U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 99990001/85-09

Company: Air Products and Chemicals, Inc.
P.O. Box 538
Allentown, Pennsylvania 18105

Facility Name: Exomet, Inc., Greenville, Pennsylvania

Inspection At: U.S. Ecology, Inc., Richland, Washington

Inspection Conducted: December 13, 1984 and January 8, 1985

Inspectors: M. J. Elsen, Washington State
Inspector

for J. McFadden, Health Physicist, Region I — 10-7-85 date

Approved by: J. D. Kinneman, Chief
Nuclear Materials Safety
Section A — 10-7-85 date

Inspection Summary: Inspections on December 13, 1984 and January 8, 1985 (Inspection Report No. 99990001/85-09)

Areas Inspected: As part of the inspections conducted by the State of Washington at the Richland, Washington, burial site, four shipments of low level waste from Air Products and Chemicals, Inc., Allentown, Pennsylvania were inspected on December 13, 1984 and January 8, 1985. The results of this inspection are detailed in this report and the attachments.

Results: Three violations of NRC/DOT requirements were identified: Violation: failure to ship material in strong tight packages; Violation: trailer contents were not properly braced to prevent shifting; Violation: failure to correctly label drums.

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IE QA999 EMVAIRP
99990001 PDR

DETAILS

1. Background

Beginning in the 1960's, Mercer Alloys, who was succeeded by Whittaker Metals Corporation, produced ferrocolumbium and ferronickel alloys using an aluminathermic process at their site near Greenville, Pennsylvania. This production occurred under the authorization of U.S. Atomic Energy Commission (now the Nuclear Regulatory Commission, NRC) License No. SMA-1018 (Docket No. 040-07455). Columbium ores and nickel scrap used in this operation contained licensable concentrations of thorium, sometimes as high as approximately two percent by weight. Process slag containing thorium was retained at the site. In early 1974 Whittaker terminated operations involving licensed material and the license was amended to authorize only site decontamination and storage of the process slag containing thorium. In late 1974, the property was sold to Exomet, Inc., a subsidiary of Air Products and Chemicals, Inc., of Allentown, Pennsylvania. Whittaker Metals Corporation retained title to and responsibility for the licensed process slag on the premises. Air Products recovered various metals from scrap at the site. The process involved melting the scrap with various ingredients and resulted in a pure product and a slag which was stored in piles. In mid-1984, a portion of the site was sold to Greenville Metals, Inc. and Whittaker Metals again took title to the remainder of the property. Since June 1984, similar metal recovery operations have been conducted by Greenville Metals, Inc. in the same facility as was used by Air Products.

As a result of previous operations, decontamination efforts, and surveys, the property was effectively divided into two radiologically different areas by 1974. This division continues to the present, and consists of (a) an area of process slag and contaminated rubble storage from the Whittaker Metals Corporation (and Mercer Alloys) operations, and, (b) an area actively used first by Air Products and then by Greenville Metals.

In letter to the NRC dated March 19, 1984, Whittaker Metals Corporation requested that their license (License No. SMA-1018) be amended to delete the area actively in use by Air Products as an authorized place of use. This was to facilitate the sale of the property to Greenville Metals. The NRC responded that a confirmatory radiological survey of buildings and grounds needed to be performed in the actively used area and, that, if levels of radioactive contamination were below NRC criteria for release for unrestricted use, the license would be amended to delete the area and release it for unrestricted use.

A confirmatory survey of the Whittaker Metals Corporation site was performed by the Radiological Site Assessment Program of Oak Ridge Associated Universities (ORAU) under contract to NRC during June 11-29, 1984. The objective of the ORAU survey was to confirm the radiological data developed by Applied Health Physics, Inc., Radiation Management Corporation, Westinghouse Environmental Systems, and Energy Impact Associates (EIA)

under contract to Whittaker Metals for comparison with NRC guidelines for release for unrestricted use. Detailed radiation surveys were performed in all areas of the property by ORAU. In the area of the property used by Air Products, there were approximately 20 piles of slag generated in 1983 and 1984 by Air Products' activities. In eight areas of these slag piles, contact exposure rates in excess of background and as high as 800 microrem per hour were found. Three samples of slag from these recently generated slag piles had thorium-232 concentrations of 307, 144, and 0.97 pCi/g and uranium-238 concentrations of <65.1, <24.8, and 0.83 pCi/g, respectively. These results are from Table 7, page 53, of the attached "Confirmatory Radiological Survey of the Former Whittaker Metals Corporation Property", November 1984. Several other isolated areas of contamination were also found. Approximately 50 pounds of scrap metal, labeled "Project NiA III", which had not yet been processed by Air Products, as found to contain 2190 picocuries of thorium-232 per gram of metal (approximately 2% thorium, by weight).

In July and August of 1984, attempts by M. Bock and H. Hart to locate the origin of this "thoriated nickel alloy" scrap were unsuccessful. M. Bock was a past manager of Air Products' activities at the site, and is now president of Greenville Metals, Inc. and H. Hart was a raw material buyer for Special Metals of New Hartford, New York, which was the scrap metal dealer who sent this batch of "thoriated nickel alloy" to the Greenville site for reprocessing.

In August of 1984, Whittaker was notified by NRC representatives that the area occupied by Air Products could not be released for unrestricted until the thorium contaminated materials were removed. Movement of this material to the Whittaker slag pile, which will be retained under license, would constitute an acceptable solution as would removal and disposal of this material in a licensed disposal facility. It was subsequently decided by Air Products that the contaminated material would be separated from uncontaminated slag, be packaged and disposed of in a licensed burial site by Air Products.

Based on information provided by representatives of Air Products, the piles of recently generated slag were screened using a suitable survey meter. Material which produced radiation levels of more than 10 microrem per hour above background at three feet was selected for licensed disposal. This procedure resulted in the segregation of approximately 1820 cubic feet of contaminated slag out of a total of approximately 32,400 cubic feet of slag screened. The 1820 cubic feet of contaminated slag was placed in 242 55-gallon drums and sent in four shipments to the Richland, Washington burial site on December 6, 1984 by Air Products. These shipments were received on December 10, 11, and 13, 1984. As part of the low-level waste inspections conducted by the State of Washington at the Richland burial site, the shipments were inspected on December 13, 1984 and January 8, 1985, and found to be in violation of NRC/DOT regulations, Washington (State) Administrative Codes, and U. S. Ecology's

Radioactive Materials License No. WN-1019-2. The violations are detailed in the attached report from the State of Washington. As a result of the violations, the State of Washington banned Air Products and Chemicals, Inc. from using the burial site and terminated their permit (8-1086) effective January 21, 1985.

Based on the waste manifests for the 242 drums, the following is a summary of the material shipped:

Total weight of drums	177,700 pounds
Total volume of waste	1,820 cubic feet
Total weight of thorium	1,067 pounds
Total activity (Th-232)	50 millicuries

Representatives of Air Products stated that the total weight of thorium was obtained by multiplying the average concentration of thorium-232 in the three ORAU slag samples by the total weight of slag. The maximum concentration of Th-232 in the ORAU samples was 307 pCi/g and the average was 151 pCi/g. Assuming that this concentration is representative of the waste shipped, the following calculations give the weight of thorium in the shipment, since the thorium is essentially 100% Th-232 by weight. A picocurie of thorium is equivalent to 9.14 micrograms. The specific activity of thorium-232 is 9.14µg/pCi.

Based on the maximum concentration measured:

$$177{,}700 \text{ lbs slag} \times \frac{307 \text{ pCi } Th^{232}}{\text{g slag}} \times \frac{9.14 \mu g \text{ } Th^{232}}{\text{pCi } Th^{232}} \times \frac{10^{-6} g}{\mu g} = 499 \text{ lbs } Th^{232}$$

Based on the average concentration measured:

$$177{,}700 \text{ lbs slag} \times \frac{151 \text{ pCi } Th^{232}}{\text{g slag}} \times \frac{9.14 \mu g \text{ } Th^{232}}{\text{pCi } Th^{232}} \times \frac{10^{-6} g}{\mu g} = 245 \text{ lbs } Th^{232}$$

M. Bock estimates that 1200 to 1500 tons of slag were produced from mid-1983 to mid-1984 as a result of Air Products' operations. This represents about 15% by weight of the scrap input. The main types of scrap processed were magnetic metals, nickel chrome heat resistant alloys, super alloys, tool steel, etc. M. Bock believes that most of the thorium came from thoriated nickel scrap in the form of aircraft parts. Air Products was not aware that the scrap contained thorium.

Only 200 pounds of scrap out of 5,000 tons has been rejected since radiological monitoring of all incoming metal scrap with a micro-R-meter was started in mid-1984. Rejected scrap metal is returned to the scrap metal broker unprocessed.

On December 6, 1984, ORAU conducted additional surveys at the site to confirm that all appropriate meterials had been removed. The followup survey

findings are attached. ORAU concluded that the results of their measurements confirm that remedial action activities were effective in removing contaminated slag from the site and reducing radiation levels.

2. Inspection by State of Washington

Shipper: Air Products and Chemicals, Inc.
P.O. Box 358
Allentown, Pennsylvania 18105

Shipments Inspected: December 13, 1984
January 8, 1985

Carrier: Tri-State

Trailer Numbers: 444548, 444544, 448191, 448102

Radioactive Waste Shipment Records: 44061, 44060, 44062, 44059

The four shipments consisting of a total of 242 drums of low specific activity (LSA) radioactive waste were transported in exclusive use vehicles. The trailers were dispatched to the Richland burial site on December 6, 1984. The enclosed inspection documentation (Region V, USNRC, Inspection Report No. 85-01/15000046 and State of Washington Inspection Worksheets and Photographs) indicates the violations identified during the inspections.

3. Applicable NRC Regulations

10 CFR 40.13(c)(8) exempts persons who possess up to 4% nickel-thoria alloy in the form of finished aircraft parts from the requirements for a license. 10 CFR 40.13(c)(9) states that the exemption does not authorize the manufacture of such parts. A parallel regulation, 10 CFR 40.13(c)(4), exempts tungsten and magnesium-thorium alloys. This regulation (10 CFR 40.13(c)(4)) also specifically prohibits "...chemical, physical or metallurgical treatment or processing of any such product or part". While there is no similar specific prohibition of the treatment or processing of nickel-thoria alloys, the exemption contained in 10 CFR 40.13(c)(8) extends only to the possession of finished aircraft parts and does not authorize the possession of nickel-thoria alloy in any other form, such as slag. 10 CFR 40.22 grants a general license to persons who possess and use no more than 15 pounds of source material at one time and no more than 150 pounds each year. Such generally licensed persons are exempt from, among other things, the disposal requirements in 10 CFR 20, so long as they comply with the requirements of the general license. However, there is no exemption or general license applicable to persons who possess more than 15 pounds of thorium at one time, or receive more than 150 pounds in one year, if the thorium is in the form of nickel-thoria slag.

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 85-01

Docket No. 15000046

Facility Name: U. S. Ecology, Inc.

Inspection at: Richland, Washington

Inspections conducted: December 13, 1984 and January 8, 1985

Inspector: M. J. Elsen, Washington State Inspector — Date Signed 2/20/85

Approved By: R. D. Thomas, Chief, Nuclear Materials Safety Section — Date Signed 2/20/85

Summary:

Inspections of December 13, 1984 and January 8, 1985 (Report No. 85-01)

As part of the inspections conducted by the State of Washington at the Richland burial site, four shipments of low level waste from Air Products and Chemicals, Inc., Allentown, Pennsylvania was inspected on December 13, 1984 and January 8, 1985. The results of those inspections which were received at the NRC Region V office on February 4, 1985 are detailed in this report.

Results: Thirty-nine apparent violations of NRC/DOT regulations, Washington Administrative Codes, and U. S. Ecologys' license WN-I019-2 were identified. It appears that the NRC Region I office, the Department of Transportation, and the State of Washington are the appropriate organizations to take enforcement action.

DJE

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DETAILS

Persons Contacted

M. J. Elsen, State of Washington Inspector

Background

As part of the low-level waste inspections conducted by the State of Washington inspector at the Richland burial site, four shipments were found to be in violation of NRC/DOT regulations, Washington Administrative Codes, and U. S. Ecology's Radioactive Materials License WN-1019-2. The four shipments were received on December 10, 11, and 13, 1984. A total of thirty-nine apparent violations were identified. Pursuant to the above violations, the State of Washington banned the NRC licensee from using the burial site and terminated Permit 8-1086 effective January 21, 1985.

Inspections

Licensee-Shipper: Air Products and Chemicals, Inc.
P. O. Box 538
Allentown, Pennsylvania 18105
Docket No: 3006126

Shipments Inspected: December 13, 1984
January 8, 1985

Carrier: Tri-State

Trailer Numbers: 444548, 444544, 448191, 448102

Radioactive Waste Shipment Records: 44061, 44060, 44062, 44059

1. The four shipments consisting of a total of 242 drums of Low Specific Activity (LSA) radioactive waste was transported in are exclusive use vehicle. The above trailers were dispatched to the Richland burial site on December 6, 1984.

2. The enclosed inspection documentation and associated photographs indicate the violations identified during the inspections.

XXXXXXXXXXXX

STATE OF WASHINGTON

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

87-05105-05

03006/26

January 21, 1985

Air Products and Chemicals, Inc.
P.O. Box 538
Allentown, Pennsylvania 18105

ATTENTION: Eugene Handwerk

Dear Mr. Handwerk:

Permit #8-1086

This letter refers to a shipment of radioactive waste material sent to the commercial low-level radioactive waste disposal site operated by US Ecology, Incorporated, near Richland, Washington. Your shipments 666892, 666893, 666894, and 666895 were sent on December 6, 1984, and received on December 10, 11, and 13, 1984. Inspections revealed the following violations of U.S. Department of Transportation regulations, Washington Administrative Codes, and U.S. Ecology's Radioactive Material License WN-I019-2.

	Container Number or Description	Summary of Violations
Shipment No. 666892	Drums 1, 2, 3, 4, 13, 33, 40, 49, 55, and 63	Ten drums had holes in them. Lack of strong, tight packages. 49 CFR 173.425(b)(1)
	Drum 46	Drum had a hole in it due to corrosion. 49 CFR 173.425(b)(1)
	Drums 17, 33, 37, 42 and 53	Loose ring bolts. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drums 25 and 39	Drum lids not secured. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drum 2	Broken drum ring. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drum 57	Bent drum lip causing a non-strong, tight package. 49 CFR 173.425(b)(1)

	Container Number or Description	Summary of Violations
	Drum 35	Loose drum ring. 49 CFR 173.425(b)(1)
	All 66 drums on this shipment	No weight class, or stability marked on drums as required by US Ecology License WN-I019-2(27)(k)
	All 66 drums on this shipment	Drums had only one DOT Radioactive White-I label applied to them. The labels had no entries for content or activity. The indiscriminate use of labels which could be confused with prescribed labeling is prohibited. 49 CFR 172.401(b)
	All 66 drums on this shipment	Undersized ring bolts (less than 5/8 inch) on the 55 gallon drums. US Ecology License WN-I019-2(27)(i)
Shipment No. 666892		No bracing on this shipment. 49 CFR 173.425(b)(6)
	State of Washington certification RHF-31	Incorrect volume of waste listed on the certification. In sections A and C. WAC 402-19-530(3).
Shipment No. 666893	Drums 71, 74, 75, 76, 80, 81, 83, 85, 96, 97, 103, and 120	Loose ring bolts. 49 CFR 173.425(b)(1)
	Drums 70, 72, 74, 87 and 120	Drums had holes in them. Lack of strong, tight packages. 49 CFR 173.425(b)(1)
		NOTE: Drum 70 had two holes in it.
	Drum 111	Loose bung cap. 49 CFR 173.425 (b)(1)
	Drum 80	Hole in bung cap. 49 CFR 173.425 (b)(1)
	Drums 86 and 87	Loose drum rings. 49 CFR 173.425(b)(1)
	Drum 88	Nondurable (illegible) waste class and stability marking. US Ecology License WN-I019-2(27)(k)

	Container Number or Description	Summary of Violations
	Drums 72 and 80	These two drums had waste class and stability markings on a noncontrasting background. (White marking on white drum.) US Ecology License WN-I019-2(27)(k)
	All 60 drums on this shipment	Undersized ring bolts (less than 5/8 inch) on 55 gallon drums. US Ecology License WN-I019-2(27)(i)
	Shipment 666893	No bracing on this shipment. 49 CFR 173.425(b)(6)
Shipment No. 666894	Shipment 666894	No bracing on this shipment. 49 CFR 173.425(b)(6)
	Drums 129, 130, 144, 161, 166, 167, 177, 179, and 181	Loose ring bolts. 49 CFR 173.425(b)(1)
	Drums 130, 131, 143, 146, 150, 152, 153, 155, 168, 170, 174, and 176	Lose drum rings. 49 CFR 173.425(b)(1)
	Drum 135	Popped up drum lid. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drum 168	Hole in drum due to corrosion. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drum 145	Hole in drum apparently due to a fork-lift puncture. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drum 161	The classification of waste and stability markings more than 6 inches from the Radioactive-LSA marking. US Ecology License WN-I0199-2(27)(k)
	All 56 drums on this shipment	Undersized (less than 5/8 inch) ring bolts on 55 gal. drums. US Ecology License WN-I0199-2(27)(i)

	Container Number or Description	Summary of Violations
	RSR 44061	No listing for the radionuclides Tritium, C-14, TC-99, and I-129 on the first page of the manifest. US Ecology License WN-I019-2(29)(d) states in part that the total shall be listed: if the total is zero (nil) the entry should be "0."
Shipment No. 666895	Drums 199, 201, 209, 213, 224, 225, and 229	Seven drums had holes in them either due to rust or forklift puncture. Lack of strong, tight package. 49 CFR 173.425(b)(1) NOTE: Drum 209 had two holes in it.
	Drums 187, 189, 191, 194, 197, 202, 206, 209, and 222	Drums had lose rings. 49 CFR 173.425(b)(1)
	Drums 188, 189, 198, 207, 217, 228, 230, 236, and 242	Loose ring bolts. 49 CFR 173.425(b)(1)
	Drum 225	Loose bung caps. 49 CFR 173.425(b)(1)
	Drum 226	Popped up drum lid. Lack of strong, tight package. 49 CFR 173.425(b)(1)
	Drums 231, 190, and 239	Drums had dented drum rims which caused non-strong, tight textures. 49 CFR 173.425(b)(1)
	All 60 drums on this shipment	Undersized ring bolts on 55 gallon drums (less than 5/8 inch). US Ecology License WN-I019-2(27)(i)
	666895	No bracing on this shipment. 49 CFR 173.425(b)(6)
	RSR 44062	No listing for the radionuclides Tritium, C-14, TC-99 or I-129 on cover sheet. If the quantity is zero (-0-) then zero should be listed in the appropriate spaces. US Ecology License WN-I019-2(29)(d)

Because of the nature of the violations found on these shipments and since this was a one-time only shipment, authorization to use the commercial low-level radioactive waste disposal site by Air Products and Chemicals, Inc., Permit 8-1086 has been terminated.

Sincerely,

E. Lee Gronemyer

E. Lee Gronemyer, Manager
Radioactive Waste Program

Bob Bidstrup for

Mikel J. Elsen
Radiation Health Physcist
509-545-2313

ELG:MJE:pm

cc: US Ecology, Louisville, KY
US Ecology, Richland, WA
Joel Lubenau, Nuclear Regulatory Commission
Mikel J. Elsen, DSHS Radiation Control
Lee Kegley, UTC
Robert Thomas, Region V, USNRC
Thomas M. Gerusky, Pennsylvania

WASTE PACKAGING AND SHIPMENT INSPECTION RECORD

The enclosed inspection formats consisting of SHIPPING DOCUMENTATION, RADIOLOGICAL SURVEY DATA, and VISUAL FEATURES are to be completed by the State inspector ONLY when an item of noncompliance has been identified, and ONLY when an NRC licensee is involved. ONLY the particular format associated with the item of noncompliance needs to be completed in addition to the shipment identification page.

SHIPMENT IDENTIFICATION

Licensee/Shipper

Name Air Products & Chemicals Inc.

City & State Greenville, PA.

Broker

Name N-A

City & State -

Carrier

Name Tri-State

Trailer No. 44819

Rec'd 1/15/85

Shipment Inspected

Date 1-8-85 Time A.M.

Describe the Shipment (Number of boxes, drums, etc.)

⊘ LSA ○ Other (DOT I, II, III LABELS)

66 drums exclusive use LSA
Class A unstable waste.

66

Mikal Elsen

N/A

SHIPPING DOCUMENTATION

DATE _____ TIME _____ INSPECTOR _____

Shipping Papers

Freight Bill No. _____

Carrier: _____

Broker:
Name _____

City & State _____

Generator:
Name _____

City & State _____

Certification ○ YES

○ NO

Shipment: Exclusive use ○

Instructions for Exclusive use ○ YES ○ NO

Nonexclusive use ○

Type A Certification of Compliance for Type "B"

Shipment ○ YES ○ NO

Proper Shipping Name/Class ○ YES ○ NO

REMARKS

RADIOLOGICAL SURVEY DATA

N/A

DATE _____ TIME _____ INSPECTOR _____

INSTRUMENT DATA

	Radiation Levels	Monitor Smears
Make		
Model		
S/N		
Calib. due date		

SURVEY RESULTS (mr/hr)

Cab No. _____

Level _____

Sketch in
Cargo Placement
and Smear Locations

Trailer No. _____

Maximum at surface _____
Maximum at 2 meters _____

SMEAR DATA

Identify locations by "x" and whether on vehicle surface or packages.

1. _____
2. _____
3. _____
4. _____

REMARKS:

VISUAL FEATURES (As Applicable)

DATE 1-9-85 TIME _____ INSPECTOR M. Elson
R. Cameron

TYPE VEHICLE: ⊘ Closed ○ Open ○ Other

PLACARD DATA			
	Front	⊘ YES	○ NO
	Rear	⊘ YES	○ NO
	Right	⊘ YES	○ NO
	Left	⊘ YES	○ NO

General Conditions of Package(s) Very Poor
(see Washington State Radiation Controls Worksheet/checklist outlining All the Problems/Violations.)

Blocking, Bracing, Tie-Down Adequate? NO
No Bracing used

MARKING	YES	NO
Marked Radioactive LSA	⊗	○

LABELING		
Proper Labels	○	⊘
Label Entries Filled In	○	⊗

REMARKS:

Drums were very rusty and dented.

Unit# 2117
Tr# 442191

011902

Rel: 1107

WASHINGTON STATE PATROL

CRITICAL ITEM TRUCK EQUIPMENT INSPECTION

DATE	TIME	LOCATION	PERS./ TEAM #
12-10-24	1040	[illegible]-51	X[illegible]

REG. OWNER [illegible] State

ADDRESS	CITY	STATE	ZIP
P.O. Box 113	Joplin	Mo.	64802

#1 LIC.	#2 LIC.	#3 LIC.
W21[illegible]	176592	
TYPE #1	TYPE #2	TYPE #3
[illegible]	T 047	

BRAKE ADJUSTMENT

LEFT	/	/	/	/	/	—	—	—	STICKER NO.
RIGHT	/	1/4	/	/	/	—	—	—	DEFECTS

1 rock-ck.

AIRLOSS	VEHICLES	1	2	3	OS
APPLIED					
UNAPPLIED					
LOW AIR WARNING DEVICE					
BRAKE ADJUSTMENT					
BRAKE COMPONENTS/HOSES/DRUMS/SHOES/VALVES		W			
STEERING COMPONENTS					
WHEELS - CRACKS/LOOSE NUTS					
TIRES - WEAR/DEFECTS					
DRAWBAR/FIFTH WHEEL					
STRUCTURAL/FRAME/SPRINGS					
LIGHTS/TURN/STOP					

COMMENTS

[illegible] Greenville To

INTERSTATE	X	INTRASTATE			
HAZARDOUS MATERIAL	X	TYPE	[illegible]		
PRIVATE CARRIER		COMMON CARRIER		CONTRACT CARRIER	

WHITE COPY - HDQ. W/C OFFICE
PINK COPY - WUTC
YELLOW COPY - OFFICER'S BLUE BOOK
GOLD COPY - DRIVER'S COPY

WSP-WC-009 1/80

Accepted by

011902

DEC 13 1984

Washington State

LOW-LEVEL RADIOACTIVE WASTE SHIPMENT CERTIFICATION FOR COMMERCIAL GENERATOR/PACKAGERS, AND BROKERS AND CARRIERS

The following certification, completed as applicable, is made to the State of Washington

Certification is hereby made to the State of Washington that Radiation Shipment Record No 666892 of low-level radio-active waste has been inspected in accordance with requirements of the Governor of Washington's Executive Order dated November 19, 1979, prior to its shipment. Further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations.

The undersigned shall indemnify and hold harmless the State of Washington, in an amount not to exceed $1,000,000.00 per individual who may be injured, provided that indemnification shall not exceed $5,000,000.00 in total, for each occurrence, from any and all claims, suits, losses, damage, injury and expenses to any person whomsoever or to property arising or growing out of or in any manner connected with the activities performed under this order.

Except for any violation of applicable existing state or federal statute or regulation respecting packaging and shipment, inspection and acceptance of any item, or container or material covered by this certification by the State of Washington or a duly authorized contractor shall release the party who executed this certificate from any and all requirement of indemnification from injury or loss

SECTION A:
FOR THE GENERATOR/PACKAGER: AIR PRODUCTS & CHEMICALS, INC
(Company Name)

PERMIT NUMBER: 8-1086

VOLUME OF WASTE IN THIS SHIPMENT: 502.5 Cubic Feet

DATE: 12/6/84 BY: Eugene J Handwerk

TITLE: COORDINATOR OF TOXICOLOGY

SECTION B:
FOR THE BROKER: NA
(Company Name)

PERMIT NUMBER: _____

VOLUME OF WASTE IN THIS SHIPMENT: _____

DATE: _____ BY: _____

TITLE: _____

SECTION C:
FOR THE CARRIER: TRI-STATE MOTOR TRANSIT
(Company Name)

VOLUME OF WASTE IN THIS SHIPMENT: 502.5 Cubic Feet

DATE: 12/6/84 BY: [signature]

TITLE: DRIVER 8768

DSHS RHF-31A
DSHS 13-424 (4/80)

WORKSHEET/CHECKLIST

Date: January 9, 1985 Inspector(s): Mikal Elsen
Kelly Cameron

Shipper: Air Products & Chemicals Inc.
Greenville, PA.

Shipper's #: 32317 Freight Bill #: 666892

Tractor #: 8768 Lic #/State: 16816 / Ill.

Broker: N/A Trailer #: 448191 Lic #/State: 176592 / Ill

Vehicle Inspect: ✓ 90 Day Date: —

Carrier: Tri-State Placarding: ✓

DSHS Permit #: 8-1086 Vehicle Survey (RCP,NRC,etc.): —

RSR #'s: 44059

Survey Instrument(s) Used:

Bates # 1902

Make: /

Date Shipped: 12-6-84 Model: N/A

Date Rcvd: 12-10-84 S/N:

Date Unloaded: 1-8-85 Time: Cal. Date: /

Brief Description of Load: Max. Results mR/hr:

66 drums exclusive use LSA @6': — @ Surf: — @ Cab: —

Trailer Bed: Neg.

Wipe Results: Neg.

Inspector Note: In the "defect" column be sure to note any surveys, wipe tests, package wt., specific activity (mCi/gm), package type and condition, etc. when appropriate.

Copies/Originals Attached: Vehicle Inspection: ✓; Freight Bill: ✓; DSHS Permit: ____;
Shipper's Cert: ✓; RSR's: ✓; Other (specific): (Photos)

Drum/ Package #	Marking/Labeling	Defect/Problem
Drum #'s AP 63, 55, 49, 40, 13, 9, 2, 1, 43, 133	LSA	Holes in these 10 drums. Lack of stray tight packages. 49 CFR 173.425(B)(1)
Drum # 46	LSA	Hole in drum due to rust. lack of Stray Tight Package. 49 CFR 173.425(B)(1) COMMENTS
Drums 53, 33, 37, 42, 17,	LSA	loose bolts on these drums. 49 CFR 173.425(B)(1)
Drum 39, 25,	LSA	Popped up drum lids. 49 CFR 173.425(B)(1)
Drum 2	LSA	Busted (Broken) drum ring. 49 CFR 173.425(B)(1)
Drum # 57	LSA	Bent drum lid causing lack of Stay Tight Package.
Drum # 35	LSA	loose drum lid causing lack of Stray Tight Package. } 49 CFR 173.425(B)(1)

Drum/Package #	Labeld/marking	defect/Problem
all 66 drums on this shipment	LSA	NO waste stability or classification markings on these drums. USEC license WN-I019-2 (27)(K)
All 66 drums on this shipment	LSA	these drums had only one RADIOACTIVE WHITE I label applied to them. These labels had no entries for activity or contents. These labels were confusing in that they could be confused with a Proper White I label. 49 CFR 172.401 (B)
Shipment # 666892	N/A	NO bracing used on this shipment. 49 CFR 173.425 (B)(6)
all 66 drums on this shipment	LSA	utilization of less than 5/8 inch bolts on 55 gallon drums. US Ecology license WN-I019-2
[redacted]	[redacted]	[redacted]
State of Wash. Certificate # HF-31A	N/A	incorrect volume of waste listed on certificate. WAC 402-19-530(3)

011502

Driver is not to unload
or add material to
the load ie this
VAN is for exclusive
use only.

Ed Hardwick
11/6/84

Write on each drum in ½" letters
CLASS A UNSTABLE

†The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Consolidated Freight Classification.

††(Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.)

STRAIGHT BILL OF LADING — SHORT FORM

ORIGINAL — NOT NEGOTIABLE

Shipper's No. Nº 32317

CARRIER: Tri State Motor Transit

Carrier's No.

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

TRANSFER, PA.
REYNOLDS DEVELOPMENT Dec. 6 19 84 From Air Products Inc. c/o Greenville, Metals, Inc.

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 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.)

Consigned To US Ecology, INC

Delivery Address PO Box 638 Hanford Reservation Richland State W. VA

Route

Delivering Carrier Car or Vehicle Initials No.

NO. PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Sub. to Cor.)
	Radioactive Material, low specific activity, N.O.S. -	
	Radioactive Material Net Weight 45,300	
	U.N. 2912	
	Air Products Inc. to be billed for freight charges	
	rh	

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

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

(Signature of consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $

to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced: $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."
NOTE — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby

specifically stated by the shipper to be not exceeding per

Eugene J. Handsucker ← Greenville Metals, Inc. 12-8-84 FIRST

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

FREIGHT BILL NUMBER: 66892

SHIPPER'S NUMBER: 32317

From Air Products Inc. C/o Hanville Motor DATE SHIPPED 12-6-84

At Greenville Pa.

ORIGINATING CARRIER: TSMT

011902

EXECUTIVE OFFICES
P O BOX 113, JOPLIN, MO 6480

CONSIGNED TO: U.S. Ecology, Inc. (Mail or street address of consignee - For purposes of notification only)

DESTINATION: Hanford Reservation STATE: Richland COUNTY: Wash

DELIVERY ADDRESS (To be filled in only when shipper desires and governing tariffs provide for delivery thereof)

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

011902

(Signature of consignor)

If charges are to be prepaid write or stamp here, "To be Prepaid."

Rec'd $ ____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced

$

CONNECTING CARRIER(S) | DELIVERING CARRIER: TSMT | TRACTOR NO.: 8768 | TRAILER NO.: 448191

NUMBER PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Subject to Correction)	CLASS OR RATE	CK. COL.
	Radioactive Material			
	Low Specific Activity N.O.S.	45,300		
	Radioactive Material			
	U.N. 2912			

DIMENSIONS OF CARGO BEFORE LOADED	LENGTH	WIDTH	HEIGHT	TOTAL FEET OF TRAILER SPACE OCCUPIED
	FT. IN.	FT. IN.	FT. IN.	FT. IN.

UNLESS A GREATER VALUE IS DECLARED, THE SHIPPER HEREBY RELEASES THE VALUE TO $5000.00 PER TON OF 2000 POUNDS FOR EACH ARTICLE.

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.

UNLESS OTHERWISE NOTED VEHICLE CONTAINS HAZARDOUS MATERIALS PROPERLY PLACARDED IN ACCORDANCE WITH 49CFR172.506.

ARRIVED AT SHIPPER	DATE 12-6-84	TIME A M / P M	PREARRANGED SCHEDULE ☐ YES ☐ NO	DATE	TIME A M / P M	LOADING STARTED	DATE	TIME A M / P M			
LOADING COMPLETED	DATE	TIME A M / P M	VEHICLE RELEASED	DATE	TIME A M / P M	SHIPPER'S SIGNATURE					
IF THIRD PARTY BILLING, BILL TO:			SHIPPER, PER			AGENT, PER					

SIGNATURE TALLY RECEIPT — Must be filled out and signed at origin and each time the shipment changes custody.

DATE SHIPMENT RECEIVED FROM CONSIGNOR			2ND TIME CARGO CHANGED CUSTODY			4TH TIME CARGO CHANGED CUSTODY		
DATE 12-6-84	TIME	TRACTOR NO 8768	DATE	TIME	TRACTOR NO	DATE	TIME	TRACTOR NO
DRIVER'S SIGNATURE	HOME TERMINAL OKC OK		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
1ST TIME CARGO CHANGED CUSTODY			3RD TIME CARGO CHANGED CUSTODY			5TH TIME CARGO CHANGED CUSTODY		
DATE	TIME	TRACTOR NO	DATE	TIME	TRACTOR NO	DATE	TIME	TRACTOR NO
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	

ARRIVED AT CONSIGNEE	DATE 12/10/84	TIME 1400 A M	PREARRANGED SCHEDULE ☐ YES ☐ NO	DATE	TIME A M / P M	UNLOADING STARTED	DATE	TIME A M / P M			
UNLOADING COMPLETE	DATE	TIME A M / P M	VEHICLE RELEASED	DATE 12/10/84	TIME 1500 A M	CONSIGNEE SIGNATURE	Driver released load not accepted at this time				

RECEIVED THE ABOVE DESCRIBED PROPERTY IN GOOD CONDITION EXCEPT AS NOTED

X US Ecology

(BILL OF LADING NUMBER MOD 08504888)

GENERATOR NUMBER PAR 99 - 002 - 1263

REV 1 84

RADIOACTIVE WASTE SHIPMENT & DISPOSAL MANIFEST

US ECOLOGY, INC.

EXECUTIVE OFFICE: (502) 426-7160
P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207

PAGE 1 OF 4 — USE THIS NO. ON ALL CONTINUATION PAGES → 44059

(1) GENERATOR NAME Air Products & Chemicals, Inc,
ADDRESS d/b/a Greenville Metals Recovery
Crestview Drive
CITY Greenville STATE PA ZIP 16125
CONTACT Eugene Handwerk PHONE 215-481-8606
USER PERMIT # B-1086 SHIPMENT # 666892

(2) BILL DISPOSAL CHARGES TO Air Products & Chemicals, Inc.
NAME Accounts Payable PURCHASE ORDER # YB 5881H
ADDRESS Box 538
CITY Allentown STATE PA ZIP 18105

(3) AGENT/BROKER NA
BROKER'S US ECOLOGY #
ADDRESS
CITY STATE ZIP
CONTACT PHONE
BROKER SHIPMENT # BROKER USER PERMIT #
Broker's Authorized Signature Acknowledging Waste Receipt Date

(4) CONSIGNED TO
☒ P.O. BOX 638 Hanford Reservation Richland, WA 99352 509-377-2411
☐ P.O. BOX 578 HWY 95, 12 m. So of Beatty, NV 89003 702-553-2203
☐ OTHER
CONTACT
ADDRESS
CITY STATE ZIP
PHONE

(5) CARRIER Tri-State Motor Transit SHIPPING DATE
CARRIER EPA # (if any)
ADDRESS Box 113
CITY Joplin STATE MO ZIP 64802
PHONE 800-641-7580
CASK TYPE NA CASK SURFACE EXPOSURE RATE

(6)

TOTAL FOR EACH CLASS # OF PACKAGES	TOTAL FOR EACH CLASS WEIGHT (Pounds)	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER
		Radioactive Material, empty packages	UN2908
		Radioactive Material, fissile, n.o.s. – Radioactive Material	UN2918
66	45,300	Radioactive Material, low specific activity, n.o.s. – Radioactive Material	UN2912
		Radioactive Material, n.o.s. – Radioactive Material	UN2982
		Radioactive Material, limited quantity, n.o.s. – Radioactive Material	UN2910
		Radioactive Material, special form, n.o.s. – Radioactive Material	UN2974
		Radioactive Material, instruments and articles – Radioactive Material	UN2911
		Thorium Nitrate – Radioactive Material	UN2976
		Uranyl Acetate (RQ-5000/2270) – Radioactive Material	NA9180
		Uranyl Nitrate, solid (RQ-5000/2270) – Radioactive Material	UN2981

(7) SHIPMENT TOTALS (DO NOT WRITE IN SHADED AREAS)

VOLUME (cu ft)	TOTAL # OF PACKAGES	SOURCE MATERIAL (kgs)	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	PLUTONIUM	TOTAL
495	66	132	0	0	0	0

ACTIVITY

ACTIVITY TOTALS: ☐ Curies ☒ Millicuries (10CFR20.311)	TRITIUM	C-14	Tc-99	I-129	ALL ISOTOPES
	0	0	0	0	15

(8) 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 AND ARE IN COMPLIANCE WITH ALL REQUIREMENTS APPLICABLE AT THE DESIGNATED DISPOSAL SITE, AND THAT THE MATERIALS ARE CLASSIFIED AND DESCRIBED IN ACCORDANCE WITH THE REQUIREMENTS OF 10CFR, PART 71 AND PART 20.311 OR EQUIVALENT STATE REGULATIONS.

Eugene J. Handwerk — Authorized Signature
COORDINATOR OF TOXICOLOGY — Title
12/6/84 — Date

TERMS AND CONDITIONS

A. TITLE: Upon inspection and acceptance at the disposal site by US Ecology and all appropriate regulatory authorities, title to the Waste which conforms to Company's representations herein shall thereupon transfer from the Customer and be vested in US Ecology.

B. WASTE PRODUCTS: Customer represents and warrants that data set forth in this Radioactive Waste Shipment & Disposal Manifest is true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the designated facility license.

C. INDEMNIFICATION: Customer agrees to indemnify US Ecology, its officers, employees and agents against all loss and liability whatsoever if such loss or liability results from the failure of the Waste to conform in all material respects to the data supplied on the Radioactive Waste Shipment & Disposal Manifest or this shipment fails to meet standards prescribed by the Department of Transportation or any other governmental agency having jurisdiction over such matters.

FOR US ECOLOGY'S USE ONLY

TYPE OF CONTAINER	CONTAINER VOLUME CU. FT.	# OF PKGS.	CU. FT. PER CONTAINER TYPE
DRUMS			
OVERPACK			
55	7.50		
30	4.01		
5	0.87		
OTHER			
BOXES			
1st SIZE			
2nd SIZE			
3rd SIZE			
CASK LINERS			
OTHER			
OTHER			
SHIPMENT TOTALS			

LOAD EVALUATION

CHECK ALL THAT APPLY TO THIS LOAD. DESCRIBE INADEQUACIES IN COMMENT SECTION

☐ Manifest Waste Description Inadequate
☐ Contamination or Leakage Detected
☐ Unexpected Exposure Rates Detected
☐ No Violations Detected on this Load
☐ Bracing Inadequate
☐ Labels, Markings, etc. Inadequate
☐ Container Integrity Inadequate
☐ Other

DESCRIBE THE EXTENT OF ANY VIOLATION CHECKED ABOVE AND THE REMEDIAL ACTION TAKEN

☐ CHECK HERE IF A SUPPLEMENTAL REPORT IS ATTACHED

BURIAL DATA

CONTAINER SEPARATION
(Code all that apply to the load.)
CODES: Six sort (SIMS) — 1. 4Ft. x axis (SIMS) — 2.
4Ft. between upright containers (Gasses) — 3.
4Ft. sod (Chelating agent 1% by volume) — 4.
Other — 5. No requirement — 5.

DEPTH OF SHOT	HOLE SIZE	CHARGE A	CHARGE B	CHARGE C
DEPTH IN FEET				

Date Received
Date Disposed
Trench No.
☐ This material meets licensed limits
☐ This material was disposed of in accordance with license
AUTHORIZED INITIALS

US ECOLOGY INVOICE #
US ECOLOGY CUSTOMER # (Must agree with Agent named in Block 2)
US ECOLOGY INVOICE DATE MO DY YR
DISCREPANCY CODE(S):

BATES # 011902

CONSIGNEE ORIGINAL COPY

GENERATOR NO. PAR 99-002-1263

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/84

MANIFEST # 44059

PAGE 2 OF 4

(A) Item No.	(B) Container Type	(C) Container Volume (Cu. Ft.)	(D) Container Weight (pounds)	(E) Physical Form	(F) Waste Description Code (See Note #1)	(G) Solidification or Absorbent Media (See Note #2)	(H) Chemical Form/ Chelating Agent (40CFR268.41)	Check Below If < 0.1% Chelating Agent by Weight	(I) Radionuclide (40CFR20.311)	(J) Activity ☐ Curies ☒ Millicuries (40CFR20.311)	(K) D.O.T. Sub-Type (A, A_2, LSA, etc.)	(L) Special Nuclear Material (Grams)	(M) Source Material (Enter amt.)	(N) Waste Form Class (40CFR61.55)	(O) Stability Class (See Note #3) (40CFR61.56)	(P) Radiation Levels at Surface: Disposal Container Surface	(Q) Reserved for US Ecology Use Only	(R) Disposal Container at 1 Meter	(S) Transport Index	(T) Package Class	(U) D.O.T. Label (49CFR172.403)
AP 1	Drum 55	7.5	686	Solid Slag	2	NA	No Chelating Agent Solid Slag - Die	✓	Th 232	0.2	LSA	NA	2	A	S	<0.3		<0.1	NA	NA	Radioactive - LSA
AP 2																					Radioactive -
AP 3																					Radioactive -
AP 4																					Radioactive -
AP 5																					Radioactive -
AP 6																					Radioactive -
AP 7																					Radioactive -
AP 8																					Radioactive -
AP 9																					Radioactive -
AP 10																					Radioactive -
AP 11																					Radioactive -
AP 12																					Radioactive -
AP 13																					Radioactive -
AP 14																					Radioactive -
AP 15																					Radioactive -
AP 16																					Radioactive -
AP 17																					Radioactive -
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AP 22																					Radioactive -
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AP 24																					Radioactive -
AP 25																					Radioactive -
AP 26																					Radioactive -
AP 27																					Radioactive -
AP 28																					Radioactive -
AP 29																					Radioactive -
(30) PAGE TOTALS		217.5	19874							5.8			58								

NOTE #1 - Waste Description Codes

2 Dry Solid
3 Solidified Liquid
4 Biological
7 Filter Media
8 Dewatered Resins
9 Solidified Resins
10 Absorbed Aqueous Liquid
11 Absorbed Organic Liquid
12 Solidification (or organic) Liquid in Vials in Absorbent
13 Aqueous Liquid in Vials in Absorbent
14 Animal Carcasses in Absorbent
*98 Other

* ANY USE OF "OTHER" AS A DESCRIPTION MUST INCLUDE A WRITTEN AND SIGNED EXPLANATION ATTACHED TO THIS MANIFEST

NOTE #2 - Solidified or Absorbent Media Codes

2 Speedi-Dry
3 Celatom (MP-79)
4 Floor Dry/Super Fine
5 Hi Dri
6 Florco or Florco II
7 Instant-Dri
8 Safe-T-Sorb
9 Oil-Dri (Safe n Dri)
10 Zorbkle, Grades 2, 3, 4
11 Dow Media
12 Cement
13 Asphalt
14 Delaware Custom Media
15 Envirostone
16 Krakle
*98 Other

NOTE #3 - NRC Stability Class Code

S - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NO. PAR 99-UUZ-1263

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/84

MANIFEST # 44059

PAGE 3 OF 4

(14) Item No.	(14a) Container Type	(14b) Container Volume (Cu. Ft.)	(14c) Container Weight (pounds)	(14d) Physical Form	(14e) Waste Description (See Note #1)	(14f) Solidification or Absorbent Media (See Note #2)	(14) Chemical Form/ Chelating Agent (40CFR20 311)	Check Below if < 0.1% Chelating Agent by Weight	(17) Radionuclide (40CFR20 311)	(18) Activity ○ Curies ● Millicuries (40CFR20 311)	(19) D.O.T. Sub-Type (A, B, LSA, etc.)	(20) Special Nuclear Material (Grams)	(21) Source Material (Kilograms)	(22) Waste Form Class 40CFR 61.55	(23) Stability (See Note #3) 40CFR 61.56	(24) Disposal Container Surface	(25) Reserved for US Ecology Use Only	(26) Disposal Container Rate	(27) Transport Index	(28) Waste Class	(29) D.O.T. Label 49CFR173.403
AP 30	DrmSS	7.5	686	Solid Sand	2	NA	No Chelating Agent Ore Slag	✓	Th 232	0.2	LSA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP 31																					Radioactive -
AP 32																					Radioactive -
AP 33																					Radioactive -
AP 34																					Radioactive -
AP 35																					Radioactive -
AP 36																					Radioactive -
AP 37																					Radioactive -
AP 38																					Radioactive -
AP 39																					Radioactive -
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AP 56																					Radioactive -
AP 57																					Radioactive -
		217.5	19894	(30) PAGE TOTALS						5.8			58								

NOTE #1 - Waste Description Codes

2 Dry Solid
3 Solidified Liquid
4 Biological
7 Filter Media
8 Dewatered Resins
9 Solidified Resins
10 Absorbed Aqueous Liquid
11 Absorbed Organic Liquid
12 Scintillation (or organic) Liquid in Vials in Absorbent
13 Aqueous Liquid in Vials in Absorbent
14 Animal Carcasses in Absorbent
*99 Other

* ANY USE OF "OTHER" AS A DESCRIPTION MUST INCLUDE A WRITTEN AND SIGNED EXPLANATION ATTACHED TO THIS MANIFEST

NOTE #2 - Solidified or Absorbent Media Codes

2 Speedi-Dry
3 Celatom (MP-79)
4 Floor Dry/Super Fine
5 Hi Dri
6 Florco or Florco X
7 Instant Dri
8 Safe-T-Sorb
9 Oil-Dri (Safe n Dry)
10 Zorbatex, Grades 2, 3, 4
11 Dow Media
12 Cement
13 Asphalt
14 Delaware Custom Media
15 Envirostone
16 Krystix
*99 Other

NOTE #3 - NRC Stability Class Code

S - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NAME: AIR PRODUCTS & CHEMICALS, INC

AGENT/BROKER: NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/91

MANIFEST # 44059

PAGE 4 OF 4

(9) Item No.	(10) Container Type	(11) Container Volume (Cu. Ft.)	(12) Container Weight (pounds)	(13) Physical Form	(14) Waste Description (See Note #1)	(15) Solidification or Absorption Media (See Note #2)	(16) Chemical Form/ Chelating Agent (10CFR20.311)	Check Below if < 0.1% Chelating Agent by Weight	(17) Radionuclide (10CFR20.311)	(18) Activity ☐ Curies ☒ Millicuries (10CFR20.311)	(19) 0.07 Sub-Type (A1, A2, LSA, etc.)	(20) Special Nuclear Material (Grams)	(21) Source Material (Kilograms)	(22) Waste Class (10CFR 61.55)	(23) Stability Class (See Note #3) (10CFR 61.56)	(24) Radiation Levels mR/Hr: Disposal Container Surface	(25) Reserved for US Ecology Use Only	(26) Disposal Container @ 1 Meter	(27) Transport Index	(28) Pounds Class	(29) 0.07 Limit (10CFR71) use
AP 58	DRUMSS	7.5	686	Solid	2	NA	Solid ore slag	✓	Th 232	0.2	LSA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP 59																					Radioactive -
AP 60																					Radioactive -
AP 61																					Radioactive -
AP 62																					Radioactive -
AP 63																					Radioactive -
AP 64																					Radioactive -
AP 65																					Radioactive -
		67.5	6174	(30) PAGE TOTALS						1.2		0	18								

NOTE #1 - Waste Description Codes

2 Dry Solid
3 Solidified Liquid
4 Biological
7 Filter Media
8 Dewatered Resins
9 Solidified Resins
10 Absorbed Aqueous Liquid
11 Absorbed Organic Liquid
12 Scintillation (or organic) Liquid in Vials in Absorbent
13 Aqueous Liquid in Vials in Absorbent
14 Animal Carcasses in Absorbent
*98 Other

* MAY USE "OTHER" AS A DESCRIPTION MUST INCLUDE A WRITTEN AND SIGNED EXPLANATION ATTACHED TO THIS MANIFEST

NOTE #2 - Solidified or Absorbent Media Codes

2 Speedi-Dry
3 Celatom (MP 79)
4 Floor Dry/Super Fine
5 Hi-Dri
6 Florca or Florca II
7 Instant-Dri
8 Safe-T-Sorb
9 Oil-Dri (Safe n Dry)
10 Zanolite, Grades 2, 3, 4
11 Dow Media
12 Cement
13 Asphalt
14 Delaware Custom Media
15 Envirostone
16 Kronite
*98 Other

NOTE #3 - NRC Stability Class Codes

S - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

WASTE PACKAGING AND SHIPMENT INSPECTION RECORD

The enclosed inspection formats consisting of SHIPPING DOCUMENTATION, RADIOLOGICAL SURVEY DATA, and VISUAL FEATURES are to be completed by the State inspector ONLY when an item of noncompliance has been identified, and ONLY when an NRC licensee is involved. ONLY the particular format associated with the item of noncompliance needs to be completed in addition to the shipment identification page.

SHIPMENT IDENTIFICATION

Licensee/Shipper

Name Air Products & Chemical Inc.

City & State Greenville, PA.

Broker

Name N-A

City & State —

Carrier

Name Tri-State

Trailer No. 444548

Shipment Inspected

Date 1-8-85 Time AM

Describe the Shipment (Number of boxes, drums, etc.)

⊗ LSA ○ Other (DOT I, II, III LABELS)

60 drums of Exclusive use LSA.

60

Michael Elson Kelly Cameron
Inspector

IE:V Form 604

SHIPPING DOCUMENTATION N/A

DATE _____ TIME _____ INSPECTOR _____

Shipping Papers

Freight Bill No. _____

Carrier: _____

Broker:
Name _____

City & State _____

Generator:
Name _____

City & State _____

Certification ○ YES

○ NO

Shipment: Exclusive use ○

Instructions for Exclusive use ○ YES ○ NO

Nonexclusive use ○

Type A Certification of Compliance for Type "B"

Shipment ○ YES ○ NO

Proper Shipping Name/Class ○ YES ○ NO

REMARKS

RADIOLOGICAL SURVEY DATA

N/A

DATE _____ TIME _____ INSPECTOR _____

INSTRUMENT DATA

	Radiation Levels	Monitor Smears
Make		
Model		
S/N		
Calib. due date		

SURVEY RESULTS (mr/hr)

Cab No. _____

Level _____

Sketch in
Cargo Placement
and Smear Locations

Trailer No. _____

Maximum at surface _____
Maximum at 2 meters _____

SMEAR DATA

Identify locations by "x" and whether on vehicle surface or packages.

1. _____
2. _____
3. _____
4. _____

REMARKS:

VISUAL FEATURES (As Applicable)

DATE 1-8-85 TIME AM. INSPECTOR M Elsen, K Cameron

TYPE VEHICLE: ⊘ Closed ○ Open ○ Other

PLACARD DATA

Front	⊘ YES	○ NO
Rear	⊘ YES	○ NO
Right	⊘ YES	○ NO
Left	⊘ YES	○ NO

General Conditions of Package(s) Very Poor
rusted & dented badly

Blocking, Bracing, Tie-Down Adequate? NO
(No bracing)

MARKING		YES	NO
Marked Radioactive LSA		⊘	○
LABELING			
Proper Labels		○	○
Label Entries Filled In	N/A	○	○

REMARKS:

Please see State of Washingtons Radiation Control Sections worksheet/ Checklist for details of violations.

WORKSHEET/CHECKLIST

Date: 1-9-85

Inspector(s): Mikel Eilson
Kelly Cameron

Shipper: Air Products & Chemical Inc.
Greenville, Pa.

Shipper's #: 32319 Freight Bill #: —

Broker: N-A

Tractor #: 8813 Lic #/State:

Trailer #: 444548 Lic #/State: 458-927/

Carrier: Tri-State.

Vehicle Inspect: ✓ 90 Day Date: —

Placarding: ✓

DSHS Permit #: 8-1086

Vehicle Survey (RCP, NRC, etc.): —

RSR #'s: 44060

Survey Instrument(s) Used:

Batch # 11992

Make:

Date Shipped: 12-6-84

Model: /

Date Rcvd: 12-10-84

S/N: N/A

Date Unloaded: 1-8-85 Time: AM

Cal. Date: /

Brief Description of Load:

Max. Results mR/hr:

60 drums LSA exclusive use

@6': — @ Surf: — @ Cab: —

Trailer Bed: neg

Wipe Results: neg

Inspector Note: In the "defect" column be sure to note any surveys, wipe tests, package w specific activity (mCi/gm), package type and condition, etc. when appropriate.

Copies/Originals Attached: Vehicle Inspection: ✓; Freight Bill: ✓; DSHS Permit:

Shipper's Cert: ✓; RSR's: ✓; Other (specific): Photos

Drum/ Package #	Marking/Labeling	Defect/Problem
Drums A1 120, 97, 103, 80, 96, 85, 81, 83, 74, 75, 71, 76, Drums, 120, 87, 74 120, 72, drums 111, drum 80, drums 86, 87, drum 88	LSA CLASS A UNSTABLE	Loose ring bolts. Lack of strong, tight package. 49 CFR 173.425(B)(1) ~~Marks~~ These drums had holes in them. Lack of strong, tight package. COMMENTS 49CFR 173.425(B)(1) Note: drum # 70. had two holes in it. loose bung cap - lack of strong, tight package, 49CFR 173.425(B)(1) Hole in bung cap. lack of strong, tight package. 49CFR 173.425(B)(1) loose drum rings. lack of strong, tight package. 49CFR 173.425(B)(1) Non-durable waste class & stability marking. USE ecology license WN-I019-2 (27)(K) OVE

Drum #	marking/labeling	Problem/defect
80, 60 this shipment	LSA Class A unstable	these two drums had the waste class & stability marking on a non contrasty background. White marking on white marking on the drum. USEC License WN-I019-2 (27)(K)
shipment # 6893	N/A	all drums utilized less than 5/8 inch bolt on 55 gallon drums. USEcology License WN-I019-2 (27)(i)
		No bracing utilized on this shipment. 49 CFR 173.425 (B)(6)

*The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Consolidated Freight Classification.

011892

†Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.)

STRAIGHT BILL OF LADING — SHORT FORM

ORIGINAL — NOT NEGOTIABLE

Shipper's No. IV. 32319

CARRIER: Tri State Motor Transit

Carrier's No.

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

TRANSFER, PA.

REYNOLDS DEVELOPMENT Dec. 6 19 84 From Air Products Inc. c/o Greenville Metals, Inc

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 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.)

Consigned To US Ecology, Inc.

Delivery Address PO Box 638 Hanford Reservation Richland State W. VA

Route

Delivering Carrier Car or Vehicle Initials No.

NO. PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Sub. to Cor.)
	Radioactive Material, low specific activity, n.o.s. -	
	Radioactive Material UN2912 Net Wt. 40(30)	
	Air Products Inc. to be billed for freight charges	
	rh	

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

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

(Signature of consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $

to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced: $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

NOTE — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby

specifically stated by the shipper to be not exceeding per

Eugene J. Handwerk
SHIPPER PER

Greenville Metals, Inc.
AGENT PER

011892

6 December 1984

TO: Tri-State Motor Carrier Driver

This van is for exclusive use only. The driver is not to unload or add to the load except as instructed by U. S. Ecology, Inc., at Hanford, Washington.

AIR PRODUCTS AND CHEMICALS, INC.

Eugene I. Handwerk

Eugene I. Handwerk
Toxicology Coordinator

EIH/jry

Received by KL

DEC 1 1984

Washington State

011892

LOW-LEVEL RADIOACTIVE WASTE SHIPMENT CERTIFICATION FOR COMMERCIAL GENERATOR/PACKAGERS, AND BROKERS AND CARRIERS

The following certification, completed as applicable, is made to the State of Washington:

Certification is hereby made to the State of Washington that Radiation Shipment Record No. 666893 of low-level radio-active waste has been inspected in accordance with requirements of the Governor of Washington's Executive Order dated November 19, 1979, prior to its shipment. Further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations.

The undersigned shall indemnify and hold harmless the State of Washington, in an amount not to exceed $1,000,000.00 per individual who may be injured, provided that indemnification shall not exceed $5,000,000.00 in total, for each occurrence, from any and all claims, suits, losses, damage, injury and expenses to any person whomsoever or to property arising or growing out of or in any manner connected with the activities performed under this order.

Except for any violation of applicable existing state or federal statute or regulation respecting packaging and shipment, inspection and acceptance of any item, or container or material covered by this certification by the State of Washington or a duly authorized contractor shall release the party who executed this certificate from any and all requirement of indemnification from injury or loss.

SECTION A:
FOR THE GENERATOR/PACKAGER: AIR PRODUCTS AND CHEMICALS, INC
(Company Name)

PERMIT NUMBER: 8-1086

VOLUME OF WASTE IN THIS SHIPMENT: 450 cu. ft.

DATE: 12/6/84 **BY:** Eugene I. Handwerk

TITLE: COORDINATOR OF TOXICOLOGY

SECTION B:
FOR THE BROKER: NA
(Company Name)

PERMIT NUMBER: _____

VOLUME OF WASTE IN THIS SHIPMENT: _____

DATE: _____ **BY:** _____

TITLE: _____

SECTION C:
FOR THE CARRIER: TRI-STATE MOTOR TRANSIT
(Company Name)

VOLUME OF WASTE IN THIS SHIPMENT: 450 cu. ft.

DATE 12/6/84 **BY:** [signature]

TITLE: 8813-0015 Truck Driver

DSHS RHF-31A
DSHS 13-424 (4/80)

011692

WASHINGTON STATE PATROL

CRITICAL ITEM TRUCK EQUIPMENT INSPECTION

DATE	TIME	LOCATION	PERS./ TEAM

REG. OWNER

ADDRESS | CITY | STATE | ZIP

#1 LIC.	#2 LIC.	#3 LIC.
TYPE #1	TYPE #2	TYPE #3

BRAKE ADJUSTMENT

									STICKER NO.
LEFT									
RIGHT									DEFECTS

AIRLOSS	VEHICLES	1	2	3	OS
APPLIED					
UNAPPLIED					
LOW AIR WARNING DEVICE					
BRAKE ADJUSTMENT					
BRAKE COMPONENTS/HOSES/DRUMS/SHOES/VALVES					
STEERING COMPONENTS					
WHEELS - CRACKS/LOOSE NUTS					
TIRES - WEAR/DEFECTS					
DRAWBAR/FIFTH WHEEL					
STRUCTURAL/FRAME/SPRINGS					
LIGHTS/TURN/STOP					

COMMENTS

INTERSTATE		INTRASTATE			
HAZARDOUS MATERIAL		TYPE			
PRIVATE CARRIER		COMMON CARRIER		CONTRACT CARRIER	

WHITE COPY - HDQ. W/C OFFICE
PINK COPY - WUTC
YELLOW COPY - OFFICER'S BLUE BOOK
GOLD COPY - DRIVER'S COPY

WSP-WC-009 1/80

US ECOLOGY, INC.

EXECUTIVE OFFICE: (502) 426-7160
P.O. BOX 724 • LOUISVILLE, KENTUCKY 40207

CONTINUATION PAGES 4 of 4

(1) GENERATOR NAME: Air Products & Chemicals, Inc.
ADDRESS: d/b/a Greenville Metals Recovery
Creatview Drive
CITY: Greenville STATE: PA ZIP: 16125
CONTACT: Eugene Handwerk PHONE: 215-481-8606
USER PERMIT #: B-1086 SHIPMENT #: 666 893

(2) BILL DISPOSAL CHARGES TO: Air Products & Chemicals, Inc.
NAME: Accounts Payable PURCHASE ORDER #: YB 5881H
ADDRESS: Box 538
CITY: Allentown STATE: PA ZIP: 18105

(3) AGENT/BROKER: NA
BROKER'S US ECOLOGY #:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
BROKER SHIPMENT #: BROKER USER PERMIT #:
Broker's Authorized Signature Acknowledging Waste Receipt Date

(4) CONSIGNED TO:
☒ P.O. BOX 638 Hanford Reservation Richland, WA 99352 509-377-3411
☐ P.O. BOX 578 HWY 95, 12 mi. So. of Beatty, NV 89003 702-553-2203
☐ OTHER
CONTACT:
ADDRESS:
CITY: STATE: ZIP:
PHONE:

(5) CARRIER: Tri-State Motor Transit SHIPPING DATE:
CARRIER EPA # (if any):
ADDRESS: Box 113
CITY: Joplin STATE: MO ZIP: 64801
PHONE: 800-641-7580
CASK TYPE: CASK SURFACE EXPOSURE RATE:

(6)

TOTAL FOR EACH CLASS # OF PACKAGES	TOTAL FOR EACH CLASS WEIGHT (Pounds)	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER
		Radioactive Material, empty packages	UN2908
		Radioactive Material, fissile, n.o.s. – Radioactive Material	UN2918
60	40680	Radioactive Material, low specific activity, n.o.s. – Radioactive Material	UN2912
		Radioactive Material, n.o.s. – Radioactive Material	UN2982
		Radioactive Material, limited quantity, n.o.s. – Radioactive Material	UN2910
		Radioactive Material, special form, n.o.s. – Radioactive Material	UN2974
		Radioactive Material, instruments and articles – Radioactive Material	UN2911
		Thorium Nitrate – Radioactive Material	UN2975
		Uranyl Acetate (RQ-5000/2270) – Radioactive Material	NA9180
		Uranyl Nitrate, solid (RQ-5000/2270) – Radioactive Material	UN2981

(7) SHIPMENT TOTALS (DO NOT WRITE IN SHADED AREAS)

VOLUME (cu ft)	TOTAL # OF PACKAGES	SOURCE MATERIAL (kgs)	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	PLUTONIUM	TOTAL
450	60	120	0	0	0	0

ACTIVITY

ACTIVITY TOTALS ☐ Curies ☒ Millicuries (10CFR20.311)	TRITIUM	C-14	Tc-99	I-129	ALL ISOTOPES
	0	0	0	0	12

(8) 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 AND ARE IN COMPLIANCE WITH ALL REQUIREMENTS APPLICABLE TO THE DESIGNATED DISPOSAL SITE, AND THAT THE MATERIALS ARE CLASSIFIED AND DESCRIBED IN ACCORDANCE WITH REQUIREMENTS OF NRC PARTS 20 AND PART 30.51 OF DEPARTMENT OF ENERGY REGULATIONS.

Eugene J. Handwerk Coordinator of Distribution 12/6/84
Authorized Signature Title Date

TERMS AND CONDITIONS

A. TITLE: Upon acceptance at the disposal site by US Ecology and all appropriate regulatory authorities, title to the Waste which conforms to Company's representations hereto shall thereupon transfer from the Customer and be vested in US Ecology.

B. WASTE PRODUCTS: Customer represents and warrants that data set forth in this Radioactive Waste Shipment & Disposal Manifest is true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the designated facility license.

C. INDEMNIFICATION: Customer agrees to indemnify US Ecology, its officers, employees and agents against all loss and liability whatsoever if such loss or liability results from the failure of the Waste to conform in all material respects to the data supplied on the Radioactive Waste Shipment & Disposal Manifest or this shipment info standards prescribed by the Department of Transportation or any other governmental agency having jurisdiction over such matters.

FOR US ECOLOGY'S USE ONLY

TYPE OF CONTAINER	CONTAINER VOLUME CU. FT	# OF PKGS.	CU. FT. PER CONTAINER TYPE
DRUMS			
OVERPACK			
55	7.50		
30	4.01		
5	0.67		
OTHER			
BOXES			
1st SIZE			
2nd SIZE			
3rd SIZE			
CASK LINERS			
OTHER			
OTHER			
SHIPMENT TOTALS			

LOAD EVALUATION

CHECK ALL THAT APPLY TO THIS LOAD. DESCRIBE INADEQUACIES IN COMMENT SECTION:

☐ Manifest Waste Description Inadequate
☐ Contamination or Leakage Detected
☐ Unexpected Exposure Rates Detected
☐ Any Hazardous Designated on the Load
☐ Bracing Inadequate
☐ Labels, Markings, etc. Inadequate
☐ Container Integrity Inadequate
☐ Other

DESCRIBE (up to front) OF ANY VIOLATION CHECKED ABOVE AND THE RESULTING ACTION TAKEN:

☐ CHECK HERE IF A SUPPLEMENTAL REPORT IS ATTACHED

BURIAL DATA

CONTAINER SEPARATION: ☐,☐,☐
(Enter all that apply to the load.)
(1) No. and (Size) ... 1, (2) ... (Size) ... 2,
(3) ... 3, (4) ... (Size) ... 4,
Other ... 5. No segregation ... 0

	HAZARD Identified Sublot Within the Load Waste Classification Codes (See Manifest)			
WASTE CLASSIFICATION	Sublot Entry	Sublot 1	Sublot 2	Sublot 3
DEPTH IN PIT				

Date Received:
Date Disposed:
Trench No.:
☐ This material meets licensed limits.
☐ This material was disposed of in accordance with licenses.
AUTHORIZED INITIALS:

US ECOLOGY INVOICE #: ☐☐-☐☐☐☐☐
US ECOLOGY CUSTOMER #: ☐☐☐☐☐☐ (Must agree with Agent named in Block 3)
US ECOLOGY INVOICE DATE: ☐☐ MO ☐☐ DY ☐☐ YR
DISCREPANCY CODE(S): ☐☐,☐☐,☐☐,☐☐,☐☐

BATES # 011892

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

CONTINUATION SHEET

REV. 1/94

MANIFEST # 44060

PAGE 2 OF 4

Item No.	Container No.	Container Volume (cu. ft.)	Container Weight (pounds)	Physical Form	Waste Description Code	Additional Waste Description Code	Chemical Form/ Chelating Agent (40CFR268.41)	Check Box if 0.5% or Greater	Radionuclide (40CFR268.41)	Activity: ☐ Curies ☒ Certification (40CFR268.41)	D.O.T. Sub-Type (49CFR 173.425 (A, B, etc.))	Special Nuclear Material (Grams)	Source Material (Kilograms)	Waste Form Class (40CFR 61.56)	Stability Class (40CFR 61.56)	Radiation Levels mR/hr: (24) Dose at Container Surface	(25a) Dose at 1 Meter with Container Vent Bung	(25) Dose at Container Surface	(27) Transport Index	(28) Fissile Class	(29) D.O.T. Label (49CFR172.403)
AP 65	Drum 55	22	678	Solid	2	NA	Solid slag/ash	✓	Th 232	0.2	LSA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP 67																					Radioactive -
AP 69																					Radioactive -
AP 70																					Radioactive -
AP 71																					Radioactive -
AP 72																					Radioactive -
AP 73																					Radioactive -
AP 74																					Radioactive -
AP 75																					Radioactive -
AP 76																					Radioactive -
AP 77																					Radioactive -
AP 78																					Radioactive -
AP 79																					Radioactive -
AP 80																					Radioactive -
AP 81																					Radioactive -
AP 82																					Radioactive -
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AP 85																					Radioactive -
AP 86																					Radioactive -
AP 87																					Radioactive -
AP 88																					Radioactive -
AP 89																					Radioactive -
AP 90																					Radioactive -
AP 91																					Radioactive -
AP 92																					Radioactive -
AP 93																					Radioactive -
AP 94																					Radioactive -
AP 95	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	↓	↓	Radioactive - ↓
29		2175	19668 lbs	PAGE TOTALS						5.8		0	58								

NOTE #1 - Waste Description Codes

1. Dry Solid	10. Absorbed Aqueous Liquid
2. Solidified Liquid	11. Absorbed Organic Liquid
3. Biological	12. Solidification (or organic) Liquid in Vials in Absorbent
4. Filter Media	
5. Dismantled Pipe	13. Aqueous Liquid in Vials in Absorbent
6. Solidified Resins	14. Aqueous Corrosives in Absorbent
	*99. Other

* USE OF "OTHER" AS A DESCRIPTION MUST INCLUDE A WRITTEN AND SIGNED EXPLANATION ATTACHED TO THIS MANIFEST.

NOTE #2 - Solidified or Absorbent Media Codes

1. Speedi-Dry	10. Zeolite, Grades 2, 3, 4
2. Celatom (SAP-70)	11. Dow Media
3. Floor Dry/Super Fine	12. Cement
4. Hi Dri	13. Asphalt
5. Floros or Floros II	14. Dataware Custom Media
6. Safe-T-Sorb	15. Bonnastone
7. Instant-Dri	16. Kwikis
8. Oil-Dri (Sale + Dry)	*99. Other

NOTE #3 - NRC Stability Class Codes

S - Stable

U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

(MUST ACCOMPANY WASTE IN TRANSIT)

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/84

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

MANIFEST # 44060

PAGE 3 OF 4

							Chemical Form/ Chelating Agent																
								Check Below if S/S or Chelating Agent	Radionuclide	Activity ☐ Curies ☐ Kilocuries	0.01 Sub-Type	Special Nuclear Material (Grams)	Source Material (Kilograms)	Waste Form Class	Stability Class	Radiological Levels at 3 ft. Personal Contact Meter	Reserved for 10 CFR Exempt Waste Only	Personal Exposure @ 1 Meter	Transport Index	Package Class	0.01 Label
AP 96	DRUMS	7.5	678	Solid	2	NA	Solid ore slag	✓	Th 232	0.2	LSA	NA	2	A	4	<0.3		<0.1	NA	NA	Radioactive -	LSA
AP 97																					Radioactive -	
AP 98																					Radioactive -	
AP 99																					Radioactive -	
AP 100																					Radioactive -	
AP 101																					Radioactive -	
AP 102																					Radioactive -	
AP 103																					Radioactive -	
AP 104																					Radioactive -	
AP 105																					Radioactive -	
AP 106																					Radioactive -	
AP 107																					Radioactive -	
AP 108																					Radioactive -	
AP 109																					Radioactive -	
AP 110																					Radioactive -	
AP 111																					Radioactive -	
AP 112																					Radioactive -	
AP 113																					Radioactive -	
AP 114																					Radioactive -	
AP 115																					Radioactive -	
AP 116																					Radioactive -	
AP 117																					Radioactive -	
AP 118																					Radioactive -	
AP 119																					Radioactive -	
AP 120																					Radioactive -	
AP 121																					Radioactive -	
AP 122																					Radioactive -	
AP 123																					Radioactive -	
AP 124																					Radioactive -	
29		217.5	19667	PAGE TOTALS						5.8		40	58									

NOTE #1 - Waste Description Codes

1. Dry Solid
2. Solidified Liquid
3. Biological
4. Filter Media
5. Decontam. Debris
6. Solidified Resins
10. Absorbed Aqueous Liquid
11. Absorbed Organic Liquid
12. Solidification (or organic) Liquid in Vials in Absorbent
13. Aqueous Liquid in Vials in Absorbent
14. Animal Carcasses in Absorbent
*15. Other

* SEE USE OF "OTHER" AS A DESCRIPTION MUST INCLUDE A TYPED AND SIGNED EXPLANATION ATTACHED TO THIS MANIFEST.

NOTE #2 - Solidified or Absorbent Media Codes

1. Speedi-Dry
2. Cohesive (SAP-70)
3. Floor Dry/Super Fine
4. Hi Dri
5. Fibrex or Fibrex II
6. Imbibe-Dri
7. Solb-T-Sorb
8. Oil-Dri (Safe n Dry)
10. Zeolites, Grades 2, 3, 4
11. Diaz Media
12. Cement
13. Asphalt
14. Dolfinware Custom Media
15. Envirostone
16. Kwikis
*99. Other

NOTE #3 - NRC Radioactivity Class Codes

B - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NO PAR 99-002-1263

GENERATOR NAME Air Products & Chemicals, Inc.

AGENT/BROKER NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/84

MANIFEST # 44060

PAGE 4 OF 4

(4) Item No.	(5) Container Type	(6) Container Number	(7) Container Weight (pounds)	(8) Physical Form	(9) Waste Density Class	(10) Additional Info on Waste Type	(11) Chemical Form/ Oxidizing Agent (40CFR265.315)	Check Boxes if C.C.W.E. Containing Radioactive Waste	(12) Radionuclide (40CFR20.311)	(13) Activity ○ Curies ○ Kilograms (40CFR20.311)	(14) D.O.T. Sub-Type (A, B, LSA, etc.)	(15) Special Nuclear Material (Grams)	(16) Source Material (Kilograms)	(17) Waste Class Code (40CFR61.55)	(18) Scaling Class (Dose Rate) (40CFR61.55)	(19) Radionuclide Levels at Unit (A) Disposal Conditions	(B) Received for US Ecology Disposal	(C) Disposal Conditions at Unit	(20) Transport Index	(21) Package Class	(22) D.O.T. Label (49CFR172.403)
#115	Bin-SS	25	678	Solid	2	NA	Solid ore slag	✓	Th232	0.2	LSA	NA	2	A	4	<0.3		<0.1	NA	NA	Radioactive - LSA
120	--	25	678	--	2	--	--	--	--	--	--	--	--	--	--	--		--	--	--	Radioactive - --
																					Radioactive -

WASTE PACKAGING AND SHIPMENT INSPECTION RECORD

The enclosed inspection formats consisting of SHIPPING DOCUMENTATION, RADIOLOGICAL SURVEY DATA, and VISUAL FEATURES are to be completed by the State inspector ONLY when an item of noncompliance has been identified, and ONLY when an NRC licensee is involved. ONLY the particular format associated with the item of noncompliance needs to be completed in addition to the shipment identification page.

SHIPMENT IDENTIFICATION

Licensee/Shipper

Name Air Products & Chemicals Inc.

City & State Greenville, PA.

Broker

Name N/A

City & State -

Carrier

Name Tri-State

Trailer No. 448102

Shipment Inspected

Date 12-13-84 Time _____

Describe the Shipment (Number of boxes, drums, etc.)

⊗ LSA ○ Other (DOT I, II, III LABELS)

56 drums Exclusive Use

56

Mike J. Elsen
Inspector

SHIPPING DOCUMENTATION

DATE 12-11-84 TIME _____ INSPECTOR M. Ellison

Shipping Papers

Freight Bill No. 666891

Carrier: Tri-State

Broker:
Name N/A

City & State ~~Greenville, Pa.~~

Generator:
Name Air Products & Chemicals Inc.

City & State Greenville, PA.

Certification (State) ⊗ YES ○ NO

Shipment: Exclusive use ⊗

Instructions for Exclusive use ⊗ YES ○ NO

Nonexclusive use ○

Type A Certification of Compliance for Type "B"

Shipment N/A ○ YES ○ NO

Proper Shipping Name/Class ⊗ YES ○ NO

REMARKS

No acknowledgment for radionuclides H^3, C^{14}, Tc^{99}, I^{129} on RSR 44061
US Ecology License WN-1019-2 (39)(d)

RADIOLOGICAL SURVEY DATA

N/A

DATE _____ TIME _____ INSPECTOR _____

INSTRUMENT DATA

	Radiation Levels	Monitor Smears
Make		
Model		
S/N		
Calib. due date		

SURVEY RESULTS (mr/hr)

Cab No. _____

Level _____

Sketch in
Cargo Placement
and Smear Locations

Trailer No. _____

Maximum at surface _____
Maximum at 2 meters _____

SMEAR DATA

Identify locations by "x" and whether on vehicle surface or packages.

1. _____
2. _____
3. _____
4. _____

REMARKS:

VISUAL FEATURES (As Applicable)

DATE 12-11 & 12-13-84 TIME _____ INSPECTOR Mikel Elsin

TYPE VEHICLE: ⊗ Closed ○ Open ○ Other

PLACARD DATA

Front	⊗ YES	○ NO
Rear	⊗ YES	○ NO
Right	⊗ YES	○ NO
Left	⊗ YES	○ NO

General Conditions of Package(s) very Poor

All packages very rusty and smashed

Blocking, Bracing, Tie-Down Adequate? NO bracing on this shipment

MARKING		YES	NO
Marked Radioactive LSA		⊗	○
LABELING			
Proper Labels	N/A	○	○
Label Entries Filled In		○	○

REMARKS:

Drums, 181, 177, 179, 167, 166, 161, 144, 129, 130 - loose ring bolts

Drums, 176, 162, 150, 174, 153, 152, 143, 155, 131, 146, 170 - loose drum rings

Drum 135 Popped up drum lid

Drum 161 class # stability marking greater than 6" from LSA MARKING

Drum 168 Puncture Hole due to rust

Drum 145 Hole in drum due to forklift

All 56 drums

WORKSHEET/CHECKLIST

Inspector(s): Michael Elsass

Shipper: [redacted] Shipper #: 32320 Freight Bill #: 66689

Tractor #: 5021 Lic #/State: —

Trailer #: 448182 Lic #/State: 176 503 3/7

Vehicle Inspect: 4/90 Day Date: —

Placarding: /

Vehicle Survey (RCP, NRC, etc.): /

Survey Instrument(s) Used:

Make: /

Model: /

S/N: N/A

Cal. Date: /

Max. Results mR/hr:

@6": — @ Surf: — @ Cab: —

Trailer Bed: neg

Wipe Results: neg

Generator: [redacted] N/A

DSHS Permit #: 8-8-1086

RSR #: 9486

Date: 1911

Date Shipped: 12-6-84

Date Rcvd: 12-11-84

Date Unloaded: 12-13-84 Time:

Brief Description of Load:

56 drums Sole USE LSA

Inspector Note: In the "defect" column be sure to note any surveys, wipe tests, package w
specific activity (mCi/gm), package type and condition, etc. when appropriate.

Copies/Originals Attached: Vehicle Inspection: /; Freight Bill: /; DSHS Permit:

Shipper's Cert: /; RSR's: /; Other (specific): 3 Photos, Sole use Instructions

Drum/ Package #	Marking/Labeling	Defect/Problem
Shipment # 666894	N/A	NO BRACING on this shipment. 49CFR 173.425 (B)(6)
Drums 124, 177, 179, 167, 166, 161, 144, 129, 130	LSA Class A Unstable	loose ring bolts. 49CFR 173.425 (B)(1)
Drums, 176, 168, 150, 174, 153, 152, 193, 158, 131, 146, 176, 130		loose drum rings. 49CFR 173.425 (B)(1)
Drum 135		COMMENTS
Drum 161		Popped up drum Lid. 49CFR 173.425 (B)(1)
Drum 169		Class A stability marking greater than 6" from LSA marking. US Ecology License NA-2019-2 (27)(K)
Drum 145		Puncture hole from inside out due to Rust. 49CFR 173.425(B)(1)
All 56 drums on this shipment		Hole in drum (slice) Apparently due to forklift. 49CFR 173.425(B)(1)
		Undersize ring bolts utilized on these 55 Gallon drums. US Ecology License 1/2" vs 5/8" NA-2019-2 (27)(K)

RSB-4406 1 D/A NR Acknowledgment for the radionuclides H^3, C^{14}, Tc^{99}, & I^{129}
WAC-173-480-040 (29)(d)

The boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Consolidated Freight Classification.

†(Shipper's Imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.)

STRAIGHT BILL OF LADING — SHORT FORM

ORIGINAL — NOT NEGOTIABLE

Shipper's No. Nº 32320

011911

CARRIER: Tri State Motor Freight

Carrier's No.

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

TRANSFER, PA.

REYNOLDS DEVELOPMENT Dec. 6 19 84 From Air Products Inc., c/o Greenville Metals Inc

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 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.)

Consigned To US Ecology, Inc.

Delivery Address PO Box 638 Hanford Reservation Richland State W. VA

Route

Delivering Carrier Car or Vehicle Initials 5021 No. 44810.

NO. PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Sub. to Cor.)
	Radioactive Material, low specific activity, n.o.s. -	
	Radioactive Material UN2912 Net Wt. 43,260	
	Air Products Inc. to be billed for freight charges	
	rh	

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

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

(Signature of consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $

to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

NOTE — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby

specifically stated by the shipper to be not exceeding

Eugene J. Handrick
SHIPPER PER

Greenville Metals, Inc.
AGENT PER

Permanent post office address of Shipper, GREENVILLE, PA. - REYNOLDS DEVELOPMENT

011911

6 December 1984

TO: Tri-State Motor Carrier Driver

This van is for exclusive use only. The driver is not to unload or add to the load except as instructed by U. S. Ecology, Inc., at Hanford, Washington.

AIR PRODUCTS AND CHEMICALS, INC.

Eugene I. Handwerk

Eugene I. Handwerk
Toxicology Coordinator

EIH/jry

WASHINGTON STATE PATROL

CRITICAL ITEM TRUCK EQUIPMENT INSPECTION

DATE	TIME	LOCATION	PERS./ TEAM
12-11-84	1055	S.54	X749 CMB

REG. OWNER
L. Stutz

ADDRESS: P.O. Box 113 CITY: Joplin STATE: Mo ZIP: 64802

#1 LIC.	#2 LIC.	#3 LIC.
1en D: I 1	176-303 .cc.	
TYPE #1	TYPE #2	TYPE #3
311 CC Inst	D.T. 4 Axle	

BRAKE ADJUSTMENT

LEFT	1	1	1	½	½				STICKER NO.
RIGHT	1	1	2	½	½				DEFECTS

Lo Lock-O.K.

AIRLOSS	VEHICLES	1	2	3	OS
APPLIED					
UNAPPLIED					
LOW AIR WARNING DEVICE					
BRAKE ADJUSTMENT					
BRAKE COMPONENTS/HOSES/DRUMS/SHOES/VALVES		W			X
STEERING COMPONENTS					
WHEELS - CRACKS/LOOSE NUTS				—	—
TIRES - WEAR/DEFECTS					
DRAWBAR/FIFTH WHEEL					
STRUCTURAL/FRAME/SPRINGS					
LIGHTS/TURN/STOP					

COMMENTS

X

INTERSTATE	X	INTRASTATE			
HAZARDOUS MATERIAL	X	TYPE	X		
PRIVATE CARRIER		COMMON CARRIER		CONTRACT CARRIER	X

WHITE COPY - HDQ. W/C OFFICE
PINK COPY - WUTC
YELLOW COPY - OFFICER'S BLUE BOOK
GOLD COPY - DRIVER'S COPY

WSP-WC-009 1/80

011911

Accepted by VL.

DEC 12 1984

Washington State

LOW-LEVEL RADIOACTIVE WASTE SHIPMENT CERTIFICATION FOR COMMERCIAL GENERATOR/PACKAGERS, AND BROKERS AND CARRIERS

The following certification, completed as applicable, is made to the State of Washington.

Certification is hereby made to the State of Washington that Radiation Shipment Record No. 666894 of low-level radio-active waste has been inspected in accordance with requirements of the Governor of Washington's Executive Order dated November 19, 1979, prior to its shipment. Further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations.

The undersigned shall indemnify and hold harmless the State of Washington, in an amount not to exceed $1,000,000.00 per individual who may be injured, provided that indemnification shall not exceed $5,000,000.00 in total, for each occurrence, from any and all claims, suits, losses, damage, injury and expenses to any person whomsoever or to property arising or growing out of or in any manner connected with the activities performed under this order.

Except for any violation of applicable existing state or federal statute or regulation respecting packaging and shipment, inspection and acceptance of any item, or container or material covered by this certification by the State of Washington or a duly authorized contractor shall release the party who executed this certificate from any and all requirement of indemnification from injury or loss.

SECTION A:
FOR THE GENERATOR/PACKAGER: Air Products and Chemicals, Inc
(Company Name)

PERMIT NUMBER: 8-1086

VOLUME OF WASTE IN THIS SHIPMENT: 420 cu. ft.

DATE: 12/6/84 **BY:** Eugene J Hardwick

TITLE: Coordinator of Toxicology

SECTION B:
FOR THE BROKER: NA
(Company Name)

PERMIT NUMBER:

VOLUME OF WASTE IN THIS SHIPMENT:

DATE: **BY:**

TITLE:

SECTION C:
FOR THE CARRIER: Tri-State Motor Transit
(Company Name)

VOLUME OF WASTE IN THIS SHIPMENT: 420 cu. ft.

DATE: 12/6/84 **BY:**

TITLE: Driver

DSHS RHP-31A
DSHS 13-424 (R/80)

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.

FREIGHT BILL NUMBER	
666251	
SHIPPER'S NUMBER	
72320	

From: AB Products Inc
Fredericktown PA

DATE SHIPPED:

ORIGINATING CARRIER: Dart

CONSIGNED TO: US Ecology

EXECUTIVE OFFICES
P.O. BOX 113, JOPLIN, MO 64801

(Mail or street address of consignee - for purposes of notification only.)

DESTINATION: Hanford

STATE: WA

COUNTY: 011911

DELIVERY ADDRESS:

(To be filled in only when shipper desires and governing tariff provides for delivery thereto.)

CONNECTING CARRIER(S):

DELIVERING CARRIER: Dart

TRACTOR NO.: 5021

TRAILER NO.: 49P112

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

If charges are to be prepaid write or stamp here, "To be Prepaid."

Rec'd $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced:
$

NUMBER PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	WEIGHT (Subject to Correction)	CLASS OR RATE	CK. COL.
55	Radioactive waste (Drums)	43260		
	NOTE SEE RADIOACTIVE Shipment form for per 49 CFR 172.203			

DIMENSIONS OF CARGO BEFORE LOADED	LENGTH	WIDTH	HEIGHT	TOTAL FEET OF TRAILER SPACE OCCUPIED
	FT. IN.	FT. IN.	FT. IN.	FT. IN.

UNLESS A GREATER VALUE IS DECLARED, THE SHIPPER HEREBY RELEASES THE VALUE TO $5000.00 PER TON OF 2000 POUNDS FOR EACH ARTICLE.

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.

UNLESS OTHERWISE NOTED VEHICLE CONTAINS HAZARDOUS MATERIALS PROPERLY PLACARDED IN ACCORDANCE WITH 49CFR172.506.

ARRIVED AT SHIPPER	DATE	TIME A M P M	PREARRANGED SCHEDULE ☐ YES ☐ NO	DATE	TIME A M P M	LOADING STARTED	DATE	TIME A M P M
LOADING COMPLETED	DATE	TIME A M P M	VEHICLE RELEASED	DATE	TIME A M P M	SHIPPER'S SIGNATURE		
THIRD PARTY BILLING, BILL TO:			SHIPPER, PER			AGENT, PER		

SIGNATURE TALLY RECEIPT — Must be filled out and signed at origin and each time the shipment changes custody.

1ST DATE SHIPMENT RECEIVED FROM CONSIGNOR			2ND TIME CARGO CHANGED CUSTODY			4TH TIME CARGO CHANGED CUSTODY		
DATE	TIME	TRACTOR NO.	DATE	TIME	TRACTOR NO.	DATE	TIME	TRACTOR NO.
12-6-11		5021						
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
[signature]	401							
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
1ST TIME CARGO CHANGED CUSTODY			3RD TIME CARGO CHANGED CUSTODY			5TH TIME CARGO CHANGED CUSTODY		
DATE	TIME	TRACTOR NO.	DATE	TIME	TRACTOR NO.	DATE	TIME	TRACTOR NO.
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	
DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL		DRIVER'S SIGNATURE	HOME TERMINAL	

ARRIVED AT CONSIGNEE	DATE	TIME	PREARRANGED SCHEDULE ☐ YES ☐ NO	DATE	TIME A M P M	UNLOADING STARTED	DATE	TIME A M P M
	12/16/11	1500						
UNLOADING COMPLETE	DATE	TIME A M P M	VEHICLE RELEASED	DATE	TIME	CONSIGNEE'S SIGNATURE		
				12/16/11	535 AM	Driver released load not accepted at this time		

RECEIVED THE ABOVE DESCRIBED PROPERTY IN GOOD CONDITION EXCEPT AS NOTED.

X [signature] US Ecology

ID. NUMBER MOD 095038998

RADIOACTIVE WASTE SHIPMENT & DISPOSAL MANIFEST

US ECOLOGY, INC.
EXECUTIVE OFFICE: (502) 426-7160
P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207

PAGE 1 OF 1 — USE THIS NO. ON ALL CONTINUATION PAGES → 440

(1) GENERATOR name: Air Products & Chemicals, Inc.
ADDRESS: d/b/a Greenville Metals Recovery
Crestview Drive
CITY: Greenville STATE: PA ZIP: 16125
CONTACT: Eugene Handwerk PHONE: 215-481-8606
USER'S PERMIT #: B-1086 SHIPMENT #: 122894

(2) BILL DISPOSAL CHARGES TO: Air Products & Chemicals, Inc.
NAME: Accounts Payable PURCHASE ORDER #: YB 5881H
ADDRESS: Box 538
CITY: Allentown STATE: PA ZIP: 18105

(3) AGENT/BROKER: NA
BROKER'S US ECOLOGY #:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
BROKER SHIPMENT #: BROKER USER PERMIT #:
Broker's Authorized Signature Acknowledging Waste Receipt: Date:

(4) CONSIGNED TO:
P.O. BOX 839 Hanford Reservation Richland, WA 99352 509-371-3411
P.O. BOX 578 Hwy 95, 12 mi. So. of Beatty, NV 89003 702-553-2203
OTHER:
CONTACT:
ADDRESS:
CITY: STATE: ZIP:
PHONE:

(5) CARRIER: Tri-State Motor Transit SHIPPING DATE:
CARRIER EPA # (if any):
ADDRESS: Box 113
CITY: Joplin STATE: PA ZIP: 64801
PHONE: 800-641-7580
CASK TYPE: CASK SURFACE EXPOSURE RATE:

(6)

TOTAL FOR EACH CLASS # OF PACKAGES	TOTAL FOR EACH CLASS WEIGHT (Pounds)	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER
		Radioactive Material, empty packages	UN2908
		Radioactive Material, fissile, n.o.s. – Radioactive Material	UN2918
56	43260	Radioactive Material, low specific activity, n.o.s. – Radioactive Material	UN2912
		Radioactive Material, n.o.s. – Radioactive Material	UN2982
		Radioactive Material, limited quantity, n.o.s. – Radioactive Material	UN2910
		Radioactive Material, special form, n.o.s. – Radioactive Material	UN2974
		Radioactive Material, instruments and articles – Radioactive Material	UN2911
		Thorium Nitrate – Radioactive Material	UN2978
		Uranyl Acetate (RQ-5000/2270) – Radioactive Material	NA9180
		Uranyl Nitrate, solid (RQ-5000/2270) – Radioactive Material	UN2981

(7) SHIPMENT TOTALS (DO NOT WRITE IN SHADED AREAS)

VOLUME (cu. ft)	TOTAL # OF PACKAGES	SOURCE MATERIAL (kgs)	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	PLUTONIUM	TOTAL
420	56	112				

ACTIVITY

ACTIVITY TOTALS:	TRITIUM	C-14	Tc-99	I-129	ALL ISOTOPES
☐ Curies					
Millicuries 11.2					11.2
(10CFR20.311)					

(8) THIS IS TO CERTIFY THAT THE HEREIN-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION AND ARE IN COMPLIANCE WITH ALL REQUIREMENTS APPLICABLE AT THE DESIGNATED DISPOSAL SITE, AND THAT THE MATERIALS ARE CLASSIFIED AND DESCRIBED IN ACCORDANCE WITH THE REQUIREMENTS OF 10CFR, PART 71 AND PART 20.311 OF EQUIVALENT STATE REGULATIONS.

Eugene J. Handwerk — Authorized Signature
COORDINATOR OF TOXICOLOGY — Title
12/6/88 — Date

TERMS AND CONDITIONS

A. TITLE: Upon acquisition and acceptance at the disposal site by US Ecology and all appropriate regulatory authorities, title to the Waste which contains no Company's representations herein shall thereupon transfer from the Customer and be vested in US Ecology.

B. WASTE PRODUCTS: Customer represents and warrants that data set forth in this Radioactive Waste Shipment & Disposal Manifest is true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the designated facility license.

C. INDEMNIFICATION: Customer agrees to indemnify US Ecology, its officers, employees and agents against all loss and liability whatsoever if such loss or liability results from the failure of the Waste to conform in all material respects to the data supplied on the Radioactive Waste Shipment & Disposal Manifest or this shipment to accordance prescribed by the Department of Transportation or any other governmental agency having jurisdiction over such matters.

FOR US ECOLOGY'S USE ONLY

TYPE OF CONTAINER	CONTAINER VOLUME CU. FT.	# OF PIECES	CU. FT. PER CONTAINER TYPE
DRUMS			
OVERPACK		2	
55	7.39		
30	4.01		
5	0.67		
OTHER			
BOXES			
1st 5-CE			
2nd 5-CE			
3rd 5-CE			
CASK LINERS			
OTHER			
OTHER			
SHIPMENT TOTALS			

LOAD EVALUATION

CHECK ALL THAT APPLY TO THIS LOAD. DESCRIBE RADIOLYSIS IN COMMENT SECTION

- ☐ Manifest Waste Description Inadequate
- ☐ Contamination or Leakage Detected
- ☐ Unexplained Exposure Rates Detected
- ☐ Any Hazardous Discussed on this Load
- ☐ Shipping Inadequate
- ☐ Labels, Markings, etc. Inadequate
- ☐ Container Integrity Inadequate
- ☐ Other

INCIDENT AND DISPOSITION OF ANY VIOLATION CHECKED ABOVE AND THE REMEDIAL ACTION TAKEN

☐ CHECK HERE IF A SUPPLEMENTAL REPORT IS ATTACHED

BURIAL DATA

DISPOSAL SITE/CELL: ☐,☐,☐

(Enter all that apply to this load.)

GENERAL: Min. void (GENW) ... 1; Wt. more (GENW) ... 2

WP: Individual upright containers (Boxes) ... 3

WP: Void (Containers upright 1% by volume) ... 4

Other ... 5 (No void space ... 6)

SELECT Individual Isotope(s) TO BE USED TO CALCULATE DISPOSAL SITE TRENCH CAPACITY				
DISPOSAL UNIT	Isotope Symbol	Curie x	Curie y	Curie z
DEPTH (in FEET)				

Date Received:

Date Disposed:

Trench #(s):

☐ This material meets licensed limits.
☐ This material was disposed of in accordance with license.

AUTHORIZED INITIALS

US ECOLOGY INVOICE #: ☐☐-☐☐☐☐☐

US ECOLOGY CUSTOMER #: ☐☐☐☐☐☐ (Must agree with Agent named in Block 3)

US ECOLOGY INVOICE DATE: ☐☐ MO ☐☐ DY ☐☐ YR

DISCREPANCY CODE(S): ☐☐,☐☐,☐☐,☐☐,☐☐

BATES # G11911

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NO.

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/94

MANIFEST # 44062

PAGE 2 OF 3

Line No.	Container No.	Container Type	Container Volume	Physical Form	Waste Class	Additional Info	Chemical Form/ Competing Agent (complete)	Hazard Indicator	Radionuclide	Activity	RAI Indicator	Special Handling Instructions	Special Material Categories	Waste Code	Waste Code	Radioactive Levels			Transport Index	Package Code	RAI Label Information
																24	25	26			
AP129		SL	7.5	Solid	2	N/A	Solid slag/ore	✓	Th 232	0.7	LSA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP130																					Radioactive -
AP131																					Radioactive -
AP132																					Radioactive -
AP133																					Radioactive -
AP134																					Radioactive -
AP135																					Radioactive -
AP136																					Radioactive -
AP137																					Radioactive -
AP138																					Radioactive -
AP139																					Radioactive -
AP140																					Radioactive -
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AP154																					Radioactive -
AP155																					Radioactive -
AP156																					Radioactive -
AP157																					Radioactive -
29			217.5	22388	PAGE TOTALS					5.8			0	58							

NOTE #1 - Waste Description Codes

1. Dry Solid
2. Solidified Liquid
3. Biological
4. Filter Media
5. Dewatered Resins
6. Solidified Resins
10. Absorbed Aqueous Liquid
11. Absorbed Organic Liquid
12. Encapsulated (or organic) Liquid in Absorbent
13. Aqueous Liquid in Vials in Absorbent
14. Animal Carcasses in Absorbent
15. Other

NOTE #2 - Solidifier or Absorbent Media Codes

1. Speedi-Dry
2. Cassaro (SAP-78)
3. Floor Dry/Super Floor Dry
4. Hi-Dri
5. Pig Sorb
6. Pig Sorb 2
7. Vermi-Dri
8. Solv-T-Sorb
9. De-Dri (Solv-a-Dry)
10. Zorbits, Grades 2, 3, 4
11. Other Media
12. Cement
13. Asphalt
14. Dewaters Custom Media
15. Bentonite
16. Kwikki
18. Other

NOTE #3 - NRC Stability Class Codes

S - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

CONTINUATION SHEET

MANIFEST # 44061

PAGE ____ OF ____

AP158	20 DM 55	25	772	Solid	2	NA	Solid slag/ash	✓	Th232	0.2	U/A	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP159																						Radioactive -
AP160																						Radioactive -
AP161																						Radioactive -
AP162																						Radioactive -
AP163																						Radioactive -
AP164																						Radioactive -
AP165																						Radioactive -
AP166																						Radioactive -
AP167																						Radioactive -
AP168																						Radioactive -
AP169																						Radioactive -
AP170																						Radioactive -
AP171																						Radioactive -
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AP173																						Radioactive -
AP174																						Radioactive -
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AP178																						Radioactive -
AP179																						Radioactive -
AP180																						Radioactive -
AP181																						Radioactive -
AP182																						Radioactive -
AP183																						Radioactive -
AP184	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	↓	↓	↓	Radioactive -
																						Radioactive -
27	2025	2877					PAGE TOTALS			5.4		0	54									Radioactive -

NOTE #1 - Waste Description Codes

1. Dry Solid
2. Solidified Liquid
3. Biological
4. Filter Media
5. Chlorinated Plastic
6. Solidified Plastic
10. Adsorbed Aqueous Liquid
11. Adsorbed Organic Liquid
12. Solidification (or organic) Liquid in Vials in Absorbent
13. Aqueous Liquid in Vials in Absorbent
14. Animal Carcasses in Absorbent
15. Other

NOTE #2 - Solidified or Absorbent Media Codes

2. Spreadi-Dry
3. Cotosorb (SAP-78)
4. Floor Dry/Super Flow
5. Hi-Dri
6. Florco or Florco 2
7. Insorb-Dri
8. Safe-T-Sorb
9. Dri-Dri (Safe + Dri)
10. Zorbitex, Grades 2, 3, 4
11. Dow Media
12. Cement
13. Asphalt
14. Dessicant Custom Media
15. Envirosorbs
16. Kwikfix
17. Other

NOTE #3 - NRC Radioactivity Class Codes

E - Exempt
U - Unreadable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

WASTE PACKAGING AND SHIPMENT INSPECTION RECORD

The enclosed inspection formats consisting of SHIPPING DOCUMENTATION, RADIOLOGICAL SURVEY DATA, and VISUAL FEATURES are to be completed by the State inspector ONLY when an item of noncompliance has been identified, and ONLY when an NRC licensee is involved. ONLY the particular format associated with the item of noncompliance needs to be completed in addition to the shipment identification page.

SHIPMENT IDENTIFICATION

Licensee/Shipper

Name Air Products & Chemicals Inc.

City & State Greenville, PA

Broker

Name N/A

City & State _____

Carrier

Name Tri-State

Trailer No. 444544

Shipment Inspected

Date 1-8-85 Time PM

Describe the Shipment (Number of boxes, drums, etc.)

⊗ LSA ○ Other (DOT I, II, III LABELS)

60 drums LSA exclusive use

60

Michael Ellen Kelly Canavan

Inspector NRC Form 464

SHIPPING DOCUMENTATION

DATE 12-13-84 TIME - INSPECTOR D. Elan, K Cameron

Shipping Papers

Freight Bill No. 666893
RSR # 44062

Carrier: Tri-State

Broker:
Name N/A

City & State

Generator:
Name Air Products & Chemical Inc.

City & State Greenville, PA.

Certification (same) ⊗ YES
○ NO

Shipment: Exclusive use ⊗

Instructions for Exclusive use ⊗ YES ○ NO

Nonexclusive use ○

Type A Certification of Compliance for Type "B"

Shipment N/A ○ YES ○ NO

Proper Shipping Name/Class N/A ○ YES ○ NO

REMARKS

No acknowledgment for activity totals for the nuclides H^3, C^{14}, Tc^{99}, or I^{129} shown on the RSR. If there is none, a 0 should be listed.

US Ecology License WA-I019-2 (29)(d)

IE:V Form 604 (a)

RADIOLOGICAL SURVEY DATA

N/A

DATE _____ TIME _____ INSPECTOR _____

INSTRUMENT DATA

	Radiation Levels	Monitor Smears
Make		
Model		
S/N		
Calib. due date		

SURVEY RESULTS (mr/hr)

Cab No. _____

Level _____

Sketch in
Cargo Placement
and Smear Locations

Trailer No. _____

Maximum at surface _____
Maximum at 2 meters _____

SMEAR DATA

Identify locations by "x" and whether on vehicle surface or packages.

1. _____
2. _____
3. _____
4. _____

REMARKS:

VISUAL FEATURES (As Applicable)

DATE 1-8-85 TIME PM INSPECTOR Michael E Lawson
Kelly Cameron

TYPE VEHICLE: ◉ Closed ○ Open ○ Other

PLACARD DATA

Front	◉ YES	○ NO
Rear	◉ YES	○ NO
Right	◉ YES	○ NO
Left	◉ YES	○ NO

General Conditions of Package(s) very Poor
rusted & dented badly

Blocking, Bracing, Tie-Down Adequate? NO
(Flow was done)

MARKING		YES	NO
Marked Radioactive LSA		◉	○
LABELING			
Proper Labels	N/A	○	○
Label Entries Filled In	N/A	○	○

REMARKS:

Please see Washington State Radiation Controls Worksheet/Checklist for details of Violations.

011923

LOW-LEVEL RADIOACTIVE WASTE SHIPMENT CERTIFICATION FOR GOVERNMENTAL GENERATOR/PACKAGERS, AND BROKERS AND CARRIERS

The following certification, completed as applicable, is made to the State of Washington:

Certification is hereby made to the State of Washington that Radiation Shipment Record No 666895 of low-level radio-active waste has been inspected in accordance with requirements of the Governor of Washington's Executive Order dated November 19, 1979, prior to its shipment. Further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations.

The undersigned agency of a state or the federal government shall indemnify and hold harmless the State of Washington from any and all claims, suits, losses, charges and expenses on account of injuries to any and all persons whomsoever, and any and all property damage arising or growing out of or in any manner connected with the activities performed under this order; provided that: (1) in the event that a state or the federal government has to pay for any loss under the previous clause, such indemnification shall not exceed $1,000,000.00 per individual who may be injured, provided total indemnification shall not exceed $5,000,000.00 or indemnification shall not exceed monies available from appropriated funds of the government at the time of the injury or loss, whichever is greater; provided further, that nothing in this certification will be considered as implying that the legislative body will, at a date later than the injury or loss, appropriate sufficient funds to meet any deficiency of funds at the time of injury or loss.

Except for any violation of applicable existing state or federal statute or regulation respecting packaging and shipment, inspection and acceptance of any item or container or material covered by this certificate by the State of Washington or a duly authorized contractor shall release the party who executed this certificate from any and all requirement of indemnification from injury or loss.

SECTION A:
FOR THE GENERATOR/PACKAGER: AIR PRODUCTS AND CHEMICALS, INC.
(Company Name)

PERMIT NUMBER: 8-1086

VOLUME OF WASTE IN THIS SHIPMENT: 450 cu. Ft

DATE: 12/6/84 **BY:** Eugene I Handrick

TITLE: COORDINATOR OF TOXICOLOGY

Certification is hereby made to the State of Washington that Radiation Shipment Record No. _____ of low-level radio-active waste has been inspected in accordance with requirements of the Governor of Washington's Executive Order dated November 19, 1979, prior to its shipment. Further certification is made that the inspection have revealed no items of non-compliance with all applicable laws, rules and regulations.

The undersigned shall indemnify and hold harmless the State of Washington, in an amount not to exceed $1,000,000.00 per individual who may be injured, provided that indemnification shall not exceed $5,000,000.00 in total, for each occurrence, from any and all claims, suits, losses, damage, injury and expenses to any person whomsoever or to property arising or growing out of or in any manner connected with the activities performed under this order.

Except for any violation of applicable existing state or federal statute or regulation respecting packaging and shipment, inspection and acceptance of any item, or container or material covered by this certification by the State of Washington or a duly authorized contractor shall release the party who executed this certificate from any and all requirement of indemnification from injury or loss.

SECTION B:
FOR THE BROKER: N.A.
(Company Name)

PERMIT NUMBER: _____

VOLUME OF WASTE IN THIS SHIPMENT: _____

DATE: _____ **BY:** _____

TITLE: _____

SECTION C:
FOR THE CARRIER: TRI-STATE MOTOR TRANSIT
(Company Name)

VOLUME OF WASTE IN THIS SHIPMENT: 450 cu. Ft.

DATE: 12/6/84 **BY:** Richard F Stegenga

TITLE: Claims

DSHS RAW-315
DSHS 13-424A (REV)

011923

6 December 1984

TO: Tri-State Motor Carrier Driver

This van is for exclusive use only. The driver is not to unload or add to the load except as instructed by U. S. Ecology, Inc., at Hanford, Washington.

AIR PRODUCTS AND CHEMICALS, INC.

Eugene I. Handwerk

Eugene I. Handwerk
Toxicology Coordinator

EIH/jry

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - Not Negotiable 011923

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

FREIGHT BILL NUMBER
666893
SHIPPER'S NUMBER
32321

From AIR PRODUCTS INC C/O GREENVILLE METALS INC DATE SHIPPED 12-6-84

At GREENVILLE, PA.

ORIGINATING CARRIER TRISTATE MOTOR TRANSIT COMPANY

EXECUTIVE OFFICES P.O. BOX 113 JOPLIN, MO 6480

CONSIGNED TO U.S.ECOLOGY (Mail or street address of consignee - For purposes of notification only.)

DESTINATION HANFORD, WN. STATE COUNTY

DELIVERY ADDRESS (To be filled in only when shipper desires and governing tariff provides for delivery thereto.)

CONNECTING CARRIER(S) DELIVERING CARRIER TSMT 5005 TRACTOR NO. 444544 TRAILER NO.

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

11923

(Signature of consignor)

If charges are to be prepaid write or stamp here. "To be Prepaid"

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges advanced $

NUMBER PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	WEIGHT (Subject to Correction)	CLASS OR RATE	CK COL
1	T/L RADIOACTIVE MATERIAL LOW SPECIFIED ACTIVITY N.O.S.	48460		

DIMENSIONS OF CARGO BEING LOADED

LENGTH	WIDTH	HEIGHT	TOTAL FEET OF TRAILER SPACE OCCUPIED
40 FT 0 IN	8 FT 0 IN	8 FT 0 IN	40 FT IN

UNLESS A GREATER VALUE IS DECLARED, THE SHIPPER HEREBY RELEASES THE VALUE TO $5000.00 PER TON OF 2000 POUNDS FOR EACH ARTICLE

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.

UNLESS OTHERWISE NOTED VEHICLE CONTAINS HAZARDOUS MATERIALS PROPERLY PLACARDED IN ACCORDANCE WITH 49CFR172.506

ARRIVED AT SHIPPER	DATE	TIME A.M. P.M.	PREARRANGED MOTOR LT	☐ YES ☐ NO	DATE	TIME A.M. P.M.	LOADING STARTED	DATE	TIME A.M. P.M.
LOADING COMPLETED	DATE	TIME A.M. P.M.	VEHICLE RELEASED	DATE	TIME A.M. P.M.	SHIPPER'S SIGNATURE			
IF THIRD PARTY BILLING, BILL TO			SHIPPER PER		AGENT PER				

SIGNATURE TALLY RECEIPT — Must be filled out and signed at origin and each time the shipment changes custody.

DATE SHIPMENT RECEIVED FROM CONSIGNOR			2ND TIME CARGO CHANGED CUSTODY			4TH TIME CARGO CHANGED CUSTODY		
DATE 12-6-84	TIME 1600	TRACTOR NO 5005	DATE	TIME	TRACTOR NO	DATE	TIME	TRACTOR NO
DRIVER & SIGNATURE R. STEGENGA	HOME TERMINAL XXXX MURRAY, UT.	DRIVER & SIGNATURE	HOME TERMINAL		DRIVER & SIGNATURE	HOME TERMINAL		
DRIVER & SIGNATURE	HOME TERMINAL	DRIVER & SIGNATURE	HOME TERMINAL		DRIVER & SIGNATURE	HOME TERMINAL		

3RD TIME CARGO CHANGED CUSTODY			5TH TIME CARGO CHANGED CUSTODY			6TH TIME CARGO CHANGED CUSTODY		
DATE 12-10-84	TIME 2:30 PM	TRACTOR NO 8230	DATE	TIME	TRACTOR NO	DATE	TIME	TRACTOR NO
DRIVER & SIGNATURE [illegible]	HOME TERMINAL [illegible]	DRIVER & SIGNATURE	HOME TERMINAL		DRIVER & SIGNATURE	HOME TERMINAL		
DRIVER & SIGNATURE	HOME TERMINAL	DRIVER & SIGNATURE	HOME TERMINAL		DRIVER & SIGNATURE	HOME TERMINAL		

ARRIVED AT CONSIGNEE	DATE 12/13/84	TIME 1200 AM PM	PREARRANGED MOTOR LT ☐ YES ☐ NO	DATE	TIME A.M. P.M.	UNLOADING STARTED	DATE	TIME A.M. P.M.
UNLOADING COMPLETE	DATE	TIME A.M. P.M.	VEHICLE RELEASED	DATE 12/13/84	TIME 1530	SIGNATURE		

RECEIVED THE ABOVE DESCRIBED PROPERTY IN GOOD CONDITION EXCEPT AS NOTED

X [illegible] US Ecology

Driver released and not accepted at this time

EPA I.D. NUMBER WDD 095058976

11923

DATE	WASHINGTON STATE PATROL TRUCK/BUS EQUIPMENT INSPECTION	IN 1505 OUT 1520
11-24		

REGISTERED OWNER/SCHOOL DISTRICT	LOCATION/COUNTY
	Pierce

ADDRESS	CITY	STATE	ZIP
			1502

BUS/TRUCK #	YEAR	MAKE	STATE BUS #
	94		

LICENSE	LICENSE	LICENSE
	4-5-472	

TYPE/ODOMETER	TYPE/HUBOMETER	TYPE/CAPACITY

BRAKE ADJUSTMENT EFFICIENCY SERVICE EMER/PARK

									Sticker #
RIGHT					2				
LEFT									

AIR LOSS APPLIED/UNAPPLIED	1	2	3	10-DAY RE-INSPECT	OUT OF SERVICE
COMPRESSOR BUILD UP					
LOW AIR/VACUUM WARNING					
BRAKE COMPONENTS					
STEERING COMPONENTS					
WHEELS/STUDS/NUTS/BOLTS					
TIRES					
EXHAUST					
LIGHTS					
SUSPENSION					
LOG BOOK					

COMMENTS/OTHER DEFECTS:

Circle the appropriate carrier | COMMODITY

INTER/INTRASTATE HAZ MAT PRIVATE/COMMON/CONTRACT CARRIER

OFFICER'S SIGNATURE

DRIVER'S SIGNATURE

PER. # DISTRICT

REPORT TO: DAYS

WSP HOURS

WSP-CVE-109

WORKSHEET/CHECKLIST

te: 1-9-85

ipper: Air Products & Chemicals Inc.
Greenville, PA

oker: N-A

rrier: Tri-State

SHS Permit #: 8-1086

SR-#'s: 44062

Batch # 31923

ate Shipped: 12-6-84

ate Rcvd: 12-13-84

ate Unloaded: 1-8-85 Time: PM

rief Description of Load:
60 drums LSA exclusive use

Inspector(s): Mike Elsen
Kelly Cannon

Shipper's #: 32321 Freight Bill #: 666893

Tractor #: 8230 Lic #/State: 16670/IL

Trailer #: 444544 Lic #/State: 435-472/MO

Vehicle Inspect: ✓ 90 Day Date: —

Placarding: ✓

Vehicle Survey (RCP,NRC,etc.): —

Survey Instrument(s) Used:

Make: /

Model: N/A

S/N:

Cal. Date: /

Max. Results mR/hr:

@6': — @ Surf: — @ Cab: —

Trailer Bed: Neg.

Wipe Results: Neg.

nspector Note: In the "defect" column be sure to note any surveys, wipe tests, package wt., pecific activity (mCi/gm), package type and condition, etc. when appropriate.

opies/Originals Attached: Vehicle Inspection: ✓; Freight Bill: ✓; DSHS Permit: ____;
Shipper's Cert: ✓; RSR's: ✓; Other (specific): (Photo's)

um/ age #	Marking/Labeling	Defect/Problem
um# 209, 209 6, 222 7, 189, 8, 181, 187	LSA CLASS A FISSILE	These eight drums has loose rings. 49 CFR 173.425(B)(1)
rums 201 9, 213, 224 25, 9, 229		holes in these drums due to either rust or forklift punches. Lack of stay tight package. 49CFR173.425(B)(1) CONTENTS (Note: drum #209 had two holes in it.)
Drums 207, 7, 230, 8, 9, 189		loose ring bolts. Lack of stay tight Package. 49CFR 173.425(B)(1)
rum 225		loose bung cap. Lack of stay, tight package 49CFR 173.425(B)(1)
rum 224		popped up drum lid. Lack of stay, tight package. 49CFR 173.425(B)(1)

--OVER

run #	marking/labels	Defect/Problem
run # 231, 0, 239	LSA CLASS A UNLIMITED	these drums had dented drum lips which caused a non strong, tight package. 49 CFR 173.425 (B)(1)
1160 drums this shipment	↓	these ~~60~~ sixty 55 gallon drums did not have 5/8 inch bolts used on them as required by USEC license WN-I019-2 (27)(i)
run # 666793	N/A	NO bracing used on this shipment. 49 CFR 173.425 (B)(6)
SR # 14062	N/A	no listing for the radionuclides H^3, C^{14}, Tc^{99}, or I^{129} total. if there is none 0 should be listed. USEC calls License WN-I019-2 (29)(d)

RADIOACTIVE WASTE SHIPMENT & DISPOSAL MANIFEST

US ECOLOGY, INC.

EXECUTIVE OFFICE: (502) 426-7160
P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207

PAGE 1 OF 4 8 — USE THIS NO. ON ALL CONTINUATION PAGES → 44062

(1) GENERATOR NAME: Air Products & Chemicals, Inc.
ADDRESS: d/b/a Greenville Metals Recovery
Crestview Drive
CITY: Greenville STATE: PA ZIP: 16125
CONTACT: Eugene Handwerk PHONE: 215-481-8606
USER PERMIT #: B-1086 SHIPMENT #: 66689 FS

(2) BILL DISPOSAL CHARGES TO: Air Products & Chemicals, Inc.
NAME: Accounts Payable PURCHASE ORDER #: YB 5881H
ADDRESS: Box 538
CITY: Allentown STATE: PA ZIP: 18105

(3) AGENT/BROKER: NA
BROKER'S US ECOLOGY #:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
BROKER SHIPMENT #: BROKER USER PERMIT #:
Broker's Authorized Signature Acknowledging Waste Receipt: Date:

(4) CONSIGNED TO
☒ P.O. BOX 636 Hanford Reservation Richland, WA 99352 509-371-3411
☐ P.O. BOX 578 HWY 95, 12 mi. So. of Beatty, NV 89003 702-553-2203
☐ OTHER
CONTACT:
ADDRESS:
CITY: STATE: ZIP:
PHONE:

(5) CARRIER: Tri-State Motor Transit SHIPPING DATE:
CARRIER EPA # (If any):
ADDRESS: Box 113
CITY: Joplin STATE: Mo ZIP: 64801
PHONE: 800-641-7580
CASK TYPE: CASK SURFACE EXPOSURE RATE:

(6)

TOTAL FOR EACH CLASS		PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	ID NUMBER
# OF PACKAGES	WEIGHT (Pounds)		
		Radioactive Material, empty packages	UN2908
60	48,460	Radioactive Material, fissile, n.o.s. – Radioactive Material	UN2918
		Radioactive Material, low specific activity, n.o.s. – Radioactive Material	UN2912
		Radioactive Material, n.o.s. – Radioactive Material	UN2982
		Radioactive Material, limited quantity, n.o.s. – Radioactive Material	UN2910
		Radioactive Material, special form, n.o.s. – Radioactive Material	UN2974
		Radioactive Material, instruments and articles – Radioactive Material	UN2911
		Thorium Nitrate – Radioactive Material	UN2978
		Uranyl Acetate (RO-5000/2270) – Radioactive Material	NA9180
		Uranyl Nitrate, solid (RO-5000/2270) – Radioactive Material	UN2981

(7) SHIPMENT TOTALS (DO NOT WRITE IN SHADED AREAS)

VOLUME (cu. ft.)	TOTAL # OF PACKAGES	SOURCE MATERIAL (kgs)	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	PLUTONIUM	TOTAL
450	60	120				

ACTIVITY

ACTIVITY TOTALS ☐ Curies ☒ Millicuries (mCi per 49 CFR 173.311)	TRITIUM	C-14	Tc-99	I-129	ALL OTHER
					12

(8) 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. (THIS CERTIFICATION IS NOT APPLICABLE FOR SHIPMENTS WITHIN PRIVATE PROPERTY.)

Eugene J. Handwerk COORDINATOR OF TOXICOLOGY 12/6/94
Authorized Signature Title Date

TERMS AND CONDITIONS

A. TITLE: Upon acceptance at the disposal site by US Ecology and all appropriate regulatory authorities, title to the Waste which conforms to Company's representations herein shall thereupon transfer from the Customer and its vendors to US Ecology.

B. WASTE PRODUCTS: Customer represents and warrants that data set forth in this Radioactive Waste Shipment & Disposal Manifest is true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the designated facility license.

C. INDEMNIFICATION: Customer agrees to indemnify US Ecology, its officers, employees and agents against all loss and liability whatsoever if such loss or liability results from the failure of the Waste to conform in all material respects to the data supplied on the Radioactive Waste Shipment & Disposal Manifest or this shipment fails to conform to standards prescribed by the Department of Transportation or any other governmental agency having jurisdiction over such matters.

FOR US ECOLOGY'S USE ONLY

TYPE OF CONTAINER	CONTAINER VOLUME CU. FT.	# OF PKGS.	CU. FT. PER CONTAINER TYPE
DRUMS			
OVERPACK			
55	7.89		
30	4.91		
5	0.97		
OTHER			
BOXES			
1st SIZE			
2nd SIZE			
3rd SIZE			
CASK LINERS			
OTHER			
OTHER			
SHIPMENT TOTALS			

LOAD EVALUATION
CHECK ALL THAT APPLY TO THIS LOAD. DESCRIBE DISCREPANCIES IN COMMENT SECTION.
☐ Manifest Waste Description Inadequate
☐ Container(s) or Liner(s) Damaged
☐ Unexpected Exposure Rates Detected
☐ No Violations Detected on this Load
☐ Shipping Inadequate
☐ Mixed, Wastage, etc. Inadequate
☐ Container Integrity Inadequate
☐ Other
DISCREPANCY COMMENTS:
☐ CHECK HERE IF # SUPPLEMENTAL REPORT IS ATTACHED

BURIAL DATA
Date Received:
Date Disposed:
Trench No.:
☐ This material waste licensed lands.
☐ This material was disposed of in accordance with license.
AUTHORIZED INITIALS:

US ECOLOGY INVOICE #:
US ECOLOGY CUSTOMER #: (Must agree with Agent named in Block 3)
US ECOLOGY INVOICE DATE: MO DY
DISCREPANCY CODE(S):

BATES # 011923

CONSIGNEE ORIGINAL COPY
(MUST ACCOMPANY WASTE IN TRANSIT)

GENERATOR NO: EPA ID-UUC-1263

GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/91

MANIFEST # YY062

PAGE 2 OF 4

AP 195	Drums	2.5	208	Solid	2	NA	Solid ore slag	✓	Th 232	0.2	LSA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive - LSA
AP 196																					Radioactive -
AP 197																					Radioactive -
AP 198																					Radioactive -
AP 199																					Radioactive -
AP 190																					Radioactive -
AP 191																					Radioactive -
AP 192																					Radioactive -
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AP 211																					Radioactive -
AP 212																					Radioactive -
AP 213																					Radioactive -
29		217.5	93992	PAGE TOTALS						5.8			0	5B							

NOTE #1 - Waste Description Codes

1. Dry Solid
2. Solidified Liquid
4. Biological
7. Filter Media
8. Dewatered Resins
9. Solidified Resins
10. Absorbed Aqueous Liquid
11. Absorbed Organic Liquid
12. Solidification (no organic) Liquid In Vials In Absorbent
13. Aqueous Liquid in Vials in Absorbent
14. Animal Carcasses in Absorbent
15. Other

NOTE #2 - Solidified or Absorbent Media Codes

2. Speedi-Dry
3. Cohesive (SAP-70)
4. Floor Dry/Super Flow
5. Hi Dri
6. Fibrets or Fibrets X
7. Insta-Dri
8. Safe-T-Sorb
9. DH-DH (Bulk + Drg)
10. Zeolite, Grades 2, 3, 4
11. Diaz Media
12. Cement
13. Asphalt
14. Dolomite Custom Media
15. Environsorb
16. Kwik'n
17. Other

NOTE #3 - NRC Reactivity Class Code

S - Stable
U - Unstable

CONSIGNEE ORIGINAL COPY

(MUST ACCOMPANY WASTE IN TRANSIT)

US ECOLOGY, INC.

CONTINUATION SHEET

REV. 1/04

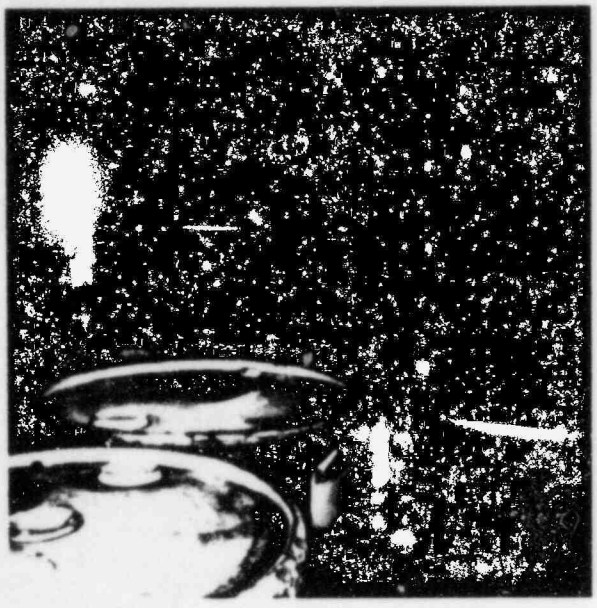
GENERATOR NAME: Air Products & Chemicals, Inc.

AGENT/BROKER: NA

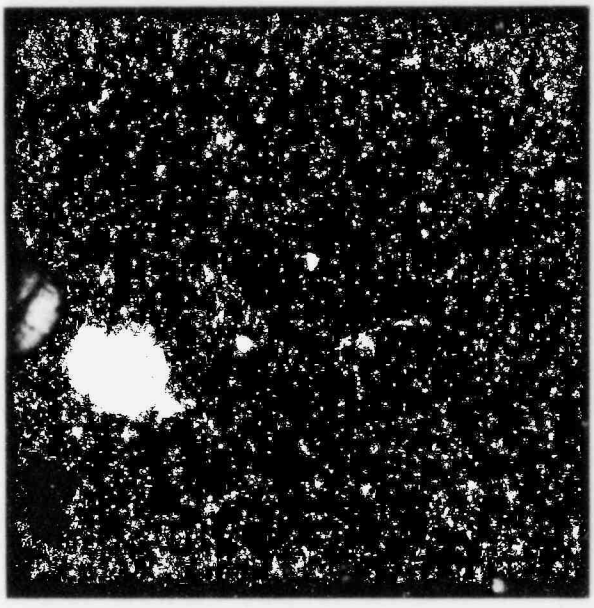
MANIFEST # 44062

PAGE 4 OF 4

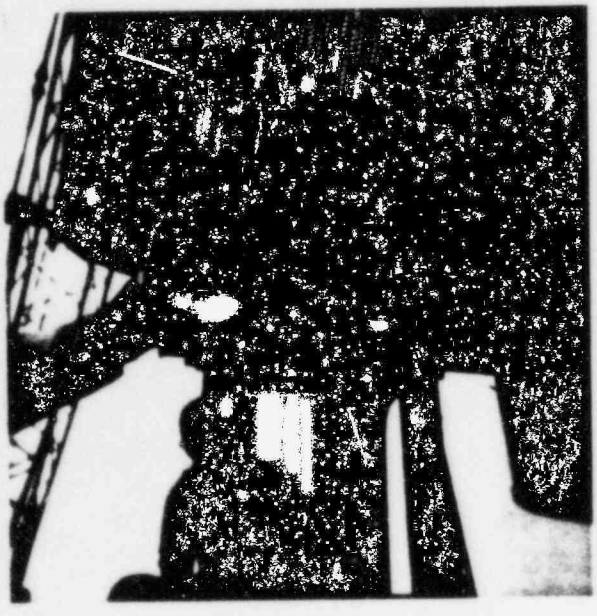
AP12G	Drum	55	25	POR	Solid	2	AM	Solid ore slag		✓	TA232	0.2	USA	NA	2	A	U	<0.3		<0.1	NA	NA	Radioactive -	LSA
AP12A	"	"	"	POR	"	"	"	"			"	"	"	"	"	"	"	"		"	"	"	Radioactive -	"
																							Radioactive -



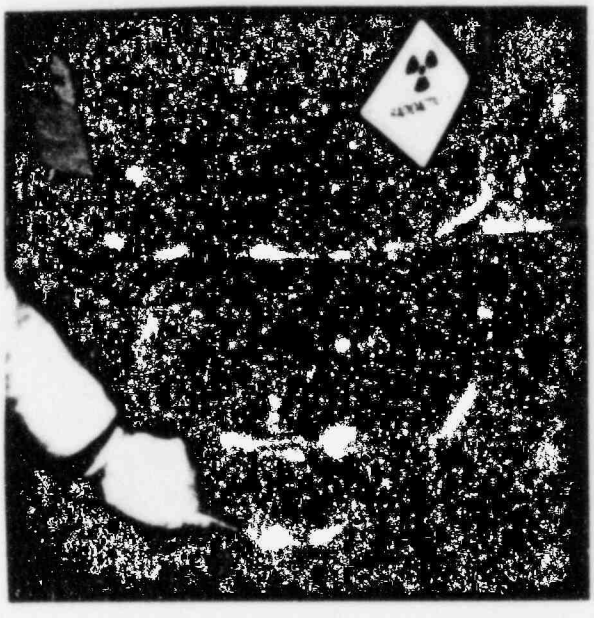
TRUCK 448191 (INSIDE)



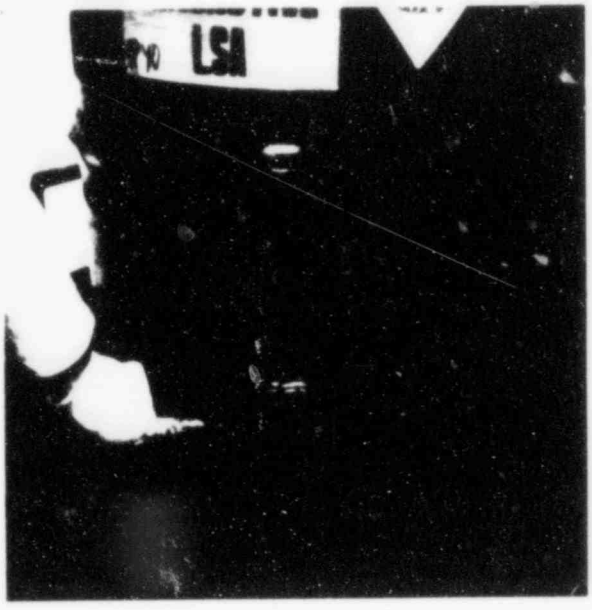
DRUM 1



DRUM 2



DRUM 63



DRUM 40

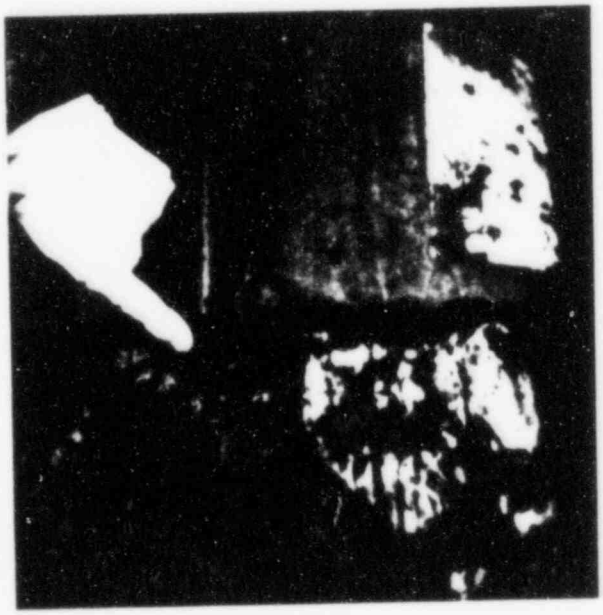
DRUM 3

DRUM 13

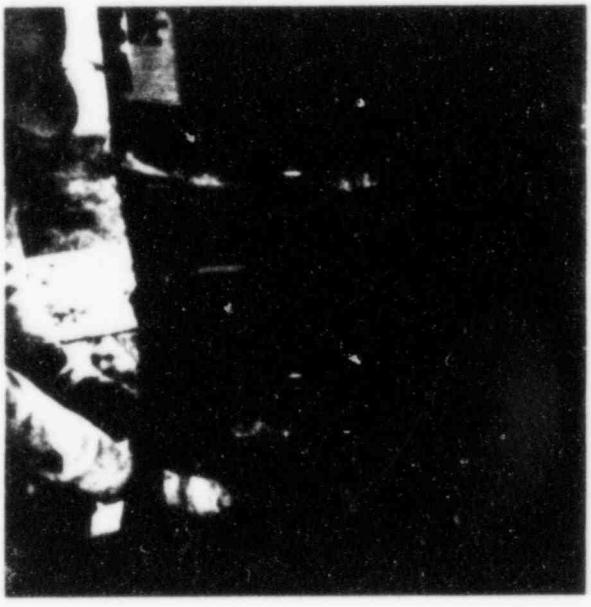
DRUM 25

DRUM 46

DRUM 49



DRUM 9

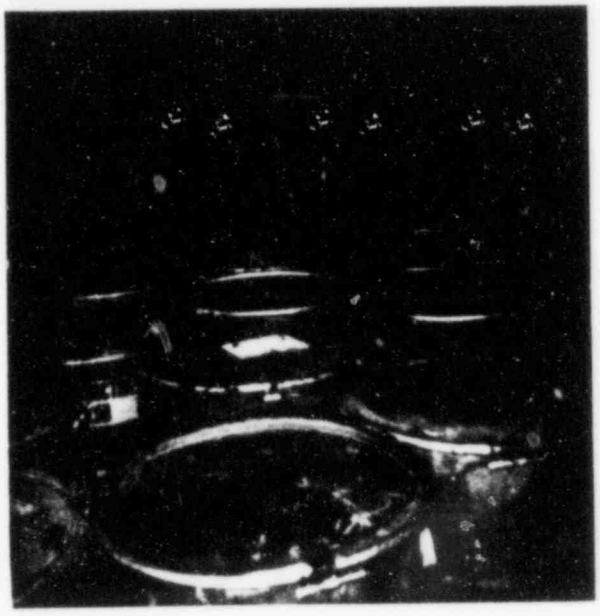


DRUM 33

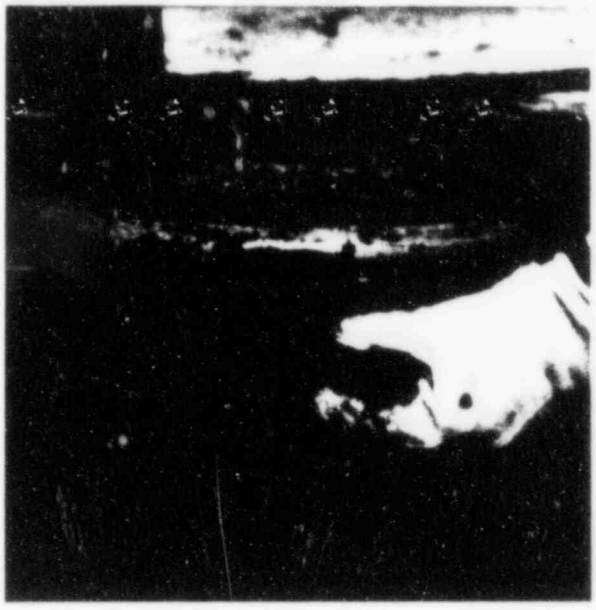
DRUM 57

DRUM 55

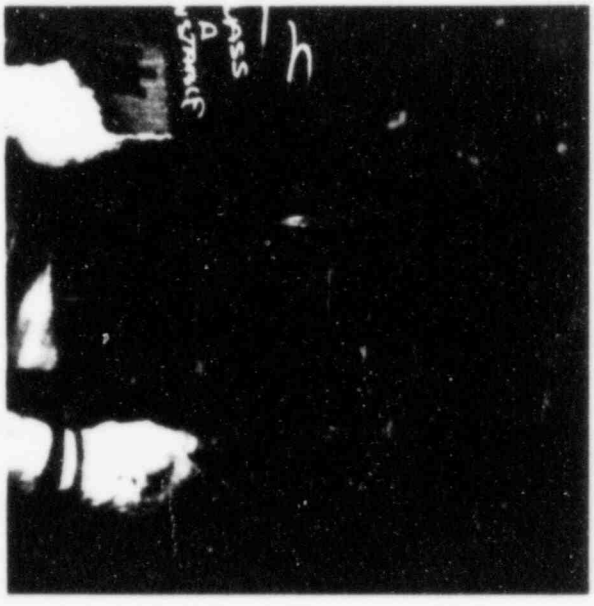
DRUM 9



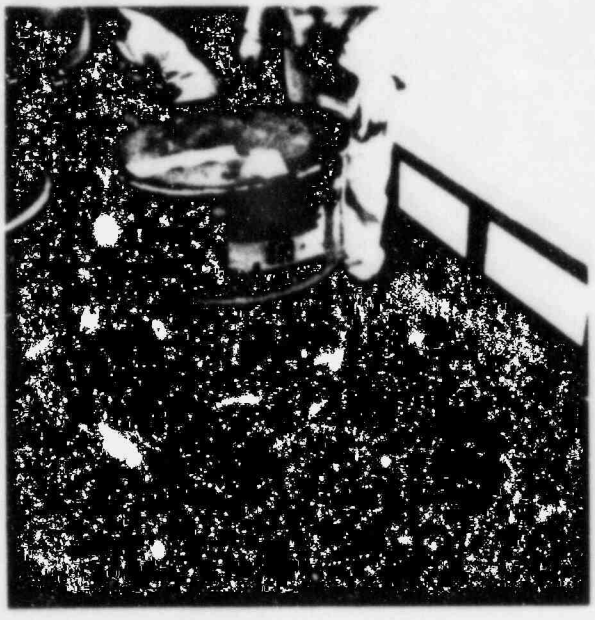
INSIDE TRUCK 444548



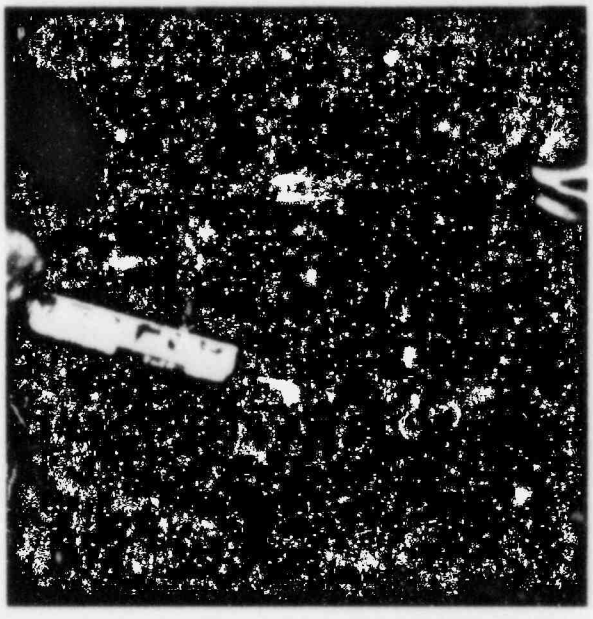
DRUM 122



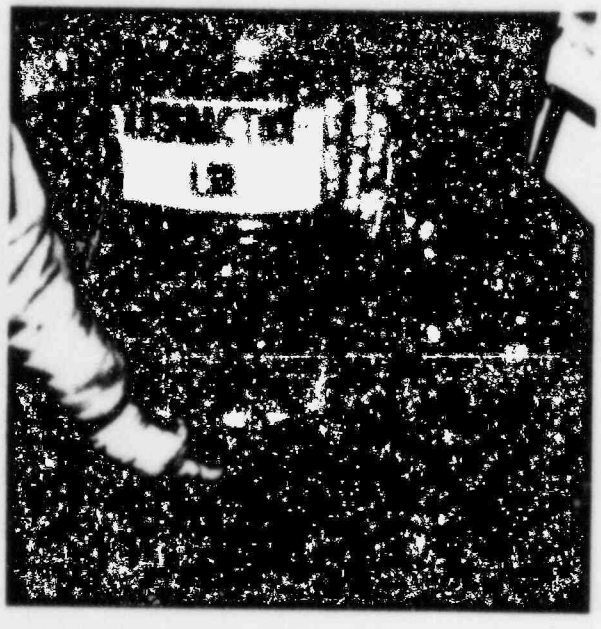
DRUM 70



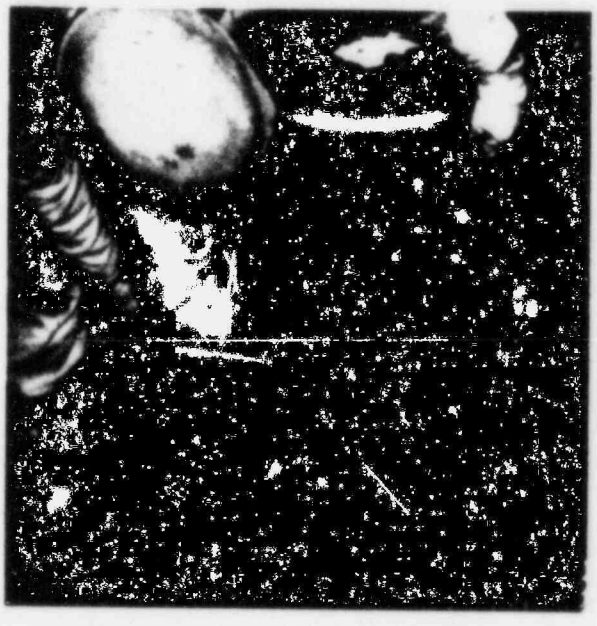
DRUM 74



DRUM 72

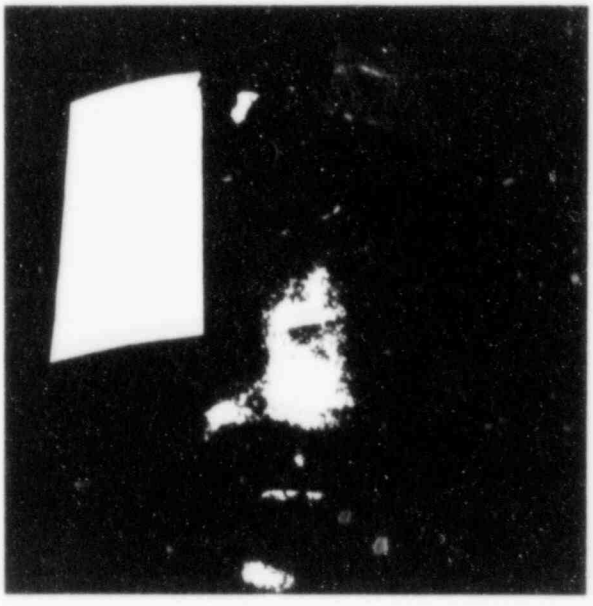


DRUM 125



DRUM 87

DRUM 80



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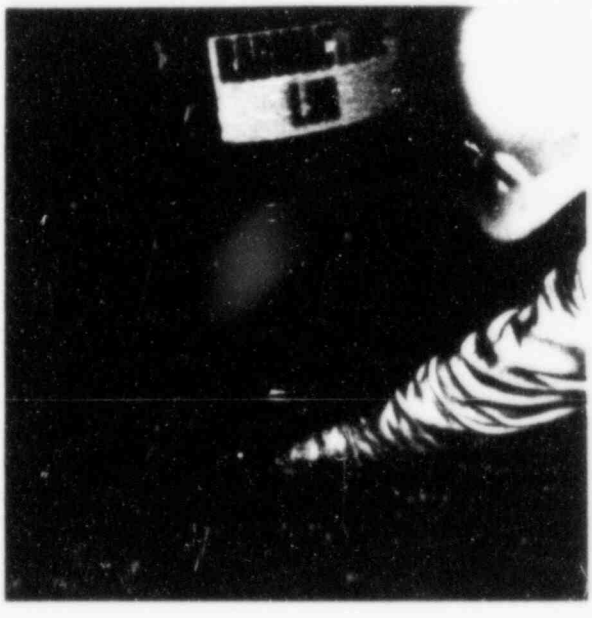
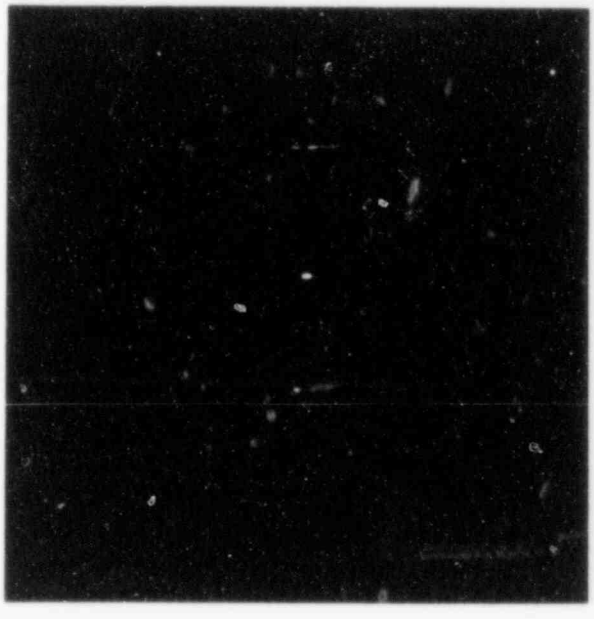
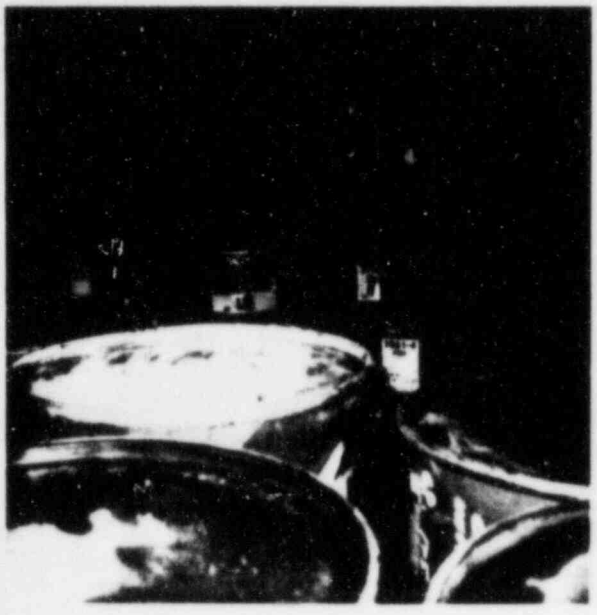


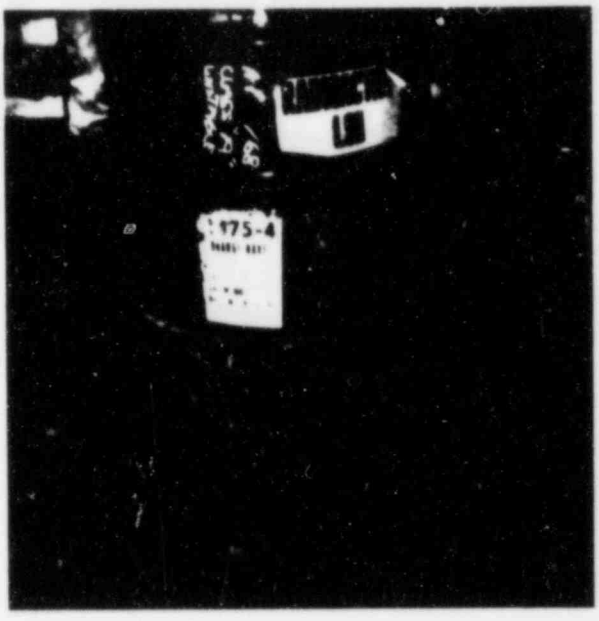
DRUM 120



DRUM 70

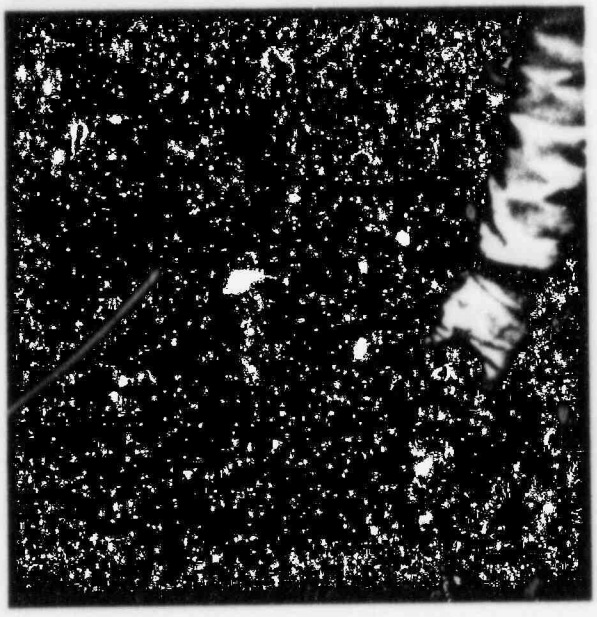


INSIDE TRUCK 448102

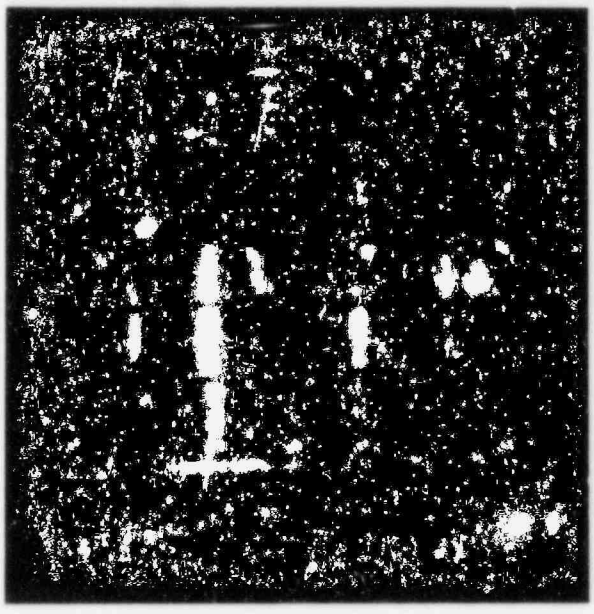


DRUM 168

DRUM 145



DRUM 213



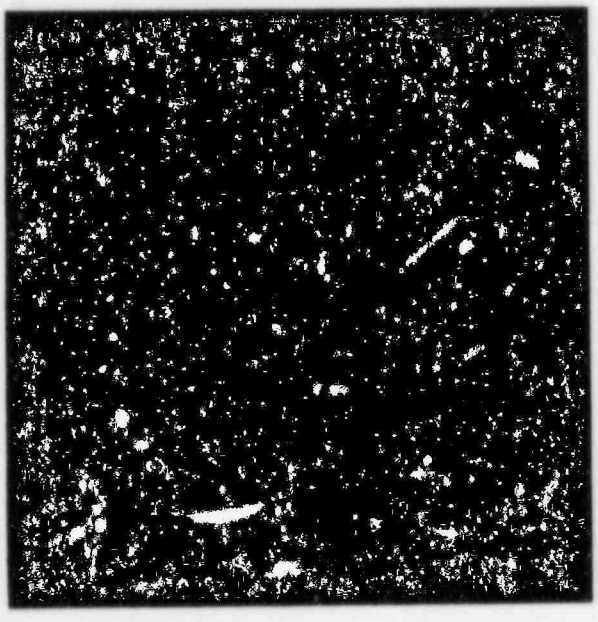
TRUCK 444544 (INSIDE)

DRUM 201

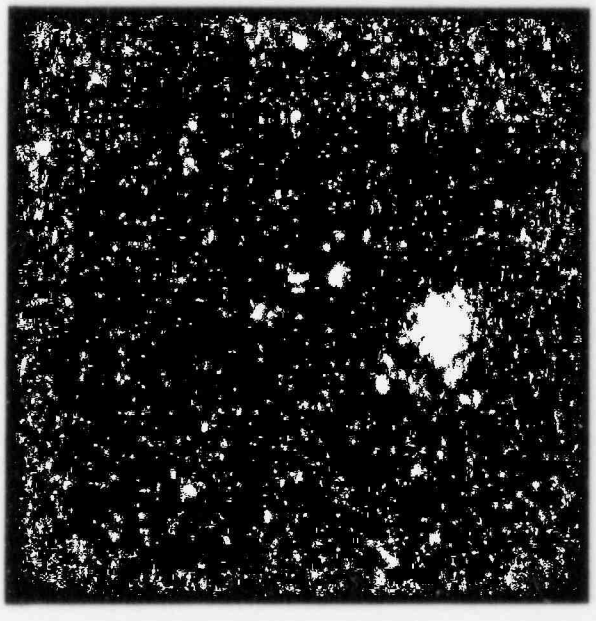
DRUM 231

DRUM 225

DRUM 209

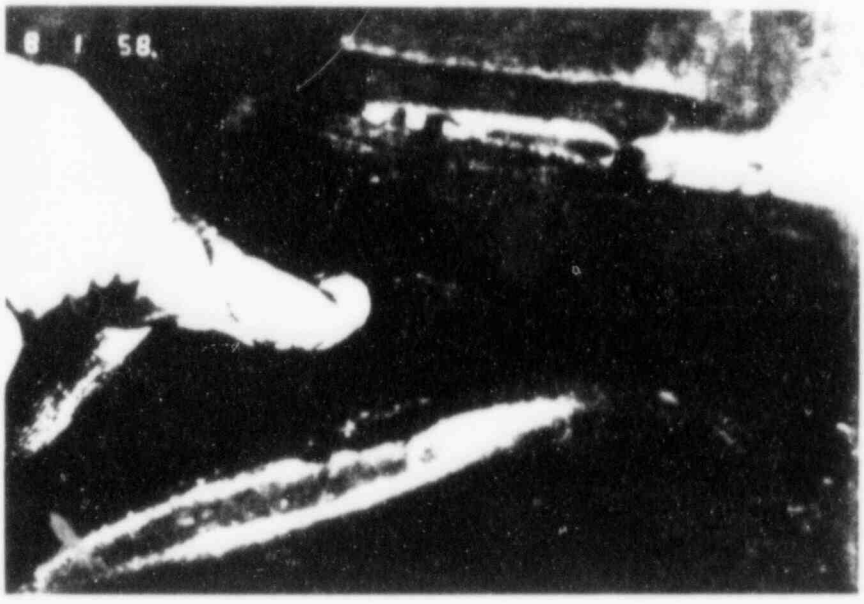


INSIDE TRUCK 444544

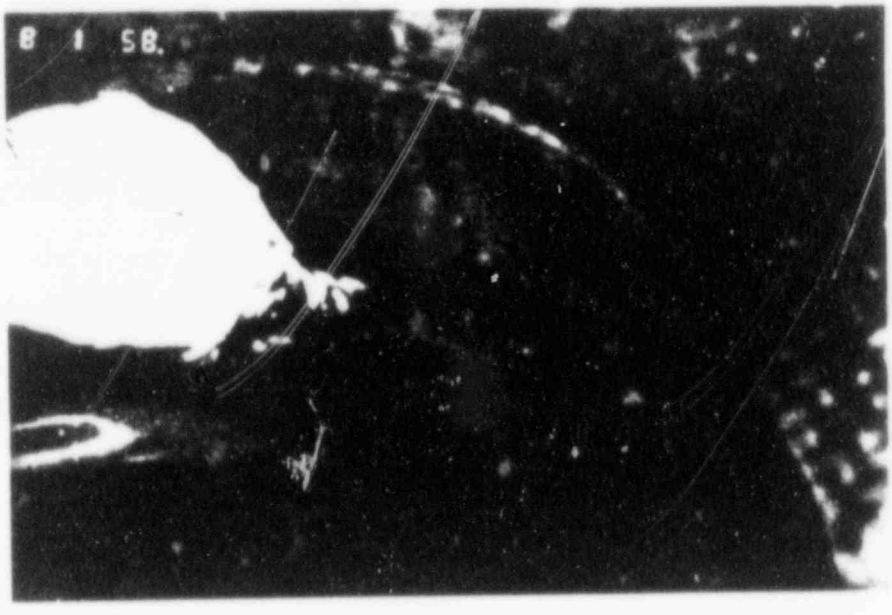


DRUM 224

DRUM 209



DRUM 229



DRUM 199

DRUM 190

DRUM 239