	TC-99	I-129
170 891,557	173,797	0.056	NA	NA

(6) TOTAL FOR EACH CLASS		PROPER SHIPPING NAME AND HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER	RD or Radio Exempt
NO OF PACKAGES	WEIGHT (POUNDS)			
26	450	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL; 7	UN2910	
7	2300	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-INSTRUMENTS or ARTICLES; 7	UN2910	
5	975	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S.; 7	UN2912	
		RADIOACTIVE MATERIAL, N.O.S.; 7	UN2902	RG
		OTHER (SPECIFY)		

(7) ☒ YES () NO

THIS VEHICLE IS CONSIGNEE EXCLUSIVE USE. (49 CFR 173.403(f)) LOADING AND UNLOADING MUST BE ACCOMPLISHED BY CONSIGNOR, CONSIGNEE OR HIS DESIGNATED AGENT VEHICLE OR PACKAGE CONFIGURATION CANNOT BE ALTERED FROM ORIGINAL LOADIN WITHOUT THE PRIOR APPROVAL OF THE CONSIGNEE. ANY LOADING OR UNLOADING MUST BE PERFORMED BY PERSONNEL HAVING RADIOLOGICAL TRAINING AND RESOURCE APPROPRIATE FOR THE SAFE HANDLING OF THE CONSIGNMENT.

DRIVER'S SIGNATURE Keith Lingle DATE 11-14-93

(9) "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipper of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."

Date 11-14-93 By Richard O. Lingle

Title and Organization Keith Lingle / RPO

Commercial Telephone No. (703) 764-1987

(8) IMPORTANT: "This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation"

Signature Richard O. Lingle

ATTACH SHIPPING DOCUMENTS TO OUTSIDE OF PACKAGE

(10) ITEM NO.	(11) RADIOISOTOPE EACH CONTAINER	(12) ACTIVITY EACH RADIOISOTOPE (mCi)	(13) PHYSICAL FORM	(14) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(15) WASTE DESCRIPTION	(16) WASTE CLASS (A, B, C)	(17) SPECIAL NUCLEAR MATERIAL (Grams)	(18) SOURCE MATERIAL (Pounds)	CONTAINER						(24) LABEL/MARKINGS USED	
									(19) CONTAINER WEIGHT (Pounds)	(20) CONTAINER VOLUME (Cu. Ft.)	(21) CONTAINER TYPE	(22) RADIATION LEVELS		(23) CONTAMINATION CONTAINER SURFACE (DPM/100 cm²) Alpha Beta Gamma		
												Container Surface R(mR/hr) D(R/hr)	(T1) 1 Meter nR/hr			
1	RA 226	2.22 E-3	Solid	U-100	SOIL SAMPLES, AIR FILTERS, SOIL STANDARDS	A4	NP		300	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
	Co 60	3.56 E-6			NIGHT SCOPE, COMPASSES, WATCHES, SMOKE DET											Radioactive—
	Ti 232	7.12 E-4						7.2-2								Radioactive—
	U 238	1.73 E-1						7.6-1								Radioactive—
2	RA 226	0.109							250	7.5	Det 7A Type A	<0.02	<0.02	<100	<1000	Radioactive—Waste I
3	Co 60	2.45 E-4							250	7.5	Det 7A Type A	<0.02	<0.02	<100	<1000	Radioactive—Waste I
	H 3	176.77535			EXIT SIGNS, COMPASS, WATCH, DIPLEXER											Radioactive—
	Pm 147	8.81 E-2														Radioactive—
4	Ti 232	2.93 E-2						3	100	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
5	Am 241	3.18 E-2							100	7.5	Det 7A Type A					Radioactive—Waste I
	RA 226	1.5 E-2														Radioactive—
	U 238	3.42 E-1														Radioactive—
6	H 3	3.15 E-4							75	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
7	H 3	3.15 E-4							100	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
8	H 3	3.15 E-4							75	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
8		170 968.3125	Page Totals				NP	1.07	1250	60						

ORIGINAL - DCF; GREEN - CARRIER; GOLDENROD - U.S. MAIL

D.O.T. SHIPPING PAPERS () of ()

(10) ITEM NO.	(11) RADIOISOTOPE OR CHEMICAL CONTAINER	(12) ACTIVITY OR CONCENTRATION	(13) PHYSICAL FORM	(14) CHEMICAL FORM AND NAME OF CHELATING AGENT	(15) WASTE DESCRIPTION	(16) WASTE CLASS (A, B, C)	(17) SPECIAL NUCLEAR MATERIALS	(18) SOURCE MATERIAL	(19) CONTAINER WEIGHT (LBS)	(20) CONTAINER VOLUME (GALLONS)	(21) CONTAINER TYPE	(22) CONTAINER RADIATION LEVEL (MR/hr)	(23) CONTAMINATION CONTAINER SURFACE COUNT/100 CM ²	(24) CONTAMINATION CONTAINER AIR COUNT/100 CM ³	(25) LABEL MARKINGS USED	
10	Am ²⁴¹	1.38 E-3	SOLID	Oxides	Creek Sources, Air Filters, Charcoal Canisters	AU			75	7.5	DT 7A1A8	35	1.1	<100	<1000	Radioactive—Yr 10
	Ba ¹³³	1.37 E-3														Radioactive—
	C ¹⁴	5.56 E-2														Radioactive—
	Cd ¹⁰⁹	50.0														Radioactive—
	Ce ¹³⁹	4.0 E-10														Radioactive—
	Cl ³⁶	2.24 E-4														Radioactive—
	Co ⁵⁷	9.3 E-6														Radioactive—
	Co ⁶⁰	1.117														Radioactive—
	Cs ¹³⁷	3.26 E-2														Radioactive—
	Eu ¹⁵⁴	1.3 E-3														Radioactive—
	Eu ¹⁵⁵	2.57 E-4														Radioactive—
	Hg ²⁰³	4.0 E-10														Radioactive—
	I ¹³¹	1.0 E-10														Radioactive—
	Kr ⁸⁵	109.039														Radioactive—
	Mn ⁵⁴	3.0 E-10														Radioactive—
	Na ²²	6.28 E-6														Radioactive—
	Ni ⁶³	9.25														Radioactive—
	Pb ²¹⁰	6.41 E-6														Radioactive—
	Pm ¹⁴⁷	2.49 E-7														Radioactive—
	Pu ²³⁹	5.0 E-6														Radioactive—
	Sb ¹²⁵	1.24 E-4														Radioactive—
	Sm ¹⁵³	4.0 E-10														Radioactive—
	Sr ⁸⁵	4.0 E-10														Radioactive—
	Sr ⁹⁰	6.145														Radioactive—
	Ti ²³⁰	3.0 E-5														Radioactive—
	Ti ²³²	7.8 E-3														Radioactive—
	Tl ²⁰⁴	7.16 E-8														Radioactive—
	Y ⁸⁸	4.0 E-10														Radioactive—
	Fe ⁵⁵	11.213														Radioactive—
11	Pa ²²⁶	1.3 E-3	Solid	Oxides	Detector	AU			150	7.5	STC	20.08	20.08	<100	<1000	Radioactive—Yr 10
2		182.466	Page Totals				8 E-8	0.079	225	15.0						Radioactive—

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D.O.T. SHIPPING PAPERS () of ()

CONTINUATION SHEET

ORIGINATING COMMAND Ft BelvoirPAGE 4 OF 4

(1) ITEM NO.	(2) RADIOISOTOPE	(3) ACTIVITY	(4) PHYSICAL FORM	(5) CHEMICAL FORM AND NAME OF CHELATING AGENT	(6) WASTE DESCRIPTION	(7) WASTE CLASS (FAC)	(8) SPECIAL NUCLEAR MATERIAL (Name)	(9) SOURCE MATERIAL (Name)	(10) CONTAINER TYPE	(11) CONTAINER VOLUME	(12) CONTAINER TYPE	(13) RADIATION LEVELS		(14) CONTAMINATION SURFACE		(15) LABEL/HAZARD USED
												EXTRINSIC	INTRINSIC	EXTRINSIC	INTRINSIC	
12	H ³	3.15 E-04	Solid	Oxides	LAR TRASH, GLASS, CONTAINERS, DEVICES, STRUCTURES	AU	NP	150	150	7.5	STC	<0.02	<0.02	<100	<1000	Radioactive—LSA
13	U ²³⁸	4.0 E-03						0.03	1500	96.0		0.5	<0.02	<100	<1000	Radioactive—LSA
	Ta ²³²	4.9 E-03						0.05								Radioactive—
	H ³	1.71 E-06														Radioactive—
14	Kr ⁸⁵	0.031			DETECTORS				10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
15	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
16	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
17	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
18	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
19	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
20	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
21	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
22	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
23	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
24	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
25	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
26	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
27	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
28	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
29	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
30	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
31	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
32	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
33	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
34	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
35	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
36	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
37	Kr ⁸⁵	0.031							10	1.2		<0.02	<0.02	<100	<1000	Radioactive—
38	Kr ⁸⁵	0.031	✓	✓	✓	✓	✓		10	1.2	✓	<0.02	<0.02	<100	<1000	Radioactive—
27		0.784	Page Totals					NP	0.02	1900	178.5					Radioactive—

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D.O.T. SHIPPING PAPERS () of ()



CHEM-NUCLEAR SYSTEMS INC.

P.O. Box 726 • Barnwell, South Carolina 29812 • (803)-259-1781

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown). Marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination. And as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the uniform domestic straight bill of lading set forth (1) in official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment. Or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(MAIL OR STREET ADDRESS OF CONSIGNEE - FOR PURPOSES OF NOTIFICATION ONLY.)

FROM Fort Belvoir Date 11-19-93At Fort Belvoir VIRGINIACONSIGNEE TO DEFENSE CONSOLIDATION FACILITYDESTINATION SMELTING STATE SC COUNTY BARNWELL

Bill of Lading Page (1) of (2)

TSMT WORK ON
Control Number
591562

Tractor No. 1217Trailer No. 4485002

LENGTH
LEGAL

HEIGHT
LEGAL

WIDTH
LEGAL

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Subject to Correction)
<u>5</u>	<u>RD</u>	<u>RADIOACTIVE MATERIAL, N.C.S., 7, UN 29F2. METAL DRUMS</u>	<u>875</u>
		<u>CONTAINING EXIT SIGNS, COMPASSES, WATCHES, DIPLEXER</u>	
		<u>Radionuclides: $R_{226}Co_{60}N_1, H_3, PM^{147}, AM^{241}$</u>	
		<u>Total Activity: 170.89 CURIES</u> Container Type: <u>METAL DRUM</u>	
		<u>Physical Form: SOLID, LIQUID, GAS</u> Container Specification: <u>7A, TYPE A</u>	
		<u>Chemical Form: OXIDES</u> Non-Spec. Marking: <u>N/A</u>	
		<u>Specification Label: RADIOACTIVE, WHITE I, YELLOW II</u> <u>Exclusive/Non-Exclusive Use Vehicle:</u>	
		<u>Transport Index: NA</u> Placarded: <u>RADIOACTIVE</u>	

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature Jeff MillerCompany CNSI Date 11-19-93

Received the property described above in good condition, except as otherwise noted.

Carrier TSMT - MobilDriver Rich LoringDate and Time 11-19-93

SCHEDULED TO ARRIVE	DATE <u>11-19-93</u>	TIME <u>0800</u> <u>AM</u>	COMPLETED LOADING	DATE <u>11-19-93</u>	TIME <u>1100</u> <u>AM</u>	SHIPPER'S SIGNATURE <u>[Signature]</u>
ARRIVED AT SHIPPER	DATE <u>11-19-93</u>	TIME <u>0800</u> <u>AM</u>	LEFT SHIPPER	DATE <u>11-19-93</u>	TIME <u>1300</u> <u>AM</u>	SHIPPER'S SIGNATURE <u>[Signature]</u>

SHIPPER IMPORTANT NOTE: Your signature certifies that the above dates and times are correct for record keeping and billing purposes.

T.O.N.T. W.C. #
591562

CHEM-NUCLEAR SYSTEMS INC.

P.O. Box 728 • Barnwell, South Carolina 29812 • (803)-259-1781

Control Number

93-323-1

BILL OF LADING-CONTINUATION PAGE 1
PAGE 2 OF 2 SHIPMENT NUMBER USA-93-93A-

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Subject to Correction)
7	X	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.C.S., 7, UN 2912 METAL DRUMS CONTAINING SOIL SAMPLES, NIGHTSCOPES, DAW Radionuclides: RA^{226} , CO^{60} , TH^{232} , U^{238} , H^3 Total Activity: 0.216 millicuries Container Type: METAL DRUM Physical Form: SOLID Container Specification: STRONG-TIGHT Chemical Form: OXIDES Non-Spec. Marking: RADIOACTIVE-10A Specification Label: N/A Exclusive/Non-Exclusive Use Vehicle: Transport Index: N/A Placarded: RADIOACTIVE	2300

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Subject to Correction)
26	X	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS OR ARTICLES, 7, UN 2910 PACKAGES OF DETECTORS Radionuclides: Rb^{85} , RA^{226} Total Activity: 0.776 millicuries Container Type: CRATEBOARD BOX Physical Form: SOLID Container Specification: STRONG-TIGHT Chemical Form: OXIDES Non-Spec. Marking: N/A Specification Label: N/A Exclusive/Non-Exclusive Use Vehicle: Transport Index: N/A Placarded: N/A THIS PACKAGE CONFORMS TO THE CONDITIONS AND LIMITATIONS SPECIFIED IN 49 CFR 173.422 FOR RADIOACTIVE MATERIAL, EXCEPTED PACKAGE -	400

INSTRUMENTS OR ARTICLES, 7, UN 2910.

4 6 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING, UN 2910, 1000

THIS PACKAGE CONFORMS TO THE CONDITIONS AND LIMITATIONS SPECIFIED IN
49 CFR 173.422 FOR RADIOACTIVE MATERIAL, EXCEPTED PACKAGE -

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

(Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.)

See Reverse Side for Instructions

1. Name and Address of Shipper/Generator: HQ, U.S. ARMY, AMCCOM (ATTN: AMSMC-SFS) ROCK ISLAND, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: BYRON E. MORRIS b) Title: HEALTH PHYSICIST c) Telephone: (309) 782-2964	
3. Radioactive Waste Transport Permit No. 0137-00-93-E		4. Shipment Identification No.: USA-95-93A-1286	
5. Location from which waste will be shipped: FORT BELVOIR FT BELVOIR, VIRGINIA		6. Name and Address of Consignee: DEFENSE CONSOLIDATION FACILITY SC HWY. 64, SNELLING, SC 29812	
7. Scheduled Date of Departure of Shipment: 11-19-93		8. Estimated Date of Arrival of Shipment: 11-22-93	
9. Carrier: TRI-STATE MOTOR TRANSIT	10. Trailer No. & Owner: (if available) 448602	11. Type Transport Vehicle: CLOSED VAN	
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, SC 70, SC 64			
13. Type Package or Cask Model No.: METAL DRUM, WITH BB METAL BOX, (AERIAL BOX)	14. Type Container in Cask: N/A	15. Package or Cask Spec: US DOT 7A, TYPE STRONG - TIGHT	
16. Complete Waste Description (be Specific): LIQUID SOURCE STANDARDS, CHECK SOURCES, LUMINOUS DEVICES, DIALS, WATCHES, COMPASSES, INSTRUMENT, ARTICLES.			
17. Physical & Chemical Form: SOLID, GAS, LIQUID. OXIDES		18. Total No. of Packages: 30	19. Prominent Radionuclides: H3, C-14, Zr-90, K-40
20. Total Curies: 11.769	21. Waste Class & Stability: A	22. Total Cubic Feet: 236.231	
23. DOT Sub Type 7A, TYPE LSA EXCEPTED-PACKAGE		24. DOT Class. & Hazard Class UN No: 2912 2910	25. Hwy. Route Controlled: (Large Quantity) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radiactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date: 11-19-93

BYRON E. MORRIS

Typed Name

AGENT FOR US ARMY/AMCCOM

Byron E. Morris

Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGEMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery

Signature of Consignee's Authorized Representative

Typed or Printed Name and Title

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier's part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address:
HQ, U.S.ARMY, AMCCOM
(ATTN:AMSMC-SFR/Morris)
Rock Island, IL 61299-6000
Telephone No. (309) 782-2964

2. Shipment Identification No.
USA-95-93A-12-B6
3. Transport Permit No.
0137-00-93-E

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date 11-19-93
Michael Funkhouser
Typed Name and Title of Agent of Shipper

Michael Funkhouser
Signature

Part II: Carrier's Certification

1. Name of Carrier and Address:
TRI-STATE MOTOR TRANSIT INC.
EAST 7TH ST. JOPLIN, MO.
Telephone No. (800) 872 8768

2. Shipment Identification No.
USA-95-93A-12-B6
3. Transport Trailer No.
448602

4. Scheduled Date of Departure of Shipment:
11-19-93

5. Estimated Date of Arrival of Shipment:
11-22-93

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date 11-19-93
Keith Livingston
Typed or Printed Name and Title

Keith Livingston
Signature

Date _____

- X RADIOACTIVE MATERIAL, N.O.S.; 7, UN2982
- RADIOACTIVE MATERIAL, SPECIAL FORM, N.O.S.; 7, UN2974
- RADIOACTIVE MATERIAL, FISSILE, N.O.S.; 7, UN2918

POTENTIAL HAZARDS

HEALTH HAZARDS

External radiation from unshielded radioactive material
Internal radiation from inhalation, ingestion, or skin absorption.
Radioactive material; degree of hazard will vary greatly, depending on type and quality of radioactive material.
Runoff from fire control or dilution water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind; greater distances may be necessary if advised by qualified Radiation Authority.
Isolate hazard area and deny entry.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
Detain uninjured persons and equipment exposed to radioactive material until arrival or instruction of qualified Radiation Authority.
Delay clean-up until arrival or instruction of qualified Radiation Authority.
CALL CHEM-NUCLEAR AT 1-803-259-6069 FOR EMERGENCY ASSISTANCE. If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO₂, Halon, water spray, or standard foam.
Large Fires: Water spray, fog (flooding amounts).
For massive fire in cargo area, use unmanned hose holder or monitor nozzles.
Fight fire from maximum distance. Stay away from ends of tanks.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Damage to outer container may not affect primary inner container.
Small Liquid Spills: Take up with sand, earth, or other noncombustible absorbent material.
Large Spills: Dike far ahead of liquid spill for later disposal.

FIRST AID

Call emergency medical care.
If not affecting injury, remove and isolate contaminated clothing and shoes; wrap victim in blanket before transporting.
If not injured, remove and isolate contaminated clothing and shoes; shower victim with soap and water.
Except for the injured, detain persons and equipment exposed to radioactive material until arrival or instruction of Radiation Authority.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-6069

X RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S.; 7, UN2912

POTENTIAL HAZARDS

HEALTH HAZARDS

Fire may produce irritating or poisonous gases.
Radioactive material; degree of hazard will vary from little to moderate, depending on the type and quantity of radioactive material.
Runoff from fire control or dilution of water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind of spill.
Isolate hazard area and deny entry.
Limit entry to shortest possible time.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
Delay clean-up until arrival or instruction of qualified Radiation Authority.
CALL CHEM-NUCLEAR AT 1-803-259-6069 FOR EMERGENCY ASSISTANCE. If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO₂, Halon, water spray, or standard foam.
Large Fires: Water spray, fog, or standard foam is recommended.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Large Spills: Dike far ahead of liquid spill for later disposal.
Cover powder spill with plastic sheet or tarp to minimize spreading.

FIRST AID

Use first aid treatment according to the nature of the injury.
If not affecting injury, remove and isolate contaminated clothing and shoes; wrap victim in blanket before transporting.
If not injured, remove and isolate contaminated clothing and shoes; shower victim with soap and water.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-6069

MOTOR VEHICLE INSPECTION
(TRANSPORTING HAZARDOUS MATERIAL)

GRL NO.	ORIGIN	DESTINATION
NAME OF CARRIER	TRI-STATE MOTOR TRANSIT	
NAME OF DRIVER	KEITH LIVINGSTON	
DATE AND HOUR	11-19-93	
INSTALLATION/ACTIVITY	FT BELVOIR, FT BELVOIR, VA.	
DRIVER'S STATE PERMIT NO.	215-34-2074-GA.	
MEDICAL EXAMINER'S CERTIFICATE AND DATE		

VEHICLE			
TYPE OF VEHICLE	TRUCK NUMBER	TRAILER(S) NUMBER	SLEEPER CAB
<input type="checkbox"/> TRUCK <input type="checkbox"/> TRUCK AND FULL TRAILER	ORIGIN 1817	ORIGIN 448002	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/> TRACTOR AND DOUBLE TRAILERS	DESTINATION	DESTINATION	VALID LEASE
<input checked="" type="checkbox"/> TRACTOR AND CLOSED SEMI-TRAILER			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/> TRACTOR AND FLAT-BED TRAILER			I.C.C. NUMBER

NOTE: All of the following items shall be checked on empty equipment prior to loading.
Items with an asterisk(*) shall be checked on incoming loaded equipment.

ITEM NO.	CHECK APPROPRIATE COLUMN (See reverse side for explanatory notes)	ORIGIN		DESTINATION		REMARKS (Explain unsatisfactory items; use reverse side if necessary)
		SAT	UNSAT	SAT	UNSAT	
1.	ENGINE, BODY, CAB AND CHASSIS CLEAN	✓				
2.	STEERING MECHANISM	✓				
3.	HORN OPERATIVE	✓				
4.	WINDSHIELD AND WIPERS	✓				
5.	SPARE ELECTRIC FUSES AVAILABLE	✓				
6.	REAR VIEW MIRRORS INSTALLED	✓				
7.	HIGHWAY WARNING EQUIPMENT	✓				
* 8.	FULL FIRE EXTINGUISHER INSTALLED	✓				
9.	LIGHTS AND REFLECTORS OPERATIVE	✓				
10.	EXHAUST SYSTEM	✓				
* 11.	LIQUID PETROLEUM GAS POWERED VEHICLES	✓				
* 12.	FUEL TANK, LINE AND INLET	✓				
13.	COUPLING DEVICES - KINGPIN LOCK	✓				
* 14.	ALL BRAKES OPERATIVE	✓				
* 15.	LANDING GEAR ASSEMBLY OPERATIVE	✓				
16.	SPRINGS AND ASSOCIATED PARTS	✓				
* 17.	TIRES	✓				
18.	CARGO SPACE	✓				
* 19.	ELECTRIC WIRING	✓				
* 20.	TAIL GATE AND DOORS SECURED	✓				
* 21.	FIRE AND WATER RESISTANT TARPULIN					
22.	ANY OTHER DEFECTS (Specify)					

<input checked="" type="checkbox"/> APPROVED	(If rejected give reasons on reverse under "Remarks". Equipment shall be approved if deficiencies are corrected prior to loading.)	SIGNATURE (of Inspector) ORIGIN B. Brackley	SIGNATURE (of Inspector) DESTINATION
<input type="checkbox"/> REJECTED			

ITEMS TO BE CHECKED PRIOR TO RELEASE OF LOADED VEHICLE		ORIGIN	DESTINATION
23.	MIXTURES OF MATERIAL PROHIBITED BY DOT REGS. ARE NOT LOADED ONTO THIS VEHICLE	SAT	
* 24.	LOAD IS SECURED TO PREVENT MOVEMENT	SAT	
25.	WEIGHT IS PROPERLY DISTRIBUTED AND VEHICLE IS NOT OVERWEIGHT	SAT	
* 26.	SEALS(S) APPLIED TO CLOSED VEHICLE, FIRE AND WATER RESISTANT TARPULIN APPLIED ON OPEN VEHICLE	SAT	
* 27.	SPECIAL INSTRUCTIONS (DD Form 836) FURNISHED DRIVER	SAT	
* 28.	COPY OF VEHICLE INSPECTION (DD Form 626) FURNISHED DRIVER	SAT	
* 29.	PROPER PLACARDS APPLIED	SAT	
* 30.	SHIPMENT MADE UNDER DOT EXCEPTION 505		

SIGNATURE (of Inspector) ORIGIN B. Brackley	SIGNATURE (of Driver) ORIGIN Keith Livingston
SIGNATURE (of Inspector) DESTINATION	SIGNATURE (of Driver) DESTINATION

BROKER'S TRAILER SURVEY

Shipment ID Number: LYA -
 Surveyed Performed by: EX3EADLEY
 Instrument Used: E-525 # 12417
 Date Calibrated: 9-17-93

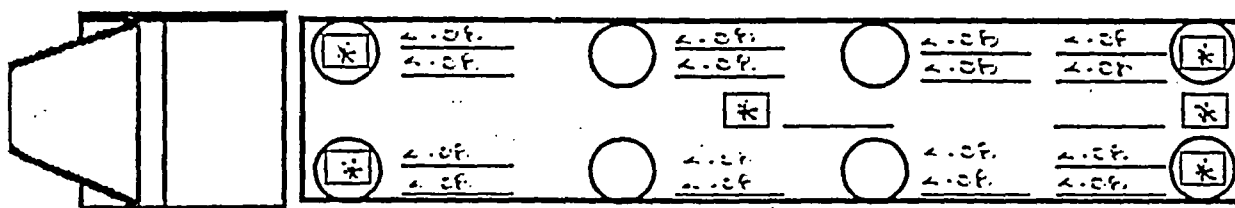


= mr/hr



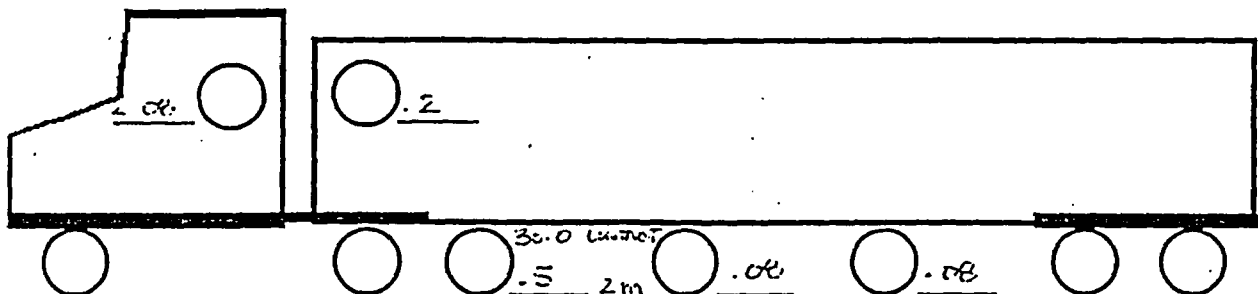
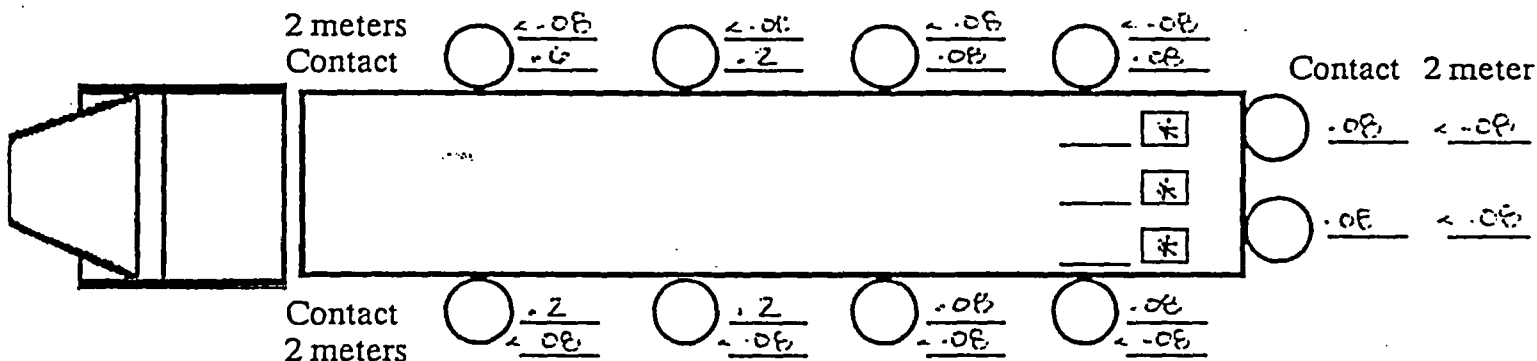
= dpm/100cm²

Initial Incoming Survey



Vehicle Condition: Accept X Reject

Outgoing Shipment Survey



* All Surveys ; < 1000 dpm/100cm² α, B-Y.

ALL ISOTOPES	TRITIUM	C-14	Tc-99	1-129
15, x	φ	φ	φ	φ

1459.613

ORIGINATING COMMAND: Fort Belvoir
LOCATION: Fort Belvoir, VA

(3) USE THIS NUMBER ON ALL CONTINUATION PAGES SHIPMENT CONTROL NUMBER PAGE 1
US 4 110F-90-439 OF 1

(6) TOTAL FOR EACH CLASS		PROPER SHIPPING NAME AND HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER	RQ (PER 49 CFR 172.203(c))
NO OF PACKAGES	WEIGHT (POUNDS)			
		RADIOACTIVE MATERIAL, LIMITED QUALITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2910	
		RADIOACTIVE MATERIAL, INSTRUMENTS AND ARTICLES - RADIOACTIVE MATERIAL	UN 2911	
		RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2912	
4	1540	RADIOACTIVE MATERIAL, N.O.S. - RADIOACTIVE MATERIAL	UN 2982	RQ
		OTHER (SPECIFY)		

(7) ☒ YES () NO THIS VEHICLE IS CONIGNED EXCLUSIVE USE. (49 CFR 173.403(ii)) LOADING AND UNLOADING MUST BE ACCOMPLISHED BY CONSIGNOR, CONSIGNEE OR HIS DESIGNATED AGENT. VEHICLE OR PACKAGE CONFIGURATION CANNOT BE ALTERED FROM ORIGINAL LOADING WITHOUT THE PRIOR APPROVAL OF THE CONSIGNEE. ANY LOADING OR UNLOADING MUST BE PERFORMED BY PERSONNEL HAVING RADIOLOGICAL TRAINING AND RESOURCES APPROPRIATE FOR THE SAFE HANDLING OF THE CONSIGNMENT.

DRIVER'S SIGNATURE M. Northcraft DATE 9/14/90

(8) IMPORTANT: "This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation."

Signature R K Bhat

(9) "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."

Date 14 SEPT 90 By David W. Nelson

Title and Organization HEALTH PHYSICIST HQ AMCCOM

Commercial Telephone No. (301) 782-2966

ATTACH SHIPPING DOCUMENTS TO OUTSIDE OF PACKAGE

(10) ITEM NO.	(11) RADIONUCLIDE EACH CONTAINER	(12) ACTIVITY EACH RADIONUCLIDE (mCi)	(13) PHYSICAL FORM (Solid or Gas)	(14) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(15) WASTE DESCRIPTION	(16) WASTE CLASS (A, B, C)	(17) SPECIAL NUCLEAR MATERIAL (Grams)	(18) SOURCE MATERIAL (Pounds)	CONTAINER				(23) CONTAMINATION CONTAINER SURFACE (DPM/100cm ²) Alpha Beta-Gamma	(24) LABEL/MARKINGS USED
									(19) CONTAINER WEIGHT (Pounds)	(20) CONTAINER VOLUME (Cu. Ft.)	(21) CONTAINER TYPE	(22) RADIATION LEVELS Container Surfact 3in./hr OR/hr (T.I.) 1 Meter mR/hr		
FB-1	Am-241	0.880	Solid	Oxides	Smoke detectors	A	φ	φ	255	7.5	74TYPEA	0.05 0.05	2220 22200	Radioactive—WI
FB-2	Am-241	0.880	Solid	Oxides	Smoke detectors	A	φ	φ	255	7.5	74TYPEA	0.05 0.05	2220 22200	Radioactive—WI
FB-3	Am-241	0.853	Solid	Oxides	Smoke detectors	A	φ	φ	260	7.5	74TYPEA	0.05 0.05	2220 22200	Radioactive—WI
FB-4	Am-241	1457.0	Solid	Oxides	Sealed Check Sources	>C	φ	φ	770	2.0	USDOT 20WC-4 TYPEB	0.05 0.05	2220 22200	Radioactive—WI
														Radioactive—
														Radioactive—
														Radioactive—
														Radioactive—
														Radioactive—
														Radioactive—
														Radioactive—
														Radioactive—
4							φ	φ	1540	24.5			N/A	

#1459.613
1459.613 Page Totals

White—Consolidation Facility; Blue—Shinner; Green—Carrier; Canary—CNSI Management; Pink—Contracting Officer; Goldenrod—U.S. Mail



Emergency Contact: Barnwell Security: (803) 259-1786
CHEM-NUCLEAR SYSTEMS INC. (CNSI)

P.O. Box 726 • Barnwell, South Carolina 29812 • (803) 259-1781

STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — NOT NEGOTIABLE.
RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown). Marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the uniform domestic straight bill of lading set forth (1) in official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(MAIL OR STREET ADDRESS OF CONSIGNEE — FOR PURPOSES OF NOTIFICATION ONLY.)

FROM Fort Belvoir Date 9-14-90

At Fort Belvoir, Virginia

CONSIGNEE TO Defense Consolidation Facility, CNSI

DESTINATION Hwy-64, (1 mile west of), Snelling, SC STATE COUNTY

Page 1 of 1

Control Number
90-1729

Tractor No. 65

Trailer No. 292037

LENGTH
1 legal

HEIGHT
1 legal

WIDTH
1 legal

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Sub. to Correction)
1	RD	Radioactive Material, n.o.s., UN2982, one 20wc-4 with sealed Check sources in 2R container, physical Form & Solid, Chemical Form & oxides, Total Activity & 1457 millicuries, Isotope & Am-241, Marking & Radioactive Material, n.o.s., UN2982, label & Radioactive White I, T.I. & NIA, Container specification & USA DOT 20WC-4, Type B, package is sealed.	770
Emergency contact: CNSI Security: (803) 259-1786			

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature Walter E. Estman

Company CNSI Date 9-14-90

Received the property described above in good condition, except as otherwise noted.

Carrier CNSI

Driver M. Northcraft

Date and Time 9/14/90

SCHEDULED TO ARRIVE	DATE 9-14-90	TIME 11:30 A.M.	COMPLETED LOADING	DATE 9-14-90	TIME 1:50 P.M.	SHIPPER'S SIGNATURE <u>Walter E. Estman</u>
ARRIVED AT SHIPPER	DATE 9-14-90	TIME 11:30 A.M.	LEFT SHIPPER	DATE 9-14-90	TIME 1620 P.M.	SHIPPER'S SIGNATURE <u>Walter E. Estman</u>

SHIPPER IMPORTANT NOTE: Your signature certifies that the above dates and times are correct for record keeping and billing purposes.

**CHEM—NUCLEAR SYSTEMS INC.**

P.O. Box 726 • Barnwell, South Carolina 29812 • (803) 259-1781

Control Number

90-1729

BILL OF LADING-CONTINUATION PAGE

PAGE 7 OF 7SHIPMENT NUMBER USA 110F-90-439

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Sub. to Correction)
3	X	Radioactive Material, n.o.s., UN2982, (3) drums of smoke detectors; physical Form: Solid; Chemical Form: Oxides; Isotope: Am-241; Total Activity: 2.613 millicuries; Marking: Radioactive Material, n.o.s., UN2982, Label: Radioactive White I; TI: N/A; Container Spec: USA DOT 7A Type A; Packages sealed.	77.0
87	X	Radioactive Material, LSA, n.o.s., UN2912; (87) drums of Lab Trash (compacted + uncompactd - paper, plastic, metal, glass, rubber, wood) and Resin; Physical Form: Solid; Chemical Form: Oxides; Total Activity: 1,622.647233 millicuries; Isotopes: H3, Du, C14, I-125, Co57, Co58, Co60, Mn54, P32, Cr51, Zn65, S-35, Se46, Ce141, Nb95, Na22, Rb86, Cl-36, Ba-133, In111, Ca45, Sr85, Sn113, Cs137; Marked: (non-spec) "Radioactive - LSA"; Container Spec: Strong-tight;	15,542
		This vehicle is consigned exclusive use, is sealed and placarded: "Radioactive"	
		Emergency contact: CNSI Security (803) 259-1786	

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

{Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.}

See Reverse Side for Instructions

1. Name and Address of Shipper/Generator: HQ, U.S. Army, AMCCOM Rock Island, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: Byron Morris b) Title: Health Physicist (309) 782-2964 c) Telephone: ()	
3. Radioactive Waste Transport Permit No. 0137-00-90-E		4. Shipment Identification No.: USA 110F-90-439	
5. Location from which waste will be shipped: Fort Belvoir, Va		6. Name and Address of Consignee: CNSI, Defense Consolidation Facility, (1 mile west of) Snelling, SC 29812	
7. Scheduled Date of Departure of Shipment: Sept. 14, 1990		8. Estimated Date of Arrival of Shipment: Sept. 15, 1990	
9. Carrier: Chem-Nuclear Systems, Inc.	10. Trailer No. & Owner: (if available) 292037 CNSI	11. Type Transport Vehicle: VAN	
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, US-301, SC-70, SC-64			
13. Type Package or Cask Model No.: USA DOT 20WC-4, TYPE B and METAL DRUM	14. Type Container in Cask: N/A	15. Package or Cask Spec.: USA DOT 20WC-4, TYPE B and USA DOT 7A TYPE A	
16. Complete Waste Description (be Specific): Sealed Sources and Smoke detectors			

17. Physical & Chemical Form: Solid & Oxide		18. Total No. of Packages: 4	19. Prominent Radionuclides: Am-241
20. Total Curies: 1.459613	21. Waste Class & Stability: AUG CS	22. Total Cubic Feet: 24.5	
23. DOT Sub Type: >A2, Type B and <A2, TYPE A	24. DOT Class. & Hazard Class UN No.: 2982 Radioactive Material, N.O.S.	25. Hwy. Route Controlled: (Large Quantity) [] Yes [x] No	

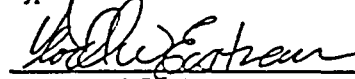
CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date: 09/08/90

Todd W. Eastman/Agent for US Army/CNSI

Typed Name



Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGEMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery

Signature of Consignee's Authorized Representative

Typed or Printed Name and Title

DHEC 802 (Rev. 10/84)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Certification Form

General Instruction and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: <u>HQ, U.S. ARMY AMCCOM</u> <u>@ Fort Belvoir, Fort Belvoir, Virginia</u> <u>Rock Island, IL 61299-6800</u> Telephone No. <u>(309) 782-2966</u>	2. Shipment Identification No. <u>USA 110F-90-439</u> 3. Transport Permit No. <u>0137-00-90-E</u>
---	--

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date 9-14-90

TODD W. EASTMAN AGENT FOR US ARMY/CSI Todd Eastman
Typed Name and Title of Agent of Shipper Signature

Part II: Carrier's Certification

1. Name of Carrier And Address: <u>CAEM-NUCLEAR SYSTEMS, INC</u> <u>Burnwell, SC 29512</u> Telephone No. <u>(803) 259-1781</u>	2. Shipment Identification No. <u>USA 110F-90-439</u> 3. Transport Trailer No. <u>292037</u>
4. Scheduled Date of Departure of Shipment: <u>SEPT 14, 1990</u>	5. Estimated Date of Arrival of Shipment: <u>SEPT 15, 1990</u>

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date 9/14/90

M. Northcraft Driver
Typed or Printed Name and Title

M. Northcraft
Signature

DHEC 803

- ✓ — RADIOACTIVE MATERIAL, N.O.S.; UN2982
- RADIOACTIVE MATERIAL, Special Form, N.O.S.; UN2974
- RADIOACTIVE MATERIAL, Fissile, N.O.S.; UN2918

POTENTIAL HAZARDS

HEALTH HAZARDS

External radiation from unshielded radioactive material
Internal radiation from inhalation, ingestion, or skin absorption.
Radioactive material; degree of hazard will vary greatly, depending on type and quality of radioactive material.
Runoff from fire control or dilution water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind; greater distances may be necessary if advised by qualified Radiation Authority.
Isolate hazard area and deny entry.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
Detain uninjured persons and equipment exposed to radioactive material until arrival or instruction of qualified Radiation Authority.
Delay clean-up until arrival or instruction of qualified Radiation Authority.
CALL CHEM-NUCLEAR AT 1-803-259-1786 FOR EMERGENCY ASSISTANCE. If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO2, Halon, water spray, or standard foam.
Large Fires: Water spray, fog (flooding amounts).
For massive fire in cargo area, use unmanned hose holder or monitor nozzles.
Fight fire from maximum distance. Stay away from ends of tanks.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Damage to outer container may not affect primary inner container.
Small Liquid Spills: Take up with sand, earth, or other noncombustible absorbent material.
Large Spills: Dike far ahead of liquid spill for later disposal.

FIRST AID

Call emergency medical care.
If not affecting injury, remove and isolate contaminated clothing and shoes; wrap victim in blanket before transporting.
If not injured, remove and isolate contaminated clothing and shoes; shower victim with soap and water.
Except for the injured, detain persons and equipment exposed to radioactive material until arrival or instruction of Radiation Authority.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-1786

✓ RADIOACTIVE MATERIAL, LSA, N.O.S.; UN2912

POTENTIAL HAZARDS

HEALTH HAZARDS

Fire may produce irritating or poisonous gases.
Radioactive material; degree of hazard will vary from little to moderate, depending on the type and quantity of radioactive material.
Runoff from fire control or dilution of water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind of spill.
Isolate hazard area and deny entry.
Limit entry to shortest possible time.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
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CALL CHEM-NUCLEAR AT 1-803-259-1786 FOR EMERGENCY ASSISTANCE. If water pollution occurs, notify the appropriate authorities.

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Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO2, Halon, water spray, or standard foam.
Large Fires: Water spray, fog, or standard foam is recommended.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Large Spills: Dike far ahead of liquid spill for later disposal.
Cover powder spill with plastic sheet or tarp to minimize spreading.

FIRST AID

Use first aid treatment according to the nature of the injury.
If not affecting injury, remove and isolate contaminated clothing and shoes; wrap victim in blanket before transporting.
If not injured, remove and isolate contaminated clothing and shoes; shower victim with soap and water.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-1786

CNSI DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES
U.S. GOVERNMENT

The Code of Federal Regulations, 49 CFR 173.425 (b)(9) requires that specific instructions for maintenance of exclusive use shipments controls be provided to the carrier. These instructions must be included with the shipment documents. The following instructions shall be complied with by all vehicles designated exclusive use. Changes to the following instructions are not acceptable without the approval of consignee.

1. Do not change out tractor before arrival at the radioactive burial site.
2. Do not change the fifth wheel adjustment on the tractor.
3. Do not move or transfer packages within the van or between vans.
4. Shipments must be braced so as to prevent shifting of load under conditions normally incident to transportation.
5. The shipment must be loaded and unloaded from original transport vehicle by the consignor or the consignee only.

- (Check the box(es) for additional instructions that are applicable)

☒ a) The vehicle must be placarded "RADIOACTIVE" on all four sides until shipment is unloaded.

☒ b) This shipment will have the following intermediate stops.

loaded initially at ① Bethesda Naval Med. Center, Bethesda, MD
intermediate load at ② AFRR, Bethesda, MD ⑤ Fort Detrick, Frederick, MD
intermediate load at ③ USUHS, Bethesda, MD ⑥ Fort Belvoir, Va
intermediate load at ④ WRAMC, Washington, DC
unload vehicle at ⑦ Defense Consolidation Facility, 1 mile west of Snelling, SC
all loading must be performed under broker's supervision.

☐ c) Notify Washington Port of Entry four hours prior to arrival.
I-90: (509) 226-3360, I-84: (509) 783-4014. Notify Richland, Washington (Hanford) burial site within 24 hours of arrival: (509) 377-2411.

☐ e) Notify the Nevada Highway Patrol, (702) 885-5300, no later than four (4) hours and no earlier than 48 hours prior to entering the state.

If the vehicle is involved in; 1) an accident, 2) emergency braking, 3) mechanical malfunction, 4) or any deviation from these instructions, contact any one of the following CNSI employees:

Roger Johnson	(803) 256-0450	office
	(803) 781-0818	home
Mark Lewis	(803) 256-0450	office
	(803) 794-7726	home
Barnwell Security	(803) 259-1786	
Corporate HP/RSO	(803) 256-0450	

Any deviation from these instructions are violations of State and Federal laws and could result in carrier penalty.

M. Northcraft
Drivers Signature

9-14-96
Date
FS-OP-015, APPENDIX B
PAGE 5

BROKER'S TRAILER SURVEY

Shipment ID Number: LISA 110F-90-439

Surveyed Performed by: David Nelson

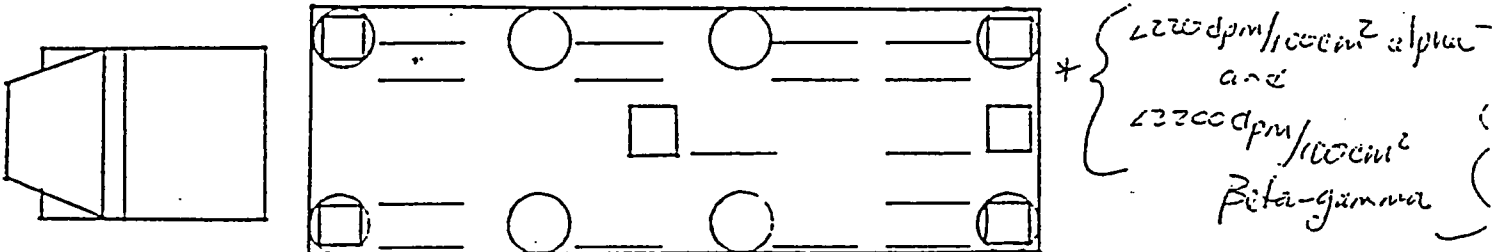
Instrument Used: E-520 # 2323

Date Calibrated: 3-16-90

○ = mr/hr

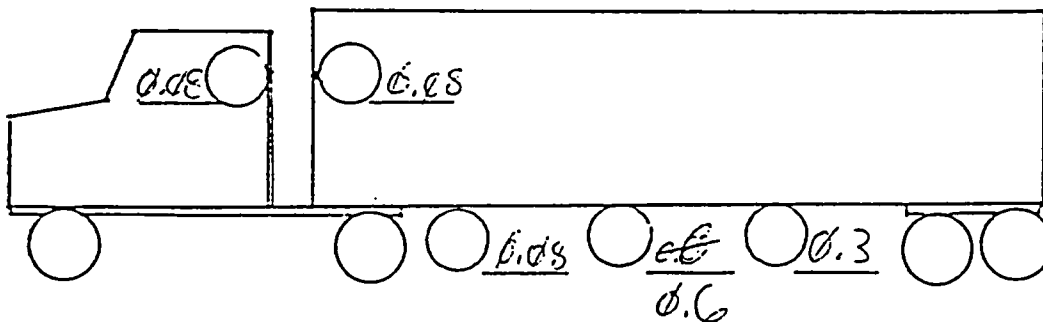
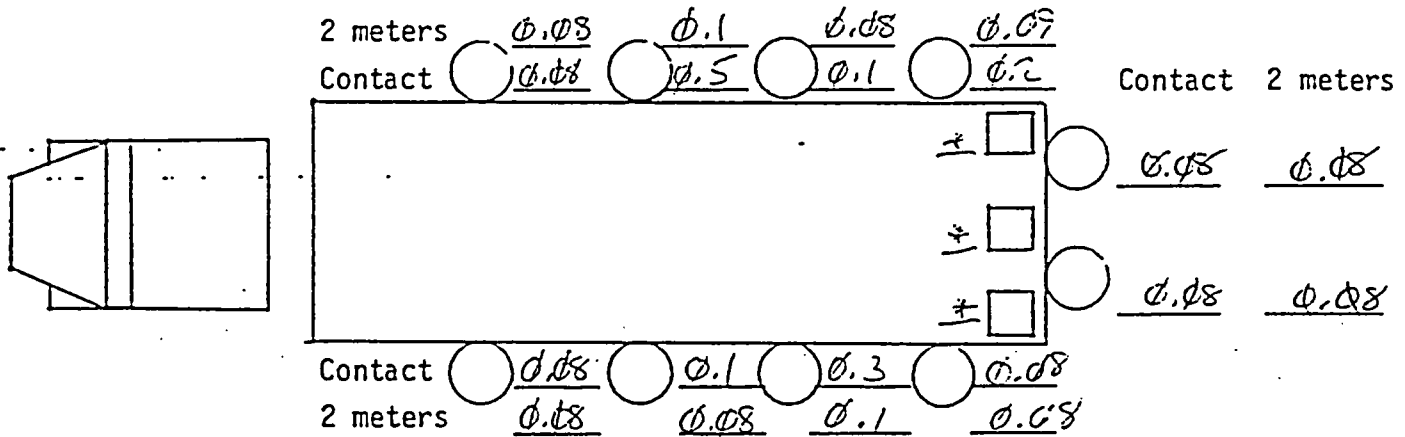
□ = dpm/100cm²

Initial Incoming Survey



Vehicle Condition: Accept ☒ Reject ☐

Outgoing Shipment Survey



ORIGINATING COMMAND: F-7 B...

LOCATION: ET. Bel...

(3) USE THIS NUMBER ON ALL CONTINUATION PAGES	SHIPMENT CONTROL NUMBER <u>USA-1-70-412</u>	PAGE <u>1</u> OF <u>2</u>
---	--	---------------------------

(5) TOTAL ACTIVITIES (10CFR20.311)				
ALL ISOTOPES	TRITIUM	C-14	Tc-99	1-129
<u>-X</u>	<u>*</u>	<u>N/P</u>	<u>N/P</u>	<u>N/P</u>

(6) TOTAL FOR EACH CLASS		PROPER SHIPPING NAME AND HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER	RO (PER 49 CFR 172.203(c))
NO OF PACKAGES	WEIGHT (POUNDS)			
<u>2</u>	<u>570</u>	RADIOACTIVE MATERIAL, LIMITED QUALITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2910	
		RADIOACTIVE MATERIAL, INSTRUMENTS AND ARTICLES - RADIOACTIVE MATERIAL	UN 2911	
<u>7</u>	<u>1060</u>	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2912	
		RADIOACTIVE MATERIAL, N.O.S. - RADIOACTIVE MATERIAL	UN 2982	<u>RR</u>
		OTHER (SPECIFY)		

(7) (X) YES () NO THIS VEHICLE IS CONSIGNED EXCLUSIVE USE (49 CFR 173.403(i)) LOADING AND UNLOADING MUST BE ACCOMPLISHED BY CONSIGNOR, CONSIGNEE OR HIS DESIGNATED AGENT. VEHICLE OR PACKAGE CONFIGURATION CANNOT BE ALTERED FROM ORIGINAL LOADING WITHOUT THE PRIOR APPROVAL OF THE CONSIGNEE. ANY LOADING OR UNLOADING MUST BE PERFORMED BY PERSONNEL HAVING RADIOLOGICAL TRAINING AND RESOURCES APPROPRIATE FOR THE SAFE HANDLING OF THE CONSIGNMENT.

DRIVER'S SIGNATURE [Signature] DATE 7-10-70

(8) IMPORTANT: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature [Signature]

(9) "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."

Date 7-10-70 By [Signature]

Title and Organization [Signature]

Commercial Telephone No. (803) 251-6750

ATTACH SHIPPING DOCUMENTS TO OUTSIDE OF PACKAGE

(10) ITEM NO.	(11) RADIONUCLIDE EACH CONTAINER	(12) ACTIVITY EACH RADIONUCLIDE (mCi)	(13) PHYSICAL FORM (Solid or Gas)	(14) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(15) WASTE DESCRIPTION	(16) WASTE CLASS (A, B, C)	(17) SPECIAL NUCLEAR MATERIAL (Grams)	(18) SOURCE MATERIAL (Pounds)	CONTAINER				(23) CONTAMINATION CONTAINER SURFACE (DPM/100cm²) Alpha Beta-Gamma	(24) LABEL/MARKINGS USED
									(19) CONTAINER WEIGHT (Pounds)	(20) CONTAINER VOLUME (Cu. Ft.)	(21) CONTAINER TYPE	(22) RADIATION LEVELS Container Surface DmR/hr OR/hr (T.I.) 1 Meter mR/hr		
<u>001</u>	<u>H3</u>	<u>34700</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>B</u>	<u>NP</u>	<u>NP</u>	<u>600</u>	<u>7.5</u>	<u>7A Type A</u>	<u>.03</u> <u>.03</u>	<u>6200</u> <u>6200</u>	<u>Radioactive—WT</u>
	<u>H3</u>	<u>80000</u>	<u>Gas</u>	<u>H2</u>	<u>CaEDF</u>									<u>Radioactive—</u>
	<u>PM 147</u>	<u>51,226</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>									<u>Radioactive—</u>
	<u>CaEDF</u>	<u>5000</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>									<u>Radioactive—</u>
<u>002</u>	<u>PM 147</u>	<u>600000</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>A</u>	<u>NP</u>	<u>NP</u>	<u>200</u>		<u>7A Type A</u>	<u>.04</u> <u>.03</u>		<u>Radioactive—T-4</u>
<u>003</u>	<u>PM 147</u>	<u>600000</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>A</u>	<u>NP</u>	<u>NP</u>	<u>270</u>		<u>7A Type A</u>	<u>.03</u> <u>.03</u>		<u>Radioactive—T-4</u>
<u>004</u>	<u>CaEDF</u>	<u>1</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>C</u>	<u>NP</u>		<u>70</u>		<u>7A Type A</u>	<u>.15</u> <u>.2</u>		<u>Radioactive—WT</u>
	<u>CaEDF</u>	<u>6</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>									<u>Radioactive—</u>
	<u>CaEDF</u>	<u>600000</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>									<u>Radioactive—</u>
<u>005</u>	<u>CaEDF</u>	<u>542</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>C</u>	<u>NP</u>	<u>NP</u>	<u>500</u>			<u>.1</u> <u>.1</u>		<u>Radioactive—VII</u>
<u>007</u>	<u>CaEDF</u>	<u>2.11</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>B</u>	<u>NP</u>	<u>NP</u>	<u>500</u>			<u>1.2</u> <u>.2</u>		<u>Radioactive—VII</u>
	<u>CaEDF</u>	<u>.021</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>			<u>21</u>						<u>Radioactive—</u>
<u>006</u>	<u>CaEDF</u>	<u>14804</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>B</u>	<u>NP</u>	<u>NP</u>	<u>500</u>			<u>2.0</u> <u>.4</u>		<u>Radioactive—VII</u>
<u>001</u>	<u>CaEDF</u>	<u>15.3</u>	<u>Solid</u>	<u>CaEDF</u>	<u>CaEDF</u>	<u>B</u>	<u>NP</u>	<u>NP</u>	<u>500</u>			<u>.6</u> <u>.03</u>	<u>↓ ↓</u>	<u>Radioactive—VII</u>
<u>8</u>		<u>115523.9</u>					<u>NP</u>	<u>3100.7</u>	<u>3290</u>	<u>60</u>		<u>.12</u> <u>.12</u>		<u>Radioactive—</u>

Page Totals

White—Consolidation Facility; Blue—Shipper; Green—Carrier; Canary—CNSI Management; Pink—Contracting Officer; Goldenrod—U.S. Mail



CHEM-NUCLEAR SYSTEMS INC.

P.O. Box 726 • Barnwell, South Carolina 29812 • (803) 259-1781

STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — NOT NEGOTIABLE.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown). Marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination. And as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the uniform domestic straight bill of lading set forth (1) in official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment. Or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(MAIL OR STREET ADDRESS OF CONSIGNEE — FOR PURPOSES OF NOTIFICATION ONLY.)

FROM Fort Belvoir Date 7-18-90

At Fort Belvoir Va

CONSIGNEE TO DoD Consolidation Facility

DESTINATION 2 OSBORNE Rd, Snelling, S.C. STATE _____ COUNTY _____

* Page 1 of 2

Control Number
90-1313

Tractor No. 70

Trailer No. 292013

LENGTH
Legal

HEIGHT
Legal

WIDTH
Legal

NO. PKGS.	HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, LINER NUMBERS, SPECIAL MARKS & EXCEPTIONS	*WEIGHT (Sub. to Correction)
7	X	Radioactive Material, nos, UN 2982, RQ electron Tubes, lenses, dials, check sources, wave guides, salt Luminous Lights Sources, compasses, watches, chemical reagents, markers, fluorescent N.63, Re187, Th230, UCNAT Isotopes: H3, Ra226, Co60, Cs137, Cd109, Th231, Pm147, Am241 Total activity: 141,652.53φ9 mill: Curies Physical form: solid, gas Chemical form: oxide, H2, Kr85 DOT 7A Type A Containers, White I, Yellow II & III Labels T.I.: 6.6 Truck Placarded: "Radioactive", Truck sealed, exclusive use shipment EMERGENCY-CONTACT 1-803-259-1786	3060

IMPORTANT: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature David O. Burt
Company CNSI Date 7-18-90

Received the property described above in good condition, except as otherwise noted.

Carrier CNSI
Driver Ernest Burrell
Date and Time 7-18-90

SCHEDULED TO ARRIVE	DATE	TIME	COMPLETED LOADING	DATE	TIME	SHIPPER'S SIGNATURE
	<u>7-18-90</u>	<u>0800</u> <u>A.M.</u>		<u>7-18-90</u>	<u>1030</u> <u>P.M.</u>	<u>David O. Burt</u>
ARRIVED AT SHIPPER	DATE	TIME	LEFT SHIPPER	DATE	TIME	SHIPPER'S SIGNATURE
	<u>7-18-90</u>	<u>0800</u> <u>A.M.</u>		<u>7-18-90</u>	<u>1440</u> <u>P.M.</u>	<u>David O. Burt</u>

SHIPPER IMPORTANT NOTE: Your signature certifies that the above dates and times are correct for record keeping and billing purposes.

Control Number

90-1313

BILL OF LADING-CONTINUATION PAGE

PAGE 2 OF 2

SHIPMENT NUMBER USA 6-90[illegible]

1. Name and Address of Shipper/Generator: U.S. ARMY, AMCCOM, (ATTN:AMSMC-SFS) ROCK ISLAND, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: BYRON E. MORRIS b) Title: HEALTH PHYSICIST c) Telephone: () (309)782-2964	
3. Radioactive Waste Transport Permit No. 0137-00-90-E		4. Shipment Identification No.: 115A 6-90-412	
5. Location from which waste will be shipped: FT. BELLEVILLE, ILL.		6. Name and Address of Consignee: Consolidation Facility CNSI, 2 OSBORNE RD., SNELLING, S.C.	
7. Scheduled Date of Departure of Shipment: 7-18-90		8. Estimated Date of Arrival of Shipment: 7-20-90	
9. Carrier: CNSI	10. Trailer No. & Owner: (if available) 70703 CNSI	11. Type Transport Vehicle: VAN	
12. Routes shipment will follow in State of South Carolina (Be Specific): I 95, US 301, SC 70, SC 14			
13. Type Package or Cask Model No.: cylinder Metal drum	14. Type Container in Cask: NA	15. Package or Cask Spec.: 7A Type A, 70 Gallon Strong Tight, Container	
16. Complete Waste Description (Be Specific): clock sources, compasses, watches, duplexers, standard, surge arrestors, electron tubes, dials, lenses, markers, but tons in tin, plastic, metal, glass PC			
17. Physical & Chemical Form: SOLID gas K ⁻ OXIDES H ₃ K ⁻	18. Total No. of Packages: 100LC	19. Prominent Radionuclides: Co60, Es137, Am241, H3, Kr85, Mn54, Pu239, Ni63, Ra-226, Th-232, U-235, U-238, Cs137, Eu152, Pb-210, Pm147, Po-210	
20. Total Curies: 100LC 141.653.7307	21. Waste Class & Stability: A U, B, C	22. Total Cubic Feet: 100LC 67.5	
23. DOT Sub Type: LH A, CH2, TH	24. DOT Class. & Hazard Class: UN No.: 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3050, 3051, 3052, 3053, 3054, 3055, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3065, 3066, 3067, 3068, 3069, 3070, 3071, 3072, 3073, 3074, 3075, 3076, 3077, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099, 3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 3172, 3173, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, 3242, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268, 3269, 3270, 3271, 3272, 3273, 3274, 3275, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3283, 3284, 3285, 3286, 3287, 3288, 3289, 3290, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3398, 3399, 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409, 3410, 3411, 3412, 3413, 3414, 3415, 3416, 3417, 3418, 3419, 3420, 3421, 3422, 3423, 3424, 3425, 3426, 3427, 3428, 3429, 3430, 3431, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3442, 3443, 3444, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 34		

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Derek D. Corneille
Typed Name

David P. Carter
Signature of Consignee's Authorized Representative

CONSTRUCTIVE ACKNOWLEDGEMENTS

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Signature of Consignee's Authorized Representative

Typed or Printed Name and Title

CNSI DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES
U.S. GOVERNMENT

The Code of Federal Regulations, 49 CFR 173.425 (b)(9) requires that specific instructions for maintenance of exclusive use shipments controls be provided to the carrier. These instructions must be included with the shipment documents. The following instructions shall be complied with by all vehicles designated exclusive use. Changes to the following instructions are not acceptable without the approval of consignee.

1. Do not change out tractor before arrival at the radioactive burial site.
2. Do not change the fifth wheel adjustment on the tractor.
3. Do not move or transfer packages within the van or between vans.
4. Shipments must be braced so as to prevent shifting of load under conditions normally incident to transportation.
5. The shipment must be loaded and unloaded from original transport vehicle by the consignor or the consignee only.

(Check the box(es) for additional instructions that are applicable)

☒ a) The vehicle must be placarded "RADIOACTIVE" on all four sides until shipment is unloaded.

☒ b) This shipment will have the following intermediate stops.

loaded initially at FT. Belvoir, Va
intermediate load at N/A
intermediate load at _____
intermediate load at _____
unload vehicle at DDO Consolidation Facility, Snelling, S.C.
all loading must be performed under broker's supervision.

☐ c) Notify Washington Port of Entry four hours prior to arrival.
I-90: (509) 226-3360, I-84: (509) 783-4014. Notify Richland, Washington (Hanford) burial site within 24 hours of arrival: (509) 377-2411.

☐ e) Notify the Nevada Highway Patrol, (702) 885-5300, no later than four (4) hours and no earlier than 48 hours prior to entering the state.

If the vehicle is involved in; 1) an accident, 2) emergency braking, 3) mechanical malfunction, 4) or any deviation from these instructions, contact any one of the following CNSI employees:

Roger Johnson	(803) 256-0450	office
	(803) 781-0818	home
Mark Lewis	(803) 256-0450	office
	(803) 794-7726	home
Barnwell Security	(803) 259-1786	
Corporate HP/RSO	(803) 256-0450	

Any deviation from these instructions are violations of State and Federal laws and could result in carrier penalty.

Ernest Barnwell
Drivers Signature

7-18-00
Date
FS-OP-015, APPENDIX B
PAGE 5

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: HQ, U.S. ARMY, AMCCOM (Attn: AMSMC-SFR/Morris) Rock Island, IL 61299-6000 Telephone No. (309) 782-2964	2. Shipment Identification No. USA 6-90-412
	3. Transport Permit No. 0137-00-90-E

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date 7-18-90

David E. Cornette
Typed Name and Title of Agent of Shipper

David E. Cornette
Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: Chazim-Nuclear Systems Inc OSBORNE Rd Snelling, SC Telephone No. (803) 2541781	2. Shipment Identification No. USA 6-90-412
	3. Transport Trailer No. 292013
4. Scheduled Date of Departure of Shipment: 7-18-90	5. Estimated Date of Arrival of Shipment: 7-19-90

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date 7-18-90

Ernest Russell Dwyer Tech
Typed or Printed Name and Title

Ernest Russell
Signature

BROKER'S TRAILER SURVEY

Shipment ID Number: USA-1-92-412

Surveyed Performed by: A. L. ...

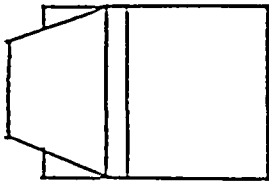
Instrument Used: EEC - 40170

Date Calibrated: _____

○ = mr/hr

□ = dpm/100cm²

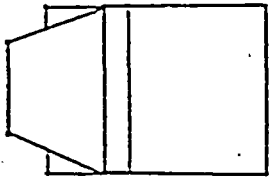
Initial Incoming Survey



○ <u>42200</u> <u>.08</u>	○ <u>11000</u> <u>.08</u>	○ <u>5200</u> <u>.08</u>	○ <u>12000</u> <u>.08</u>
	□ <u>42200</u>		□ <u>42200</u>
○ <u>42200</u> <u>.08</u>	○ <u>.08</u>	○ <u>.08</u>	○ <u>.08</u>

Vehicle Condition: Accept / Reject _____

Outgoing Shipment Survey

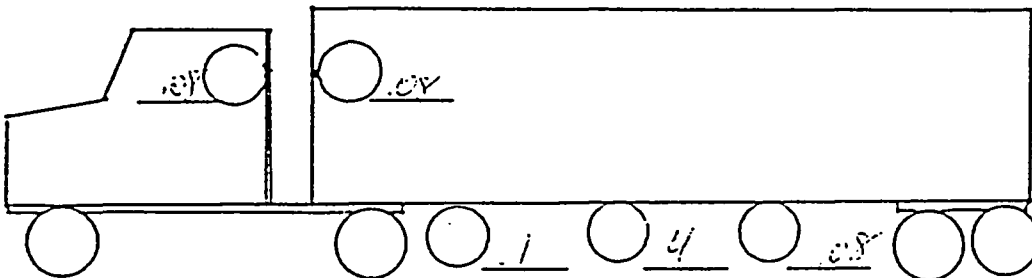


2 meters	○ <u>.08</u>	○ <u>1</u>	○ <u>.08</u>	○ <u>.08</u>
Contact	○ <u>.08</u>	○ <u>11</u>	○ <u>6</u>	○ <u>.08</u>
Contact	○ <u>.08</u>	○ <u>.7</u>	○ <u>.08</u>	○ <u>.08</u>
2 meters	<u>.08</u>	<u>.08</u>	<u>.08</u>	<u>.08</u>

Contact 2 meters

○ .08 .08

○ .08 .08



- RADIOACTIVE MATERIAL, Limited Quantity, N.O.S.; UN2910
- ✓ — RADIOACTIVE MATERIAL, Instruments and Articles; UN2911
- RADIOACTIVE MATERIAL, Empty Packages; UN2908
- RADIOACTIVE MATERIAL, Articles, Manufactured from Natural or Depleted Uranium or Natural Thorium; UN2909

POTENTIAL HAZARDS

HEALTH HAZARDS

Fire may produce irritating or poisonous gases.
Low level radioactive material; little personal radiation hazard.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people away.
Isolate hazard area and deny entry.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
Delay clean-up until arrival or instruction of qualified Radiation Authority.
CALL CHEM-NUCLEAR AT 1-803-259-1786 AS SOON AS POSSIBLE especially if there is no local hazardous material team available.

FIRE

Move container from fire area if you can do it without risk.
Small Fires: Dry chemical, CO2, Halon, water spray, or standard foam.
Large Fires: Water spray, fog (Flooding amounts).

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Small Liquid Spills: Take up with sand, earth, or other noncombustible absorbent material.

FIRST AID

Use first aid treatment according to the nature of the injury.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-1786

- RADIOACTIVE MATERIAL, N.O.S.; UN2982
- RADIOACTIVE MATERIAL, Special Form, N.O.S.; UN2974
- RADIOACTIVE MATERIAL, Fissile, N.O.S.; UN2918

POTENTIAL HAZARDS

HEALTH HAZARDS

External radiation from unshielded radioactive material
Internal radiation from inhalation, ingestion, or skin absorption.
Radioactive material; degree of hazard will vary greatly, depending on type and quality of radioactive material.
Runoff from fire control or dilution water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind; greater distances may be necessary if advised by qualified Radiation Authority.
Isolate hazard area and deny entry.
Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
Detain uninjured persons and equipment exposed to radioactive material until arrival or instruction of qualified Radiation Authority.
Delay clean-up until arrival or instruction of qualified Radiation Authority.
CALL CHEM-NUCLEAR AT 1-803-259-1786 FOR EMERGENCY ASSISTANCE. If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO2, Halon, water spray, or standard foam.
Large Fires: Water spray, fog (flooding amounts).
For massive fire in cargo area, use unmanned hose holder or monitor nozzles.
Fight fire from maximum distance. Stay away from ends of tanks.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Damage to outer container may not affect primary inner container.
Small Liquid Spills: Take up with sand, earth, or other noncombustible absorbent material.
Large Spills: Dike far ahead of liquid spill for later disposal.

FIRST AID

Call emergency medical care.
If not affecting injury, remove and isolate contaminated clothing and shoes; wrap victim in blanket before transporting.
If not injured, remove and isolate contaminated clothing and shoes; shower victim with soap and water.
Except for the injured, detain persons and equipment exposed to radioactive material until arrival or instruction of Radiation Authority.
Advise medical care personnel that injured persons may be contaminated with radioactive material.

EMERGENCY CONTACT

CNSI Security: 1-803-259-1786

(5) TOTAL ACTIVITIES (10CFR20.31)				
ALL ISOTOPES	TRITIUM	C-14	Tc-99	U-235, 238

(6) TOTAL FOR EACH CLASS		PROPER SHIPPING NAME AND HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER	RD (PER 49 CFR 172.203(c))
NO OF PACKAGES	WEIGHT (POUNDS)			
		RADIOACTIVE MATERIAL, LIMITED QUALITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2910	
1	12	RADIOACTIVE MATERIAL, INSTRUMENTS AND ARTICLES - RADIOACTIVE MATERIAL	UN 2911	
		RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2912	
		RADIOACTIVE MATERIAL, N.O.S. - RADIOACTIVE MATERIAL	UN 2982	
		OTHER (SPECIFY)		

[illegible]

White—Consolidation Facility; Blue—Shipper; Green—Carrier; Canary—CNSI Management; Pink—Contracting Officer; Goldenrod—U.S. Mail

MEMORANDUM COPY B/L NO. S- 6365583

THIS CONSIGNMENT DELIVERED COMPLETE
AND IN APPARENT GOOD ORDER EXCEPT
AS MAY BE INDICATED HEREAFTER

SHORTAGE

☐ DAMAGE

☐ CARRIER OS&D
REPORT ATTACHED

SERVICE FURNISHED BY CARRIER AT DESTINATION ☐ DELIVERY ☐ TRAP-CAR

ORIGINATING COMMAND: FT BELVOIR

LOCATION: VIRGINIA

(3) USE THIS NUMBER ON
ALL CONTINUATION PAGES

SHIPMENT CONTROL NUMBER

PAGE

USA 10-88-134

OF 1

(5) TOTAL ACTIVITIES (10CFR20.311)

ALL ISOTOPES	TRITIUM	C-14	Tc-99	I-129
<u>33175</u>	<u>5175</u>	<u>0</u>	<u>0</u>	<u>0</u>

31025 51015

(6) TOTAL FOR EACH CLASS		PROPER SHIPPING NAME AND HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER	RO (PER 49 CFR 172.203(c))
NO OF PACKAGES	WEIGHT (POUNDS)			
<u>1</u>	<u>85</u>	RADIOACTIVE MATERIAL, LIMITED QUALITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2910	
		RADIOACTIVE MATERIAL, INSTRUMENTS AND ARTICLES - RADIOACTIVE MATERIAL	UN 2911	
		RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, N.O.S. - RADIOACTIVE MATERIAL	UN 2912	
		RADIOACTIVE MATERIAL, N.O.S. - RADIOACTIVE MATERIAL	UN 2982	
		OTHER (SPECIFY)		

(7) () YES (X) NO THIS VEHICLE IS CONIGNED EXCLUSIVE USE (49 CFR 173.403(ii)) LOADING AND UNLOADING MUST BE ACCOMPLISHED BY CONSIGNOR, CONSIGNEE OR HIS DESIGNATED AGENT. VEHICLE OR PACKAGE CONFIGURATION CANNOT BE ALTERED FROM ORIGINAL LOADING WITHOUT THE PRIOR APPROVAL OF THE CONSIGNEE. ANY LOADING OR UNLOADING MUST BE PERFORMED BY PERSONNEL HAVING RADIOLOGICAL TRAINING AND RESOURCES APPROPRIATE FOR THE SAFE HANDLING OF THE CONSIGNMENT.

DRIVER'S SIGNATURE NA

DATE NA

(8) IMPORTANT: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature [Signature]

(9) "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules and regulations."

Date 23 Mar 88

By [Signature]

Fort Belvoir, VA22060

Title and Organization Freight Rate Specialist, Transportation Office, USG

Commercial Telephone No: (703) X-664-3394

ATTACH SHIPPING DOCUMENTS TO OUTSIDE OF PACKAGE

(10) ITEM NO.	(11) RADIOISOTOPE EACH CONTAINER	(12) ACTIVITY EACH RADIOISOTOPE (mCi)	(13) PHYSICAL FORM (Solid or Gas)	(14) CHEMICAL FORM AND NAME & % OF CHELATING AGENT	(15) WASTE DESCRIPTION	(16) WASTE CLASS (A, B, C)	(17) SPECIAL NUCLEAR MATERIAL (Grams)	(18) SOURCE MATERIAL (Pounds)	(19) CONTAINER WEIGHT (Pounds)	(20) CONTAINER VOLUME (Cu. Ft.)	CONTAINER		(23) CONTAMINATION CONTAINER SURFACE (DPM/100cm ²) Alpha Beta Gamma	(24) LABEL/MARKINGS USED
											(21) CONTAINER TYPE	(22) RADIATION LEVELS Container Surface mR/hr 1 Meter mR/hr		
1	H3	25460	GAS	TRITIUM	COMPASS 6605-00-451-5337, 134 EA	B	0	0	85	1			220 2200	Radioactive-T/A
	H3	3525	SOLID	TRITIUM	COMPASS 6605-00-746-7618, 47 EA									Radioactive
	H3	4200	SOLID	TRITIUM	COMPASS 6605-01-196-4971, 35 EA									Radioactive
		2040												Radioactive
														Radioactive
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U.S. GOVERNMENT BILL OF LADING

MEMORANDUM B/L
COPY NO.

S- 6364676

TRANSPORTATION COMPANY TENDERED TO MC GILS SPECIALIZED CARRIERS, INC.		MCLS		ROUTE ORDER/RELEASE NO. INXX19252A							
STOP THIS CAR OR TRUCK AT		IMPORTANT Issuing office is to retain one memorandum copy and send one to the fiscal office.		CAR TRUCK CONTAINER		MARKED CAPACITY		DATE FURNISHED		DATE B/L ISSUED	
FOR CAR, TRUCK OR CONTAINER INITIALS AND NO. 221531				ORDERED DROM		FURNISHED Drom		24 Mar		880323	
				*Length/cube		*Furnish this information in case of carload/truckload shipments only					
				If extra services are ordered see Administrative Directions No. 2 on reverse							
				FROM							
				(Shipping point) FORT BELVOIR, VA (250663250)							
				FULL NAME OF SHIPPER TRANSPORTATION OFFICER							
				BGAP USAEC&FB							
				FORT BELVOIR, VIRGINIA 22060							
				MARKS H/P: Richard Thatcher							
				PH: 803/259-1781							
				CONSIGNEE (Name, address and ZIP code) CHEM-NUCLEAR SYSTEMS, INC. CONSOLIDATION 1001							
				FACILITY, TWO OSEORN ROAD							
				SNELLING, SOUTH CAROLINA 29812							
				DESTINATION (Name, address and ZIP code of Installation) SNELLING, SC (448569)							
				BILL CHARGES TO (Dept./agency, bureau/office, mailing address and ZIP code) CHIEF, TRANSPORTATION DIVISION							
				U.S. ARMY FINANCE SUPPORT AGENCY							
				INDIANAPOLIS, IN. 46249							
				VIA (Route shipment when advantageous to the Government)							
				APPROPRIATION CHARGEABLE 2182020 57-1012 P728010.11LAZ-2217 S44-008 7374							
				SEAL NUMBERS Brooks 0145986							
				FOR CARRIER'S USE ONLY - WAYBILL NO. OR FREIGHT BILL NO.							
				Contractor will return unused or canceled bills of lading to the Government of office from which received.							
				APPLIED BY:							

PACKAGES		DESCRIPTION OF ARTICLES (Use carrier's classification or tariff description if possible; otherwise use a clear nontechnical description.)	NUMBERS ON PACKAGES	WEIGHTS
NO.	KIND			
1	RX	"DUAL DRIVER PROTECTIVE SERVICE REQUESTED." "CARRIER FURNISHED DD FORM 1907." "SIGNATURE SECURITY SERVICE REQUESTED." "SHIPPER TO LOAD AND CONSIGNEE TO UNLOAD." "MPC 164900 RADIOACTIVE MATERIAL, ARTICLES OR ISOTOPES (RADIOACTIVE WASTE/RADIOACTIVE YELLOW NOT REQD. INSTEAD OF UN2911/49CFR173.422/NO SUR-READINGS)" "CARRIER TO NOTIFY CONSIGNEE 803/259-1781 IF SHIPMENT IS DELAYED IN ROUTE BECAUSE OF AN ACCIDENT OR INCIDENT." "SUBSTITUTE SERVICE NOT TO BE USED." "DROMEDARY SERVICE REQUESTED." "SHIPPER SEALS APPLIED." "THIS SHIPMENT IS NOT TO BE TRIPLEASED." "RELEASED VALUE NOT EXCEEDING \$2.50 PER POUND." "THIS PACKAGE CONFORMS TO THE CONDITIONS & LIMITATIONS SPECIFIED IN 49CFR173.422 FOR EXEMPTED RADIOACTIVE MATERIAL, INSTRUMENTS & ARTICLES." If this shipment fully loads the car or truck used, check <input type="checkbox"/> YES	9	85# 2500#
TARIFF OR SPECIAL RATE AUTHORITIES (CL, TL or Vol. only) MGLS tr 1014 eff 12-28-87				

CARRIER FURNISHED SERVICE AT ORIGIN <input type="checkbox"/> PICKUP <input type="checkbox"/> TRAP-CAR		B/L NO. S- 6364676		FOR USE OF ISSUING OFFICE		CONTRACT OR PURCHASE ORDER NO. OR OTHER AUTHORITY W26AAA80210301, 0302, 0303		DATED	
NAME OF TRANSPORTATION COMPANY MC GILS SPECIALIZED CARRIERS, INC.		Initials of shipper's agent		F.O.B. POINT NAMED		ISSUING OFFICER (Name and title) LOUIS E. ANDERSON, JR. ITO		DATE 880323	
DATE OF RECEIPT OF SHIPMENT		Initial carrier's agent, by signature below, certifies he received the Original Bill of Lading.		ISSUING OFFICE (Name and complete address) TRANSPORTATION OFFICE, USAEC&FB BGAP		FORT BELVOIR, VA 22060 (250663250)			
SIGNATURE OF AGENT <i>[Signature]</i>		PER <i>[Signature]</i>							

THIS CONSIGNMENT DELIVERED COMPLETE
IN APPARENT GOOD ORDER EXCEPT
IT MAY BE INDICATED HEREFTER☐ SHORTAGE☐ DAMAGE☐ CARRIER OS&D
REPORT ATTACHED

SERVICE FURNISHED BY CARRIER AT DESTINATION

☐ DELIVERY☐ TRAP-CAR

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Certification Form

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address: HQS. AMCCOM ATTN: AMSMC-SFS ROCK ISLAND, IL 61299-6000 Telephone No. (309.) 782-2964	2. Shipment Identification No. USA 10-88-134
FT. BELVOIR VIRGINIA	3. Transport Permit No. EXEMPT

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date ☒ 23 March 1988
Shirley Carlson
☒ Freight Rate Specialist
Typed Name and Title of Agent of Shipper

☒ Shirley M. Carlson TH
Signature

Part II: Carrier's Certification

1. Name of Carrier and Address: <input checked="" type="checkbox"/> McGills Specialized Carriers 6426 Station A Marietta, GA Telephone No. (800) 845-7151	2. Shipment Identification No. USA 10-88-134
4. Scheduled Date of Departure of Shipment: <input checked="" type="checkbox"/> 24 March 88	3. Transport Trailer No. NA
	5. Estimated Date of Arrival of Shipment: <input checked="" type="checkbox"/> 25 March 88

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date ☒ 3-24-88
☒ Susan Sangalli - Driver
Typed or Printed Name and Title

☒ Susan Sangalli
Signature

[Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.]

See Reverse Side for Instructions

1. Name and Address of Shipper/Generator: HQS. AMCCOM /FOR/ FT. BELVOIR, VA AMSMC-SFS ROCK ISLAND, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: BYRON MORRIS b) Title: HEALTH PHYSICIST c) Telephone: (309) 782-2964	
3. Radioactive Waste Transport Permit No. EXEMPT		4. Shipment Identification No.: USA 10-88 -134	
5. Location from which waste will be shipped: FT. BELVOIR, VA		6. Name and Address of Consignee: CNSI TWO OSBORNE ROAD SNELLING, SC 29812	
7. Scheduled Date of Departure of Shipment: X 24 March 88		8. Estimated Date of Arrival of Shipment: X 25 March 88	
9. Carrier: X McGills Spec Carriers	10. Trailer No. & Owner: (if available) NA	11. Type Transport Vehicle: Drom NA	
12. Routes shipment will follow in State of South Carolina (Be Specific): I95S/US301S/SC70W/SC64W			
13. Type Package 95X50X XXXXXX X CARTON	14. Type Container in Cask: NA	15. Package XXXXXXXXXX : SPEC: STC	
16. Complete Waste Description (Be Specific): INSTRUMENTS WITH ILLUMINATED DIALS			
17. Physical & Chemical Form: GAS/TRITIUM SOLID/PAINT		18. Total No. of Packages: 1	19. Prominent Radionuclides: H3
20. Total Curies: 31.025 33.85		21. Waste Class & Stability: NA	22. Total Cubic Feet: X 8.5
23. DOT Sub Type: A2	24. DOT Class. & Hazard Class UN No.: 2911 INSTRUMENTS & ARTICLES		25. Hwy. Route Controlled: (Large Quantity) [] Yes [X] No

CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date X 23 March 88

X Shirley Carlson

Typed Name

X *Shirley Carlson*
Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGEMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery

Signature of Consignee's Authorized Representative

Typed or Printed Name and Title

DHEC 802 (Rev. 10/84)

(Copies of this form may be reproduced locally as needed)

US ARMY
INDEX

FORM 540 (10-96)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Radioactive Waste Shipment Prior Notification and Manifest Form

(Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.)

See Reverse Side for Instructions		
1. Name and Address of Shipper/Generator: H.O. U.S. Army, Industrial Operations Command (IOC) (ATTN: AMSIO-DMW/Crooks) Rock Island, IL 61299-6000		2. Person Responsible for Waste Shipment: a) Name: Mr. Kelly Crooks b) Title: Health Physicist c) Telephone: (309) 782-0338
3. Radioactive Waste Transport Permit No. 0137-00-98-E		4. Shipment Identification No.: USA 98-070 / <i>SCN 0210-98</i>
5. Location from which waste will be shipped: US Army TMDE Activity, 10115 Duportail Road, Ste 136 Attn: AMSAM-TMD-SB, Fort Belvoir, MD 22060-5847		6. Name and Address of Consignee: Chem-Nuclear Consolidation Facility Snelling, SC 29812
7. Scheduled Date of Departure of Shipment: 21-Aug-98		8. Estimated Date of Arrival of Shipment: 24-Aug-98
9. Carrier: Tri-State Motor Transit Co.	10. Trailer No. & Owner: (if avail.) <i>448876</i> TSMT	11. Type Transport Vehicle: Closed Van
12. Routes shipment will follow in State of South Carolina (Be Specific): I-95, US-301, SC -70, SC-64		
13. Type Package or Cask Model No.: Metal Drum	14. Type Container in Cask: N/A	15. Package or Cask Spec.: US DOT 7A Type A
16. Complete Waste Description (Be Specific): Luminous dials and devices, instruments and articles, sealed sources, Thoriated glass lenses, Germanium Windows <i>OK</i>		
17. Physical & Chemical Form: Solid Oxides <i>glass</i>	18. Total No. of Packages: 1	19. Prominent Radionuclides: <i>OK</i> Am-241 , Ra-226, Co-60, Es-137 , Kr-85, Pm-147, Th-232 Sr-90, H-3, <i>Th-232, C-14</i>
20. Total Curies: <i>Q 200 38.4 38.642</i>	21. Waste Class & Stability: <i>B Y AU</i>	22. Total Cubic Feet: <i>328 45</i>
23. DOT Sub Type: <i>38.132645</i> <A2	24. DOT Class. & Hazard Class UN No.: UN 2982, Radioactive Material, n.o.s., 7	25. Hwy. Route Controlled: (Large Quantity) [] Yes [X] No

CERTIFICATION

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date 8/16/1998

Todd W. Eastman, Agent for U.S. Army, IOC
Typed Name

[Signature]
Signature of Consignee's Authorized Representative

CONSIGNEE ACKNOWLEDGMENT

This acknowledges to the South Carolina Department of Health and Environmental Control that the above-described radioactive waste shipment was received.

Date of Delivery _____

Signature of Consignee's Authorized Representative _____

Typed or Printed Name and Title _____

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address:
H.Q. U.S. Army, Industrial Operations Command (IOC)
(ATTN: AMSIO-DMW/Crooks) (formerly US Army, AMCCOM,
Rock Island, IL 61299-6000 AMSMC-RW)
Telephone No. (309) 782-0338

2. Shipment Identification No.
USA 98-070 / SCN 0210-98
3. Transport Permit No.
0137-00-98-E

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date

8/21/98

Todd Eastman, Agent for U.S. Army, IOC
Typed Name and Title of Agent of Shipper

Signature

Part II: Carrier's Certification

1. Name of Carrier and Address:
Tri-State Motor Transit Co.
East 7th, P.O. Box 113
Joplin, Mo 64802
Telephone No. (800) 846-8768

2. Shipment Identification No.
USA 98-070 / SCN-0210-98
3. Transport Trailer No.
448876

4. Scheduled Date of Departure of Shipment:
08/21/98

5. Estimated Date of Arrival of Shipment:
08/24/98

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date

8/21/98

William Kyle TRK DRIVER
Typed or Printed Name and Title

Signature

EMERGENCY RESPONSE INFORMATION**EMERGENCY RESPONSE GUIDE 163**

New World Technology.
1236 Concannon Blvd. 94550

••24 Hour Emergency Contact
Tom Dias (925) 443-7967

Shipping Date: 8/21/98

Manifest No.: SCN-0210-98

Proper Shipping Name

Hazard Class

ID Number



Radioactive Material, n.o.s.,

7

UN2982

POTENTIAL HAZARDS**HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Type A packages (cartons, boxes, drums, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages (large and small, usually metal) identified as "Type B" by marking on packages or by shipping papers contain potentially life endangering amounts. Because of design, evaluation, and testing of packages, life endangering releases are not expected in accidents involving "Type B" packages except those of utmost severity.
- Radioactive White-I labels indicate radiation levels outside undamaged packages are very low (less than 0.005mS/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from package.
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution.
- Water from cargo fire control may cause pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but none of them ignites readily.
- Radioactivity does not change flammability or other properties of materials.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperature of 800°C (1475°F) of a period of 30 minutes.

PUBLIC SAFETY

- Call Tom Dias at (925) 443-7967. IF NO ANSWER, THEN CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY INSTRUCTIONS.
- Priorities for rescue, life-saving, first-aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

EVACUATION**Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE**FIRE**

- Presence of radioactive material will not change effectiveness of fire control techniques.
- Move containers from fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.

Small fires

- Dry chemicals, CO₂, Water spray or regular foam.

Large fires

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Slightly damaged or damp outer surfaces seldom indicate failure of packages since most have an inner container.

Liquid Spills

- Cover with sand, earth or other non-combustible absorbent material.

FIRST AID

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the degree of the injury.
- Do not delay care and transport of a seriously injured person.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

The above information is intended to satisfy the requirements of 49 CFR part 172.600, 172.602 & 172.604.

**NWT
EMERGENCY PROCEDURES**

New World Technology
1236 Concannon Blvd.
Livermore CA 94550
(925)443-7967

**** 24 Hour Emergency Contact**
Thomas J. Dias (925) 443-7967

**EMERGENCY PROCEDURE TO BE FOLLOWED BY VEHICLE DRIVER IN THE
EVENT OF AN ACCIDENT:**

1. Perform lifesaving rescue and emergency first aid. Delay other first aid care until victims can be removed from the vicinity of any potentially hazardous material. Notify receiving medical facilities of possible contamination or radiation exposure of the injured.
2. Establish a control zone. The perimeter of this zone will be determined by the accident scene conditions. If there is no release of radioactive material, a distance of 20 feet is required. If the containers are breached and dispersal is a potential increase the control zone as large as possible.
 - A. Limit time near radioactive shipping packages as much as possible.
 - B. Cover spilled radioactive material with plastic sheeting or tarps to prevent or limit dispersal.
 - C. Avoid direct contact with radioactive material. Utilize protective clothing and utilize anything available for remote handling.
3. Detain personnel in the immediate area and items with possible contamination until they can be monitored for radioactive contamination
4. If there is a fire, advise individuals and emergency responders that everyone should move upwind, Use respirators if you need to enter the area. Inform the Fire Department that the truck is carrying radioactive materials.
5. The following persons are to be notified in the sequence shown below:
 - A. Thomas J. Dias, Director of Brokerage Operations, Livermore, CA
Day: (925) 443-7967
Night: (510) 581-3244
Pager: (510) 277-6452
 - B. Additional 24 Hour Emergency Contact: Don Wadsworth, Livermore, CA
Day: (925) 443-7967
Night: (510) 443-7982
Pager: (888) 771-9710
 - C. Notify the state and local emergency responders by dialing **911** in the event the emergency contacts above can not be reached or if there is a serious threat to life or property.
 - D. For general information on the chemicals identified in the accident call
CHEMTREC at (800) 424-9300.

NWT
INSTRUCTIONS FOR EXCLUSIVE USE OF VEHICLES

Shipment No. SCN-0210-98

Date 8/21/98

CFR 49 sections 173.403(i) and 173.441(c) and (e) require that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier. These instructions must be included with the shipment documents.

The following instructions shall be complied with for all exclusive use shipments.

The shipper must be notified prior to changing of the tractor or making fifth wheel adjustments.

- ♦ Do not move or transfer packages on the transport vehicle from the original configuration.
- ♦ The shipment must be loaded by the consignor and unloaded by the consignee from the transport vehicle on which it was originally loaded.
- ♦ The shipment must be blocked and braced so as to prevent leakage or shifting of load under incidents normal to transportation.
- ♦ If placards are required, The vehicle must be placarded on four (4) sides of the transport vehicle in a clearly visible position with the appropriate placards.
- ♦ Notify shipper immediately if the vehicle is involved in an accident or is required to apply emergency breaking which could shift the load and change radiation levels.

In case of accident, vehicle malfunction or deviation from the above instructions immediately contact one of the following NWT employees:

Thomas J. Dias Office (925) 443-7967
 Home (510) 581-3244
 Pager (510) 277-6452

Don Wadsworth Office (925) 443-7967
 Home (510) 443-7982
 Pager (888) 771-9710

Deviations from these instructions are violations of federal laws and could result in carrier penalties.

I have read and understand the above statements concerning the maintenance of exclusive use vehicles.

William Kyle
Signature of Driver

8/21/98
Date

SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-1
 CONTAINER WEIGHT 330
 CONTAMINATION <100/<1000

PAGE NO 1 of 1
SURFACE DR 0.8
1 METER DR 204.1
LABELS yellow II

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Radiac Meter	Various	81	Ra226	.0017	.137
2	Mx-7338 Source	Various	7	Kr85	5	25
3	Annunciator - Intrusion	63-50-00-179-1854	2	Pm147	30	60
4	IAW Sights "	UNK	47	Pu147	3	141
5	Dewar Detectors	UNK	12	Th(Nat)	2E-6	2.4E-5
	Totals					
	Ra226 = 0.137					
	Kr85 = 25					
	Pm147 = 201					
	Th(Nat) = 2.4E-5					
		= 2.4E-4 lb = 1.9E-4 kg				
	226.13702 f mci					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-2
 CONTAINER WEIGHT 260
 CONTAMINATION <100/<1000

PAGE NO 1 of 1
SURFACE DR 5.0
1 METER DR 0.2
LABELS Yellow, H

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
<u>1</u>	Thioxiated glass (8.08 lbs = 3.67 kg)	202 lbs UNK	NA	Th(Nat)	.807	.807
2	check source	UNK	1	Ra-226	.001	.001
3	"Ice Detector"	UNK	1	Sr-90	.025	.025
4	check sources	UNK	2 gcs	Th-232	.0003 .0006	.0006
5	check luminous markers	UNK	2	C-14	.05	.10
Totals						
	Ra-226 = .001					
	Sr-90 = .025					
	C-14 = .10					
	Th(Nat) = .807 =	8.08 lb / 3.67 kg				
	Th-232 = .0006 =	.012 lb / .00545 kg				
	<u>10# 8.336</u>					

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-3
 CONTAINER WEIGHT 245
 CONTAMINATION <100/21000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.3
LABELS yellow II

mC.

ID NO.	ITEM/NOMEN	FSN	QTY	ISOTOPE	ACT/ITEM	TOTAL ACT.
1	Thoriated glass	177 lbs	NA	Th(Nat)	.707	.707
2	DU contaminated - scrap	10 lbs			2.27	2.27
Totals						
Th(Nat) = .707 =		7.0716 / 3.21 kg				
DU = 2.27 = 10 lb /		4.54 kg				
2.977						

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

8/21/98
Date

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-4
 CONTAINER WEIGHT 2910 350
 CONTAMINATION 100/1000

PAGE NO 1 of 1
SURFACE DR 3.0
1 METER DR 0.2
LABELS yellow w.

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

Date 8/21/98

SHIPMENT NO. USA 98-070
 DRUM/PACKAGE NO. FB-25
 CONTAINER WEIGHT 320
 CONTAMINATION 2100/21000

PAGE NO 1 of 1
SURFACE DR 5.0
1 METER DR 0.5
LABELS yellow II

[illegible]

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or unacceptable hazardous materials (such as Lead) are present.

Signature _____

Date 8/21/98

NWT
RADIOLOGICAL SURVEY REPORT
SHIPMENT SURVEY FORM

Date: <u>8/21/98</u>	Time: <u>18:25</u>	Surveyor (printed name): <u>T. Eastman</u>
Surveyor (Signature): <u>[Signature]</u>	Reviewed by: <u>NA</u>	Date: <u>NA</u>
Purpose of Survey: <u>Outgoing Shipment USA 98-070</u>		
Location: <u>Fort Belvoir, VA</u>		

INSTRUMENTS USED

MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. Model 19	133178	12 NOV 98	<u>.01 ^{mR}/hr</u>
2. Model 3 w/44-38	32397/pr069310	1 JUL 99	
3. Model 3 w/HP-260	32397/NWT#102	1 JUL 99	<u>50 cpm</u>

ITEM OR LOCATION * Smear locations are circled	Dose Rate mR/hr	Contamination counts/minute	Distance or smear location
		Alpha B-G	
1. Max D/R on the sides of the vehicle	<u>1.0</u>	<u>NA</u> <u>NA</u>	<u>1"</u>
2. Max D/R 2- M from the sides of the vehicle	<u>0.1</u>		<u>2-Meter</u>
3. Max D/R in the occupied portion of the cab	<u>.02</u>		<u>Field</u>
4. Max D/R on the underside of the vehicle	<u>1.20 ^{mR}/hr</u>		<u>1"</u>
5. Max D/R on the top of the vehicle	<u>.01</u>		<u>1"</u>
6. Max D/R on the containers surface	<u>3.0</u>	<u>↓</u> <u>↓</u>	<u>1"</u>
7 Smears of the vehicle prior to loading	<u>NA</u>	<u>ND</u> <u>ND</u>	
8 Smears of containers prior to loading	<u>↓</u>	<u>ND</u> <u>ND</u>	
9.			
10.			
11.			

2 Meters	<u>.1</u>	<u>.01</u>	<u>.01</u>	Surface 2 M
Surface	<u>.6</u>	<u>.03</u>	<u>.01</u>	
				<u>.01</u> <u>.01</u>
				<u>.01</u> <u>.01</u>
	Cab <u>.02</u>	Top <u>.01</u> Bottom <u>.00</u>		
Surface	<u>1.0</u>	<u>.04</u>	<u>.01</u>	
2 Meters	<u>.01</u>	<u>.01</u>	<u>.01</u>	

Remarks: #0000269/0000153
(Door Seals)

ORM 541 (10-96)

DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
5. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME $\frac{m^3}{ft^3}$	8. WASTE AND CONTAINER WEIGHT $\frac{kg}{lb}$	9. SURFACE RADIATION LEVEL $\frac{mSv/hr}{mrem/hr}$	10. SURFACE CONTAMINATION $\frac{MBq/100 cm^2}{dpm/100 cm^2}$		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER $\frac{m^3}{ft^3}$	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
												RADIONUCLIDES	MBq	mCi		
FB-2 0137-00-98E	3	.21 7.5	118 260	.05 5.0	4.67E-6 100	4.67E-5 1000	36H	.21 7.5	100	oxides+glass no chelates	0%	Ra226 Sr90 C-14	.037 .925 2.74 3.7	.001 .025 10.0 0.1mCi	B	
												Th-232	29.86 (3.67 kg)	.807 (8.08 lb)		
												Th-232	.0222 (.00545 kg)	.0006 (.012 lb)		
												total	4.05E-132 34.5432	1.0E-136 0.9336		
FB-3 0137-00-98E	3	.21 7.5	111 245	.03 3.0	4.67E-6 100	4.67E-5 1000	36H 39H	.21 7.5	100	oxides+glass no chelates	0%	Th-nat	26.16 (3.21 kg)	.707 (7.07 lb)	AU	
												DU	83.99 (4.54 kg)	2.27 (10 lb)		
													110.15	2.977		

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
3. CONTAINER IDENTIFICATION NUMBER/ S.C. TRANSPORT PERMIT NUMBER	4. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME $\frac{m^3}{ft^3}$	8. WASTE AND CONTAINER WEIGHT $\frac{kg}{lb}$	9. SURFACE RADIATION LEVEL $\frac{mSv/hr}{mrem/hr}$	10. SURFACE CONTAMINATION $\frac{MBq/100 cm^2}{dpm/100 cm^2}$		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2 and Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER $\frac{m^3}{ft^3}$	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 and Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
												RADIONUCLIDES	MBq	mCi	
FB-4 0137-00-98E	3	.21 7.5	159 350	.03 3.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	glass, no chelates	0%	Th-Nat	44.03 (5.41 kg)	1.19 (11.92 lb)	AU
												Total	44.03	1.19	
FB-450E 0137-00-98E	3	.21 7.5	145 320	.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	glass, no chelates	0%	Th-Nat	35.19 (4.32 kg)	.951 (9.52 lb)	AU
												Total	35.19	.951	
FB-6 0137-00-98E	3	.21 7.5	181 400	.05 5.0	<1.67E-6 <100	<1.67E-5 <1000	36H	.21 7.5	100	oxides, no chelates	0%	Ra226	.2516	.0068	
												Co60	.3626	.0098	
												H-3	1,420,800	38,400	B
												Th-Nat	16.983 (2.09 kg)	.459 (4.6 lb)	
												Th-232	.011 (.00273 kg)	.0003 (.006 lb)	
												Total	1,420,817.61	38,400.48	