U.S. Department of Energy's Weapons Complex Scrap Metal Inventory

Research Report

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July 1993

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Preface

A limited inventory of contaminated (radioactive) and uncontaminated materials and equipment from throughout the United States Department of Energy's weapons complex has been completed. Quadrex Corporation and SRS Technologies developed the inventory via subcontract (under contract No. DE-AC21-90MC26328). This report is a compendium of the contractors' final reports.

Abstract

An inventory of contaminated (radioactive) and uncontaminated equipment, metals, and other materials with potential value (were they uncontaminated or could they be decontaminated) has been completed for the United States Department of Energy. The inventory is based on data and other information contained in public documents and, as such, may be considered a "low-end quantity." The Department sponsored this project in order to scope the magnitude of the materials quantity and to consolidate widely dispersed information into a central document. Results of the effort indicate an inventory of 396,300 tons of metal, Department-wide, although actual tonnage may be three to four times this publicly documented quantity. Another 594,800 tons of metal may be produced during decontamination and decommissioning of three Gaseous Diffusion Plants. Should the latter quantity be generated, the Department's inventory will total approximately one million tons, to a potential of more than two million tons, of radioactive scrap metal. The magnitude of the radioactive scrap metal inventory is significant in that it serves as an impetus for technology development in the area of decontamination and reuse.

Contents

	<u>Page</u>
1.0 Introduction	1
1.1 Background	1
1.2 Scope of Work	1
2.0 Literature Search	3
2.1 Public Domain	3
2.2 Methodology	3
2.3 Site Contacts	3
2.4 Source List	4
3.0 Materials Inventory	6
3.1 General	6
3.2 Data Summary	6
3.3 Task 2 Challenges	8
3.4 Conclusions	9
3.5 Inventory	9
4.0 Site Specific Inventories	10
4.1 Fernald Site Summary	10
4.2 Hanford Reservation Site Summary	11
4.3 Idaho National Engineering Laboratory Site Summary	11
4.4 Nevada Test Site Summary	12
4.5 Oak Ridge Site Summary	12
4.5.1 Oak Ridge	13
4.5.2 K-25	13
4.5.3 Y-12	13
4.6 Paducah Gaseous Diffusion Plant Site Summary	14
4.7 Portsmouth Gaseous Diffusion Plant Site Summary	15
4.8 Rocky Flats Site Summary	15
4.9 Savannah River Site Summary	16
4.10 Other Sites	17
5.0 References	18
6.0 Acronyms	18
Appendix A. Sites and Facilities Points-of-Contact Data Report	19
Appendix B. Source Document Listing	27
Appendix C. Scrap Metal Inventory	49

List of Tables

<u>Table</u>		<u>Page</u>
1	Total Documented DOE-Wide RSM Inventory Currently Available	7
2	Total Documented DOE-Wide RSM Inventory by Site	7
3	Total Estimate for D&D of Gaseous Diffusion Plants	8
4	Total Fernald RSM Estimates	10
5	Total Oak Ridge RSM Estimates	13
6	Total K-25 RSM Estimates	14
7	Total Y-12 RSM Estimates	14
8	Total Paducah RSM Estimates	15
9	Total Portsmouth RSM Estimates	16
10	Estimated Gaseous Diffusion Plant D&D RSM Generation	16

1.0 Introduction

1.1 Background

The United States Department of Energy (DOE) has for many years operated and continues to operate a large manufacturing complex for the research, development, production, and testing of nuclear weapons, and for other related activities such as nuclear material recovery. During the course of operating this complex, the Department has accumulated a large inventory of equipment and materials.

Potential sources of scrap equipment and materials are existing radioactive scrap metal storage yards, ongoing decontamination and decommissioning projects, manufacturing operations, and research activities. Radioactive contamination of equipment and materials occurs in the form of either surface or interior contamination. Radioactively contaminated scrap metals have been managed by using on-site storage yards; co-mingling scrap with other low-level, trans-uranic, high-level, or mixed waste streams and burying it at disposal sites; or through decontamination and reuse.

In order to support the Department's programmatic initiatives, it is essential to identify for the Office of Management and Budget, the need to develop technology for the cleaning and recycling of material and equipment, while simultaneously conveying this information to the private sector to gain their interest and participation.

Public data on the amount and composition of scrap equipment and materials stored at the Department's facilities are scattered across a variety of sources. As an initial assessment, the total amount and condition of this equipment and material must be consolidated into a central source document. The inventory activity reported here serves as that initial assessment and, in turn, will support broader technology developments by the Department.

In 1991, the inventory of scrap metal within the Department's complex was estimated as 1.5 million tons (short tons [2000 lb]) (Murphie et al. 1992). It was anticipated at the time of project inception that Task 2 would yield a benchmark estimate for comparison to the 1.5 million tons, although the accuracy of the inventory is dependent on the quality and comprehensiveness of the identified sources. Inadequacies of the available sources will necessitate a series of physical audits to compile a definitive inventory.

1.2 Scope of Work

Two tasks comprise the thrust of this contracted effort. Task 1 is the development of a Source List and is based on determining a list of public documents pertaining to contaminated/uncontaminated scrap metals, equipment, and other materials of value, were they not contaminated or could they be decontaminated.

Task 2 is to develop an inventory of such materials from the Task 1 list of public documentation. In more detail, the Task 2 Inventory Report is based upon fulfillment of the following requirement:

to prepare and submit an Inventory Report based on the information obtained in the Source List. The Inventory Report shall define the type, quantity, and location of used equipment, scrap metal, and other materials existing within DOE's system. The Inventory Report shall list

- the site where the equipment, scrap metal, or other material resides;
- the type and size of equipment;
- the type and volume and/or weight of scrap metal or other material (e.g., scrap or raw material; contaminated or uncontaminated);
- its source (if known);
- the type and level of contamination;
- its accessibility (e.g., readily accessible by ordinary means; buried, etc.);
- the current annual rate of generation; and
- the projected annual rate of generation of the material.

2.0 Literature Search

2.1 Public Domain

In the course of developing its programs and operating its facilities, the DOE generates enormous amounts of information and documents. For obvious reasons, not all of this information is released to the public. In pursuing this study, public documents or "released information" was sought. In many instances, it was found through a document's listing that quantified data exist, but that the document was not released, and therefore, not available for the Task 2 inventory.

2.2 Methodology

Development of the Source List began by making some basic assumptions about the sources of relevant documents. Obviously, the Department was a prime source for information. The Environmental Protection Agency, Government Accounting Office, Office of Technology Assessment, and the Congress were also included as potential sources.

The identification of relevant documents was pursued along two parallel paths. The first path involved accessing libraries and information databases maintained by the agencies identified above. The second path involved direct contact with personnel at each of the Department's weapons complex sites and within each of the other identified organizations. It was anticipated that contact with the facility staffs would be equally effective, if not more effective, in identifying documents pertaining to the radioactive scrap metal inventories.

Contact was made with the Government/contractor at every weapons complex operating site and controlling DOE Field Office. Each point-of-contact was asked to identify and supply, if possible, those public documents which contained references to either the current inventory of scrap at the complex, the annual generation of scrap, or the future plans for decontamination and decommissioning at the site. The majority of contacts were made by telephone, but site visits were also made to those locations believed to have significant inventories of radioactive scrap metal. Section 2.3 provides a more detailed discussion on the contact effort.

Contact was also made with staff members from several Congressional Committees, both House and Senate. In addition, public interest and commercial organizations, including the Sierra Club and the National Recycling Coalition Center, were contacted to determine if they had documents relevant to this effort. None of these non-DOE organizations were able to identify any relevant information sources.

2.3 Site Contacts

For this effort, a list of Department facilities to be contacted was developed. Eight Field Offices and 13 operating sites constitute the Weapons Complex of today. The Fernald, Portsmouth, Paducah, K-25, and Oak Ridge National Laboratory sites, as well as DOE's headquarters' offices (EM-30, -40, and -50) were added to the list. Headquarters' offices were

added either because of their former operating status or their actual or potential involvement in the management of radioactive scrap metal inventories. The senior manager, site/plant manager, or facility director was identified for each of the sites/offices and an introductory letter was sent to each individual.

The contractor developed a Sites and Facilities Points-of-Contact Report to identify each of the desired and completed contacts at each site/office and to track progress in accomplishing the overall communication effort. Contractor analysts identified points-of-contact for each site in three primary areas of responsibility: Waste Management, Environmental Restoration, and Decontamination & Decommissioning. The desired point(s)-of-contact's name, title, division, and phone number were entered into the report. The Points-of-Contact Report is included as Appendix A.

The site visits were originally seen as a necessary follow-up to the telephone contacts for "key" facilities -- in order to resolve data anomalies. In practice, a site visit by the contractor was found to be the best and, in some cases, the only way to obtain available documents. The limited time and direct physical presence of the researchers tended to focus the site point-of-contact's attention on the subject and to obtain a much higher priority for action. In addition, being on site allowed the researchers direct access to available libraries and databases. This approach proved very successful in obtaining documents from the Remedial Action Program Information Center at Oak Ridge and the Public Environmental Information Center at Fernald. Site visits were made to Oak Ridge (National Laboratory, K-25, and Y-12), Fernald, Savannah River, Idaho National Engineering Laboratory, Hanford, and the Nevada Test Site.

2.4 Source List

The Source List is populated with 152 documents from an initially projected field of some 300 documents. It includes several components (statement of work required data), all included in Appendix B of this report.

It was determined that the documents identified and assembled in Task 1 were sufficient to proceed to the actual inventory. Qualitatively, the document collection process and the site visits indicated that there are substantial quantities of radioactive scrap metal at some of the DOE sites. However, at this point, it was not clear that the public documents would adequately substantiate the preliminary 1.5 million tons of metal, referenced previously.

Sites having significant inventories of radioactive scrap metal include

- Hanford,
- Rocky Flats,
- Savannah River,
- Oak Ridge (Y-12),
- Oak Ridge (K-25),
- Fernald,

Paducah,
Portsmouth,
Nevada Test Site,
and Idaho National Energy Laboratory.

Sites/facilities possessing no significant inventories of radioactive scrap metal include

Pantex,
Kansas City,
Mound,
Pinellas,
Lawrence Livermore National Laboratory,
Los Alamos National Laboratory,
and Sandia National Laboratory.

3.0 Materials Inventory

3.1 General

The Data Summary (sub-section 3.2) shows the aggregate inventory estimates culled from documentation identified in Task 1, as well as key observations and conclusions reached in the course of developing the inventory. A Materials Inventory also details the primary issues and challenges that were identified or arose during the course of Task 2. Following the summary, the Site Specific Inventories (Section 4.0) detail individual site specific inventories and give comments for the sites that were found to contain substantial amounts of radioactive scrap metal. Sites that were found to possess little or no significant documented radioactive scrap metal inventories are discussed in Other Sites (Section 4.10).

Although the inventory effort was "broad" in that equipment, metals, and other materials with potential value, were sought, results of the project yielded a "metals inventory", e.g., nickel and copper. This is a direct result of the "potential value" qualifier. Given this, "radioactive scrap metal" is used often, and interchangeable with "materials" throughout this report.

3.2 Data Summary

It is important to reiterate that the degree of accuracy and comprehensiveness of the inventory is entirely dependent on the existence of data through documented sources, on the quality of the documents identified, and their availability for review.

The review and analysis of documents identified in Task 1 has produced a total estimated documented radioactive scrap metal inventory of 396,300 tons Department-wide. (See Table 1 for total radioactive scrap metal inventories Department-wide by metal type, and Table 2 for total radioactive scrap metal inventories by site.) This total refers to currently held inventories that are clearly documented in public sources. Some DOE sites are known to possess large inventories of radioactive scrap metal, but there are little or no documented references that can be cited. The actual radioactive scrap metal figure may be three or four times larger than the documented total.

The total radioactive scrap metal quantity does not include estimates of scrap metals that may be produced as a result of decontamination and decommissioning activities planned for the future, although the inventory database does include records of these estimates. When the more comprehensive decontamination and decommissioning estimates are included, the radioactive scrap metal total increases by 594,800 tons for a total of 991,100 tons. The decontamination and decommissioning estimates are for the Oak Ridge K-25 site and the Paducah and Portsmouth Gaseous Diffusion Plants. The metal inventory for the gaseous diffusion plants is detailed in Table 3. Overall scrap metal generation estimates for all Department sites is 15,000 tons per year, rising to 90,000 tons per year once large-scale decontamination and decommissioning activities have commenced.

Table 1: Total Documented DOE-Wide RSM (Radioactive Scrap Metal) Inventory Currently Available

Metal Type	Quantity (tons)	Percent of Total	Potential Value*
Aluminum	16,250	4.10%	\$9,750,000
Brass	10		N.A.
Copper	11,215	2.83%	16,822,500
Lead	747	0.19%	N.A.
Monel	1,745	0.44%	N.A.
Nickel	47,524	11.99%	285,144,000
Steel	143,221	36.14%	15,324,647
Mixed	175,594	44.31%	N.A.
Total	396,306	100%	\$327,041,147+

* Based on metal values (per ton) (Murphie et al. 1992).

Table 2: Total Documented DOE-Wide RSM Inventory by Site

Site	Quantity (tons)	Percent of Total
Fernald	8,099	2.04%
Hanford	416	0.10%
INEL	9,515	2.40%
NTS	157,319	39.69%
Oak Ridge	25,002	6.31%
K-25	116,429	29.38%
Y-12	5,000	1.26%
Paducah	40,265	10.16%
Portsmouth	34,191	8.63%
Rocky Flats	70	0.02%
Total	396,306	100%

Table 3: Total Estimate for D&D of Gaseous Diffusion Plants

Metal Type	Quantity (tons)	Percent of Total	Potential Value*
Aluminum	22,200	3.73%	\$13,320,000
Copper	44,300	7.45%	66,450,000
Monel	4,400	0.74%	N.A.
Nickel	57,700	9.70%	346,200,000
Steel	269,100	45.24%	28,793,700
Mixed	197,100	33.14%	N.A.
Total	594,800	100%	\$454,763,700

* Based on metal values (per ton) (Murphie et al. 1992).

3.3 Task 2 Challenges

While the Inventory Report was being developed, many challenges limited the ability to gather accurate and comprehensive radioactive scrap metal data. Chief among these limitations was the waste management accounting procedures currently in force at many facilities. Many of the key DOE sites do not presently track radioactive scrap metal as a separate waste item.

The Department of Energy Integrated Data Base (the baseline document for waste generation data) does not explicitly address radioactive scrap metal, generally characterizing metals as solid waste (that goes directly to landfills or scrap dealers if uncontaminated), solid low-level waste, solid transuranic waste, and/or solid mixed waste. This waste inventory and tracking practice makes it difficult to determine, solely from public documents, either the true quantities of radioactive scrap metal that are in inventory at all Department sites, or the current and projected generation rates for scrap metals at Department facilities. The notable exceptions to this practice are the Oak Ridge Operations-managed facilities at Oak Ridge National Laboratory, K-25 and Y-12 sites; Paducah and Portsmouth Gaseous Diffusion Plants; and Fernald -- now the Fernald Environmental Restoration Management Corporation. Generally, comprehensive and accurate data are available for Oak Ridge Operations-managed sites because of the Scrap Metals Program at Oak Ridge and the institution of procedures that separately track scrap metal waste.

A second challenge was the general lack of public documentation on radioactive scrap metal inventories. At some DOE sites there exists information which, when pieced together, would constitute a rough order estimate of on-site inventory. This information, however, is held in

internal databases, correspondence, memoranda, or documents that are not publicly releasable and hence, outside the scope of this project.

The third primary challenge relates to the lack of existing data on radioactive scrap metal inventories, publicly available or otherwise. Many sites simply lack the knowledge of on-site radioactive scrap metal inventories because of the length of time that the materials have been stored. Also contributing is the apparent fact that radioactive scrap metal at some sites has been disposed of for decades with little documentation on metal types, contaminant types and levels, as well as whether material is metallic waste. The site specific inventories section will detail some observations made during the site visits and will help to illustrate the issues raised above.

3.4 Conclusions

At the commencement of this effort, an initial estimate of 1.5 million tons of radioactive scrap metal at DOE sites was cited (Murphie et al. 1992). The aggregate total listed at the outset of this section understates that estimate both because of the limitations detailed above and the preliminary nature of the 1.5 million tons quantity. The early estimate was caveated as being "imprecise", hence the difference is understandable.

Additionally, a Bechtel finding indicates that nearly 80 percent of all DOE scrap metals were reported to be at the Nevada Test Site (Bechtel National Inc. 1988). However, upon inspection of the Bechtel document, the 80 percent figure (79.31 percent) refers to a radioactive scrap metal total of only 180,000 metric tons (about 198,000 tons). Furthermore, the Bechtel document reports no radioactive scrap metal for Savannah River or the Rocky Flats Plant, which is clearly an understatement.

Regardless of the origin and accuracy of earlier radioactive scrap metal estimates, some of which include generation projected through decontamination and decommissioning programs, and the ability of Task 2 to substantiate them, the quantity and potential value of the documented figures shown in Tables 1 and 2 are substantial enough to support decision-making on recycling and decontamination technology programs. In order to gather fully accurate and comprehensive information on radioactive scrap metal, physical inventories will have to take place at "key" Department sites.

3.5 Inventory

The Inventory Report, which details material type, quantity, location, contaminant(s) and other information, is presented as Appendix C.

4.0 Site Specific Inventories

The document review effort has revealed a variety of differences in both the quality and detail of explanation among the documents. Radioactive scrap metal quantity estimates, metal types, scrap forms, contaminants data, location, and accessibility information presented in one document often vary with other documents. Where it is discernable from the reviewed documents, the quantity of data shown in the tables represents the most recent and comprehensive estimates. Also reported is the reasonable range of estimates culled from the documentary evidence. For other sites, although substantial radioactive scrap metal is known to be in storage, public documentation is lacking. During the site visits conducted under this task, numerous observations were made of scrap metal (contaminated and uncontaminated) quantities that are not documented. Given this constraint, the Site Specific Inventories are not fully comprehensive and definitive, but do reflect review of available data, discussions with site personnel, and careful observation during site visits by the contractor.

4.1 Fernald Site Summary

The estimate of total radioactive scrap metal at the Fernald site is 8,099 tons, based on review of public documents, research conducted at the Fernald Public Environmental Information Center, and discussions with site personnel during the site visit on 4-5 March, 1992. (See Table 4 for radioactive scrap metal estimates by metal type.) Of all the key DOE sites, Fernald is perhaps the site on which the most comprehensive and accurate data exist. This is due to the substantial environmental restoration that has already occurred at the site since the December, 1992, hand-over of the site to the Fernald Environmental Restoration Management Corporation.

A key portion of the radioactive scrap metal total is copper, most of which is either in 500-lb ingots or in wire form. In addition, scrap at Fernald is currently being sorted, crated, and shipped for decontamination at the Oak Ridge, Tennessee, facilities of the Scientific Ecology Group and Quadrex Recycle Center. The ferrous scrap pile and copper scrap and ingots were viewed in the northwest section of Operable Unit 3 during the site visit. Site personnel

Table 4: Total Fernald RSM Estimates

Metal Type	Quantity (tons)	Range of Estimates
Copper	1,400	1,130 - 3,468
Steel	3,274	3,000 - 3,274
Crushed Drums	125	125 - 924
Mixed	3,300	2,000 - 4,600
Total	8,099	6,255 - 12,266

disclosed that comprehensive decontamination and decommissioning plans for all major facilities were not yet finalized and no decontamination- and decommissioning-generated radioactive scrap metal estimates were available. However, document review yielded an estimate of approximately 3,800 tons annually of radioactive scrap metal through decontamination and decommissioning, comprised primarily of steel construction material, equipment, and vehicles.

4.2 Hanford Reservation Site Summary

The Hanford Reservation, as one of the largest current or former sites in the weapons complex, reportedly contains substantial amounts of radioactive scrap metal that have been generated since the commencement of operations at the site in the 1940s. Unfortunately, based on the Source List, subsequent document review, and discussions with site personnel during the contractor's 24-25 March, 1993 site visit, there is no detailed, public documentation of radioactive scrap metal at Hanford. The estimated totals range from 182,093 ft³ in the Integrated Data Base to 4,696,230 ft³ in a 15-year old Rockwell Decontamination and Decommissioning program plan. A key Bechtel radioactive scrap metal study estimated 416 tons (Bechtel National Inc. 1988). Most recently, the 1992 Solid Waste Reference Forecast Summary estimated metallic waste generation at 64,755 ft³ annually (Duncan et al. 1992). Site and Department field office personnel stated that there were substantial quantities of radioactive scrap metal that had been buried on the reservation over decades, as well as shipped to the Nevada Test Site. In one small building in the 300-area slated for decontamination and decommissioning, at least 2,000 lb of uncontaminated copper and substantial quantities of zirconium were viewed. This material was unaccounted for in the decontamination and decommissioning plans and in the waste management accounting system. Site personnel involved in decontamination and decommissioning activities accompanied us during a trip to the 100-area reactors where it was learned that massive amounts of structural steel scrap will be produced during the decontamination and decommissioning of these buildings. There are no formal estimates of the steel and other materials expected to be generated through decontamination and decommissioning programs at Hanford, but a baseline estimate will be provided by the dismantling of a support building near B Reactor.

4.3 Idaho National Engineering Laboratory Site Summary

The literature survey produced only a few documents containing scrap metal estimates. These documents present an estimate of 9,515 tons of mixed scrap on site. This estimate includes 747 tons of various types of lead scrap. There is evidence from other documents that the total Department inventory of lead is approximately 4,500 tons and that two-thirds of that is located at Idaho National Engineering Laboratory. However, this information could not be completely substantiated.

Idaho utilizes a database to track its waste for reporting purposes. The Solid Waste Information Management System database does not identify scrap metal per se, but could be the basis for a further in-depth investigation if it were releasable. Personnel at the Radioactive Waste Management Complex were interviewed concerning scrap metals processing. While no

quantities were discussed, it was later learned via Request For Proposal, that the scrap metals backlog at the Radioactive Waste Management Complex is currently 270 tons, destined for disposal via burial.

4.4 Nevada Test Site Summary

The literature survey produced only one document with scrap metal estimates for the Nevada Test Site. This document estimated that there are 157,319 tons of radioactive scrap metal at the site, and did not give detailed quantities by metal type. Site specific documents were requested through the Nevada Test Site Technical and Document Control Libraries. These libraries reported that no documents related to scrap metal inventories existed on site.

Numerous scrap piles were observed during a 17 March, 1993 site visit. Much of the Radioactive Scrap Metal from the Nevada Test Site is volumetrically contaminated due to exposure of the metals to high levels of neutron radiation during nuclear device testing. This makes the radioactive scrap metal that is generated on site at Nevada Test Site unique among DOE sites. In addition, a variety of Government agencies have used the site for testing and disposing of materials. Typically, after an experiment or test, the used equipment was abandoned in-place and barricaded. The Radwaste Section Chief pointed out several buildings and/or complexes that were slated to be decontaminated and decommissioned in the future.

During a tour of the site burial grounds, site radwaste personnel indicated that the Nevada Test Site is receiving large quantities of radioactive waste from other Department sites and that radioactive scrap metal is being shipped to the site labeled as construction rubble. Site personnel also concurred with the apparent fact that facility documentation is not available for all radioactive scrap metal at the site. It is evident that any effort undertaken to document actual quantities of radioactive scrap metal at this site would be significant.

4.5 Oak Ridge Site Summary

The Oak Ridge facilities' radioactive scrap metal inventories are very well documented and detailed. Through the Scrap Metals Program and the decontamination demonstration projects operated at Oak Ridge, much has been learned regarding the content and contamination levels of scrap yards at Oak Ridge-managed sites. The radioactive scrap metal data available at Oak Ridge far exceeds other sites in both content and detail. During the site visit of 10-11 February, 1993, and at a number of subsequent visits, the K-25 and Y-12 scrap yards were viewed (see 4.5.2 and 4.5.3), and the Oak Ridge National Laboratory Central Library, the Hazardous Waste Remedial Actions Program library, and the Remedial Action Program Information Center resources were searched to identify documents of interest for the radioactive scrap metal inventory effort. The Oak Ridge inventories will be augmented in the future by substantial quantities of radioactive scrap metal that are expected to be generated through decontamination and decommissioning of buildings and various equipment.

4.5.1 Oak Ridge

The estimate of total radioactive scrap metal at the Oak Ridge site is 25,002 tons.

Table 5: Total Oak Ridge RSM Estimates*

Metal Type	Quantity (tons)	Range of Estimates
Aluminum	1,350	1,162 - 2,285
Brass	10	10
Copper	25	25 - 26
Monel	30	30
Nickel	3,565	3,565
Steel	19,122	17,957 - 23,551
Mixed	900	900
Total	25,002	23,649 - 30,367

* Does not include K-25 and Y-12 RSM

4.5.2 K-25

The estimate of total radioactive scrap metal at the K-25 site is 116,429 tons. (See Table 6 for estimates by metal type.) There have been a number of decontamination demonstration programs at K-25 that have yielded extensive information on the content and nature of the material in the K-25 scrap yard, which was viewed during the 10-11 February, 1993, site visit. Document review has yielded details about the nature of the scrap contained in the yard, notably that most of the material is either uncontaminated or only slightly contaminated. The scrap is currently held in an open and exposed location (and has been for a number of years). The years of exposure to the elements have cleansed many exposed surfaces of most contaminants and left remaining contamination concentrated on greasy or highly corroded surfaces, or entrapped in the folds, welds, and edges of sheared pieces. This posed difficulties for the scrap metal decontamination demonstrations since the shearing of the scrap pieces has tended to imbed contaminants, and extensive layers of corrosion can serve to bind contaminants to the metal as well as complicate surveying. In some cases, repair welds have served to volumetrically distribute the contamination in the weld region.

4.5.3 Y-12

The estimate of total radioactive scrap metal at the Y-12 site is 5,000 tons. (See Table 7 for estimates by metal type.) The Y-12 scrap yard was viewed during the 10-11 February, 1993

Table 6: Total K-25 RSM Estimates

Metal Type	Quantity (tons)	Range of Estimates
Aluminum	8,500	4,950 - 8,500
Copper	9,700	9,700
Monel	1,700	1,700
Nickel	22,000	22,000 - 22,100
Steel	74,200	39,600 - 74,200
Mixed	329	329
Total	116,429	78,279 - 116,529

Table 7: Total Y-12 RSM Estimates

Metal Type	Quantity (tons)	Range of Estimates
Steel	2,000	2,000
Mixed	3,000	3,000
Total	5,000	5,000

site visit. Although the scrap pile is much smaller than the K-25 yard, the material contained within it is not well characterized and described among documentary information. The site visit observations confirm that the pile contains a very broad range of materials, including office scrap such as desks, file cabinets, and chairs, and some quantity of non-metallic waste, mostly plastic and wood.

4.6 Paducah Gaseous Diffusion Plant Site Summary

The estimate of total radioactive scrap metal at the Paducah site is 40,265 tons. (See Table 8 for estimates by metal type.) The data are generally detailed and recent due to the site's planned decontamination and decommissioning and the inclusion of material from the site in the Oak Ridge Scrap Metal Program demonstrations. The site contains substantial quantities of high value nickel, mostly melt-reduced to one-ton ingots in order to destroy classified shapes and to facilitate storage. According to documented information, much of the nickel scrap is uncontaminated. Aluminum and monel inventories at Paducah are also mostly in ingot form. Contaminants data for Paducah radioactive scrap metal are generally more

Table 8: Total Paducah RSM Estimates

Metal Type	Quantity (tons)	Range of Estimates
Aluminum	3,900	3,725 - 4,150
Copper	0	0
Monel	15	15
Nickel	19,850	8,515 - 19,850
Steel	15,500	13,500 - 16,848
Mixed	1,000	324 - 1000
Total	40,265	26,079 - 41,863

comprehensive than for other sites because of the melt refining tests that have been conducted, primarily on nickel ingots. In addition to the current inventory of radioactive scrap metal at the site, there is expected to be substantial metals quantities generated through decontamination and decommissioning. (See Table 10.)

4.7 Portsmouth Gaseous Diffusion Plant Site Summary

The estimate of total radioactive scrap metal at the Portsmouth site is 34,191 tons, based on review of public documents. (See Table 9 for estimates by metal type.) The detailed documented data on radioactive scrap metal quantities at Portsmouth are available because of its Oak Ridge management, but there is less detail on scrap forms, except that most of the aluminum scrap is reportedly cast into half-ton ingots. There has not been as much activity or interest on test melts and decontamination demonstration programs on Portsmouth scrap as for other Oak Ridge-managed sites, and therefore there is less documented detail on the contaminant types and levels that are present in on-site radioactive scrap metal. The Portsmouth site, like the Paducah Gaseous Diffusion Plant, is expected to generate large quantities of radioactive scrap metal from scrap building materials and equipment through decontamination and decommissioning programs. (See Table 10.)

4.8 Rocky Flats Site Summary

Only two documents were identified that contain data for radioactive scrap metal at the Rocky Flats Plant, yielding an estimated total of 70 tons. That figure is not comprehensive nor complete. Discussions with site personnel by the contractor revealed that no inventory of radioactive scrap metal has ever been conducted at Rocky Flats but that there are substantial on-site quantities of metals waste, both buried and in open scrap yards, and that most metal is

Table 9: Total Portsmouth RSM Estimates

Metal Type	Quantity (tons)	Range of Estimates
Aluminum	2,500	1,420 - 2,600
Copper	90	90
Monel	0	0
Nickel	2,109	2,109
Steel	29,000	20,600 - 29,000
Mixed	492	250 - 492
Total	34,191	24,469 - 34,291

Table 10: Estimated Gaseous Diffusion Plant D&D RSM Generation

Metal Type	Site		
	K-25	Paducah	Portsmouth
Aluminum	8,500	6,100	7,600
Copper	17,600	11,700	15,000
Monel	1,700	1,200	1,500
Nickel	22,000	15,900	19,800
Steel	103,700	74,000	91,400
Mixed	10,200	81,900	105,000
Total	163,700	190,800	240,300

currently crated and shipped to the Nevada Test Site. No significant further detail on radioactive scrap metal inventories is likely without a physical inventory taking place.

4.9 Savannah River Site Summary

The literature survey produced no documented estimates of metal at the Savannah River Site. A site visit was performed on 3-4 March, 1993, and a data search was requested through the

Savannah River Site Technical and Document Control Libraries. The data search identified 12 documents of potential interest with all 12 documents being requested.

During the site visit, a number of radioactive scrap metal storage areas were visited. A contaminated scrap yard, the 244-H laydown pad, was viewed, and well over 100 large radioactive scrap metal items were observed. These items range from a railcar cask to a 100-ton crane hook. Many of these items are either made of, or lined with, stainless steel. Site personnel contacted during the site visit estimate that the 244-H area alone contains thousands of tons of radioactive scrap metal.

Another contaminated scrap yard was viewed in the Central Shop area of the site. This area contains 50 contaminated stainless steel heat exchangers, each weighing 105 tons. Site personnel stated that there were 60 more of these heat exchangers at another on-site scrap yard. In addition, several of the reactor facilities are scheduled for decontamination and decommissioning, according to site personnel. These reactor facilities contain an enormous amount of contaminated metals. It is evident that Savannah River contains a significant amount of undocumented radioactive scrap metal and an effort to catalogue the actual quantities is warranted.

4.10 Other Sites

While there are substantial radioactive scrap metal inventories across the DOE weapons complex, there are a number of sites that possess little or no significant quantities of scrap metal materials. These sites are Kansas City, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Mound, Pantex, and Sandia National Laboratory. For all of these sites there are no substantial documented radioactive scrap metal inventories.

During the course of this study, key personnel with responsibility for Waste Management, Environmental Restoration, and Decontamination and Decommissioning were contacted for each site. For each site listed above, it was reported by site personnel that there is either no scrap metal or negligible inventories of scrap on site. At some sites, the scrap that is produced is uncontaminated and is already recycled for unrestricted use. Los Alamos recycles approximately 350 tons of scrap metals (mostly steel) currently.

5.0 References

Bechtel National Inc. 1988. Scrap Metal Program Phase 1, Final Report. (Jan.) Oak Ridge, TN. Available through the Office of Scientific and Technical Information.

Duncan, D.R., et al. 1992. 1992 Solid Waste Reference Forecast Summary. (June) WHC-EP-0567. NTIS/DE92040414.

Murphie, W.E., M.J. Lilly, III, G.R. Bierman, and M.L. McKernan. Recycling of Radioactive Scrap Metal in the U.S. Department of Energy. In the Proceedings of the National Conference on Minimization and Recycling of Industrial and Hazardous Waste '92, 106-111.

6.0 Acronyms

D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
INEL	Idaho National Engineering Laboratory
NTS	Nevada Test Site
RSM	Radioactive Scrap Metal

Appendix A

Sites and Facilities Points-of-Contact Data Report

Sites & Facilities Points-of-Contact (POC) Data Report

Code	Site/Facility	Senior POC	Working Contact 1	Working Contact 2	Working Contact 3	Notes
LLL	Lawrence Livermore National Laboratory Livermore, CA	John H. Nuckolls Director (510) 422-5435	Fredrick Hoffman Environmental Restoration Division (415) 423-5745	Paula A. Trinoskey Hazards Control Division/D&D (415) 422-2340	Kem Hainebach D&D (510) 422-4572	
LAL	Los Alamos National Laboratory Los Alamos, NM	Siegfried S. Hecker Director (505) 667-5101	Anthony F. Drypolcher Group Leader, EM-7 Waste Management (505) 667-7391	Robert W. Vocke Group Leader, EM-13 Environmental Restoration (505) 667-0808	Larry R. Austin D&D (505) 667-2338	
NTS	Nevada Test Site Las Vegas, NV	John B. Stewart Director (702) 295-9060	D. Curtis Watson Chief, Env. Safety & Health Ops Branch (702) 295-5755			
SLA	Sandia National Laboratories - Albuquerque Albuquerque, NM	Albert Narath President (505) 844-7261	R. W. Lynch Director, Env. Safety & Health Division (505) 844-7221	J. B. Woodard Director, Environment & Transportation (505) 845-9917	Paul C. Bennett D&D (505) 845-8777	
KCO	Kansas City Area Office Kansas City, MO	E. W. Bean Area Manager (816) 997-3341	Patrick T. Hoopes Chief, Env. Safety & Health (Allied) (816) 997-7003	Charles F. Jircher Env. Safety & Health (816) 997-2175	David L. Jordan Env. Safety & Health (TPM) (816) 997-3318	Jordan says there is no RSM at KC (see Sisler letter to DG 16 Dec 92)
MDP	Mound Plant Miamisburg, OH	William P. Davis D&D/Engineering Division (EG&G Mound) (513) 865-3513	Thomas D. Beal Env. Safety & Health Division (EG&G Mound) (513) 865-4897	William H. Bond D&D Division (EG&G Mound) (513) 865-3077	Richard A. Neff Env. Safety & Health Div. (EG&G Mound) (513) 865-3616	

Sites & Facilities Points-of-Contact (POC) Data Report

Code	Site/Facility	Senior POC	Working Contact 1:	Working Contact 2:	Working Contact 3:	Notes
PNP	Pinellas Plant St. Petersburg, FL	G. W. Johnson DoE Area Manager (813) 541-8088	E. E. Patenaude Deputy Area Manager (813) 541-8196	Charles Biederman Deputy Manager (MMC) (813) 541-6144		
PXP	Pantex Plant Amarillo, TX	Richard Loghry Plant Manager (806) 477-3000	Gerald Johnson Assistant Area Manager (806) 477-3120	Joe Burr Chief, Environmental, Safety & Health Division (806) 477-5200	Gary Baker Manager, Waste Management Division (806) 477-4416	
RFP	Rocky Flats Plant Golden, CO	Jim O. Zane General Manager	Tom Greengard Environmental Restoration (EG&G) (303) 273-7121	Louis A. Abila D&D/LLW (EG&G) (303) 966-7399	Ronald E. Williams Env. Management Dept./D&D (EG&G) (303) 966-3462	
Y12	Y-12 Plant Oak Ridge, TN	Robert J. Spence Site Manager (615) 576-0755	D. K. Hoac Chief, Env. Safety & Health Branch (615) 576-0511	Harry E. Harper D&D, On-site ER, Waste (MMC - Y12) (615) 574-3778	Michael L. Baker D&D, Waste, RDDT&E (MMC - Y12) (615) 574-1214	
HST	Hanford Site Richland, WI	William F. Heine Env. Division (Westinghouse Hanford) (509) 376-0706	Scott Spence Manager, D&D Projects (Kaiser Eng. Hanford) (509) 376-4564	Rick Wojtosak Manager, D&D Programs (Westinghouse Hanford) (509) 376-7000	Ron Izatt Deputy Assistant Manager, Env. Management (509) 376-6628	Sisler considers Wojtosak to be the best contact, on the recom- mendation of Jim Berger (509) 376-9942, Technical Program Manager at Westinghouse Han- ford Co.
INE	Idaho National Engineering Laboratory Idaho Falls, ID	J. C. Okeson General Manager (208) 526-1968	H. P. Mann Waste Management (208) 526-1014	P. North Environmental Safety & Quality (208) 526-9761	R. R. Stiger Waste Technology Development (208) 526-8505	

Sites & Facilities Points-of-Contact (POC) Data Report

Code	Site/Facility	Senior POC	Working Contact 1:	Working Contact 2:	Working Contact 3:	Notes:
SRP	Savannah River Plant Aiken, SC	Ambrose Schwallie President, Westinghouse SR	Chris L. Bergren Env. Restoration (Westinghouse SR) (803) 725-1442	Martha A. Ebra Waste Mngt. & Env. Restoration (Westinghouse) (404) 821-7976	Charles R. Sherman Env. Restoration (Westinghouse SR) (404) 821-7873	
D30	DoE Headquarters, EM-30 (Waste Management) Germantown, MD	Jill Lytle Deputy Assistant Secretary (202) 586-0370	Josh Williams EM-351 Tech Support Division (301) 903-7179	Lawrence H. Harmon Director, EM-32 Office of Waste Ops (301) 903-7105		Williams advised Sisler that it is unlikely that there is any documentation of RSM available at the state EPA level.
D40	DoE Headquarters, EM-40 (Environmental Restoration) Germantown, MD	Roger P. Whitfield Deputy Assistant Secretary (202) 586-6331	James J. Flore Director, EM-42 Eastern Area Programs (A) (301) 903-8141	Dr. Sally A. Mann Director, EM-44 Northwestern Area Programs (B) (301) 903-8161	Dr. Ralph G. Lightner Director, EM-45 Southwestern Area Programs (C) (301) 903-8180	(A) Chicago/SRS, Oak Ridge, Fernald; (B) Idaho, Richland, San Francisco; (C) Nevada/Abuquerque Laboratories, Rocky Flats.
D50	DoE Headquarters, EM-50 (Technology Development) Germantown, MD	Clyde W. Frank Deputy Assistant Secretary (202) 586-6382	Kathleen E. Hain Director, EM-55 Office of Demonstration T&E (301) 903-7917	Stanley M. Wolf Director, EM-542 Waste Management Ops R&D (301) 903-7962	Thomas D. Anderson Director, EM-55 Environ Restoration Demo T&E (301) 903-7295	
AFO	Albuquerque Field Office Albuquerque, NM	Bruce G. Twining Manager (505) 845-6049	C. L. Soden Director, Environmental Protection Division (505) 845-5586	Richard F. Sena Project Manager, Environ Restoration Proj Office (505) 845-6307	Nicholas S. Dienes Director, Waste/Surety Management & Ops Div (505) 845-5230	
FFO	Fernald Field Office Cincinnati, OH	R. E. Tiller Manager (513) 758-9180	Robert Janke Branch Chief, Operable Unit #3 (513) 738-6883	Jack Craig Acting Assistant Manager, Env Restor/Waste Man (513) 738-6159	Ray Hansen Acting Manager, Site Operations/D&D (513) 738-9287	See Sisler 16 Dec 92 letter to DG for rough estimates from other sources; data not official. Follow-up call to Janke required.

Sites & Facilities Points-of-Contact (POC) Data Report

Code	Site/Facility	Senior POC	Working Contact 1:	Working Contact 2:	Working Contact 3:	Notes
IFO	Idaho Field Office Idaho Falls, ID	A. A. Pitrolo Manager (208) 526-1322	David Hutchison Manager, Environment Tech Support (EG&G) (208) 526-9263	Christine Lee Principle Coordinator, Env Rest & Waste Mngt - EG&G (208) 526-1380	A. C. Williams Director, Environmental Restoration Division (208) 526-0972	Hutchison advised that he is to be the contact at EG&G Idaho.
NFO	Nevada Field Office Las Vegas, NV	Nick C. Aquilina Manager (702) 295-3211	Joseph N. Flore Director, Env. Rest. & Waste Mngt Division (702) 295-7063	Layton J. O'Neil Chief, Waste Operations Branch (702) 295-3181	Stephan A. Mellington Environmental Restoration Branch (702) 295-0409	
ORO	Oak Ridge Field Office Oak Ridge, TN	Joe La Grone Manager (615) 576-4444	Larry L. Radcliffe Director, Waste Management Division (615) 576-9212	Robert C. Sleeman Director, Environmental Restoration Division (615) 576-0715	Nelson Lingle Chief, Oak Ridge Remediation Branch (615) 576-5580	
RFO	Richland Field Office Richland, WA	J. D. Wagoner Manager (509) 376-7395	Roger Freeberg Director, Env. Rest. Division (EM-40) (509) 376-7167	Deborah Trader Technical Program Officer (EM-50) (509) 376-1831	J. M. Henning Director, Waste Management Division (509) 376-7721	Sisler is trying to contact Freeberg regarding "miles & miles" of sur- plus steel, etc. Trader requests to be kept up to speed on RSM literature search activities.
RFF	Rocky Flats Field Office Golden, CO	Robert M. Nelson Manager (303) 966-2025	Frazier Lockhart Director, Environmental Restoration Division (303) 966-7846	T. E. Lukow Director, Waste Management & Env. Division (303) 966-4561		
SFO	San Francisco Field Office Oakland, CA	Martha D. Dixon Director (415) 273-6358	Lee Williams DoE (510) 273-6430	Carol Gates Conservation Specialist, Energy Prog & Tech Trans (510) 273-6409	Robert Fulton Conservation Specialist, Energy Prog & Tech Trans (510) 273-6406	Williams advised that he is to be the contact for San Francisco.

Sites & Facilities Points-of-Contact (POC) Data Report

Code	Site/Facility	Senior POC	Working Contact 1	Working Contact 2	Working Contact 3	Notes
SRO	Savannah River Field Office Aiken, SC	P. M. Hekman Manager (803) 725-2277	L. C. Goldell Director, Environmental Restoration Division (803) 725-3966	Lynn Sjostrom Assistant Manager, Env. Rest. & Waste Management (803) 725-1377	George Cava Solid Waste Program Branch (803) 725-9601	
FMC	Fernald, ERMCO (FERMCO) Cincinnati, OH	Nicholas Kaufman President	James P. Hopper Env. Rest. Div./D&D (Westinghouse Fernald) (513) 738-6600	Gerald J. Krieger Env. Rest. Div. (Westinghouse Fernald) (513) 738-8659	Rosemary H. Gardewing Communications/Library (Westinghouse Fernald) (513) 738-6534	
K25	K-25 Plant Oak Ridge, TN	Tom Tison Site Manager (615) 576-2675	Larry D. Bates Env. Rest. Waste Mngt. Div. (MMC K25) (615) 574-9042	Charles E. Frye Central Waste Management (MMC K25) (615) 574-9999	Nancy P. Knox Remedial Action Prog. Info. Center (MMC K25) (615) 574-7764	
PGP	Paducah Gaseous Diffusion Plant Paducah, KY	David Allen DoE Site Manager (502) 441-6900	Mark Shanks Waste Management (MMC) (502) 441-6319	Bryan J. Clayton Environmental Restoration (MMC) (502) 441-6401	Jay L. Clausen Environmental Restoration/D&D (MMC) (502) 441-6615	
POP	Portsmouth Gaseous Diffusion Plant Piketon, OH	E. W. Gillespie DoE Site Manager (614) 897-5010	Charles Gates D&D (MMC Portsmouth) (614) 897-4050	Terrance A. Acox D&D (MMC Portsmouth) (614) 897-2331	R. D. Scott D&D (MMC Portsmouth) (614) 897-2063	
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Appendix B

Source Document Listing

Source Doc

SRS Doc No.	Original No.	Title	Author	Organization
S0001		Radioactive Scrap Metal Recycling: A DOE Assessment; Draft	Roger P. Whitfield	DOE, EM-40
S0002		Environmental Assessment/Scrap Material Program	Dr. Robert Gant, et. al.	
S0003	ORNL/NUREG/TM-215	Potential Radiation Dose to Man from Recycle of Metals Reclaimed from a Decommissioned Nuclear Power Plant	F.R. O'Donnell, S.J. Cotter, D.C. Kocher, E.L. Etnier, A.P. Watson	Oak Ridge Na
S0004		Recycling of Radioactive Scrap Metal in the U.S. Department of Energy	William E. Murphie & M. Judson Lilly, III; George R. Bierman; Michael L. McKernan	DoE HQ; H&F Roy F. Westor
S0005	DOE/DE-AC05-86OR21669	Scrap Metal Program Phase I: Decontamination Demonstration Project		Bechtel Natio
S0006	ES/ER/TM-20	Nuclear Facility Decommissioning and Site Remedial Actions: A Selected Bibliography	P.T. Owen, et.al.	Martin Marietta
S0007	DOE/RW-0006, Rev. 7	Integrated Data Base for 1991: U.S. Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics	Ronald A. Milner, J.H. E. Lytle, Roger P. Whitfield	Oak Ridge Na
S0008	ORNL/TM-8077	Contaminated Scrap Metal Inventories at ORO-Managed Sites	J. E. Mack	Oak Ridge Na Carbide Corpo
S0009	CONF-820303-23	Processing Capabilities for the Elimination of Contaminated metal Scrapyards at DOE/ORO-Managed Sites	J. E. Mack & L. C. Williams	Oak Ridge Na Ceramics Divis
S0010	ORNL/TM-8957/R1	The ORNL Surplus Facilities Management Program Long-Range Plan, Revision 1	T.W. Burwinkle, L.E. Stratton, T.E. Myrick	Oak Ridge Na Marietta
S0011		ORO Scrap Metal Decontamination Program	M. Jugan	DoE / ORO
S0012		DOE Scrap Metal Recovery Demonstration Project - Phase I Report (Vol. 1)	P.M. Myers, C.R. Bowles, J.M. Storton, W.R. Stagg	Babcock & Wil
S0013		Experimental Results for the Nickel Purification, Phase 1, of the Oak Ridge Scrap Metal Decontamination Program	T.S. Snyder, M.C. Skriba, C.G. Slater; G.A. Whitlow, L. Kennedy; W.R. Gass	Westinghouse Process Engin Advanced Che
S0014		Considerations in Recycling Contaminated Scrap Metal and Rubble	Anthony F. Kluk; Elizabeth Kundering Hocking	DoE; Argonne

Document Spreadsheet

	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
	1/1/91	D40	Roger P. Whitfield	DOE Library, Germantown	Recent, somewhat comprehensive	Derived	Key document for variety of RSM issues. Apparent source of White Paper 1.5 million ton estimate.
	10/5/90	ORO	Joe La Grone		Detailed metals breakdown	Primary	
onal Laboratory	12/1/78	K25	Nancy P. Knox	RAPIC		Primary	Contains no information on scrap metal inventories.
Technical Associates, Inc.; Inc.	9/22/92	D40	Roger P. Whitfield, Jud Lilly	DOE Library, Germantown	Key article on RSM recycling: key cite for 1.5 M tons figure for total DOE RSM.	Derived	RSM data is DOE-wide, not site specific.
al, Inc./Oak Ridge	1/1/88	K25	Nancy P. Knox	RAPIC	Detailed data; figures are similar to other documents	Primary	Bechtel final report.
Energy Systems, Inc.	9/1/91	K25	Nancy P. Knox	RAPIC	No metals data	Derived	Comprehensive listing of data resources.
onal Laboratory/DOE	10/1/91	K25	Nancy P. Knox	RAPIC	Comprehensive data on waste quantities but very little specific RSM data	Primary	Data covers HLW, LLW, TRU waste, and uranium mill tailings; very little specific RSM data
onal Laboratory (Union ation)	1/1/82	K25	Nancy P. Knox	RAPIC	Detailed RSM data.	Primary	
onal Laboratory (Metals & on)	1/1/82	K25	Nancy P. Knox	RAPIC	Comprehensive	Mostly Derived	S0008 is source for most of metals data.
onal Laboratory/Martin	6/1/87	K25	Nancy P. Knox	RAPIC	RSM data listed as metal LLW, TRU	Primary	Contains plans for D&D, remediation wastes projected for surplus ORNL facilities.
	10/15/87	K25	Nancy P. Knox	RAPIC	Figures match with other documents	Primary	Jugan is key figure in DOE metals program
ox (Nuclear Power Division)	7/30/87	K25	Nancy P. Knox	RAPIC	Metals data citation is S0024	Derived	Fernald is the designated copper collection site.
R&D Center: Chemical & ering; Advanced Processing; nical Research	3/16/87	K25	Nancy P. Knox	RAPIC		Primary	
National Laboratory	3/1/92	D50	Kathleen E. Hain	DOE Library, Germantown	All data is cited from in-hand documents.	Derived	Very good overview of contaminated materials management options (also regulatory and political issues).

Source Document

SRS Doc No.	Original No.	Title	Author	Organization
S0015		Bechtel Study (NTS) Nevada Data		Bechtel
S0016		Information on Nickel Present at Paducah Gaseous Diffusion Plant (PGDP)	David R. Allen	DOE/Paducah Site
S0017		Plutonium Scrap Recovery at the Savannah River Plant	Leonard W. Gray, John H. Radke	E.I. du Pont de Nemours & Co. Savannah River Plant
S0018	IAEA-CN-43/195	Handling and Treatment of Low-Level Radioactive Wastes from Gaseous Diffusion Plants in the United States of America	J.F. Wing; M.E. Mitchell; J.E. Behrend	DoE ORO; Oak Ridge Plant; DoE HQ
S0019	CONF-880630-Session IV	Proceedings, Tenth Annual DOE Low-level Waste Management Conference		
S0020	DOE/ID-10054(90)	Radioactive Waste Management Information for 1990 and Record to Date		
S0021	DOE/ID 10086-83	Solid Waste Information System (SWIMS) Data Summary; Calendar Year 1983	T. Watanabe	Idaho National Engineering and Environmental Waste Management
S0022	DE-RA21-92MC29249	Recycle, Reuse, and Disposal of Materials from DOE's Decontamination and Decommissioning Activities	Preproposal Conference	METC
S0023		Oak Ridge Scrap Metal Program	Mike Jugan	DOE/Oak Ridge; Federal Environmental Conference
S0024	RFP-DE-RP05-88OR21609	Pre-RFP Meeting	Mike Jugan, et. al.	DOE/Oak Ridge
S0025	D01PRCP0001	Decontamination and Decommissioning Program Plan		Rockwell International
S0026		Environmental Assessment of the Scrap Metal Program	R.E. Gant, et. al.	
S0027		An Integrated Decontamination Process for Metals	T.S. Snyder, et. al.	

Document Spreadsheet

	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
	00/00/00	NTS			Document provides specific percentages of total DOE RSM by state. No detail given on source of percentages.	Primary	Document is the source of the S0001 claim that 80% of 1.5 M tons DOE RSM is at NTS. However, this document only refers to 198,000 tons RSM, and neglects Savannah River.
Office	2/8/91	PGP	David R. Allen	Paducah Site Office	Official nickel data for Paducah.	Primary	DOE memo
Source & Co., Savannah	1/1/82	D60	Kathleen E. Hain	DOE Library, Germantown	Paper describes plutonium recovery methods. No RSM data.	Primary	
Gas Gaseous Diffusion	1/1/84	D60	Kathleen E. Hain	DOE Library, Germantown	Gaseous Diffusion Plants waste stream details	Primary	
	9/1/88	D60			Detailed data on lead inventories at INEL	Primary	Only covers lead at INEL; inventory data extracted: clean excess and contaminated excess (not for clean in use and contaminated in use)
	7/1/81					Primary	
Engineering Laboratory, Programs Division	7/1/84	IFO			No specific RSM data.	Primary	Data on LLW, TRU solid waste at 6 major DOE sites.
	8/4/92				Contains many photos of RSM at Oak Ridge and Fernald.	Primary, Derived	Comprised of Amendment 001, Attachment C, Exhibits I, II, III
Restoration to 1992	4/17/92	ORO	Mike Jugan	Oak Ridge	Recent figures; data is estimated	Primary	
	10/1/85	ORO	Mike Jugan	Oak Ridge	Matches with other document data; metal data is estimated	Primary	Also contains: "Contaminated Scrap Recovery Interim Status Report", R.W. Levin, 29 Jul 1975, Union Carbide, Paducah; and "Processing of Surface Contaminated Scrap Metal for Unrestricted Reuse", L. G. Williams, 24 Oct 1985, Martin Marietta, Oak Ridge.
San Hanford Operations	4/1/78	K25	Nancy P. Knox	RAPIC	Single figure for surplus equipment and metallic waste.	Primary	Program plan for D&D of certain surplus 200 area facilities.
	9/1/90	K25	Nancy P. Knox	RAPIC		Primary	
	6/8/89	K25	Nancy P. Knox	RAPIC		Primary	

Source Document

SRS Doc No.	Original No.	Title	Author	Organization
80028		Scrap Metal Management	B.W. Swindle, et. al.	
80029		Demonstration Processing of Contaminated Scrap Metal for Beneficial Reuse, Phase I		SEG
80030		Action Description Memorandum: Beneficial Reuse of Scrap Metal		USDOE
80031		Design Services in Support of the ORO Environmental Restoration and Waste Management Program: Cost Estimate for D&D of the Gaseous Diffusion Plant Task Summary Document		EBASCO
80032		Disposal of Waste Resulting from the Dismantling of Nuclear Facilities	J.M. Lewis, et. al.	
80033		Treatment of Metallic Wastes by Smelting	J.H. Cavendish	
80034		Recycle of Contaminated Scrap Metal	J.H. Cavendish	
80035		Collective Doses from Recycling of Contaminated Scrap Metal	C. Bergman; R. Boge	
80036		Classification of Scrap Material from Nuclear Power Plants as Acceptable for Recirculation	C. Bergman	
80037		Melting of Contaminated Steel Scrap Arising in the Dismantling of Nuclear Power Plants	C.R. Gomer; J.T. Lambley	
80038		Swiss Investigate Melting of Metallic Scrap from NPPs	E. Gohentzer, et. al.	
80039		Exemption Limits for the Recycling of Materials from the Dismantling of Nuclear Installations	A.M. Chapuis, et. al.	
80040		Results of Metallic Waste Treatment by Melting	M. Sappok	
80041		Nonhazardous Reuse of Components Removed from Nuclear Facilities by Melting Processes	E. Schuster	
80042		Treatment of Waste Metals from Decommissioning	W. Hempelmann	
80043		Decommissioning of Nuclear Power Plant Gundremmingen Unit A	H.P. Mies; W. Stang	
80044		Melting Radioactive Scrap	M. Seldner; M. Sappok	
80045		Radiological Protection Criteria for the Recycling of Materials from the Dismantling of Nuclear Installations Communities	A.M. Chapuis, et. al.	
80046		Experience on Melting of Contaminated Steel Scrap and Treatment of Large Quantities of Low-Level Contaminated Steel for Unrestricted Release	U. Loschhorn, et. al.	
80047		The Cost Benefit Analysis of Recycling Low Activity Steels from Fusion Reactors	M.J. Plets, et. al.	

ent Spreadsheet

	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
	5/20/91	K25	Nancy P. Knox	RAPIC		Primary	
	9/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	3/24/89	K25	Nancy P. Knox	RAPIC		Primary	
	4/15/91	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/79	K23	Nancy P. Knox	RAPIC		Primary	
	1/1/79	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/79	K25	Nancy P. Knox	RAPIC		Primary	
	1/22/85	K25	Nancy P. Knox	RAPIC		Primary	
	6/22/83	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/85	K25	Nancy P. Knox	RAPIC		Primary	
	9/1/85	K25	Nancy P. Knox	RAPIC		Primary	
	3/28/04	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	3/1/87	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/88	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/89	K25	Nancy P. Knox	RAPIC		Primary	
	8/1/89	K25	Nancy P. Knox	RAPIC		Primary	

Source Docu

SRS Doc No.	Original No.	Title	Author	Organization
80048		Results of Melting Large Quantities of Radioactive Steel Scrap	M. Sappok	
80049		Behaviour of Radionuclides in the Melting of Steel	E. Schuster, et. al.	
80050		Diamond Wire Cutting Heat Exchangers	T.R. Beckman; J. Blarier	
80051		Development of International Exemption Principles for Recycle and Reuse	W.E. Kennedy	
80052		Final Report: Scrap Metal Program Phase I - Decontamination Demonstration Project		Bechtel National, Inc.
		Announcement of a Recommendation by the Strahlenschutzkommission (SSK): Radiation Protection Principles to be Applied in Measurements for Decontrol of Metal Scrap from the Decommissioning of Uranium Mining Plant and Equipment		Bundesministerium
80053				
80054		Low Level Radioactive Waste Disposal in the Absence of a Disposal Site	G. Underdown; D. Moffett	Canadian Mining & (Cameco)
80055	DOE/EA-0333 DE90 016205	Decontamination and Decommissioning Facility Environmental Assessment, Feed Materials Production Center, Fernald, Ohio		DOE
80056		Siting of Waste Management Facilities		
80057	ORNL/TM-10053 DE88 01335	Results of the Radiological Survey at the Ventron Site, Beverly, Massachusetts	W.D. Cottrell; R.F. Carrier	Oak Ridge National
80058	FMPC-2040 Rev 1	Feed Materials Production Center Waste Management Plan	R.E. Watts, et. al.	Westinghouse Maf
80059	CONF-8509121 DE88 010152	Contaminated Scrap Metal Management at the ORGDP - A Problem Solved (begins at Sec. VI, No. 3, p. 481)	L.C. Williams	Oak Ridge National
80060		Decontamination of Transuranic Contaminated Metals by Melt Refining	B. Heshmatpour, et. al.	Nuclear and Chem
80061	CONF-830523-19	Handling and Treatment of Low-Level Radioactive Wastes from United States Gaseous Diffusion Plants	J.F. Wing, et. al.	Department of Ener Union Carbide
80062		Management of Contaminated Scrap Metal Waste Streams	J.E. Mack; L.C. Williams	
80063	CONF-830418 - 13	Metal-Smelting Facility	D.R. Kellogg, et. al.	Oak Ridge Gaseou Ridge National Lab
80064	ORNL/TM-7951	Decontamination of Transuranic Waste Metal by Melt Refining	B. Heshmatpour, et. al.	

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
	8/1/89	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/90	K25	Nancy P. Knox	RAPIC		Primary	
	11/1/91	K25	Nancy P. Knox	RAPIC		Primary	
	9/1/89	K25	Nancy P. Knox	RAPIC		Primary	
	1/1/88	K25	Nancy P. Knox	RAPIC		Primary	
uer Umwelt	8/15/91	K25	Nancy P. Knox	RAPIC		Primary	
Energy Corporation	1/1/89	D60	Kathleen E. Hain	DOE Library, Germantown	Data is for Canadian facility only.	Primary	Provides useful overview of successful metals waste recycling program.
	8/1/88	D60	Kathleen E. Hain	DOE Library, Germantown	EA for D&D recycling facility. Includes metals estimates for D&D proj.	Primary	
	1/1/88	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	
Laboratory	8/1/88	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	
riale Company of Ohio	12/31/86	FMC	Kathleen E. Hain	DOE Library, Germantown	Relatively detailed, but dated.	Primary	
Laboratory	2/1/86	D60	Kathleen E. Hain	DOE Library, Germantown	Only single overall estimate of RSM at ORGDP.	Primary	Document is part of "Proceedings of the Seventh Annual Participants' Information Meetings DOE Low-Level Waste Management Program"
al Waste Management	1/1/83	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	Discusses melt refining techniques, effective slags.
oy, Oak Ridge	1/1/83	D60	Kathleen E. Hain	DOE Library, Germantown	Metal types not specified.	Primary	Source(s) not cited.
		D60	Kathleen E. Hain	DOE Library, Germantown		Primary	Source(s) not cited.
Diffusion Plant, Oak ratory	12/1/82	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	Cites ORNL/TM-8077
	12/1/81	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	

Source Docu

SRS Doc No.	Original No.	Title	Author	Organization
S0065	CONF-800416	Consolidation of Waste Disposal Activities at the PGDP	P.A. Getz; H. Pulley	Oak Ridge National Carbide
S0066	DPST-78-125-2	Waste Management April-June 1978		Du Pont
S0067	NLCO-1132	Feasibility Study of a Portable Smelter for Scrap Metals	J.H. Cavendish, ed.	Department of E National Lead C
S0068	EGG-MS-8879	Technical Assessment of Processes to Enable Recycling of Low-Level Contaminated Metal Waste	G.A. Reimann	EG&G Idaho, Inc.
S0069	DOE/NE/44139-48	Design, Construction and Operation of the Contact Size Reduction Facility at the West Valley Demonstration Project	D.E. Frank, et. al.	West Valley Nuc
S0070	CONF-880805 Vol. 2 DE88 015062	The Recycling Alternative	Michael S. McGough	Quadrex Recycl
S0071		Waste Minimization Program at the Feed Materials Production Center	J.E. Blasdel, et al.	Westinghouse A
S0072		Role of Recycling in the Management of Low-Level Radioactive Wastes	N.D. Dudley; M.S. McGough	Quadrex
S0073	CONF-8705282-1	Metal Melting for Volume Reduction and Recycle	R.L. Miller	UNC
S0074	FMPC - 2087	The Waste Minimization Program at the Feed Materials Production Center	J.E. Blasdel, et. al.	Westinghouse
S0075		Decontamination Effectiveness for Metallic Low Level Waste	G.L. Copeland, et. al.	Oak Ridge Natk
S0076	CONF 811056	USDOE Activities in Low-Level Radioactive Waste Treatment	J.E. Vath	
S0077		FAX to Ed from Pat Josey, LANL		LANL/Johnson
S0078	FS-91-00 Rev. A	Plutonium Recovery Modification Project Feed Study		KMI Services
S0079	DOE/RW-0006, REV. 8	Integrated Data Base for 1992: U.S. Spent Fuel and Radioactive Waste Inventories, Protections, and Characteristics		Oak Ridge Natk
S0080	WHC-SP-0815, Rev. 3	Nuclear Reactor Shut-Down Program Plan, Volume 1	H.L. Debban	Westinghouse,
S0081	WHC-EP-0231-5	Surplus Facilities Program Plan		Westinghouse,
S0082	Y4.En2/3:101-187	DOE: Pollution at Fernald, Ohio		101st Congress Committee on E
S0083	Y4.En2/3:101-74	Low-Level Radioactive Waste		101st Congress Committees on Interior and Ins
S0084	Y4.G74/7:D35/8	Decommissioning and Decontamination Requirements for Closing Nuclear Facilities		101st Congress Committee on C

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
al Laboratory, Union	12/1/80	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	
	1/1/78	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	
ergy, Oak Ridge mpany	6/1/78	D60	Kathleen E. Hain	DOE Library, Germantown	RSM estimates.	Primary	Source(s) not cited.
	10/1/91	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	
ear Services	5/1/88	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	
Centerr	7/1/87	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data	Primary	Briefly describes Quadrex recycling processes.
aterials Company of Ohio	2/1/88	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	Paper from "Proceedings of the Ninth Annual DOE Low-Level Waste Management Forum"
	1/1/88	D60	Kathleen E. Hain	DOE Library, Germantown	No DOE metals data.	Primary	
	3/27/87	D60	Kathleen E. Hain	DOE Library, Germantown	No RSM data.	Primary	
	1/1/87	D60	Kathleen E. Hain	DOE Library, Germantown	RSM estimates.	Primary	More detailed Fernald data found in other documents.
nal Laboratory	12/1/81	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	
	1/1/81	D60	Kathleen E. Hain	DOE Library, Germantown		Primary	
ontrols World Services, Inc.	00/00/00	LAL	Pat Jossey	LANL	Refers only to annual amounts of clean scrap recycled	Primary	
	1/1/91	RFP	Brac Melton	EG&G, Rocky Flats	Metal types not specified	Primary	Data do not include D&D metals.
nal Laboratory	10/1/92			DOE Library, Germantown	No RSM data.	Primary	
lanford	00/00/00	HST	Mark Morton	Westinghouse Hanford Co.	Inventory equipment; estimated weights.	Primary	Total weights calculated based on inventory.
lanford	00/00/00					Primary	
2nd Session; House nergy and Commerce	7/5/80					Primary	
2nd Session; House Energy and Commerce, ar Affairs	8/1/89					Primary	
1st Session; House overnment Operations	8/3/89					Primary	

Source Docu

SRS Doc No.	Original No.	Title	Author	Organization
S0085	Y4.En1:S.hrg.101-658	Department of Energy's Nuclear Facilities		Committee on En
S0086	Y4.B65/3:101-4	Department of Energy Defense Nuclear Facilities Cleanup and Modernization		Resources 101st Congress, 1
S0087	Y4.En2/3:100-201	Cleanup at Federal Facilities		Committee on the 100th Congress, 2
S0088	Y4.En2/3:100-223	Low-Level Nuclear Waste		Committee on En 100th Congress, 2
S0089	Y4.En2/3:100-236	Pollution at Fernald, Ohio		Committees on En Interior and Insular 100th Congress, 2
S0090	Y4.En2/3:101-68	Radioactive Waste Control		Committee on En
S0091	Y4.Ar5/3:S.hrg.101-264	Safety, Modernization, and Environmental Cleanup of the U.S. Nuclear Weapons Complex		101st Congress, 1 Committee on Arm
S0092	Y4.En2/3:100-92	Nuclear Waste Issues		100th Congress, 1 Committee on En
S0093	Y4.G74/9:S.hrg.100-311	Environmental Issues at Department of Energy Nuclear Facilities		100th Congress, 1 Committee on Gov
S0094	Y4.En2/3:99-102	DOE Radioactive Waste Repository Program		99th Congress, 1s Committee on En
S0095	Y4.En2:S.hrg.99-349	Low-Level Radioactive Waste Disposal		99th Congress, 1s Committee on the Works
S0096	HR101-217, pt. 1	Commission on Environmental Cleanup at Department of Energy Facilities		101st Congress, 1 Committee on En
S0097	DOE/ID 10065-88	Nuclear Solid Waste Information Management System		
S0098	DOE/ID-10272	INEL Information System TRU Waste Database Users Manual		Department of En
S0099	WM-PD-90-003	Inventory Analysis of TRU Waste at the RWMC	K.P. Gray	
S0100	WM-PD-90-4C30-001	INEL Solid Radioactive Waste Management Databases for Waste at the RWMC	Frasure, Gray, et al.	
S0101	WTD-92-032	INEL Waste Inventory Compilation	Meehan, et. al.	
S0102		Radioactive Scrap Metal Recycling: A DOE Assessment	M.J. Lilly, et. al.	
S0103		USDOE Decontamination and Decommissioning Planning and Operations Experience, Draft.	W.E. Murphy	
S0104	E1.28:C00-2893-10	Energy Conservation in the U.S. Economy from Increased Recycle of Obsolete Steel Scrap	James R. Brodrick	U.S. Department o Industrial Energy C

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
gy and Natural	10/31/89					Primary	
st Session; House	2/8/89					Primary	
Budget							
nd Session; House	3/10/88					Primary	
gy and Commerce							
nd Session; House	6/23/88					Primary	
gy and Commerce,							
Affairs							
nd Session; House	10/14/88					Primary	
gy and Commerce							
st Session; House	7/19/89					Primary	
gy and Commerce							
st Session; Senate	2/2/89					Primary	
ed Services							
st Session; House	6/11/87					Primary	
gy and Commerce							
st Session; Senate	3/17/87					Primary	
mmmental Affairs							
& 2nd Sessions; House	8/1/86					Primary	
gy and Commerce							
Session; Senate	10/8/85					Primary	
Environment and Public							
st Session; House	8/3/89					Primary	
gy and Commerce							
	1/1/89					Primary	
gy Field Office, Idaho	1/1/90				No RSM data.	Primary	
	1/1/90					Primary	
	1/1/90					Primary	
	1/1/92					Primary	
	3/1/92					Primary	
	11/8/91					Primary	
Energy, Division of onservation	11/1/78			Library of Congress	No RSM data.	Primary	Contains useful review of steel- making process, potential for recycling to save energy and resources.

Source Docum

SRS Doc No.	Original No.	Title	Author	Organization
S0105	E1.2&TID-28286	An Analysis of the Recycling of Metals; Final Report	Zuhair A. Munir, Eugene Fuss, Lew Ivers	Materials and Device Davis, for DOE Divi Research and Tech
S0106	DOE Order 5820.2A	Radioactive Waste Management Department of Energy Special Case Radioactive Waste Inventory and Characterization Data Report		Department of Ener
S0107	DOE/LLW-96; Draft	Supplemental Data Report to the Department of Energy Special Case Radioactive Waste Inventory and Characterization Data Report		Department of Ener EG&G Idaho, Inc.
S0108	DOE/LLW-95, Draft	Spent Fuel Disassembly Hardware and Other Nonfuel Bearing Components: Characterization, Disposal Cost Estimates, and Proposed Repository Acceptance Requirements	D.E. Kudera, et. al.	Department of Ener EG&G Idaho, Inc.
S0109	PNL-6046	Greater-Than-Class-C Low Level Radioactive Waste Characterization: Estimated Volumes, Radionuclide Activities, and Other Characteristics	A.T. Lukis, et al.	Pacific Northwest L
S0110	DOE/LLW-114	Idaho Chemical Processing Plant Spent Fuel and Waste Management Technology and Development Plan, draft report	R.A. Hulse	Department of Ener EG&G Idaho, Inc.
S0111		Waste Minimization and Pollution Prevention Awareness Plan		Department of Ener
S0112	PL-FMPC-3009	Waste Certification Program Plan for the Management of Waste		Feed Material Prod Westinghouse Mat
S0113	QA87001 Rev. 5	Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements	K. J. Dunbar	Feed Materials Pro Westinghouse Mat
S0114	NVO-325, UC-70B	Control of Construction Waste		DOE Nevada Oper Reynolds Electrical (REECO)
S0115	FMPC-720	Comments on the Fernald Environmental Management Project: Scrap Metal Piles, Removal Action Number 15 Work Plan		Westinghouse Mat FMPC
S0116				DOE

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
Research Group, UC Division of Conservation Biology	1/1/78			NTIS	No RSM data.	Derived	Provides comprehensive review of numerous metal producing industries and recycling potentials.
by	9/26/88				No RSM data.	Primary	
Field Office, Idaho	5/1/90				No RSM data.	Primary	
Field Office, Idaho	7/1/90				No RSM data.	Primary	
ab	10/1/86					Primary	Commercial fuel metals data.
Field Office, Idaho	8/1/91					Primary	Commercial fuel metals data.
Field Office	7/27/92				No RSM data.	Primary	
duction Center, rials Company of Ohio	4/30/91	FMC	R.E. Tiller	Fernald Public Environmental Information Center	Contains generation estimates through FY94.	Primary	
duction Center, rials Company of Ohio	6/30/90	FMC	R.E. Tiller	Fernald Public Environmental Information Center	No RSM data but reports that metals are shipped to NTS.	Primary	Waste certification plan for shipping waste (including RSM) to NTS
ations Office and & Engineering Co., Inc.	10/1/88	FMC	R.E. Tiller	Fernald Public Environmental Information Center	No RSM data.	Primary	States that bulk LLW waste is accepted for disposal only at Area 3 RWMS Bulk Waste Management Unit
rials Company of Ohio -	11/10/88	FMC	R.E. Tiller	Fernald Public Environmental Information Center	No RSM data.	Primary	Contains waste disposal characterizations for metals.
	00/00/00	FMC	R.E. Tiller	Fernald Public Environmental Information Center		Primary	Internal memo regrading RFP for processing RSM.

Source Document

SRS Doc No.	Original No.	Title	Author	Organization
S0117	DOE-2007-92	Scrap Metal Piles Removal Action, Number 15		DOE FEMP and EPA
S0118		Removal Action Project Plan (RAPP) for the Processing and Disposal of an Estimated 2,210 Tons of Non-RCRA Scrap Metal from the Fernald Environmental Management Project (FEMP) Site		Scientific Ecology Group
S0119	03TE04239201	Removal Site Evaluation Scrap Metal Piles		Parsons
S0120		Scrap Metal Piles, Removal Action Number 15, Work Plan		Westinghouse Environmental Company of Ohio
S0121		Draft Sections of the Final Report of the Hanford Future Site Use Working Group	Alice Shorett	Triangle Associates, Inc.
S0122	FEMP-2275, UC-707	Annual Site Environmental Report for Calendar Year 1991		Westinghouse Environmental Company of Ohio, Environmental Management Department
S0123	GA 1.13: RCED-88-131	Nuclear Waste: Fourth Annual Report on DoE's Nuclear Waste Program. Report to Congress/U.S. General Accounting Office		GAO
S0124	ORO-89-1	Sales Solicitation Request For Technical Proposal		Department of Energy, t
S0125	DOE/EA-0817	Receipt and Storage at Oak Ridge National Laboratory, Oak Ridge, Tennessee of Transuranic Waste, Mixed Transuranic Waste, and Mixed Oxide Waste from Nuclear Fuel Service, Inc.		Department of Energy, t
S0126	WHC-EP-0231-5	Surplus Facilities Program Plan, Fiscal Year 1993		Westinghouse Hanford
S0127		B/W Good Materials in Scrap Pile (C.S.)		Westinghouse Savannah
S0128		B/W Excess Scrap Pile		Westinghouse Savannah

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
	6/26/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center	Describes metals inventory for removal action, divided into high-count and low-count metals.	Primary	Letter and enclosure providing revised pages reflecting incorporation of EPA's comments and satisfying the requirements for Work Plan approval.
Inc. (Oak Ridge)	8/14/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center	Only contains total RSM for removal contract.	Primary	Removal action by SEG and Quadrex. 85% of metal to SEG for melt refining, 15% to Quadrex for surface decon.
	4/1/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center	Aggregates data from S0117.	Derived	See S0117 for original data.
ental Management	1/1/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center		Primary	See also S0116, S0117
	10/15/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center	No RSM data.	Primary	Describes contamination present at Hanford; maps site into seven areas and proposes alternative future uses.
ental Management	12/1/92	FMC	R.E. Tiller	Fernald Public Environmental Information Center		Primary	Part of the Fernald Environmental Project; prepared for the USDOE, Fernald Office
	1/1/88			General Accounting Office		Primary	
ak Ridge	11/14/88					Primary	Source(s) not cited.
Q	10/30/92					Primary	
River		SRS	Bill Ice	Savannah R.		Primary	
River		SRS	Bill Ice	Savannah R.		Primary	

Source Document

SRS Doc No.	Original No.	Title	Author	Organization
S0129		B/W Material in Scrap or Salvage Yard (Central Shop)		Westinghouse Savannah
S0130		LI-AL Alloy Scrap Recovery Tests		Westinghouse Savannah
S0131		Scrap Disposal		Westinghouse Savannah
S0132		Reprocessing of Scrap Lead Building 740-A		Westinghouse Savannah
S0133		Comments on LANL Draft Report "Report to the Nuclear Materials Discard Guidance Workshop"		Westinghouse Savannah
S0134		9CLR Loading Scrap Metal 740A		Westinghouse Savannah
S0135		6 CL Scrap Loading, 740A		Westinghouse Savannah
S0136		6CLR Scrap Pile, 741A		Westinghouse Savannah
S0137		Contaminated Scrap, 105C		Westinghouse Savannah
S0138		3/700 Area Scrap Pile		Westinghouse Savannah
S0139	DE-RPO-860R21609	Processing		Department of Energy
S0140	DOE/WIPP-91-005-Vol. I	RCRA Part B Permit Application		Department of Energy Plant (WIPP)
S0141	DOE/ID-10086(88)	U.S. Department of Energy National Solid Waste Information Management System (NSWIMS)	T. Watanabe	Department of Energy EG&G Idaho, Inc.
S0142	WHC-EP-0667	1992 Solid Waste Reference Forecast Summary	D.R. Duncan, et. al.	Department of Energy Westinghouse Hanford
S0143		FAX from J. Harvey		SEG Richland
S0144	EGG-WT-8041	Update of Lead Inventory; Informal Report	Monte V. Davis	INEL
S0145		Low-Level Radioactive Waste Disposal/Treatment Technology Overview -- Savannah River Site	H.F. Sturm, Jr.	E.I. du Pont de Nemours
S0146	CONF-860906 DE88015082	Electrochemical Decontamination of Metallic Radioactive Waste	A.D. Turner, et. al.	UK Atomic Energy Authority
S0147		Reduction of Low-Level Radioactive Waste at the Oak Ridge Y-12 Plant	J.K. Bailey, et. al.	Martin Marietta Energy Department of Energy
S0148		The Savannah River Plant Low-Level Waste Segregation Program	V.B. Wheeler	E.I. du Pont de Nemours

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	Pub. Date	Document Availability			Document Specifications		
		Site Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
ah River		SRS	BN Ice	Savannah R.		Primary	
Oak Ridge	2/1/86					Primary	
Waste Isolation Pilot	2/1/81				No RSM data.	Primary	
Field Office, Idaho	9/1/82				No RSM data.	Primary	
Richland	6/1/82	HST		Hanford	Metals volumes estimated.	Primary	
					Data is for K-25 and Paducah.	Primary	
		INE	Ed Feldman	INEL		Primary	
rs and Company	8/1/87		METC		No RSM data	Primary	From: "Proceedings of the Ninth Annual DOE Low-Level Waste Management Forum". Describes lead decon methods at Savannah River.
hority	00/00/00		METC		No RSM data.	Primary	Describes electrochemical decontamination methods
Systems, Inc., Oak Ridge Y-12 Plant	8/1/87		METC		Describes separation of clean and contaminated refuse in selected areas to reduce LLW generation rates.	Primary	From: "Proceedings of the Ninth Annual DOE Low-Level Waste Management Forum". Describes lead decon methods at Savannah River.
rs and Company	8/1/87		METC		No RSM data. Describes separation of clean and contaminated refuse to reduce LLW generation rates.	Primary	From: "Proceedings of the Ninth Annual DOE Low-Level Waste Management Forum". Describes lead decon methods at Savannah River.

Source Docu

SRS Doc No.	Original No.	Title	Author	Organization
S0149	ORNL/NFW-81/34	Decontamination Effectiveness for Metallic Low Level Waste	G.L. Copeland	Oak Ridge National Ceramics Division
S0150		1982 Federal Environmental Restoration Conference & Exhibition	various papers	
S0151	JC-32171	Fernald Environmental Restoration Management Corporation (FERMCO) Request For Proposal For Disposal of 1400 Tons of Low Level Waste Copper		U.S. Department Fernald Environmental Restoration Corporation (FERMCO)
S0152	C83-170292	EG&G Idaho, Inc. Request For Proposal		EG&G, Idaho, Inc.

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	Pub. Date	Document Availability			Document Specifications		
		SNA Code	Point of Contact	Specific Location	Data Quality	Primary or Derived?	Comments
Laboratory, Metals and	11/4/81				No RSM data	Primary	Discusses surface decontamination methods.
	4/18/92				No RSM data	Primary	
W Energy Metal Management (CO)	2/10/93				Recent, more detailed	Primary	Describes copper scrap (not ingots) at Fernald: containerized, contaminated, insulation contains asbestos.
	3/12/93				Describes LLW at INEL for disposal.	Primary	Contains "Statement of Work Commercial Transport and Treatment of Low-Level Radioactive Waste"

Appendix C

Scrap Metal Inventory

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) pre (Tons/Yr)	Contaminated or Uncontaminated
10001	K35	Mixed Metal	Various	Not Stated	Not Stated	Storage	45,000			200	200	Contaminated
10002	Y12	Mixed Metal	Various	Not Stated	Not Stated	Storage	3,500			600	600	Contaminated
10003	ORO	Mixed Metal	Various	Not Stated	Not Stated	Storage	500					Contaminated
10004	POP	Mixed Metal	Various	Not Stated	Not Stated	Storage	24,800			200	200	Contaminated
10006	POP	Mixed Metal	Various	Not Stated	Not Stated	Storage	22,400			200	200	Contaminated
10008	FPO	Mixed Metal	Various	Not Stated	Not Stated	Storage	23,100					Contaminated
10007	POP	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	15,350		30,700,000			Mixed
10008	POP	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,565		7,952,000			Mixed
10009	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	2,150		4,300,000			Mixed
10010	POP	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.						
10011	ORO	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	23,551		47,102,000			Mixed
10012	ORO	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,565		7,130,000			Mixed
10013	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	1,152		2,324,000			Mixed

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Note	Document ID	Page Number(s)
												55% Ferrous Metal/Steel; 7% Aluminum Sheet/Coatings; 4% Aluminum Blades; <1% Stainless Steel; 0.15% Nickel Metal/Inconel; 0.12% Copper Ingots/Wire; <1% Mixed Metal Turnings and Brass	S0001	
												55% Ferrous Metal/Steel; 7% Aluminum Sheet/Coatings; 4% Aluminum Blades; <1% Stainless Steel; 0.15% Nickel Metal/Inconel; 0.12% Copper Ingots/Wire; <1% Mixed Metal Turnings and Brass	S0001	
												55% Ferrous Metal/Steel; 7% Aluminum Sheet/Coatings; 4% Aluminum Blades; <1% Stainless Steel; 0.15% Nickel Metal/Inconel; 0.12% Copper Ingots/Wire; <1% Mixed Metal Turnings and Brass	S0001	
												55% Ferrous Metal/Steel; 3% Aluminum Sheet/Coatings; 7% Aluminum Ingots; <2% UFG Cylinders; <1% Copper Ingots/Wire	S0001	
												44% Ferrous Metal/Steel; 5% Aluminum Sheet/Coatings; 4% Aluminum Ingots; 3% Aluminum Blades; 32% Nickel Ingots; 7% Drums Mixed/Crushed; 1% Mixed Metal Turnings & Brass	S0001	
												Mixed/Crushed; 45% Copper Ingots/Wire; 3% Nonferrous (Pb, Mixed Metals, etc.)	S0001	
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) prev (Tons/Yr)	Contaminated or Uncontaminated
10014	ORO	Copper	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.						
10015	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	29,000		68,000,000			Mixed
10016	POP	Nickel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	2,108		4,218,000			Mixed
10017	POP	Copper	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.						
10018	FFO	Steel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	3,280		6,800,000			Mixed
10019	FFO	Nickel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.						
10020	FFO	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.						
10021	FFO	Copper	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	3,488		6,836,000			Mixed
10022	ORO	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	48,872		83,344,000			Contaminated
10023	ORO	Aluminum	Scrap, Ingots	Not Stated	Generated scrap on site.	Not Stated	7,430		14,860,000			Contaminated
10024	ORO	Nickel	Ingots	Not Stated	Generated scrap on site.	Not Stated	9,360		18,700,000			Contaminated
10025	ORO	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,488		2,972,000			Contaminated
10026	ORO	Steel	Crushed Drums	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated
10027	ORO	Other	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,872		3,944,000			Contaminated
10028	IC25	Various	Not Stated	Not Stated	Generated scrap on site.	Not Stated				100	100	Contaminated
10029	Y12	Various	Not Stated	Not Stated	Generated scrap on site.	Not Stated				800	800	Contaminated
10030	POP	Various	Not Stated	Not Stated	Generated scrap on site.	Not Stated				180	180	Contaminated
10031	PGP	Various	Not Stated	Not Stated	Generated scrap on site.	Not Stated				150	150	Contaminated
10032	ORO	Steel	Shavings, Libe sheets, other	ORQDP	Generated scrap on site.	Not Stated	17,857		35,914,000			Contaminated
10033	ORO	Aluminum	Not Stated	ORQDP	Generated scrap on site.	Not Stated	1,350		2,700,000			Contaminated
10034	ORO	Copper	Not Stated	ORQDP	Generated scrap on site.	Not Stated	25		50,000			Contaminated
10035	ORO	Brass	Not Stated	ORQDP	Generated scrap on site.	Not Stated	10		20,000			Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
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												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
												Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077 J.E. Mack, Jan 82	S0009	2
WU-235	22.2 Bq/g	Te-99	3155 Bq/g	Np-237	<1.3 x 10 ⁻³ Bq/g	Pu-239	<.11 Bq/g					Contamination levels are estimates	S0023	Metals: 4, Contam: 6
WU-235	22.2 Bq/g	Te-99	3155 Bq/g	Np-237	<1.3 x 10 ⁻³ Bq/g	Pu-239	<.11 Bq/g					Contamination levels are estimates	S0023	Metals: 4, Contam: 6
WU-235	049 Bq/g	Te-99	535 Bq/g	Np-237	<.013 Bq/g	Pu-239	<.011 Bq/g					Contamination levels are from spot sample analysis	S0023	Metals: 4, Contam: 7
WU-235	22.2 Bq/g	Te-99	3155 Bq/g	Np-237	<1.3 x 10 ⁻³ Bq/g	Pu-239	<.11 Bq/g					Contamination levels are estimates	S0023	Metals: 4, Contam: 6
WU-235	22.2 Bq/g	Te-99	3155 Bq/g	Np-237	<1.3 x 10 ⁻³ Bq/g	Pu-239	<.11 Bq/g					Contamination levels are estimates	S0023	Metals: 4, Contam: 6
WU-235	22.2 Bq/g	Te-99	3155 Bq/g	Np-237	<1.3 x 10 ⁻³ Bq/g	Pu-239	<.11 Bq/g					Contamination levels are estimates	S0023	Metals: 4, Contam: 6
													S0023	5
													S0023	5
													S0023	5
													S0023	5
WU-235	<500 ppm	Te-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
WU-235	<500 ppm	Te-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
WU-235	<500 ppm	Te-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
WU-235	<500 ppm	Te-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9

Inventory

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0036	ORO	Monel	Not Stated	ORGDP	Generated scrap on site.	Not Stated	30		60,000			Contaminated
I0037	ORO	UF6	Cylinders (Steel, monel, aluminum)	ORGDP	Generated scrap on site.	Not Stated	225		450,000			Contaminated
I0038	ORO	Mixed Metal	Tube sheets, crushed drums, other	ORGDP	Generated scrap on site.	Not Stated	900		1,800,000			Contaminated
I0039	PGP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	15,500		31,000,000			Contaminated
I0040	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,150		4,300,000			Contaminated
I0041	PGP	Aluminum	Ingot	Not Stated	Generated scrap on site.	Not Stated	1,818		3,236,000			Contaminated
I0042	PGP	Nickel	Ingot	Not Stated	Generated scrap on site.	Not Stated	8,515		17,030,000			Contaminated
I0043	PGP	Monel	Ingot	Not Stated	Generated scrap on site.	Not Stated	15		30,000			Contaminated
I0044	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0045	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	13,000		26,000,000			Contaminated
I0046	POP	Steel	Tube Sheets	Not Stated	Generated scrap on site.	Not Stated	7,600		15,200,000			Contaminated
I0047	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	430		840,000			Contaminated
I0048	POP	Aluminum	Ingot	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0049	POP	UF6	Cylinders	Not Stated	Generated scrap on site.	Not Stated	247		494,000			Contaminated
I0050	POP	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	90		180,000			Contaminated
I0051	POP	Brass	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2		4,000			Contaminated
I0052	FFO	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated
I0053	FFO	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,250		2,500,000			Contaminated
I0054	FFO	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated
I0055	Y12	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated
I0056	Y12	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated
I0057	ORO	Nickel	Not Stated	ORO-managed sites (ORGDP, FFO, PGP, POP)	Not Stated	Not Stated	10,000		20,000,000			Contaminated
I0058	FFO	Copper	Wire, pipe, cooling coils, plate, shredded	Not Stated	ORO-sites	Not Stated	1,250		2,500,000			Contaminated
I0059	FFO	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated
I0060	ORO	Steel	Stainless, tube sheets, other	Not Stated	Generated scrap on site.	Not Stated	17,857		35,914,000			Contaminated
I0061	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,350		2,700,000			Contaminated
I0062	ORO	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	25		50,000			Contaminated
I0063	ORO	Brass	Not Stated	Not Stated	Generated scrap on site.	Not Stated	10		20,000			Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
U-235	<500 ppm	To-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<1 ppm	To-99	<1 ppm	Np-237	<.001 ppm	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0024	9
U-235	<100 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<600 ppm	To-99	20 ppb	Np-237	5 ppb	Pu-239	<.05 ppb					Actual weights, Contamination levels are from sample melts	S0024	9
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.001 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are from sample melts	S0024	9
U-235	<100 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<100 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	0-5 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are from sample melts	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Actual weights, Contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<4 ppm	To-99	<20 ppb	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are from sample melts	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0024	9
U-235	<10 ppm	To-99	<10 ppm	Np-237	<10 ppm	Pu-239	<10 ppm					Contamination levels are estimates	S0013	1
U-235	<500 ppm	To-99	<5 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Female: 1250 of 1365 tons Cu total for ORO-managed sites; most Cu uncontaminated	S0012	4, 13
U-235	<4 ppm	To-99	<20 ppb	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0012	13
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts -->	S0012	13
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0012	13
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb	Alpha	50-200 cm2	Beta	400-20,000 cm2	Metal data are estimates, contamination levels are from sample melts	S0012	13
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0012	13

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0064	ORO	Monel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	30		60,000			Contaminated
I0065	ORO	UF6	Cylinders	Not Stated	Generated scrap on site.	Not Stated	225		450,000			Contaminated
I0066	ORO	Mixed Metal	(Steel, monel, aluminum)	Not Stated	Generated scrap on site.	Not Stated	900		1,800,000			Contaminated
I0067	PGP	Steel	Tube sheets, crushed drums, other	Not Stated	Generated scrap on site.	Not Stated	13,500		27,000,000			Contaminated
I0068	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,150		4,300,000			Contaminated
I0069	PGP	Aluminum	Ingots	Not Stated	Generated scrap on site.	Not Stated	1,818		3,236,000			Contaminated
I0070	PGP	Nickel	Ingots	Not Stated	Generated scrap on site.	Not Stated	8,515		17,030,000			Contaminated
I0071	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0072	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	13,000		26,000,000			Contaminated
I0073	POP	Steel	Tube Sheets	Not Stated	Generated scrap on site.	Not Stated	7,600		15,200,000			Contaminated
I0074	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	420		840,000			Contaminated
I0075	POP	Aluminum	Ingots	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0076	POP	UF6	Cylinders	Not Stated	Generated scrap on site.	Not Stated	247		494,000			Contaminated
I0077	POP	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	90		180,000			Contaminated
I0078	POP	Brass	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2		4,000			Contaminated
I0079	Y12	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated
I0080	Y12	Mixed	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated
I0081	ORO	Steel	Stainless, tube sheets, other	ORGDP	Generated scrap on site.	Not Stated	17,857		35,914,000			Contaminated
I0082	ORO	Aluminum	Not Stated	ORGDP	Generated scrap on site.	Not Stated	1,350		2,700,000			Contaminated
I0083	ORO	Copper	Not Stated	ORGDP	Generated scrap on site.	Not Stated	25		50,000			Contaminated
I0084	ORO	Brass	Not Stated	ORGDP	Generated scrap on site.	Not Stated	10		20,000			Contaminated
I0085	ORO	Monel	Not Stated	ORGDP	Generated scrap on site.	Not Stated	30		60,000			Contaminated
I0086	ORO	UF6	Cylinders	ORGDP	Generated scrap on site.	Not Stated	225		450,000			Contaminated
I0087	ORO	Mixed Metal	(Steel, monel, aluminum)	ORGDP	Generated scrap on site.	Not Stated	900		1,800,000			Contaminated
I0088	PGP	Steel	Tube Sheets	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated

Spreadsheet

[illegible]

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0088	PGP	Steel	2000 tons are crushed steel drums	Not Stated	Generated scrap on site	Not Stated	12,500		25,000,000			Contaminated
I0090	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,150		4,300,000			Contaminated
I0091	PGP	Aluminum	Ingot	Not Stated	Generated scrap on site	Not Stated	1,818		3,236,000			Contaminated
I0092	PGP	Nickel	Ingot	Not Stated	Generated scrap on site	Not Stated	8,515		17,030,000			Contaminated
I0093	PGP	Monel	Ingot	Not Stated	Generated scrap on site	Not Stated	15		30,000			Contaminated
I0094	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	1,000		2,000,000			Contaminated
I0095	POP	Steel	Not Stated	Not Stated	Generated scrap on site	Not Stated	13,000		26,000,000			Contaminated
I0096	POP	Steel	Tube Sheets	Not Stated	Generated scrap on site	Not Stated	7,600		15,200,000			Contaminated
I0097	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Not Stated	430		840,000			Contaminated
I0098	POP	Aluminum	Ingot	Not Stated	Generated scrap on site	Not Stated	1,000		2,000,000			Contaminated
I0099	POP	UF6	Cylinders	Not Stated	Generated scrap on site	Not Stated	247		494,000			Contaminated
I0100	POP	Copper	Not Stated	Not Stated	Generated scrap on site	Not Stated	90		180,000			Contaminated
I0101	POP	Brass	Not Stated	Not Stated	Generated scrap on site	Not Stated	2		4,000			Contaminated
I0102	FFO	Steel	Not Stated	Not Stated	Generated scrap on site	Not Stated	3,000		6,000,000			Contaminated
I0103	FFO	Copper	Not Stated	Not Stated	Generated scrap on site, ORO also	Not Stated	1,250		2,500,000			Contaminated
I0104	FFO	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,000		4,000,000			Contaminated
I0105	Y12	Steel	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,000		4,000,000			Contaminated
I0106	Y12	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	3,000		6,000,000			Contaminated
I0107	*HO	Steel	Not Stated	DOE-wide	Not Stated	Not Stated	1,300,000		2,600,000,000			Contaminated
I0108	*HO	Aluminum	Not Stated	DOE-wide	Not Stated	Not Stated	198,000		396,000,000			Contaminated
I0109	*HO	Nickel	Not Stated	DOE-wide	Not Stated	Not Stated	248,000		496,000,000			Contaminated
I0110	*HO	Copper	Not Stated	DOE-wide	Not Stated	Not Stated	36,000		72,000,000			Contaminated
I0111	*HO	Lead	Not Stated	DOE-wide	Not Stated	Not Stated	3,000		6,000,000			Contaminated
I0112	*HO	Mixed	Not Stated	ORO-managed also	Not Stated	Not Stated	155,000		310,000,000			Contaminated

Spreadsheet

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Inventory Spre

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	Type
I0113	HQ	Mixed	Not Stated	ORGOP	ORGOP D&D	Not Stated					77,500	Contaminated	
I0114	ORO	Steel	Not Stated	Not Stated	Generated scrap on site	Not Stated	18,182		36,364,000			Contaminated	
I0115	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site	Not Stated	1,350		2,700,000			Contaminated	
I0116	ORO	Copper	Not Stated	Not Stated	Generated scrap on site	Not Stated	25		50,000			Contaminated	
I0117	ORO	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	900		1,800,000			Contaminated	
I0118	Y12	Steel	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,000		4,000,000			Contaminated	
I0119	Y12	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	3,000		6,000,000			Contaminated	
I0120	PGP	Steel	Tube Sheets	Not Stated	Generated scrap on site	Not Stated	13,500		27,000,000			Contaminated	
I0121	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,150		4,300,000			Contaminated	
I0122	PGP	Aluminum	Ingot	Not Stated	Generated scrap on site	Not Stated	1,515		3,234,000			Contaminated	
I0123	PGP	Nickel	Ingot	Not Stated	Generated scrap on site	Not Stated	9,515		17,030,000			Contaminated	
I0124	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	1,000		2,000,000			Contaminated	
I0125	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Not Stated	420		840,000			Contaminated	
I0126	POP	Aluminum	Ingot	Not Stated	Generated scrap on site	Not Stated	1,000		2,000,000			Contaminated	
I0127	POP	UF	Cylinders	Not Stated	Generated scrap on site	Not Stated	20,847		41,694,000			Contaminated	
I0128	POP	Copper	Not Stated	Not Stated	Generated scrap on site	Not Stated	90		180,000			Contaminated	
I0129	FFO	UF	Cylinders	Not Stated	Generated scrap on site	Not Stated	3,000		6,000,000			Contaminated	
I0130	FFO	Copper	Not Stated	Not Stated	Generated scrap on site	Not Stated	1,130		2,260,000			Contaminated	
I0131	FFO	Mixed Metal	Not Stated	Not Stated	Generated scrap on site	Not Stated	2,000		4,000,000			Contaminated	
I0132	PGP	Nickel	Ingot	Not Stated	Not Stated	Not Stated	9,350		18,700,000			Contaminated	U
I0133	PGP	Nickel	Operating and Spare Process Equipment	Not Stated	Not Stated	Not Stated	9,500		19,000,000			Contaminated	
I0134	ORO	Mixed Metal	Mostly process equipment	ORGOP, PGP, POP	ORGOP, PGP, POP	Open scrapyards	70,000		140,000,000			Contaminated	
I0135	RFP	Mixed Metal	Not Stated	Not Stated	RFP	Not Stated		247				Contaminated	LLW
I0136	INE	Mixed Metal	Not Stated	Not Stated	INE	Not Stated		31,388				Contaminated	LLW
I0137	INE	Mixed Metal	Not Stated	Not Stated	INE	Not Stated		50,041				Contaminated	TRU
I0138	LAL	Mixed Metal	Not Stated	Not Stated	LAL	Not Stated		17,518				Contaminated	LLW
I0139	LAL	Mixed Metal	Not Stated	Not Stated	LAL	Not Stated		10,512				Contaminated	TRU
I0140	FMC	Mixed Metal	Not Stated	Not Stated	FMC	Not Stated		98,582				Contaminated	LLW
I0141	MOP	Mixed Metal	Not Stated	Not Stated	MOP	Not Stated		11,000				Contaminated	LLW
I0142	MOP	Mixed Metal	Not Stated	Not Stated	MOP	Not Stated		399				Contaminated	TRU

Worksheet

[illegible]

Inventory

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accountability	Quantity (Tons)	Volume (cu ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) prev (Tons/Yr)	Contaminated or Uncontaminated
I0143	HST	Mixed Metal	Not Stated	Not Stated	HST	Not Stated		16,898				Contaminated
I0144	HST	Mixed Metal	Not Stated	Not Stated	HST	Not Stated		1,662				Contaminated
I0145	INE	Mixed Metal	Not Stated	Not Stated	INE	Not Stated		1,041				Contaminated
I0146	LAL	Mixed Metal	Not Stated	Not Stated	LAL	Not Stated		1,629				Contaminated
I0147	LAL	Mixed Metal	Not Stated	Not Stated	LAL	Not Stated		705				Contaminated
I0148	PMC	Mixed Metal	Not Stated	Not Stated	PMC	Not Stated		45,909				Contaminated
I0149	MDP	Mixed Metal	Not Stated	Not Stated	MDP	Not Stated		300				Contaminated
I0150	HST	Mixed Metal	Not Stated	Not Stated	HST	Not Stated		780				Contaminated
I0151	HST	Mixed Metal	Not Stated	Not Stated	HST	Not Stated		10				Contaminated
I0152	INE	Lead	Most brick, misc (also sheet, shielding, bars)	Not Stated	Not Stated	Not Stated	470		940,800			Uncontaminated
I0153	INE	Lead	Most brick, shielding, misc (also sheet, shot)	Not Stated	Not Stated	Not Stated	877		648,960			Contaminated
I0154	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0155	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0156	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0157	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0158	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0159	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0160	INE	Not Stated	Not Stated	Not Stated	Generated scrap on site	Shipped off-site						Contaminated
I0161	HST	Not Stated	Scrap, Surplus Equipment	200 Acres	Generated on site	Not Stated		4,998,330				Contaminated
I0162	LAL	Not Stated	Electrical Cable	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0163	LAL	Not Stated	Electrical Cable	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0164	LAL	Not Stated	Electrical Cable	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0165	LAL	Not Stated	Electrical Cable	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0166	LAL	Aluminum	Shavings	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0167	LAL	Aluminum	Shavings	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0168	LAL	Aluminum	Shavings	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0169	LAL	Aluminum	Shavings	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0170	LAL	Aluminum	Not Stated	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled
I0171	LAL	Aluminum	Not Stated	Not Stated	Generated on site	Currently Recycled						Uncontaminated/Recycled

	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Note	Document ID	Page Number(s)
LW												Metal waste from defense-funded EA projects	80007	154-159
RU												Metal waste from defense-funded EA projects	80007	154-159
LW												Metal waste from non-defense-funded EA projects	80007	154-159
LW												Metal waste from non-defense-funded EA projects	80007	154-159
RU												Metal waste from non-defense-funded EA projects	80007	154-159
LW												Metal waste from non-defense-funded EA projects	80007	154-159
LW												Metal waste from non-defense-funded EA projects	80007	154-159
LW												Metal waste from non-defense-funded EA projects	80007	154-159
RU												Metal waste from non-defense-funded EA projects	80007	154-159
													80018	1
													80018	1
												Generation rate in 1984: 2,764.2 cu. ft.	80020	1
												Generation rate in 1985: 45,020.3 cu. ft.	80020	1
												Generation rate in 1986: 86,791.9 cu. ft.	80020	1
												Generation rate in 1987: 88,296.9 cu. ft.	80020	1
												Generation rate in 1988: 104,764.6 cu. ft.	80020	1
												Generation rate in 1989: 94,030.6 cu. ft.	80020	1
												Generation rate in 1990: 112,280.6 cu. ft.	80020	1
												Generation rate in 1984: 7,357L	80022	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1980: 26,137L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1981: 20,855L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1982: 32,413L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1983: 1,918L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1980:	80077	1
												0.5L Uncertaminated, recycled metals	80077	1
												Generation rate in 1981: 3,657L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1982: 4.6L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1983: 9,973L	80077	1
												Uncertaminated, recycled metals	80077	1
												Generation rate in 1990: 17,312L	80077	1
												Uncertaminated, recycled metals	80077	1

Inventory

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accountability	Quantity (Tons)	Volume (cu ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0172	LAL	Aluminum	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0173	LAL	Aluminum	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0174	LAL	Copper	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0175	LAL	Copper	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0176	LAL	Copper	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0177	LAL	Brass	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0178	LAL	Brass	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0179	LAL	Brass	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0180	LAL	Stainless Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0181	LAL	Stainless Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0182	LAL	Stainless Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0183	LAL	Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0184	LAL	Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0185	LAL	Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0186	LAL	Steel	Not Stated	Not Stated	Generated on site	Currently Reported						Uncontaminated/Recycled
I0187	PFP	Mixed Metals	Mostly steel, some tools	Not Stated	Generated on site	Not Stated	27		64,785			Contaminated
I0188	FMC	Not Stated	Mostly building materials	Not Stated	Generated on site through D&D	Not Stated	7,700		15,400,000			Mixed
I0189	FMC	Mixed Metals	Mostly drums, steel, aluminum, stainless, brass	Not Stated	Generated on site	Not Stated	6,616		13,232,000			Mixed
I0190	FMC	Copper	Copper ingots, meter windings	Not Stated	On-site & received from other DOE sites	Not Stated	1,054		3,206,000			Mixed
I0191	THQ	Mixed	Not Stated	DOE-wide	Generated on site	Not Stated				15,000		Contaminated
I0192	POP	Metals	Metals	Not Stated	Not Stated	Not Stated	9,600		19,200,000			Contaminated
I0193	POP	Nickel	spare process equipment	Not Stated	Not Stated	Not Stated	9,600		19,200,000			Contaminated
I0194	ICB	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				200		Contaminated
I0195	Y12	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				800		Contaminated
I0196	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				200		Contaminated
I0197	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				200		Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
												Generation rate in 1991: 18.54t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1992: 2.1078t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1990: 2.88t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1991: 1.308t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1992: 1.56t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1990: .8478t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1991: .4154t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1992: 1.063t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1990: 10.6t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1991: .5118t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1992: 1.068t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1990: 101.08t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1990: 606.6075t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1991: 841.19t. Uncontaminated, recycled metals	80077	1
												Generation rate in 1992: 317.88t. Uncontaminated, recycled metals	80077	1
													80078	2
Pu	< 10 ppb											Scrap will be generated through planned D&D. Contamination is primarily surface uranium with some thorium and traces of plutonium.	80086	Sec 1, p. 4
												Quantity expected to increase in volume 10%/year. Scrap pile also contains asbestos and green salt (UF4).	80086	Sec 2, p. 11; Sec 3, p. 19, 35-37
												Most copper clean; most from other DOE sites. Generation rate could exceed 80,000 Pyr with major D&D activities	80086	Sec 2, p. 11; Sec 3, p. 20, 35-37
U-238	< 4 ppm	U-234	< 1 ppm	Pu	< 1 ppm	Ys	< 2.6 ppm					Document cites 80016 for nickel data	80001	1
												Document cites 80016 for nickel data	80001	2
												Data sources cited: "Scrap Metal Management" DOE HQ 20 May 91; M. Jugen data	80001	3
												Data sources cited: "Scrap Metal Management" DOE HQ 20 May 91; M. Jugen data	80001	3
												Data sources cited: "Scrap Metal Management" DOE HQ 20 May 91; M. Jugen data	80001	3
												Data sources cited: "Scrap Metal Management" DOE HQ 20 May 91; M. Jugen data	80001	3

Inventory

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accountability	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Risk (on site) current (Tons/Yr)	Gen Risk (on site) pre (Tons/Yr)	Contaminated or Uncontaminated
I0198	K26	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	36,600		78,200,000			Contaminated
I0199	K26	Aluminum	sheet, castings, blocks	Not Stated	Generated on-site	Not Stated	4,950		8,900,000			Contaminated
I0200	K26	Nickel/Monel	Not Stated	Not Stated	Generated on-site	Not Stated	64		136,000			Contaminated
I0201	K26	Copper	Not Stated	Not Stated	Generated on-site	Not Stated	64		108,000			Contaminated
I0202	K26	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated	328		657,000			Contaminated
I0203	Y12	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	3,080		6,160,000			Contaminated
I0204	Y12	Aluminum	Not Stated	Not Stated	Generated on-site	Not Stated	346		770,000			Contaminated
I0205	Y12	Mixed	(NOT steel or Al)	Not Stated	Generated on-site	Not Stated	36		70,000			Contaminated
I0206	POP	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	21,648		43,296,000			Contaminated
I0207	POP	Aluminum	Not Stated	Not Stated	Generated on-site	Not Stated	2,460		4,920,000			Contaminated
I0208	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated	482		964,000			Contaminated
I0209	POP	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	14,580		29,160,000			Contaminated
I0210	POP	Aluminum	Not Stated	Not Stated	Generated on-site	Not Stated	3,668		7,776,000			Contaminated
I0211	POP	Nickel	Ingot	Not Stated	Generated on-site	Not Stated	10,388		20,736,000			Contaminated
I0212	POP	Steel	Drums, crushed drums	Not Stated	Generated on-site	Not Stated	2,288		4,536,000			Contaminated
I0213	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated	324		648,000			Contaminated
I0214	FMC	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	11,088		22,176,000			Contaminated
I0215	FMC	Steel	Drums, crushed drums	Not Stated	Generated on-site	Not Stated	624		1,248,000			Contaminated
I0216	FMC	Copper	Ingot, wire	Not Stated	Generated on-site	Not Stated	10,386		20,790,000			Contaminated
I0217	FMC	Mixed	Non-ferrous, lead	Not Stated	Generated on-site	Not Stated	680		1,360,000			Contaminated

Spreadsheet

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Inventory Spre

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) pre (Tons/Yr)	Contaminated or Uncontaminated	Type
10218	ORO	Steel	Not Stated	ORGDP	Generated on-site	Not Stated	18,975		37,950,000			Contaminated	
10219	ORO	Aluminum	sheet, castings, blades	ORGDP	Generated on-site	Not Stated	2,285		4,570,000			Contaminated	
10220	ORO	Steel	stainless	ORGDP	Generated on-site	Not Stated	147		294,000			Contaminated	
10221	ORO	Copper	Not Stated	ORGDP	Generated on-site	Not Stated	26		52,000			Contaminated	
10222	ORO	Brass	mixed	ORGDP	Generated on-site	Not Stated	13		26,000			Contaminated	
10223	ORO	Nickel/metal	Not Stated	ORGDP	Generated on-site	Not Stated	32		64,000			Contaminated	
10224	ORO	Mixed	Not Stated	ORGDP	Generated on-site	Not Stated	172		344,000			Contaminated	
10225	PGP	Steel	Not Stated	PGDP	Generated on-site	Not Stated	13,350		26,700,000			Contaminated	
10226	PGP	Aluminum	Not Stated	PGDP	Generated on-site	Not Stated	2,150		4,300,000			Contaminated	
10227	PGP	Aluminum	ingots	PGDP	Generated on-site	Not Stated	1,575		3,150,000			Contaminated	
10228	PGP	Nickel	ingots	PGDP	Generated on-site	Not Stated	9,350		18,700,000			Contaminated	
10229	PGP	Mixed	Not Stated	PGDP	Generated on-site	Not Stated	1,000		2,000,000			Contaminated	
10230	PGP	Drums	Not Stated	PGDP	Generated on-site	Not Stated	2,000		4,000,000			Contaminated	
10231	POP	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	13,000		26,000,000			Contaminated	
10232	POP	Aluminum	Not Stated	Not Stated	Generated on-site	Not Stated	420		840,000			Contaminated	
10233	POP	Aluminum	ingots	Not Stated	Generated on-site	Not Stated	1,000		2,000,000			Contaminated	
10234	POP	Copper	Not Stated	Not Stated	Generated on-site	Not Stated	90		180,000			Contaminated	
10235	FMC	Steel	Not Stated	Not Stated	Generated on-site	Not Stated	1,200		2,400,000			Contaminated	
10236	FMC	Mixed	nonferrous	Not Stated	Generated on-site	Not Stated	100		200,000			Contaminated	
10237	FMC	Copper	wire	Not Stated	Generated on-site	Not Stated	1,250		2,500,000			Contaminated	
10238	FMC	Copper	ingots	Not Stated	Generated on-site	Not Stated	120		240,000			Contaminated	
10239	FMC	Mixed	ferrous	Not Stated	Generated on-site	Not Stated	280		560,000			Contaminated	
10240	FMC	Drums	crushed	Not Stated	Generated on-site	Not Stated	125		250,000			Contaminated	
10241	K25	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				100		Contaminated	
10242	Y12	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				800		Contaminated	
10243	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				180		Contaminated	
10244	PGP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				150		Contaminated	
10245	1HQ	Mixed	Not Stated	DOE-side	DOE-side	Not Stated	90,000		180,000,000			Contaminated	
10246	PGP	Steel	Not Stated	Not Stated	Generated on-site	Mostly in scrapyards	10,800		21,200,000			Contaminated	
10247	PGP	Steel	Nickel-plated, classified	Not Stated	Generated on-site	Vaults, secured warehouse	4,750		9,500,000			Contaminated	

Worksheet

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Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
10248	PGP	Aluminum	blades, misc, classified (2000 t)	Not Stated	Generated on-site	Scrapyard, vaults, secured warehouses	4,150		8,300,000			Contaminated
10249	PGP	Nickel	classified	Not Stated	Generated on-site	Vaults, secured warehouses	3,628		7,252,000			Contaminated
10250	PGP	Copper	Not Stated	Not Stated	Generated on-site	Not Stated						Contaminated
10251	ORO	Steel	Not Stated	ORQDP	Generated on-site	Mostly in scrapyards	21,830		43,260,000			Contaminated
10252	ORO	Steel	Nickel-plated, classified	ORQDP	Generated on-site	Vaults, secured warehouses	1,821		3,642,000			Contaminated
10253	ORO	Aluminum	blades, misc, classified (324 t)	ORQDP	Generated on-site	Scrapyard, vaults, secured warehouses	1,162		2,324,000			Contaminated
10254	ORO	Nickel	classified	ORQDP	Generated on-site	Vaults, secured warehouses	3,585		7,130,000			Contaminated
10255	ORO	Copper	Not Stated	ORQDP	Generated on-site	Not Stated						Contaminated
10256	POP	Steel	Not Stated	Not Stated	Generated on-site	Mostly in scrapyards	22,000		44,000,000			Contaminated
10257	POP	Steel	Nickel-plated, classified	Not Stated	Generated on-site	Vaults, secured warehouses	7,000		14,000,000			Contaminated
10258	POP	Aluminum	blades, classified (24 t)	Not Stated	Generated on-site	Scrapyard, vaults, secured warehouses	184		368,000			Contaminated
10259	POP	Nickel	classified	Not Stated	Generated on-site	Vaults, secured warehouses	2,108		4,216,000			Contaminated
10260	POP	Copper	Not Stated	Not Stated	Generated on-site	Not Stated						Contaminated
10261	FMC	Steel	Not Stated	Not Stated	Generated on-site	Mostly in scrapyards	3,250		6,500,000			Contaminated
10262	FMC	Copper	Not Stated	Not Stated	Generated on-site	Mostly in scrapyards	3,488		6,936,000			Contaminated
10263	ORO	Mixed	Not Stated	ORNL	Generated on-site	Not Stated				250-500		Contaminated
10264	Y12	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				150		Contaminated
10265	ORO	Mixed	Not Stated	ORQDP	Generated on-site	Not Stated				200		Contaminated
10266	PGP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				200		Contaminated
10267	POP	Mixed	Not Stated	Not Stated	Generated on-site	Not Stated				200		Contaminated
10268	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated
10269	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated
10270	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated
10271	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated
10272	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated
10273	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Note	Document ID	Page Number(s)
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	5
												Primary contaminants are U and Tc	S0008	9
												Primary contaminants are U and Tc	S0008	9
												Primary contaminants are U and Tc	S0008	9
												Primary contaminants are U and Tc	S0008	9
												Primary contaminants are U and Tc	S0008	9
LLW												Generation rate in 1988: 35 m3. ORNL defense decommissioning waste volume projections.	S0010	50
LLW												Generation rate in 1989: 105 m3. ORNL defense decommissioning waste volume projections.	S0010	50
LLW												Generation rate in 1991: 40 m3. ORNL defense decommissioning waste volume projections.	S0010	50
LLW												Generation rate in 1992: 100 m3. ORNL defense decommissioning waste volume projections.	S0010	50
LLW												Projected generation rate in 1993: 130 m3. ORNL defense decommissioning waste volume projections.	S0010	50
LLW												Projected generation rate in 1994: 60 m3. ORNL defense decommissioning waste volume projections.	S0010	50

Inventory Sp

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	Type
10274	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10275	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10276	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10277	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10278	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10279	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10280	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10281	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10282	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10283	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10284	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	LLW
10285	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	TRI
10286	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	TRI
10287	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	TRI
10288	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	TRI
10289	ORO	Mixed	Not Stated	ORNL	Projected generated on-site through D&D	Not Stated						Contaminated	TRI
10290	*HQ	Mixed	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	1,500,000		3,000,000,000			Contaminated	
10291	*HQ	Aluminum	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	182,000		324,000,000			Contaminated	
10292	*HQ	Copper	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	32,400		64,800,000			Contaminated	
10293	*HQ	Lead	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	2,400		4,800,000			Contaminated	
10294	*HQ	Nickel	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	204,150		408,300,000			Contaminated	
10295	*HQ	Steel	Not Stated	DOE-wide	Inventory Scrap in	Not Stated	1,084,000		2,168,000,000			Contaminated	

Readsheet

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Inventory Sp

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	Type
10286	ORO	Mixed	Not Stated	PMC, ORO, PGP, POP	Scrap in Inventory	Open scrapyards	129,000		258,000,000			Contaminated	
10287	HQ	Mixed	Not Stated	DOE-wide	Annually generated DOE-wide	Not Stated				15,000		Contaminated	
10288	ORO	Mixed	Not Stated	ORADP	ORADP D&D	Not Stated				77,500		Contaminated	
10289	IFO	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	8,788		17,536,000			Contaminated	
10300	PGP	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	4,802		9,203,600			Contaminated	
10301	NTS	Mixed	Not Stated	Not Stated May also include Sandia RAM	Not Stated	Not Stated	157,319		314,638,600			Contaminated	
10302	LAL	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	20,987		41,933,200			Contaminated	
10303	POP	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	3,075		6,149,200			Contaminated	
10304	ORO	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	932		1,864,600			Contaminated	
10305	HBT	Mixed	Not Stated	Not Stated	Not Stated	Not Stated	417		833,200			Contaminated	
10306	ORO	Steel	Not Stated	ORO-managed site	Generated Scrap on site	Not Stated	200,000		400,000,000			Contaminated	
10307	ORO	Nickel	Not Stated	ORO-managed site	Generated Scrap on site	Not Stated	15,000		30,000,000			Contaminated	
10308	Y12	Mixed	Steel, Nickel, Iron, Copper	Not Stated	Generated Scrap on site	Not Stated	7,000		14,000,000			Contaminated	
10309	Y12	Mixed	Metals from motor generator set, other eqpt	Not Stated	Generated Scrap on site	Not Stated	3,000		6,000,000			Contaminated	
10310	K25	Steel	Miscellaneous	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	74,200		148,400,000			Contaminated	
10311	K25	Alum/Copper	Wire, tubing, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	8,500		17,000,000			Contaminated	
10312	K25	Copper	Pipe, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	9,700		19,400,000			Contaminated	
10313	K25	Monel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	1,700		3,400,000			Contaminated	
10314	K25	Nickel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	22,100		44,200,000			Contaminated	
10315	PGP	Steel	Miscellaneous	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	62,900		125,800,000			Contaminated	
10316	PGP	Alum/Copper	Wire, tubing, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	8,100		16,200,000			Contaminated	
10317	PGP	Copper	Pipe, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	6,500		13,000,000			Contaminated	
10318	PGP	Monel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	1,200		2,400,000			Contaminated	
10319	PGP	Nickel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	15,900		31,800,000			Contaminated	
10320	POP	Steel	Miscellaneous	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	64,900		129,800,000			Contaminated	
10321	POP	Alum/Copper	Wire, tubing, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	7,600		15,200,000			Contaminated	
10322	POP	Copper	Pipe, valves	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	8,300		16,600,000			Contaminated	
10323	POP	Monel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	1,500		3,000,000			Contaminated	
10324	POP	Nickel	Not Stated	Not Stated	D&D of Gaseous Diffusion Plants	Not Stated	19,800		39,600,000			Contaminated	

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Inventory Spreadsheet

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	Type
10325	FMC	Copper	Not Stated	Not Stated	Not Stated	Open Scrap Metal Piles	1,300		2,800,000			Contaminated	
10326	HST	Mixed	Not Stated	200 acres	Not Stated	Not Stated		4,000,000				Contaminated	
10327	ORO	Mixed	Not Stated	OROGP	Not Stated	Not Stated	30,000		60,000,000			Contaminated	Te-PB
10328	FMC	Mixed	Not Stated	Not Stated	FMC DAD	Not Stated	1,388		2,737,000			Contaminated	
10329	FMC	Mixed	Not Stated	Not Stated	Blgd 89	Not Stated	2,818		6,836,000			Contaminated	
10330	FMC	Mixed	Decontaminated scrap, vehicles, equipment	Not Stated	Not Stated	Not Stated	483		988,000			Uncontaminated	
10331	FMC	Mixed	Refuse metal, construction material	Not Stated	Not Stated	Not Stated						Contaminated	
10332	FMC	Mixed	Refuse metal, construction material	Not Stated	Not Stated	Not Stated						Contaminated	
10333	FMC	Mixed	Refuse metal, construction material	Not Stated	Not Stated	Not Stated						Contaminated	
10334	FMC	Mixed	Refuse metal, construction material	Not Stated	Not Stated	Not Stated						Contaminated	
10335	FMC	Mixed	Decontaminated scrap, vehicles, equipment	Not Stated	Not Stated	Not Stated						Uncontaminated	
10336	FMC	Mixed	Decontaminated scrap, vehicles, equipment	Not Stated	Not Stated	Not Stated						Uncontaminated	
10337	FMC	Mixed	Decontaminated scrap, vehicles, equipment	Not Stated	Not Stated	Not Stated						Uncontaminated	
10338	FMC	Mixed	Decontaminated scrap, vehicles, equipment	Not Stated	Not Stated	Not Stated						Uncontaminated	
10339	FMC	Mixed	Includes copper ingots	Not Stated	Not Stated	Not Stated	7,000		14,000,000			Contaminated	U
10340	FMC	Steel	Carbon	Not Stated	On-site generation	Open scrapyard piles	238		476,000			Contaminated	U
10341	FMC	Steel	Carbon	Not Stated	On-site generation	Open scrapyard piles	2,843		5,686,000			Contaminated	U
10342	FMC	Steel/Aluminum	Stainless steel	Not Stated	On-site generation	Open scrapyard piles	64		108,000			Contaminated	U
10343	FMC	Steel/Aluminum	Stainless steel	Not Stated	On-site generation	Open scrapyard piles	138		276,000			Contaminated	U
10344	FMC	Copper	Mostly ingots	Not Stated	Paducah GDP	Open scrapyard piles	1,370		2,740,000			Contaminated	U
10345	FMC	Mixed	Not stated	Not Stated	Not Stated	Not Stated	2,310		4,620,000			Contaminated	
10346	FMC	Mixed	Not stated	Operable Unit 3	Generated on-site	Open scrapyard piles	3,300		6,600,000			Contaminated	
10347	FMC	Copper	Not stated	NW section of drum storage pad of Operable Unit 3	CIP/GUP project at PGP GDP	Open scrapyard piles	1,370		2,740,000			Contaminated	

dsheet

Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
														80022	Exhibit III, Graphs No. 1810.12
													Material has average void volume of 80-85%.	80026	7
02-70													Estimate. Approx 75% is carbon steel.	80088	481
70	U-235	<200 dpm											To-99 expected <5 ppm for 98% of scrap	80112	33
													Total for 1980. Of total: 1036 t generated, 339.5 t shipped	80112	33
													Total for 1980. Of total: 1726 t generated, 1022.9 t shipped	80112	33
													Total for 1980. All of total is generated waste	80112	33
													Generation rate in 1991: 2173.9 t	80112	33
													Generation rate in 1992: 3423.75 t	80112	33
													Generation rate in 1993: 3423.75 t	80112	33
													Generation rate in 1994: 3423.75 t	80112	33
													Generation rate in 1991: 201.25 t. 1991 decontaminated scrap, equip, vehicles total generated	80112	33
													Generation rate in 1992: 28.75 t. 1992 decontaminated scrap, equip, vehicles total generated	80112	33
													Generation rate in 1993: 28.75 t. 1993 decontaminated scrap, equip, vehicles total generated	80112	33
													Generation rate in 1994: 28.75 t. 1994 decontaminated scrap, equip, vehicles total generated	80112	33
02-70													Contaminant level is for copper ingots only	80118	1
?	Th	?											High count (>200,000 dpm fixed alpha)	80117	6
?	Th	?											Low count (<200,000 dpm fixed alpha)	80117	6
?	Th	?											High count (>200,000 dpm fixed alpha)	80117	6
?	Th	?											Low count (<200,000 dpm fixed alpha)	80117	6
?	Th	?											No contaminant levels given	80117	6
													Non-Pb-A scrap metal	80118	4
													High- and low-count metals (see 80117)	80118	7
													No contaminant levels given	80119	7

Inventory Spr

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu ft)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) prev (Tons/Yr)	Contaminated or Uncontaminated	Type
10348	FMC	Mixed	Not stated	888 pad of Operable Unit 3 NW section of drum storage	Generated on-site	Open scrapyard area	3,300		8,800,000			Contaminated	
10349	FMC	Copper	Not stated	pad of Operable Unit 3	ORP/GUP project of PGP GDP	Open scrapyard area	1,400		2,800,000			Contaminated	
10350	FMC	Steel	Carbon	Not Stated	On-site generation	Open scrapyard area	238		476,000			Contaminated	
10351	FMC	Steel	Carbon	Not Stated	On-site generation	Open scrapyard area	2,843		8,844,000			Contaminated	
10352	FMC	Steel/Aluminum	Stainless steel	Not Stated	On-site generation	Open scrapyard area	84		108,000			Contaminated	
10353	FMC	Steel/Aluminum	Stainless steel	Not Stated	On-site generation	Open scrapyard area	138		276,000			Contaminated	
10354	FMC	Copper	Mostly ingots	Not Stated	Paduash GDP	Open scrapyard area	1,370		2,740,000			Contaminated	
10355	FMC	Copper	Mostly motor windings (also asbestos insulation)	Concrete pad NW part of production area	On-site DOE	Open scrapyard area	1,350		2,700,000			Contaminated	
10356	FMC	Mixed	Not stated	Not Stated	Not Stated	Not Stated	978		1,184,000			Decontaminated	
10357	FMC	Mixed	Not stated	Shown in aerial photo p. 67 of document	Not Stated	Open scrapyard area	4,800		9,600,000			Contaminated	
10358	FMC	Copper	mostly motor windings	Shown in aerial photo p. 67 of document	Not Stated	Open scrapyard area	1,250		2,500,000			Contaminated	
10359	FMC	Copper	Not stated	Not Stated	Not Stated	Not Stated	1,400		2,800,000			Contaminated	
10360	INE	Mixed	ferrous tanks, motors, pipes, pumps, etc.	Waste Experimental Production Facility (WERF)	On-site generation	Stored in wooden boxes or wrapped in tarp		44,600				Contaminated	
10361	ORO	Various	Not Stated	Gas Diffusion Plant	Generated scrap on site	Stored above ground	70,000		140,000,000			Contaminated	Uranium
10362	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area	4,150		8,300,000			Mixed	U/U-235
10363	PGP	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area	3,828		7,263,000			Mixed	U/U-235
10364	PGP	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area	15,350		30,700,000			Mixed	U/U-235
10365	PGP	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area							U/U-235
10366	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area	1,182		2,324,000			Mixed	U/U-235

adsheet

Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
											Scrap from demolition, removal of abandoned equip, facility/vehicle upgrades	80120	6
												80120	6
											High count (>200,000 dpm fixed alpha)	80120	6
											Low count (<200,000 dpm fixed alpha)	80120	6
											High count (>200,000 dpm fixed alpha)	80120	6
											Low count (<200,000 dpm fixed alpha)	80120	6
											No contaminant levels given	80120	6
												80122	171
											Decontaminated during 1981	80122	171
												80071	64
												80071	64
											Some of copper contains asbestos in insulation; material is containerized (not in north)	80151	1,2,4
											May also be some wood waste among scrap. No additional information available.	80152	A-4
LLW	To-99	LLW									ORADP, PGDP, and PGDDP referenced. Presented at the IAEA Conference, Seattle, WA. No references.	80061	7
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	80062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	80062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	80062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	80062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	80062	Table 1

Inventory Sp

Inventory ID	Site Code	Material	Form	Specific location on site	Source	Accessibility	Quantity (Tons)	Volume (cu ft)	Weight (lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	Type
10367	ORO	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,665		7,130,000			Mixed	UU-23
10368	ORO	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	23,561		47,102,000			Mixed	UU-23
10369	ORO	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.						Mixed	UU-23
10370	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	184		368,000			Mixed	UU-23
10371	POP	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	2,106		4,218,000			Mixed	UU-23
10372	POP	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	28,000		56,000,000			Mixed	UU-23
10373	POP	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.						Mixed	UU-23
10374	FMPG	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,488		6,936,000			Mixed	UU-23
10376	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	4,150		8,300,000			Mixed	UU-23
10378	PGP	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,628		7,252,000			Mixed	UU-23
10377	PGP	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	18,350		36,700,000			Mixed	UU-23
1037C	PGP	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.							UU-23
10379	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	1,162		2,324,000			Mixed	UU-23
10380	ORO	Nickel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	3,665		7,130,000			Mixed	UU-23
10381	ORO	Steel	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	23,561		47,102,000			Mixed	UU-23
10382	ORO	Copper	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.						Mixed	UU-23
10383	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site	Stored in open storage area.	184		368,000			Mixed	UU-23

Lead sheet

Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Apparent source for data is "Contaminated Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0062	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
<500 ppm	To-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites" ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated	
10384	POP	Nickel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	2,109		4,218,000			Mixed	U
10385	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	29,000		58,000,000			Mixed	U
10386	POP	Copper	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.						Mixed	U
10387	FMC	Copper	Not Stated	Not Stated	Generated scrap on site.	Stored in open storage area.	3,488		6,936,000			Mixed	U
10388	ORO	Aluminum	Not Stated	All DOE Facilities	Generated through the CIP	Not Stated	6,200		12,400,000			Contaminated	
10389	ORO	Nickel	Not Stated	All DOE Facilities	Generated through the CIP	Not Stated	17,500		35,000,000			Contaminated	
10390	ORO	Steel	Not Stated	All DOE Facilities	Generated through the CIP	Not Stated	30,000		60,000,000			Contaminated	
10391	ORO	Copper	Not Stated	All DOE Facilities	Generated through the CIP	Not Stated	298		532,000			Contaminated	
10392	FMC	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,250		2,500,000			Contaminated	
10393	HST	Steel	Fuel baskets, fuel carts - stainless, carbon	N Reactor	Decommissioning of reactor.	Not Stated	112		224,000			Contaminated	
10394	HST	Aluminum	Cubicle lids	N Reactor	Decommissioning of reactor.	Not Stated	8		16,000			Contaminated	
10395	ORO	Steel	Not Stated	ORDGP	Generated scrap on site.	Not Stated	19,122		38,244,000			Contaminated	
10396	ORO	Aluminum	Blades, sheet and castings	ORDGP	Generated scrap on site.	Not Stated	2,285		4,570,000			Contaminated	
10397	ORO	Copper	Not Stated	ORDGP	Generated scrap on site.	Not Stated	26		62,000			Contaminated	
10398	ORO	Mixed	Not Stated	ORDGP	Generated scrap on site.	Not Stated	217		434,000			Contaminated	
10399	PGP	Steel	Not Stated	PDGP	Generated scrap on site.	Not Stated	15,350		30,700,000			Contaminated	
10400	PGP	Aluminum	Blades, ingots	PDGP	Generated scrap on site.	Not Stated	3,725		7,450,000			Contaminated	
10401	PGP	Nickel	Ingots	PDGP	Generated scrap on site.	Not Stated	9,350		18,700,000			Contaminated	
10402	PGP	Mixed	Not Stated	PDGP	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated	
10403	POP	Steel	Not Stated	POP	Generated scrap on site.	Not Stated	13,000		26,000,000			Contaminated	
10404	POP	Aluminum	Ingots, mixed	POP	Generated scrap on site.	Not Stated	1,420		2,840,000			Contaminated	
10405	POP	Copper	Not Stated	POP	Generated scrap on site.	Not Stated	80		160,000			Contaminated	
10406	POP	Mixed	Not Stated	POP	Generated scrap on site.	Not Stated	250		500,000			Contaminated	
10407	FMC	Steel	Not Stated	FMPC	Generated scrap on site.	Not Stated	1,805		3,210,000			Contaminated	
10408	FMC	Copper	Ingots, wire	FMPC	Generated scrap on site.	Not Stated	1,370		2,740,000			Contaminated	
10409	FMC	Mixed Metal	Not Stated	FMPC	Generated scrap on site.	Not Stated	100		200,000			Contaminated	
10410	Y12	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated	U

ID	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Note	Document ID	Page Number(s)
-235	<500 ppm	Tc-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites ^a ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
-235	<500 ppm	Tc-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites ^a ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
-235	<500 ppm	Tc-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites ^a ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
-235	<500 ppm	Tc-99	<5 ppm									Scrap Metal Inventories at ORO-Managed Sites ^a ORNL/TM-8077, J.E. Mack, Jan 82	S0063	Table 1
												Estimated and projected weights	S0067	2
												Estimated and projected weights	S0067	2
												Estimated and projected weights	S0067	1
												Estimated and projected weights	S0067	2
												Estimated weights	S0074	11
												Estimated weights based on inventory of materials	S0080	9
												Estimated weights based on inventory of materials	S0080	9
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
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												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
												Actual reported weights	S0124	2
I-235	<500 ppm	Tc-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0411	Y12	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		8,000,000			Contaminated
I0412	ORO	Steel	Stainless, tube sheets, other	Not Stated	Generated scrap on site.	Not Stated	17,967		34,914,000			Contaminated
I0413	ORO	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,350		2,700,000			Contaminated
I0414	ORO	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	25		50,000			Contaminated
I0415	ORO	Brass	Not Stated	Not Stated	Generated scrap on site.	Not Stated	10		20,000			Contaminated
I0416	ORO	Monel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	30		80,000			Contaminated
I0417	ORO	UF6	Cylinders	Not Stated	Generated scrap on site.	Not Stated	225		450,000			Contaminated
I0418	ORO	Mixed Metal	(Steel, monel, aluminum)	Not Stated	Generated scrap on site.	Not Stated	900		1,800,000			Contaminated
I0419	PGP	Steel	Tube sheets, crushed drums, other	Not Stated	Generated scrap on site.	Not Stated	13,500		27,000,000			Contaminated
I0420	PGP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,150		4,300,000			Contaminated
I0421	PGP	Aluminum	Ingot	Not Stated	Generated scrap on site.	Not Stated	1,818		3,236,000			Contaminated
I0422	PGP	Nickel	Ingot	Not Stated	Generated scrap on site.	Not Stated	6,515		17,030,000			Contaminated
I0423	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0424	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	13,000		26,000,000			Contaminated
I0425	POP	Steel	Tube Sheets	Not Stated	Generated scrap on site.	Not Stated	7,800		15,200,000			Contaminated
I0426	POP	Aluminum	Not Stated	Not Stated	Generated scrap on site.	Not Stated	420		840,000			Contaminated
I0427	POP	Aluminum	Ingot	Not Stated	Generated scrap on site.	Not Stated	1,000		2,000,000			Contaminated
I0428	POP	UF6	Cylinders	Not Stated	Generated scrap on site.	Not Stated	247		494,000			Contaminated
I0429	POP	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	90		180,000			Contaminated
I0430	POP	Brass	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2		4,000			Contaminated
I0431	FMC	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	3,000		6,000,000			Contaminated
I0432	FMC	Copper	Not Stated	Not Stated	Generated scrap on site.	Not Stated	1,250		2,500,000			Contaminated
I0433	FMC	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	2,000		4,000,000			Contaminated
I0434	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated		11,852				Contaminated
I0435	HST	Mixed Metal	Not Stated	Not Stated	Other DOE Sites	Not Stated						Contaminated
I0436	HST	Mixed Metal	Not Stated	Not Stated	ER Programs	Not Stated						Contaminated
I0437	HST	Mixed Metal	Not Stated	Not Stated	Defense Programs	Not Stated						Contaminated
I0438	HST	Mixed Metal	Not Stated	Not Stated	Chemical Processing	Not Stated						Contaminated
I0439	HST	Mixed Metal	Not Stated	Not Stated	D&D Operations	Not Stated						Contaminated
I0440	HST	Mixed Metal	Not Stated	Not Stated	Onsite facilities	Not Stated						Contaminated
I0441	HST	Mixed Metal	Not Stated	Not Stated	Onsite Services	Not Stated						Contaminated
I0442	HST	Mixed Metal	Not Stated	Not Stated	Defense Reactor	Not Stated						Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts -->	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb	Alpha	50-200 cm2	Beta	400-20,000 cm2	Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<5 ppm	To-99	<5 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<1 ppm	To-99	<1 ppm	Np-237	.001 ppm	Pu-239	<.01 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<100 ppm	To-99	<10 ppm	Np-237	na	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	800 ppm	To-99	20 ppb	Np-237	<5 ppb	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<100 ppm	To-99	<10 ppm	Np-237	na	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<100 ppm	To-99	<10 ppm	Np-237	na	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	0-5 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data are estimates, contamination levels are from sample melts	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppm	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
U-235	<500 ppm	To-99	<10 ppm	Np-237	<.05 ppb	Pu-239	<.05 ppb					Metal data, contamination levels are estimates	S0139	Table I, Att. D
												Estimated volume and generation rate 11852 cu ft/yr	S0142	Section 3, p6
												Estimated generation rate 18770 cu ft/yr	S0142	Section 3, p7
												Estimated generation rate 17100 cu ft/yr	S0142	Section 3, p4
												Estimated generation rate 18225 cu ft/yr	S0142	Section 3, p8
												Estimated generation rate 9280 cu ft/yr	S0142	Section 3, p12
												Estimated generation rate 15000 cu ft/yr	S0142	Section 3, p13
												Estimated generation rate 1940 cu ft/yr	S0142	Section 3, p14
												Estimated generation rate 1380 cu ft/yr	S0142	Section 3, p18
												Estimated generation rate 1850 cu ft/yr	S0142	Section 3, p19

Inventory

Inventory ID	Site Code	Material	Form	Specific location on Site	Source	Accessibility	Quantity (Tons)	Volume (cu. ft.)	Weight (Lbs.)	Gen Rate (on site) current (Tons/Yr)	Gen Rate (on site) proj (Tons/Yr)	Contaminated or Uncontaminated
I0443	K25	Steel	Not Stated	K-25	Generated scrap on site.	Not Stated	103,700		207,400,000			Contaminated
I0444	K25	Copper	Wire, tubing, valves	K-25	Generated scrap on site.	Not Stated	17,600		35,200,000			Contaminated
I0445	K25	Nickel	Not Stated	K-25	Generated scrap on site.	Not Stated	22,100		44,200,000			Contaminated
I0446	K25	Mixed Metal	Not Stated	K-25	Generated scrap on site.	Not Stated	10,200		20,400,000			Contaminated
I0447	PGP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	74,000		148,000,000			Contaminated
I0448	PGP	Copper	Wire, tubing, valves	Not Stated	Generated scrap on site.	Not Stated	11,700		23,400,000			Contaminated
I0449	PGP	Nickel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	15,900		31,800,000			Contaminated
I0450	PGP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	7,300		14,600,000			Contaminated
I0451	POP	Steel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	91,400		182,800,000			Contaminated
I0452	POP	Copper	Wire, tubing, valves	Not Stated	Generated scrap on site.	Not Stated	15,000		30,000,000			Contaminated
I0453	POP	Nickel	Not Stated	Not Stated	Generated scrap on site.	Not Stated	19,800		39,600,000			Contaminated
I0454	POP	Mixed Metal	Not Stated	Not Stated	Generated scrap on site.	Not Stated	9,100		18,200,000			Contaminated

Spreadsheet

Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Type	Level	Notes	Document ID	Page Number(s)
												Actual weights	80143	Table 4
												Actual weights	80143	Table 4
												Actual weights	80143	Table 4
												Actual weights	80143	Table 4
												Actual weights	80143	Table 5
												Actual weights	80143	Table 5
												Actual weights	80143	Table 5
												Actual weights	80143	Table 5
												Actual weights	80143	Table 6
												Actual weights	80143	Table 6
												Actual weights	80143	Table 6
												Actual weights	80143	Table 6

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