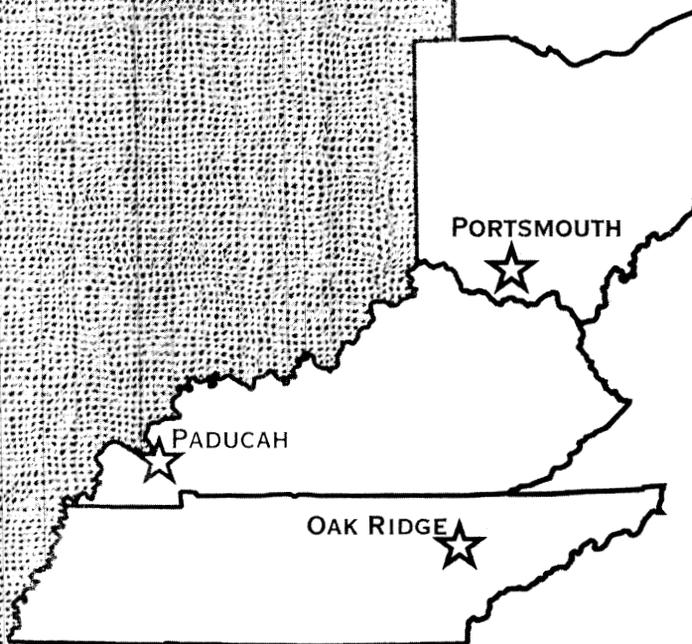


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BJC/PAD-526

**ENVIRONMENTAL MANAGEMENT
& ENRICHMENT FACILITIES
MANAGEMENT AND INTEGRATION CONTRACT**

**Final Inventory/Characterization
Report for the C-331-07
Department of Energy
Material Storage Area at the
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**



**MANAGED BY
MICHAEL JACOBS COMPANY LLC
FOR THE UNITED STATES
DEPARTMENT OF ENERGY**

This document has received the appropriate reviews
for release to the public.

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**Final Inventory/Characterization Report for the C-331-07
Department of Energy Material Storage Area (DMSA)
at the Paducah Gaseous Diffusion Plant,
Paducah, Kentucky**

Date Issued – April 22, 2003

Prepared by
WESKEM, LLC

Under subcontract 23900-BA-RM005F

Prepared for the
US Department of Energy
Office of Environmental Management

BECHTEL JACOBS COMPANY LLC
managing the

Environmental Management Activities at the
East Tennessee Technology Park

Oak Ridge Y-12 Plant *Oak* Ridge National Laboratory
Paducah Gaseous Diffusion Plant Portsmouth Gaseous Diffusion Plant

Under contract DE-AC05-98OR22700

for the
U.S. DEPARTMENT OF **ENERGY**

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ACRONYMS

ACM	Asbestos Containing Material
BJC	Bechtel Jacobs Company
cm ²	Square Centimeters
DMSA	Department of Energy Material Storage Area
dpm	Disintegrations per Minute
ft ²	Square Feet
ft ³	Cubic Feet
IH	Industrial Hygiene
HP	Health Physics
LLW	Low Level Waste
NCS	Nuclear Criticality Safety
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation Recovery Act
RFD	Request for Disposal
SWMU	Solid Waste Management Unit
TSCA	Toxic Substance Control Act
USEC	United States Enrichment Corporation

EXECUTIVE SUMMARY

Department of Energy Material Storage Area (DMSA) C-331-07 is located on the ground floor at columns P9-10/Q9-10 of the C-331 process building. It is also identified as Solid Waste Management Unit (SWMU) #241. The approximate dimension of the DMSA is 350 square feet (ft²). Characterization activities in this DMSA were initiated in March 2002. This area was used to store a large wooden box containing two five foot relief check valves. These items were characterized and classified as Nuclear Criticality Safety (NCS) exempt. These items were then repackaged into a large ST-90 storage container. The volume of the waste container was estimated to be 110 cubic feet (ft³). In October 2002, the ST-90 storage container was transferred to DMSA C-337-37. The transfer was directed by Bechtel Jacobs Company (BJC) due to projected United States Enrichment Corporation (USEC) restrictions related to work activities in the C-331 process building. The material was transferred subsequent to completion of all required documentation: Paducah Material Transfer Form, DMSA NCS Characterization Forms, Request for Disposal (RFD) Forms and Health Physics Radiological Surveys. Although the DMSA is now empty, copies of the documentation required for characterization and movement of the material is included in this report. DMSA C-331-07 was originally classified as a Phase 2 DMSA since it was known to contain fissile or potentially fissile material based on inspection or characterization and the material had not been fully characterized. It now qualifies as a Phase 3 DMSA since the material was characterized as NCS exempt prior to movement and the DMSA is now vacant. Photographs were taken of the DMSA during the characterization program and subsequent to transfer of the material. Several of the photographs are included in this report.

RCRA

There was no Resource Conservation Recovery Act (RCRA) hazardous waste identified in DMSA C-331-07.

TSCA

There was no Toxic Substance Control Act (TSCA) polychlorinated biphenyl (PCB) waste or asbestos containing material (ACM) identified in DMSA C-331-07.

LLW

Two five foot relief check valves and the wooden box containing the valves were repackaged into a large ST-90 storage container. These items were classified as low level waste (LLW). The ST-90 box was transferred to DMSA C-337-37. DMSA C-331-07 is now empty.

NCS

The two valves were characterized and classified as NCS exempt. There were no NCS concerns in the DMSA.

IH

All Industrial Hygiene (IH) data to date has been reviewed. All quality control samples were within normal acceptable guidelines. No personnel were exposed to any airborne

concentrations above a permissible exposure limit or threshold limiting value.

HP

The Health Physics (HP) surveys generally include smears, direct readings and/or air samples. Air samples would normally be taken when working in contamination areas or opening containers with unknown contents. According to the radiological survey results, the highest total alpha contamination was 596 disintegrations per minute (dpm) per 100 square centimeters (cm²). The highest total beta/gamma reading was 26,222 dpm/100 cm². Both readings were from the same valve (RFD #112197).

SAFETY

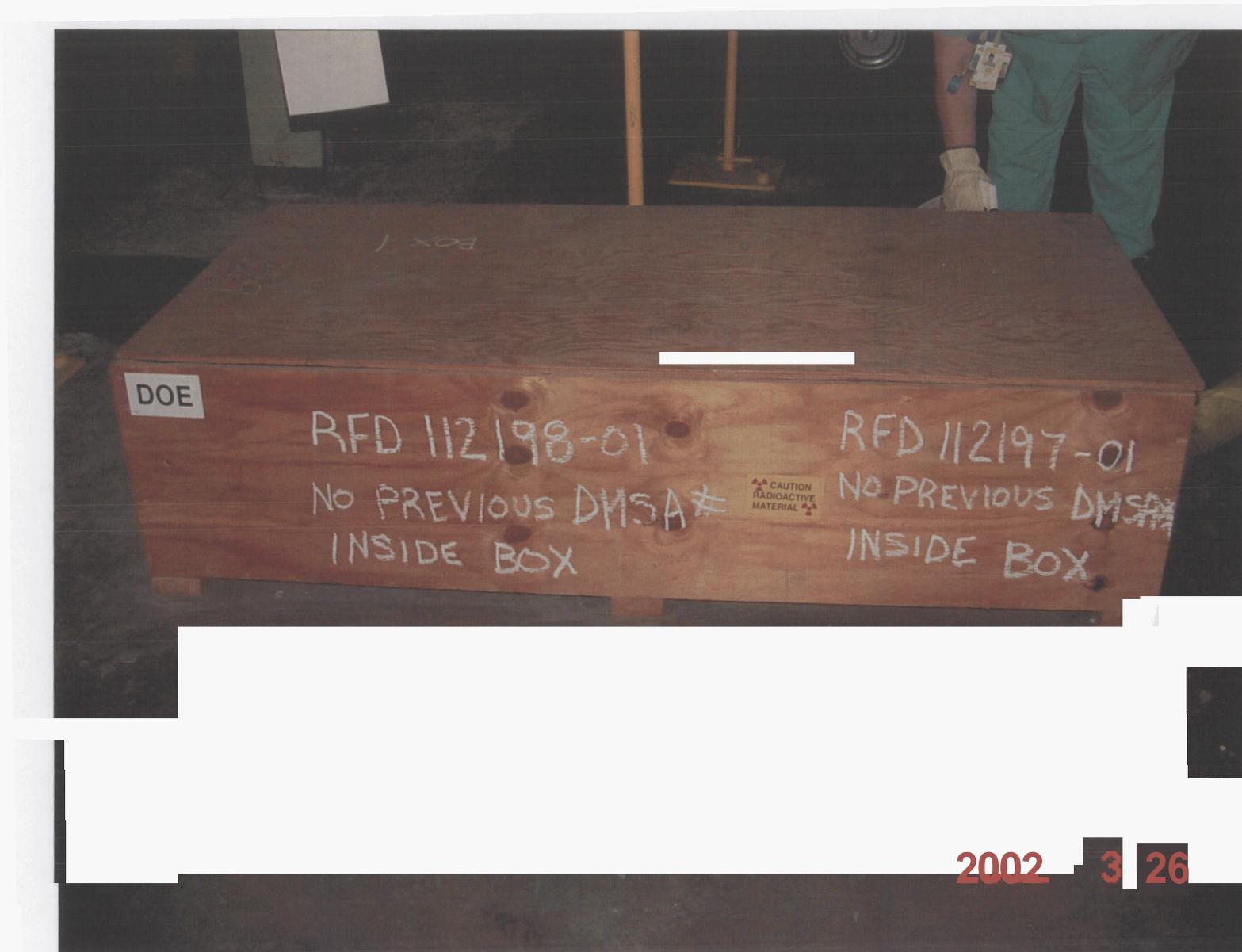
There were no safety related events during the characterization program or subsequent movement of the material. Pre-job briefings were held with all entry and support personnel to ensure that individual responsibilities and authorities were understood. A safety officer was in attendance during all phases of work to evaluate conditions and provide safety related input to workers. All workers had stop work authority to ensure unusual or unexpected events were evaluated before work was allowed to proceed.

DMSA 331-07 Valves in Box Prior to Repackaging



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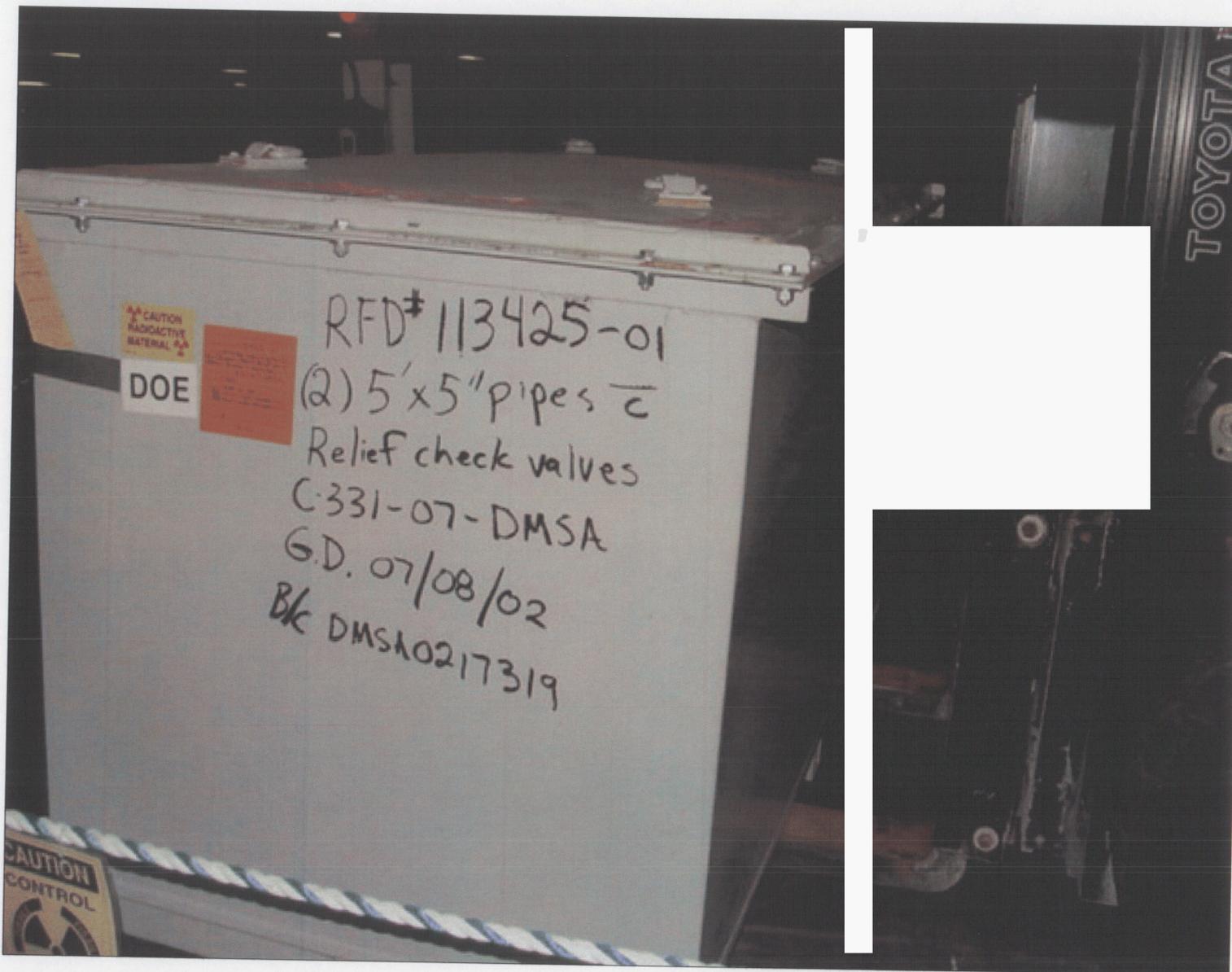
DMSA 331-07 Material in Box Prior to Movement



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DMSA 331-07 Valves in ST-90 Box During Movement



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DMSA 331-07 Following Transfer of Material



Initial Inventory and Characterization Report

Curr. Zone	Item ID	Barcode #	Description	Vol. ft ³	tsc		rcr		llw	asb	fis	Ind	Gen. Date	Char. Date	Transferred To
					non	mix	non	mix							
C-331-07															
	113425-01	DMSA0217319	ST90 BOX WITH WOODEN CRATE CONTAINING 2 PIPE AND RELIEF CHECK VALVES	110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7/8/2002	7/8/2002	C-337-37
	*112197-01		5" PIPE WITH RELIEF CHECK VALVE	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3/25/2002	3/25/2002					
	*112198-01		5" PIPE WITH RELIEF CHECK VALVE	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3/25/2002	3/25/2002	
Summary for C-331-07		(3 RFDs)		110 Ft³											
Grand Total (3 RFDs)				110 Ft³											

* Indicates repackaged item.

DMSA 331-07 Current Inventory

<i>Curr. Zone</i>	<i>Item ID</i>	<i>Barcode #</i>	<i>Description</i>	<i>Vol. ft3</i>	<i>tsc</i> <i>non</i>	<i>tsc</i> <i>mix</i>	<i>rcr</i> <i>non</i>	<i>rcr</i> <i>mix</i>	<i>llw</i>	<i>asb</i>	<i>fis</i>	<i>lnd</i>	<i>Gen.</i> <i>Date</i>	<i>Char.</i> <i>Date</i>	<i>Transferred</i> <i>From</i>
<i>Summary for C-331-07</i>			<i>(0 RFDs)</i>	<i>0 Ft3</i>											
<i>Grand Total (0 RFDs)</i>				<i>0 Ft3</i>											

DMSA C-331-07 INVENTORY

Description	Original RFD	Material Classification	Column #	Barcode	# Items	Volume Cubic Feet (ft³)	Estimated Weight (lbs)	Material Transferred to
ST-90 Box- Contains two (2) 5'x5" diameter pipes with relief check valves- boxed as one item.	113425	LLW	Zone 1	DMSA0217319	1	110	900	c-337-37
	'112197	LLW	Zone 1	DMSA0215305	1	N/A	N/A	C-337-37
	'112198	LLW	Zone 1	DMSA0215306	1	N/A	N/A	c-33737
						<i>Total Estimated ft³</i>	<i>Total Estimated lbs</i>	
						110	900	

*Identifies materials which were repackaged