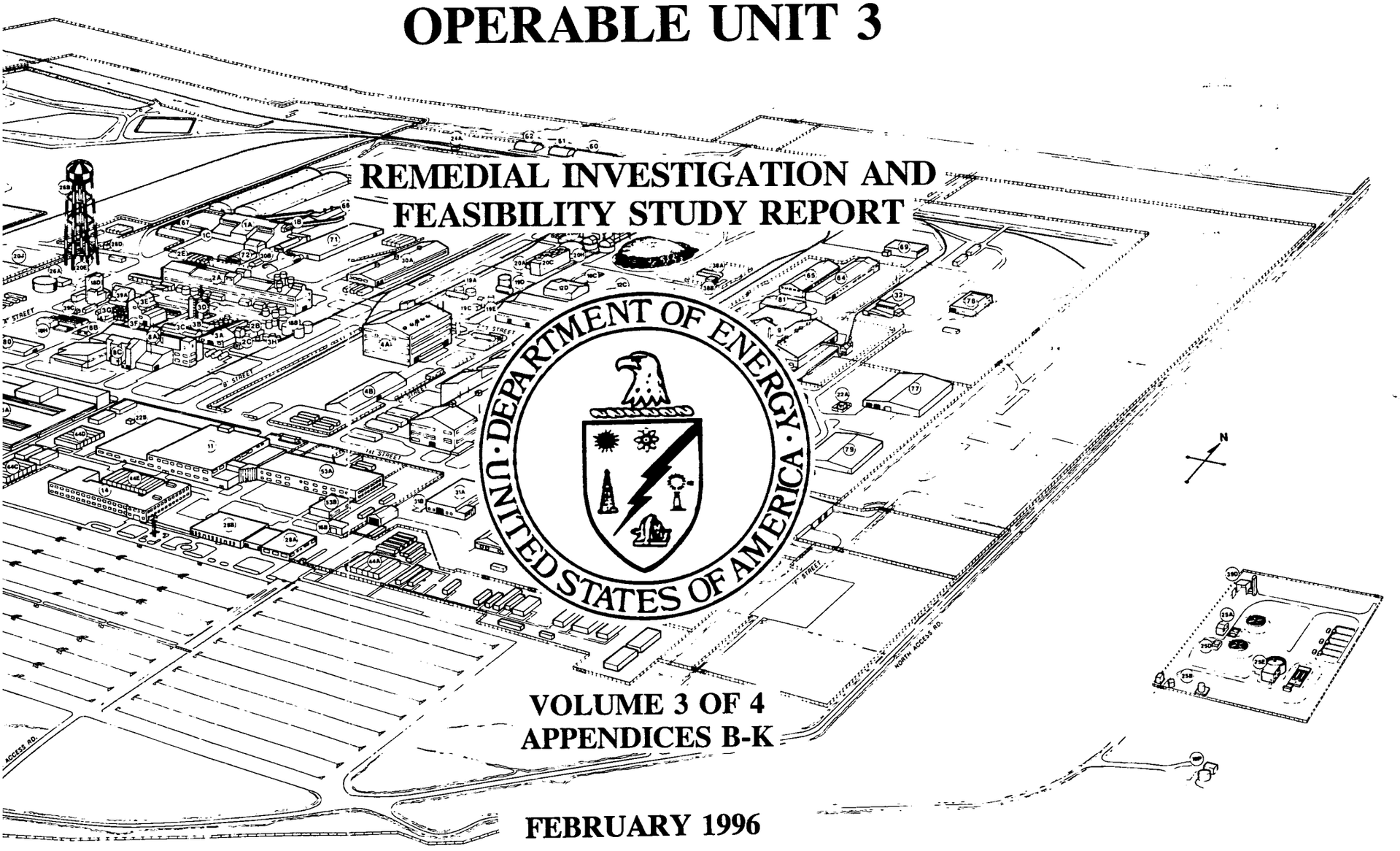
OPERABLE UNIT 3



REMEDIAL INVESTIGATION AND FEASIBILITY STUDY REPORT

VOLUME 3 OF 4
APPENDICES B-K

FEBRUARY 1996

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

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APPENDIX B

CONTAMINANT MASS AND MATERIAL QUANTITIES

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
cc	cubic centimeter
COC	constituent of concern
CRUD	corrosion/rust/undefined debris
DOE	United States Department of Energy
ft^2	square feet
ft^3	cubic feet
g	gram
HVAC	heating, ventilating and air conditioning
IROD	Record of Decision for Interim Remedial Actions
kg	kilograms
LDR	land disposal restriction
LLW	low level (radioactive) waste
MDA	minimum detectable activity
MDC	minimum detectable concentration
OU	operable unit
PCB	polychlorinated biphenyl
PPE	personal protective equipment
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RD/RA	remedial design/remedial action
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
SED	Sitewide Environmental Database
SVOA	semivolatile organic analyte
SWIFTS	Sitewide Waste Inventory Forecasting and Tracking System
TCLP	toxicity characteristic leaching procedure
UF_4	uranium tetrafluoride
UCL	upper confidence level
UNH	uranium nitrate hexahydrate
WAC	waste acceptance criteria

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B.0 CONTAMINANT MASS AND MATERIAL QUANTITIES

This appendix provides a detailed discussion of the assumptions and methodology used to develop contaminant mass (i.e., source term) estimates for each constituent of concern (COC) identified as part of the Operable Unit 3 (OU3) Remedial Investigation/Feasibility Study (RI/FS). A source term is an estimate of the mass of an individual contaminant within materials. This appendix also presents OU3 material quantities according to material categories. These activities facilitate development of disposition options which are evaluated in Sections 4, 5, and 6 of this document.

Section B.1 provides an overview of the determination of the source term. The estimates of construction material and current waste inventory (as of August 21, 1995) weights and volumes are provided in Section B.2. Information pertaining to the assumptions and methodology used in calculating the weight and volume of contaminated materials is also presented. The assumptions developed and applied to analytical results are discussed in Section B.3. The assumptions and methodology used to determine the source term for each COC and material are discussed in Section B.4 (See Appendix A for the development, screening, and determination of COCs). The source term estimates for current remedial action conditions are provided and discussed in Section B.5. A discussion of the sensitivity analyses performed as a validation of the source term methodology and assumptions is presented in Section B.6. Section B.7 details the projected weights and volumes of OU3 materials by category and details the associated source term. Finally, in Section B.8, materials are segregated according to regulatory criteria (i.e., low level, hazardous, mixed, etc.) to support evaluation of disposition options.

B.1 OVERVIEW OF SOURCE TERM DETERMINATION

The OU3 RI/FS field characterization program was designed to identify the most radiologically and chemically contaminated locations within a process area through field screening techniques. Intrusive samples, as defined in Section 2, were taken from major media within each process area/component based on the results of these screenings. Therefore, the data collected during the RI/FS generally represent "hot spots" or the maximum levels of contamination to be found in each major medium of a component or process area. The components (generally buildings and associated equipment) are defined as either process related or non-process related. "Process related" refers to those process areas/components associated with the former production activities (Component Categories 3 and 4). It should be noted that Component Category 4, process support, were components used for supporting the process activities, such as maintenance buildings, and are not expected to contain significant quantities of process materials. However, to conservatively bound the potential conditions associated with these components, they are assumed to be similar to the process components. "Non-process related" includes all other process areas/components not directly associated with the production process (Component Categories 1, 2, and 5-11). These designations are utilized in this document to support source term development and disposition of materials. Figure B-1 presents the general process followed to determine source term estimates for OU3 materials.

For the purposes of this document, source term is defined as the estimated mass of a contaminant present in and on a material. This estimated contaminant mass is the product of material mass and concentration of a contaminant. A source term estimate is needed for each of the 74 materials (67 construction materials, known as material descriptions, and 7 types of inventory materials) defined in OU3. This process is more complex than source term estimates for environmental media, such as soil, since many OU3 materials require individual strategies for representation. The methodology used to develop the OU3 source term depends on assumptions and process knowledge for each of the OU3 materials. Knowledge of the weight or volume of the material evaluated and the contaminant concentrations in that media is required to determine contaminant mass. Detailed

information regarding OU3 components was developed and entered into the Sitewide Waste Information Forecasting and Tracking System (SWIFTS) for use in the RI/FS and remedial design/remedial action (RD/RA) processes. In addition to estimated weights and volumes of materials from SWIFTS, estimated weights and volumes of paint, dust, corrosion, rust, debris, and holdup materials were developed from assumptions, discussed in this appendix, and were added to original SWIFTS weights and volumes. These data, coupled with characterization data, support preparation of source terms for each of the OU3 COCs.

Seven OU3 media (concrete, masonry, steel coatings, asphalt, acid brick, transite, and wood) were sampled as part of the RI/FS characterization study. These seven materials constitute approximately 97 percent of the total weight of all OU3 materials. Analytical results from these materials were then extrapolated to similar OU3 materials that were not sampled. The extrapolation was based on material similarity and expected contamination similarity (process knowledge). Because of the small contribution of non-sampled materials to the total quantity of materials within the OU3 scope, any error potentially arising from this extrapolation methodology would have a negligible impact on the total source. In an attempt to address any potential error, all assumptions associated within the extrapolation of data are designed to be conservative in nature and overestimate the actual contaminant mass expected.

Finally, by comparing regulatory criteria to analytical results, materials and their associated weights or volumes are categorized as low level, hazardous, mixed, polychlorinated biphenyl (PCB), or below baseline materials. This information sets the stage for development and evaluation of remedial alternatives.

B.2 MATERIAL WEIGHTS AND VOLUMES

This section discusses the ten material categories, 67 construction material descriptions, and the seven types of inventory materials. Summaries of weights and volumes of each material are also provided. Section B.2.1 discusses the categorization of OU3 materials into manageable units. Section B.2.2 discusses the data sources for the weights and volumes of OU3 materials. Section B.2.3 discusses material-specific assumptions for the 67 construction materials and identifies coatings or layers that may be associated with a given material. Section B.2.4 provides general equations used to calculate the contaminated weights associated with each material. Section B.2.5 identifies the added weights and volumes of holdup and contaminant layers. Finally, Section B.2.6 summarizes the material weights and volumes.

B.2.1 Material Categories

OU3 RI/FS material categories were developed as a management strategy to handle the diverse materials generated in OU3 as a result of ongoing and proposed decontamination and dismantlement activities. The categorization of OU3 construction materials into ten material categories and 67 construction material types was based on potential treatment and disposition options, possible dismantling techniques, and existing material management strategies, as well as the regulatory drivers for segregation and disposition of materials. The estimated weights and volumes of materials, and process knowledge, were also considered in the definition and categorization of materials. The material categories provide a cross-walk to link weight and volume estimates in the SWIFTS database, RI/FS characterization data, and potential process options. The material categories and material descriptions developed for OU3 materials are defined below and summarized in Table B-1.

A-Accessible Metals: Structural steel and steel decking have large accessible surface areas and thicknesses which are greater than 1/4 inch. The surface of accessible metals are accessible for

application of physical surface decontamination techniques, as well as, subsequent radiological surveys prior to disposition.

B-Inaccessible Metals: Non-process piping, equipment in non-process areas, decontaminated process equipment, conduit/wire, electrical fixtures, miscellaneous electrical items, doors, and other miscellaneous metals are included in this category. These materials have surfaces which cannot be easily decontaminated or surveyed, and thus are considered inaccessible.

C-Process-Related Metals: Process equipment, electrical equipment not included in Category B, and process piping which are assumed to be highly contaminated and to contain holdup material.

D-Painted Light-Gauge Metals: Ductwork, louvers, metal wall and roof panels, and sheet lead are painted metals less than 1/8 inch thick. Metals in this category are assumed to be painted with lead-based paint or, in the case of lead sheeting, to be made of lead themselves.

E-Concrete: Concrete, masonry, asphalt, and clay piping are porous construction materials.

F-Brick: Acid brick was used extensively to line floors, drain areas, and trenches in process areas utilizing corrosive chemicals, and thus is expected to be highly contaminated.

G-Non-Regulated Asbestos Containing Materials (ACM): Transite walls and roofs, refractory (fire brick and insulating brick) materials, ceiling demolition, floor tile, and feeder cable are nonfriable materials.

H-Regulated ACM: Piping insulation, ductwork insulation, and personal protective equipment (PPE) which are classified as regulated ACM because either the material matrix is potentially friable ACM (e.g., insulation), or, in the case of PPE, contaminated with asbestos fibers during asbestos abatement activities. The copper scrap metal pile is included in this category because most of the material is copper conduit covered with a coating that contains ACM.

I-Miscellaneous Materials: Other miscellaneous items present in the structures and buildings in OU3 including windows, wood, built-up roofing, building insulation (non-ACM), drywall, process and non-process trailers, polyvinyl chloride (PVC) pipe, fabric roofs and walls, PPE, and other miscellaneous debris. Neither the characteristics nor the volume of material indicate a need to categorize these materials separately.

J-Product, Residues and Special Materials: The coal pile, sand piles, soil piles, rock salt pile, the outside equipment storage area, and scrap metal pile are large quantities of material. This category also includes the containerized hazardous/mixed waste, nuclear product, and the thorium inventory which is considered part of OU3.

B.2.2 Sources Used to Identify Material Weights and Volumes

Estimated weights and volumes of OU3 construction materials are in the SWIFTS database and reported in the 1995 OU3 Estimated Materials Quantity Report (DOE 1995a). Estimated weights and volumes are summarized in Table B-2. Weights and volumes, by material description, component, and where applicable, process area, were copied from SWIFTS into an ORACLE database table specific to OU3. The ORACLE database table was developed to:

- Contain an unchanging record for each volume and weight of material in SWIFTS;

- Establish the link between material described in SWIFTS and analytical results from materials sampled during the OU3 RI/FS characterization program and stored in the Sitewide Environmental Database (SED); and

- Calculate the weight of contaminated material from the total weight of each material, based on assumptions discussed in Section B.2.3.

B.2.2.1 Product, Residues, and Special Materials

Table B-3 summarizes the total number of containers and total weight associated with three of the seven inventory materials. These include:

- Thorium Product (RCRA, Non-RCRA, and Uncharacterized)

- Nuclear Material/Product (RCRA, Non-RCRA, and Uncharacterized)

- Other Product (RCRA, Non-RCRA, and Uncharacterized)

Table B-4 summarizes the seven soil pile weights and volumes. Details on the types of materials included in the waste inventory and their storage location are presented in Appendix A, Attachment V. The copper piles consists of 1,370 tons of material which has been containerized and placed in inventory. The remaining categories of inventory include the coal pile and miscellaneous bulk piles of uncontaminated materials. These materials are not considered for contaminant mass.

These materials are in inventory for two reasons:

- When production operations at the Fernald Environmental Management Project (FEMP) ceased in 1989, the material already was in inventory as a waste, product, or an intermediate product intended for processing, or

- The material was generated as a result of removal actions and other activities at the FEMP since production ceased.

As described in Section 1, the Department of Energy's (DOE's) strategy (DOE 1994) is to continue management of these wastes under existing programs. Therefore, these inventoried wastes are discussed in Appendix A. Contaminant mass estimates are discussed in Section B.5.

B.2.3 Assumptions Applied in Determining Contaminated Weight of Materials

The following section provides the specific assumptions used to determine the amount of material assumed to be contaminated for each material description. For each material description, different methods of contamination have resulted in diverse patterns within, and on, the material itself. For example, concrete within a wet process area was generally contaminated through spills associated with the process. In contrast, a structural steel beam would be subject to contamination from airborne releases from processing activities; the airborne contaminant would reside on the surface of the steel beam until such time that the facilities were repainted. As a result of the different methods of contamination, the concrete would be expected to have been subjected to contaminant migration into the concrete while the steel beam would likely have only surface contamination within the paint layer. These different modes and types of contamination lead to distinctly different assumptions to be applied in developing contaminated weights for each material. Assumptions related to the application of contaminant concentrations in OU3 materials are discussed in Section B.3. Table B-5 identifies the data sources for sampled and non-sampled materials and the associated assumptions.

B.2.3.1 General Assumptions for Metals

All steel materials were divided into process-related (Component Categories 3 and 4) and non-process-related (Component Categories 1, 2, and 5-11) materials to accurately apply assumptions. All non-process piping, equipment, structural steel, ductwork, metal wall panels, metal roof panels, electrical fixtures and equipment, doors, and windows are assumed to be painted on the exterior metal surface. Structural steel, doors, and window frames are painted on two sides. A paint thickness of 10 mils (0.010 inch) was used as a conservative estimate of the thickness of all painted metal. Studies conducted at the FEMP have shown a measured paint thickness based on the upper confidence level of the mean of 5.3 mil (WEMCO 1991) indicating this conservatism of a 10 mil assumption. A density of 3.0 (g/cc) (187 lbs/ft^3) for the lead-based paint at the FEMP was used in calculating total contaminant mass for painted surfaces. This density was determined through calculations using the known analytical percent of metals in paint scraping samples and the density of acrylic plastic and epoxy resin. The calculations were verified through personal communication with a paint research chemist.

All process piping, conduit, electrical cables, process equipment, and transformers are not painted and are assumed to have a radiologically contaminated dust layer on the metal surface. A thickness of five mil is used as an estimate of the thickness of all external dust. A conservative density of 1.5 g/cc (93.5 lbs./ft^3) was used in calculating total contaminant mass for dust surfaces (approximately the density of soil). Ductwork, process piping, and process equipment were assumed to be internally contaminated. For example, ductwork is assumed to have a 10 mil dust layer on the interior surface. Dust contaminants are represented by paint sample results in adjacent sampled materials.

Process piping and process equipment are assumed to have both a layer of corrosion/rust/undefined debris (CRUD) and holdup material. CRUD is formed within process piping and process equipment over time from the general process of corrosion. Process piping is assumed to contain one percent of the interior volume as CRUD and ten percent of the interior volume as holdup, whereas process equipment is assumed to contain one tenth percent of the interior volume as CRUD and one percent of the interior volume as holdup. The density of CRUD is estimated as 3.0 g/cc (187 lbs./ft^3). Holdup is defined as the material, primarily assumed to consist of uranyl nitrate hexahydrate (UNH), within process piping or process equipment, which has crystallized into a solid/semisolid mass. During the years of production,the interior of process piping and equipment is known to have accumulated material, of which a significant percentage is uranium and water. UNH was chosen to be representative of all holdup material within process piping and process equipment because it contains 43 percent uranium, closer to an average concentration of uranium within piping and equipment than the use of UF4 (approximately 75 percent uranium) or uranium residues (approximately 5 percent uranium). For the purposes of calculating a holdup contaminant mass, enrichment status is not considered. The density of holdup is 2.8 g/cc (175 lbs./ft^3). The uranium content of UNH is subsequently used to develop a uranium source term for applicable materials, as well as to calculate total weights.

The use of a 10 percent holdup for process piping, and a 1 percent holdup for process equipment is supported through examination of data generated by Removal Action No. 12 activities within Plant 4. The following material quantities were collected from Plant 4 during implementation of D&D activities, and no separation of piping, equipment and ductwork materials was made; to be conservative, it is assumed that all material was removed from piping. Material remaining in piping after completion of Safe Shutdown activities is estimated to be less than 5 percent of total removed material.

Process piping throughout the production area at the FEMP is generally categorized into 3 diameters: 2 inches and less; between 2.5 and 4 inches; and greater than 4 inches. There was 92,748 linear feet of 2 inches and less piping, 15,564 linear feet of 2.5 to 4 inch piping; and 10,260 linear feet of piping greater than 4 inches in diameter within Plant 4. The total volume of process piping in Plant 4 is calculated to be 4856 cubic feet. During the D & D process, 850 cubic feet of piping was removed and containerized without further D & D activity, leaving approximately 4781 cubic feet of piping.

Approximately 48.6 cubic feet of holdup material was removed from Plant 4 piping, ductwork, and process equipment. Five percent holdup material is estimated to remain in piping, ductwork, and equipment after D & D activity. A one percent holdup is thus present in Plant 4 piping, supporting the conservative nature of a 10 percent holdup for process piping and a one percent holdup for process equipment.

Material	Weight in Pounds	Weight in Kilograms	Density of Material	Volume in Cubic Meters	Volume in Cubic feet
UF_4	15826	7185	6.7 g/cc	1.072	37.9
UO_2	3084	1400	10.97 g/cc	0.128	4.5
U_3O_8	1403	637	8.38 g/cc	0.076	2.7
UO_3	1590	722	7.3 g/cc	0.099	3.5
All material	21903	9944		1.375	48.6

Conversions - 0.454 kg/pound, 0.3048 m/ft

B.2.3.2 Acid Brick

Acid brick is a relatively impermeable material used for lining trenches, floors, or other areas where wet chemical processes occurred. Since cracks or holes could develop over time, and thus become conduits for seepage of contaminants and saturation throughout the volume of material, it is conservatively assumed that acid brick data (collected from the surface half-inch) are representative of the entire volume of material. All acid brick is assumed to be 4 inches thick.

B.2.3.3 Building Insulation

All building insulation is assumed to be 2 inches thick and comprised of either fiberglass batts or rigid insulation covered by transite panels. The estimated volume is based on uncompressed insulation, which is approximately 90 percent air space; therefore, the actual insulation material is approximately ten percent of the total volume. One likely source of surface contamination is assumed to be airborne material. Another possible source of contamination is splashes; contaminants are assumed to have migrated through cracks or wall joints. Based on the above, ten percent of the building insulation volume is assumed to be contaminated.

B.2.3.4 Ceiling Demolition

Ceiling demolition systems are defined as overhead materials consisting primarily of drop ceilings and other tile-like materials and are assumed to be 3/4 inches thick. Surface contamination could have occurred because of airborne deposition. Conservatively, ten percent of the volume is assumed to be contaminated.

B.2.3.5 Clay Piping

All clay piping is located below grade and is predominantly 8 to 12 inch diameter sewer and wastewater pipe. Most sewer pipe is assumed to be uncontaminated; however, dilute wastewater, such as rainwater, contained in the piping are known to contain low levels of contaminants. Due to its non-porous nature, vitrified clay piping is assumed to be uncontaminated; to be conservative, concrete baseline values are applied.

B.2.3.6 Concrete

As discussed in the OU3 Estimated Material Quantities Report, concrete materials are described in SWIFTS as above-grade (12 inches or more above the surface), at-grade (0-12 inches above the surface), and below-grade. Concrete walls and some floors are above-grade (nine percent); most floors and slabs are at-grade (54 percent); and foundations, pads, and other slabs are below-grade (40 percent). Concrete slabs may vary significantly in thickness; however, 8 inches is assumed to be the average thickness for all concrete. Both concrete cores and chip samples were taken during the RI/FS characterization study. The application of concrete data to concrete materials is discussed in detail in Section B.4.1. As discussed in Section 2, concrete core samples were taken from three depths, 0 to 0.5 inches, 0.5 to 1 inch, and greater than 1 inch (generally a 1-4 inch interval). Each weight for a concrete material description was divided into four depths (0-0.5 inches, 0.5-1 inches, 1-4 inches, and greater than 4 inches) to facilitate application of analytical results. For the first three intervals, applicable RI/FS sampling data is applied. For the last interval, all concrete at a depth of greater than 4 inches is assumed to be uncontaminated; baseline values were applied. Concrete that is classified as below-grade by material description was assumed to be uncontaminated and was not sampled. Baseline values were also applied to this classification.

B.2.3.7 Conduit and Wire

As discussed in Section B.2.2.1, it is assumed that all conduit is unpainted, with a 5 mil layer of radiologically contaminated dust on the exterior surface. Conduit is electrical cable or wiring wrapped in an insulated or rubberized covering, mainly running beneath and between buildings.

B.2.3.8 Ductwork

All ductwork is assumed to have a 10 mil layer of paint on the exterior surface. In addition, it is assumed that the interior surface of all ductwork contains a 10 mil dust layer of radiologically contaminated material. Ductwork includes contaminated systems associated with dust collectors, as well as potentially contaminated systems of heating, ventilating, and air conditioning (HVAC) equipment. Dust and other particulate material are pulled into and, along with the circulating air, through the ductwork. As discussed in Section B.3.2, during the dismantlement of Plant 4, approximately 1 percent holdup was present in process piping, equipment and ductwork.

B.2.3.9 Equipment

Equipment is assumed to have a 10 mil layer of paint on the exterior surface. Process equipment is generally comprised of stainless steel or other specialty metals, is not painted, and is assumed to have a 5 mil layer of radiologically contaminated dust on its exterior surface.

In addition, one percent holdup and one-tenth percent CRUD layers are assumed to be present in process equipment. A one percent holdup for process equipment is based on process knowledge that there was a build up of holdup in fittings, valves, and other parts of process equipment but that the interior cavity space was generally less than that of piping.

B.2.3.10 Masonry
All masonry is assumed to be 8 inches thick based on the thickness of an average concrete block. Each masonry weight was divided into three depths (0-0.5", 0.5-1" and 1-8") to facilitate the application of analytical results. Masonry was sampled by taking a chip of the top half inch; however, it is assumed that masonry chip data are representative of the top inch. The remainder of the masonry is assumed to be uncontaminated. The majority of masonry occurs in walls, which are painted and thus somewhat sealed. Contamination would likely occur via airborne material or splashes; thus the surface would be most contaminated, based on this premise, the masonry interior is assumed to be uncontaminated. Concrete baseline values are applied to the remaining mass of material.

B.2.3.11 Miscellaneous Electrical Boxes and Fixtures
This material is assumed to be painted metal. The paint layer is assumed to be 10 mils thick. Each electrical box and fixture was conservatively assumed to be constructed of 18-gauge metal having a surface area (volume) of 3.4 ft^2 per ft^3 and 10 ft^2 per ft^3, respectively. The type and size of electrical boxes and fixtures were estimated based on visual inspection of component 6A process areas.

B.2.3.12 Piping
All non-process piping is assumed to be painted. Piping outside of the process and process-support areas (Component Categories 1, 2, and 5-11) is assumed to be free from radiological contamination. Most non-process piping is made of carbon steel and is used to transport cooling water, for drinking water, and for sanitation.

Process piping is composed of stainless steel, monel, or inconel as well as some carbon steel used to transport corrosive, caustic, radiological, and other chemical materials in process areas. All piping (Component Categories 3 and 4) is assumed to contain ten percent hold-up and a one percent CRUD layer calculated from the interior volume. This piping is also assumed to have a one mil radiologically contaminated dust layer on its exterior surface. Based on process knowledge, holdup in process piping can range from a few centimeters to completely filling the pipe. Ten percent holdup in all process piping is assumed.

B.2.3.13 Transite
It is assumed that transite data are representative of the entire volume of material. Exterior transite panels are corrugated and 7/16 of an inch thick. Interior transite panels are flat and 1/4 inch thick. Transite information is reported in FEMP studies for removal of exterior and interior transite (Herrick 1992).

B.2.3.14 Windows
All window frames are assumed to be painted on both sides. Furthermore, all window frames are assumed to be steel, and it is assumed that the surface area of each window frame is 5.5 percent of the total estimated volume of the window.

B.2.3.15 Wood
It is assumed that wood data are representative of the entire volume of material. Wood is found throughout the OU3 complex and subject to seepage and saturation of contaminants throughout the volume of material.

B.2.4 Weight of Contaminated Material
Estimates of weight and volume for materials were based on either estimated gross material weight, estimated volume, or from a take-off quantity (measured quantities from drawings or blueprints). In

most cases, the value for gross material weight is the product of the takeoff quantity times a conversion factor. The general calculation of a contaminated weight from a reported weight, volume, or take-off quantity is provided below. Three different approaches were used to calculate the weight of contaminated material based on the requirements of each of the 67 construction material descriptions; weight-based, volume-based, and takeoff-based. Detailed examples of calculations used in determination of the contaminated weights for each material are contained in Attachment B.IV.

B.2.4.1 Weight-Based Calculations

Weight-based calculations are used when the entire weight of the material is considered contaminated at some level. All weight is reported in standard tons (i.e., 1 ton = 2000 pounds). The weight of the contaminated material is determined by the following equation.

Contaminated Weight = Weight of material * pound (lb) to kilogram (kg) conversion * lb to ton conversion

(kg) = (tons) * 0.454 (kg/lb) * 2000 (1b/tons)

The weight of material in tons is taken from SWIFTS. The entire weight of material is considered in calculating a contaminated weight for the following materials.

Acid brick	Ductwork insulation	Holdup - all piping
Asphalt	Electrical transformers	Holdup - process equipment
Clay piping	All fabric	Interior transite walls
Concrete	Concrete Beams	Concrete Columns
Concrete Foundation	Concrete Slabs	Concrete Walls
Masonry	Masonry Walls	Drywall
Lead flashing	Wood	Floor tile

B.2.4.2 Unbulked Volume-Based Calculations

Unbulked volume-based calculations are used when either the weight is not available or the material is in a noncompressed state. Most materials with external surface contamination and low overall density were assessed as unbulked materials. These materials have a high compressibility factor, but the contaminant weight would be calculated based on the uncompressed surface areas. The weight of the contaminated material is determined by the following equations:

Contaminated Weight = Surface area of material * thickness of contaminated layer * density of contaminated layer * lb to kg conversion

kg = (ft^2) * [mil/(mil/ft)] * (lb/ft^3) * (kg/lb)

where

Surface area of material = Unbulked Volume * Volume to Surface Area (ft^2) conversion
Thickness of contaminated layer = layer thickness * thickness to foot conversion

The unbulked volume in cubic feet (ft^3) is taken from SWIFTS and is multiplied by a density to get a mass (lbs or tons) value. The contaminated weights for the following materials were calculated from unbulked volumes.

Electrical equipment	HVAC equipment	Paint - process equipment
Electrical transformers	Material handling equipment	Structural and misc. steel
Equipment and misc.	Piping insulation	

B.2.4.3 Takeoff Quantity-Based Calculations

Takeoff quantity-based calculations are used when actual measurements are available from drawings or maps. The results are reported in units of cubic feet, square feet, linear feet, pounds, tons, or number of items and are material dependent. The weight of the contaminated material is determined by the following equation:

Contaminated Weight = Takeoff quantity * Surface area conversion factor (material dependent) * Thickness of contaminated layer * density of material * lb to kg conversion

$$(kg) = (ft^2) * [mil/(mil/ft)] * (lbs/ft^3) * (kg/lb)$$

where

Takeoff Quantity	=	field or drawing measurements
Surface Area Conversion	=	conversion between takeoff quantity and required units

Based on assumptions discussed in Section B.2.3, the following materials are assumed to contain contaminated layers of material, calculated from takeoff quantities.

Building insulation	Feeder cables	Process trailers
Ceiling demolition	Exterior metal wall panel	Dust - piping
Dust - conduit/wire	Interior metal wall panels	Paint - piping
Doors	Metal panel roof	Exterior transite panels
Ductwork	Louvers	Roofing (built up)
Electrical fixtures	Miscellaneous electrical items	Windows
Electrical wiring	Non process trailers	

A contaminated weight was not calculated for the following materials. No materials of similar composition were sampled during the RI/FS sampling program; thus, no source term estimate can be calculated. However, these materials are considered contaminated based on process knowledge and will be discussed in Section B.7 concerning segregation and possible disposition of materials.

Basin liners	
Miscellaneous debris	Polyvinyl Chloride (PVC) conduit
Personal protection equipment	PVC piping

B.2.5 Added Weights and Volumes of Holdup and Contaminant Layers

A summary of weights and volumes for all OU3 construction materials is discussed in Section B.2.2. As discussed in Section B.2.3, additional materials are assumed present in either interior cavities or on exterior surfaces of OU3 materials, as described in Table B-6. In addition to the contaminated weight calculated in previous sections, additional contamination is assumed to be associated with OU3 materials or contaminant layers. The weights, volumes, and contaminated weights calculated for the following materials are additive to the total weights and volumes in SWIFTS.

- Dust - The exterior dust layer is assumed to be 5 mils thick, and the interior dust layer is assumed to be 10 mils thick.

- Paint - The exterior paint layer is assumed to be 10 mils.

- CRUD - The interior CRUD layer is assumed to be 1.0 percent of the inner surface volume for process piping and 0.1 percent of the inner surface volume for process equipment.

- Holdup - Holdup is assumed to be 10 percent of the inner surface volume for process piping and 1.0 percent of the inner surface volume for process equipment.

B.2.6 Summary of Weights and Volumes

A total of all weights, volumes, and calculated contaminated weights for all OU3 construction materials is provided in Table B-7. The weight and volumes reported include all additional materials discussed above and are additive to the original weight and volume estimates. Summaries of weights and volumes estimated for OU3 construction materials by component, and where applicable, by process area, are provided in the Estimated Material Quantity Report (DOE 1995).

B.3 CONTAMINANT CONCENTRATIONS IN OU3 MATERIALS

There are three factors that play a key role in the determination of applicable concentrations within each OU3 material for the purpose of developing source terms. These three factors are sampling-related, contaminant related, and material related issues. Sections B.3.1 through B.3.3 discuss the general assumption related to sampling issues that apply to all or most of the OU3 materials. Sections B.3.4 and B.3.5 discuss two contaminant specific assumptions that are utilized within the development of source terms. Finally, Sections B.3.6 and B.3.7 presents the material specific assumptions concerning transite and concrete.

B.3.1 Representativeness of Sampling

It is assumed that the samples collected of each major medium in each process area/component are generally representative of all such media in that process area/component. However, as discussed in Section 2.2, the samples collected during the RI/FS characterization study were intended to be taken at the most contaminated locations (hot spots). Therefore, the use of these data with source term development would overestimate the contaminant mass in any given process area/component.

B.3.2 Process Areas/Components Not Sampled

As discussed in Section 2.2, components that were determined to be "clean" by evaluation of radiological surveys and process knowledge were not sampled. Several of these non-sampled components were screened as "confirmatory" components, but no intrusive samples were collected.

Consistent with the OU3 RI/FS Work Plan Addendum (DOE 1993), components not sampled and considered uncontaminated should exhibit baseline levels of contaminants; thus, baseline values were applied to all materials within those components. The application of maximum values to these non-sampled components, or to below-grade materials, would have resulted in unrealistically elevated source term estimates.

A detailed discussion of baseline values and the methodology used in their determination is provided in Appendix A. Table B-9 provides baseline values by media and analyte that were used in determining the source term.

There are 75 components that were not sampled as part of the RI/FS characterization study since these facilities were never associated with the processing activities. Also, there are 14 components which are new structures (constructed after development of the WPA) and, as such, are not considered contaminated. These components are listed in Table B-8. In such cases, baseline values for concrete and steel coatings were applied to the concrete, masonry, and metals, located in the components not sampled. Seven components were not sampled due to (safety) ALARA reasons. The high background radiation readings precluded any sampling activities. Results from components of similar function were applied to the seven non-sampled components as described below: component 71 results were applied to all materials in components 4B, 5F, and 30B. Component 6C results were applied to all materials in component 6E; and finally results in component 64 were applied to all materials in components 60, 61, and 65.

Seven components were not sampled because background radiological readings were determined to be too high to allow sampling. These seven components are:

- Plant 4 Warehouse (4B)
- Plant 5 Covered Storage Pad (5F)
- Plant 6 Electrostaic Precipitator (North) (6E)
- Quonset Hut #2 (61)
- Plant 5 Warehouse (65)
- Drum Storage Warehouse (30B)
- Quonset Hut #1 (60)

As described in Attachment A.IV to Appendix A. The General In-Process Warehouse (71) was used to characterize components 4B, 5F and 30B because of similarities in function. Likewise, the Plant 6 Electrostatic Precipitator (South) (6C) was used to characterize Component 6E, and the Thorium Warehouse (64) was used to characterize Components 60, 61 and 65.

B.3.3 Non-Detected Results

In certain situations, the maximum value for a material is an analytical result below the laboratory detection level (nondetected). This is a usable value with three options for its use. The actual analytical result may be used; the actual result may be replaced by the laboratory detection limit or the minimum detectable concentration (MDC); or half of the actual result may be used. The actual analytical result is used in cases where the analytical result is a nondetected value (U or UJ validation qualifier; data validation is discussed in Section 2).

B.3.4 Chromium

The OU3 analytical data generated for chromium is for total chromium. However, hexavalent chromium is the form of chromium generally considered of most concern, and the form used in the OU5 COC list and in most disposal facility acceptance criteria. According to supplement 94-014 for the FEMP Risk Assessment Work Plan Addendum (DOE 1992), calculations should use ten percent of total chromium analytical results as hexavalent. However, those calculations were based on

environmental media. Since OU3 consists primarily of construction materials, it has been conservatively assumed that all total chromium measured in the OU3 RI/FS characterization study is hexavalent.

B.3.5 Pesticides

Due to a limited number of samples for pesticides, to conservatively bound potential impacts from pesticide use throughout the facilities, it is assumed that the top half inch of all above-grade and at-grade concrete slabs is contaminated with pesticides. The maximum pesticide value reported for concrete from all samples was applied to this volume. Based on pesticide use within the facilities, only surface contamination is expected, and therefore, no pesticide contamination is assumed for the remaining volume of concrete.

B.3.6 Transite

Approximately 20 samples of transite were analyzed by the toxicity characteristic leaching procedure (TCLP) for metals and for organic constituents (volatile and semivolatile). The TCLP produces results for the leachate from the sample in mg/L. A reliable estimate of the RCRA metals content in transite was obtained by converting extract results to total weight results. In order to perform this conversion, a leach rate for transite is needed.

The most conservative approach would be to calculate a solid phase total weight analysis based on the lowest leaching percentage. This methodology would produce the maximum solid phase concentration. The lowest leaching rate determined from the RI/FS data for metals in concrete was 0.1%. If this rate was used to back calculate metallic content in the transite the resulting total concentration for the RCRA metals would be unrealistically high. It therefore became apparent that another approach was needed.

Results from the "Transite Characterization Treatability Study Final Report," (UC, 1996) were used in conjunction with RI/FS TCLP data to calculate a solid phase total metallic content in transite. The purpose of the treatability study was to develop a methodology to determine the depth of radiological contamination for transite samples from the Fernald site to ascertain the feasibility of decontamination. In addition to the radiological studies, an analysis was performed on selected metals contamination in the transite. In particular, the penetration of lead through the thickness of transite.

The metals characterization was performed by digesting and analyzing abraded material from the surface of transite panels removed from the interior of Plant 7. Total extractable lead and barium were analyzed using USEPA SW-846, Method 6010A. Twenty-four (24) samples were analyzed in triplicate and the average of these replications was reported. Below is a summary of these results:

	Maximum Result	Minimum Result	Average Result
Lead, mg/kg	462.0	362.9	427.1
Barium, mg/kg	199.6	143.6	168.5

The twelve transite samples analyzed using the TCLP protocol (extract results) during the OU3 RI/FS study were collected from the following components: the Preparation Plant (1A), Ore Refinery Plant (2A), Hot Raffinate Building (3E), Green Salt Plant (4A), Metals Production Plant (5A), Metals

Fabrication Plant (6A), Recovery Plant (8A), Special Products Plant (9A), and the Incinerator Building (39A). Only one of the twelve lead results and five of the twelve barium results were reported above the detection limit. By comparing these detected extract results to the maximum levels of the total lead and barium results discussed above, a percent leached was determined for lead and a range of percent leached was determined for barium.

	Total Result (mg/kg)	Minimum TCLP Result (mg/L)	Percent Leached Minimum	Maximum TCLP Result (mg/L)	Percent Leached Maximum
Lead	462.0	N/A	N/A	0.189	0.82
Barium	199.6	0.312	3.13	0.64	6.41

The lead value of 0.82% is the most conservative of the three leach percentages calculated and indicates that approximately one percent (1%) of the total available lead in the transite sample would transfer into the leachate during a TCLP protocol determination. Therefore, to be conservative, a one percent (1%) leach rate was used to recalculate the metallic content in the transite.

The RCRA metals source term contribution for transite was calculated using the 20 times TCLP rule as a basis. Assuming 20 times equates to 100% analyte leaching, then 2000 times the TCLP value (20 x 100) approximates a one percent (1%) leach rate. Therefore, in order to accurately estimate the source term for metals in transite a 2000 L/kg conversion factor is used. Transite samples were not analyzed for radiological constituents; thus masonry chip data are applied for radiological constituents.

B.3.7 Concrete

In some instances, both concrete core and concrete chip samples were collected from the same process area/component. In such cases, the maximum value of the two was used. In areas where only concrete chip samples were taken (generally "dry" process areas), contamination is expected to be present only on the surface of the concrete. Conservatively, concrete chip results are assumed to be representative of the top one inch of the concrete and are applied over the one inch. Baseline data are applied to the remaining volume (7 inches) of concrete.

No samples of below-grade concrete were collected. It is assumed that the top one inch of this material was contaminated similarly to concrete chip results in the vicinity and that the remaining thickness contains baseline levels of concrete constituents. All at- or below-grade concrete located beneath roads at OU3 is assumed to be uncontaminated; thus baseline data were applied.

B.4 DEVELOPMENT OF CONTAMINANT SOURCE TERM

Development of estimates of contaminated materials (source terms) is dependent on the use of assumptions that provide a framework from which to build. The following section discusses the methodology used in implementing assumptions discussed in Sections B.2 and B.3 of this appendix.

B.4.1 Source Term Methodology

Analytical results from the OU3 field sampling program are validated and stored in the Sitewide Environmental Database (SED). OU3 analytical results were copied from the SED into an ORACLE table to provide an analytical result for each material in each component and process area within OU3. (See Section B.2 for a discussion of the generation of the ORACLE tables.)

Approximately 94,000 results are available in the results table to be applied to approximately 67 discrete material descriptions to calculate the source term for each material in a component, by process area, and by depth. Of these, 24,000 results are used based on the logic discussed below.

An important step in the development of the source term is the building of the link between the sampled and non-sampled materials. Seven materials (concrete, masonry, steel coatings [paint chips], acid brick, asphalt, transite, and wood) were sampled during the RI/FS characterization study, representing approximately 97 percent of the total weight of all OU3 materials. These sampled materials were used to represent the 67 material descriptions described for OU3 construction materials. Table B-5 summarizes the sampled materials that are applied to non-sampled material descriptions. Use of a sampled material to represent a non-sampled material was based on similarity in composition, possible location of contaminants (such as walls or ceiling), and possible depth of penetration of contaminants in the material. Concrete core samples were taken from wet process areas and were used to determine the depth of penetration of contaminants in concrete. The depth of penetration within other porous materials was estimated based on the nature of the material, its configuration (wall, ceiling, or floor), and whether the material was located in a wet or dry process area (i.e., chemical or metallurgical).

A logic hierarchy was developed to determine which result would be used for each material in calculating the source term, as depicted in Figure B-2. The first level of the logic hierarchy was to search for each material and depth within a component and to use the analytical result from the RI/FS characterization study taken from that component and process area first (the exception to this is concrete, which follows a different logic flow). Lacking a result within the process area, the search continues up a level to the component. The maximum result within the component for that material and depth is then used. At this juncture, if no result is available within the component, the search continues to include process knowledge of related components. Using process knowledge to determine which components contain similar types and modes of contamination to identify a result to be used, the selected result is then applied to the component lacking usable data. Next, if usable results are still unavailable, the maximum value from the material and component category is used. Finally, if no result is found, the result field is set to zero. This final step (i.e. no result found) occurs for basin liners, miscellaneous debris, PPE, polyvinyl chloride (PVC) piping and conduit, and for materials which were not sampled and for which there are no analogous media. An exception to the logic hierarchy is masonry greater than one-half inch deep. Masonry is assumed to be contaminated only on the surface because of its low porosity; thus baseline values are applied to the volume of material from one-half inch to 8 inches.

A similar logic hierarchy was developed specifically for concrete materials. A flow diagram is provided in Figure B-3. For the top depth, the maximum concrete core or chip analytical result, taken from the RI/FS characterization study for that component, process area, and depth, is used first. If no result is available in the top half-inch, a usable result from the core is used (e.g., the top 1/2-inch result was rejected during data validation). Lacking a result from the core, the search continues up a level to within the process area. If that search fails, the search continues up a level to

the component. The maximum result within the component for that material is then used. At this juncture, if no result is available within the component, process knowledge of components of similar use and similar contamination levels are evaluated to determine a component from which a result can be applied. Lastly, if still no usable results are available, the maximum value from the component category and material is then used. The search hierarchy for the concrete core depth of one-half to 1 inch is as described above. The search hierarchy for the concrete core depth of 1 to 4 inches searches first for the analytical result from the same component and process area at that depth. Lacking a usable result, the default is to baseline values. As discussed in Section B.2, a fourth depth, which splits the bottom core of greater than 1 inch into two segments--1 to 4 inches and concrete remaining at greater than 4 inches in depth--was added. Baseline values are applied to this depth.

B.4.2 Frequency and Distribution of Analytical Results

Details of the frequency of use of analytical results and baseline values for each COC and material are provided below, as well as associated source term estimates for each case. By dividing the COCs into analytical fractions of inorganics, radionuclides, pesticide/PCBs, semivolatile organics, and volatile organic analytes, an overall picture of the application of results to materials is more clearly seen.

For inorganics, analytical results were applied 56 percent of the time, and the mass of material associated with these results amounted to approximately 271,000 kilograms (kg) or 50 percent of the total source term mass of 5,400,000 kg for all inorganic analytes. The remaining 50 percent mass of source term materials (2,710,000 kg) resulted from the application of baseline values.

For radionuclides, 1,307,000 kg or 40 percent of the source term mass from this group was the result of the application of analytical results, which accounted for 45 percent of all radiological results applied. Fifty-five percent of the remaining applied results were baseline values. Baseline values for radiological analytes were applied to concrete, masonry chips, and steel scrapings.

Analytical results for pesticide/PCBs, semivolatile organics, and volatile organic analytes were applied five, one, and two percent of the time respectively. It is assumed that these analytes are not normal constituents of OU3 materials and therefore, are applied only under certain circumstances. Where no positive result is reported, a baseline of zero is applied. All of the source term mass associated with organic groups of analytes (725 kg) resulted from the application of analytical results in contrast to the application of baseline values.

B.4.3 Source Term Determination

Records contained in the database tables and discussed in previous sections are loaded into the final source term table. The calculated weight of contaminated material and the result linked to that material are multiplied together to determine a contaminant mass in kilograms for each OU3 COC. The resulting source term estimates for OU3 materials and selected COCs are discussed below.

B.5 SOURCE TERM ESTIMATES - CURRENT OU3 CONDITIONS

This section summarizes the contaminant source terms in OU3. Previous sections have discussed the sources, assumptions, and methodology involved in source term determination. Section B.5.1 discusses the source term by COC, and provides details for both technetium-99 and total uranium; B.5.2 summarizes the source term by material category, and B.5.3 discusses the source term by component category, noting those components having significant source terms. The calculated source

term for OU3 waste inventory materials is provided in B.5.4. Finally, B.5.5 provides a summary of the source term estimates for OU3 materials.

B.5.1 Contaminant Source Term by Analyte

This section summarizes the contaminant source terms within OU3 by COCs which have a high frequency of detection and/or are important in terms of potential risk. The COCs are grouped by analyte fraction: inorganics, volatile organics, semivolatile organics, pesticides/PCBs, and radionuclides. Table B-10 provides the contaminant source term estimates for each individual COC.

B.5.1.1 Inorganics

Chromium (2,470,000 kg), nickel (1,730,000 kg), manganese (862,000 kg), and copper (182,000 kg) have the highest source terms, which are generally associated with the normal constituents of carbon and stainless steel present at the FEMP. Approximately 95 percent of the source term for these metals is associated with the carbon and stainless steel; the remaining five percent is associated with contamination from on site activities (four percent) and the associated paint layer on painted materials (one percent). Carbon and stainless steel contain chromium, copper, manganese, and nickel as normal constituents, so the large source terms are not surprising. These source terms are calculated to provide a complete accounting of OU3 materials but are not considered contaminants. Source term values for the other RCRA metals, lead (103,000 kg), barium (26,200 kg), and cadmium (823 kg) have a wide range and are primarily associated with contamination from the production processes. Selenium (1,000 kg), arsenic (2,780 kg), silver (3460 kg), and mercury (31.9 kg) were primarily associated with transite materials. Ninety-eight, 26, 16, and 13 percent of the total source term for these metals are associated with transite, however, the relatively high transite source term determined for selenium, arsenic, mercury, and silver was calculated by multiplying the extract result by a one percent leach rate as discussed in Section B.3.6, resulting in a highly conservative estimate of the transite source term. Source terms for the remaining metals range from 36,500 kg to 93 kg, respectively. Materials with which these inorganics are associated are discussed in Section B.5.2.

B.5.1.2 Volatile Organics

Three volatile organics are on the OU3 COC list: tetrachloroethene, styrene, and benzene. As discussed in Section B.3, reported non-detected results were to be used in determining source terms for volatiles; however, a value of zero was used in place of a reported non-detect result. The resulting source term for tetrachloroethene (351 kg), styrene (0.04 kg), and benzene (0 kg) reflect the application of detected results only where available with no other results applied. The impact on the source term is discussed in Section B.6; however, overall, less than one percent of the contaminant mass estimated for OU3 materials comes from volatile organics; thus, the overall contribution of volatiles to the source term is small.

B.5.1.3 Semivolatile Organics

The semivolatile organic analytes (SVOAs) with the most significant contaminant mass are nitrobenzene (155 kg), 1,4-dichlorobenzene (94 kg), and hexachlorobutadiene (82 kg). The contaminant mass associated with semivolatiles is less than one percent and is associated with less than one percent of the total weight of materials. Only seven other SVOAs have source terms; they are, in decreasing mass: chrysene (6.9 kg), bis (2-ethylhexyl)phthalate (6.3 kg), benzo(a)anthracene (2.2 kg), benzo(a)pyrene (0.25 kg), benzo(b)fluoranthene (0.19 kg), benzo(k)fluoranthene (0.008 kg), and carbazole (0.001 kg). Again, because a result of zero was used in place of a non-detected result, the remaining four SVOA COCs: 2,4-dinitrotoluene,

pentachlorophenol, indeno(1,2,3-cd)pyrene, and n-nitroso-di-n-propylamine all had a source term of 0 kg.

B.5.1.4 Pesticides/PCBs

Two of the six COC pesticides/PCBs have source terms greater than 1 kg: Aroclor-1254 (8.5 kg) and Aroclor-1260 (5.3 kg), which is less than one percent of the total contaminant mass associated with OU3 materials. Alpha-Chlordane, Aroclor-1248, dieldrin, and gamma-Chlordane all have source terms less than 1 kg.

B.5.1.5 Radionuclides

Total uranium with 8,000,000 kg has the greatest amount of contaminant mass associated with it. Ninety-four percent of this mass (7,503,000 kg) is associated with containerized waste inventory materials and will be dispositioned separately. Of the remaining 6 percent, 5 percent is associated with UNH holdup within process piping and equipment. Uranium-238 (560,000 kg), also associated with containerized waste inventory uranium-235/236 (41,200 kg), and uranium 233/234 (nearly 7 kg) have associated source terms which are also significant.

After total uranium, total thorium (900,000 kg) which is also associated with containerized waste inventory materials, has the greatest amount of contaminated mass associated with it. With the exception of total thorium, thorium-232 (3,720 kg) is the only non-uranium analyte that has a source term greater than 1 kg, with technetium-99 at 0.127 kg and neptunium-237 at 0.073 kg. The presence of a high contaminant mass for uranium, uranium isotopes, and thorium, is expected since the FEMP processed more than 180,000 metric tons of uranium products during the years of production. The contaminant mass associated with technetium-99 is significant as discussed in Appendix A. Technetium-99 is also relatively water soluble and is easily transported through water. This characteristic makes technetium-99 a major concern for both risk and determination of possible disposition options. For these reasons, total uranium and technetium-99 are discussed in greater detail than other COCs in the following sections.

B.5.1.5.1 Technetium-99 Source Term

First, the materials in which technetium-99 source terms are found are discussed, followed by a discussion of the components where the contaminant mass for technetium-99 was highest. Primarily the contaminant mass for technetium-99 is associated with concrete (0.097 kg), in particular concrete slabs (0.094 kg); collectively, acid brick (0.008 kg); transite (0.006 kg); asphalt (0.005 kg); paint (0.005 kg); CRUD (0.003 kg); and dust (0.001 kg) contribute collectively, about 20 percent to the total technetium-99 source term. Finally, masonry (0.0003 kg); wood (1.045×10^{-5} kg) and the soil piles (2.50×10^{-6} kg) contribute less than one percent of the contaminant mass associated with technetium-99. The source term for technetium-99 by material description is presented in Table B-11. The source term for technetium-99 is 0.127 kg; when Material Category J is excluded, the source term drops to 0.125 kg.

Most of the technetium-99 contaminant mass is located in the following components: the Special Products Plant-9A (0.057 kg), the Plant One Storage Pad-74T (0.015 kg) and the Recovery Plant-8A (0.005 kg). A complete accounting of the technetium-99 source term by component is presented in Table B-12. As discussed in Appendix A, the Special Products Plant (9A), Plant One Pad (74T), and the Recovery Plant (8A) are all either process-related buildings or storage areas where process-related materials were stored. The source term by material category and component category is

provided in Table B-13. Most technetium-99 is associated with the process and process support buildings, with the exception of the Plant One Pad, which is in Component Category 8.

B.5.1.5.2 Total Uranium Source Term

The majority of the total uranium contaminant mass comes from containerized waste inventory product materials, non-RCRA waste (4,108,000 kg), uncharacterized waste (2,590,000 kg), and RCRA waste (805,000 kg). UNH from holdup in piping and process equipment (447,000 kg) were next, followed by Concrete materials (34,100 kg). Paint (820 kg), asphalt (2,570 kg), CRUD (2,446 kg), dust, (450 kg) masonry (364 kg), acid brick (5,361 kg) and wood (12.4 kg) also contained a significant mass of total uranium. Table B-14 provides the source term for total uranium by material description.

The mass of total uranium at the site can be found in two major sources. The source term contributed by the waste inventory product and other materials, RCRA, non-RCRA, and uncharacterized wastes are the major source of the total uranium contaminant mass, and represent 7,510,000 kg or 94 percent of the total source term for total uranium. This material is inventoried containerized waste which is dispositioned separately. Approximately six percent of the remaining source term associated with total uranium comes from UNH associated with process piping or equipment. Table B-15 lists the source term for total uranium for each component. Components where the contaminant mass for total uranium was highest are: the Plant One Pad-74T (7,400 kg), Special Products Building-9A (895 kg), and Metal Fabrications Plant-6A (5603 kg), correlating well with components where technetium-99 was also noted. An overview of the distribution of total uranium source terms throughout the OU3 production area by component category is provided in Table B-16. As would be expected, most of the source term for total uranium is located in component Category 3, the process buildings.

B.5.2 Contaminant Source Term by Material Category

OU3 materials are categorized into ten categories as discussed in B.2.1. Table B-1 lists the ten categories and the associated 67 material descriptions. The source term associated with each material category is summarized below. Attachment B.I provides the source term for each COC by material category, including the material description associated with each.

- Material Category A - Manganese, copper, lead, zinc, chromium, barium, and nickel and three radiological analytes; uranium-234, total uranium, and thorium-232, are the primary contributors to the total source term for accessible metals. Manganese, copper, chromium, and nickel are primarily associated with the metal (stainless or carbon steel) comprising the metal walls and panels in this category and do not add to the overall contamination present in OU3 materials. The source term associated with stainless or carbon steel will be excluded from consideration during segregation and disposition activities. The source term for lead, zinc, and part of the chromium is associated with the paint on the surface of metal material. These inorganics are present in Material Categories B, C, and D, generally in the same proportions and for the reasons discussed above; they will not be discussed any further.

- Material Category B - Uranium-238, total uranium, and thorium-232 are present, associated with the dust, CRUD, and surface contamination.

- Material Category C - Total uranium, uranium-238, and thorium-232 are the primary contributors to the total source term for process-related metals; associated with the dust, CRUD, holdup and surface contamination.

- Material Category D - Barium, uranium-238, total uranium, and thorium-232 are the primary contributors to the total source term for painted light-gauge metals; associated with internal dust layers and surface contamination.

- Material Category E - The source term for most COCs is associated with concrete materials in some degree, however, the source terms for neptunium-237, technetium-99, total uranium, uranium-238, zinc, and barium are higher in general for concrete, masonry and asphalt materials than in other materials. Most of the source term associated with concrete is present in the at- and above -grade concrete materials. Source terms associated with concrete materials were minimal for semivolatiles, pesticides/PCBs, and volatile organic analytes. In general, the source terms associated with masonry are similar to those associated with concrete. The highest source term for strontium-90, antimony, mercury, silver, zinc, benzo(a)anthracene, and chrysene is associated with asphalt.

- Material Category F - Acid brick represents less than one percent of the total weight of OU3 construction materials but is associated with the highest source term for plutonium-239/240, bis(2-Ethylhexyl)phthalate, benzo(a)pyrene, benzo(k)fluoranthene, and styrene. technetium-99, total uranium, uranium-238, thorium-232, barium, copper, and zinc are also significant contributors to the overall contaminant mass associated with acid brick.

- Material Category G - Manganese, lead, copper, barium, zinc, chromium, silver, vanadium, and nickel, total uranium, uranium-238, thorium-232, and uranium-235/236, nitrobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, and tetrachloroethene are the primary contributors to the total source term for non-regulated ACM.

- Material Category H - Lead, barium, zinc, manganese, chromium, copper, and vanadium, total uranium, uranium-238, and thorium-232 are the primary contributors to the total source term for regulated ACM.

- Material Category I - Copper, lead, zinc, barium, chromium, arsenic, vanadium, silver, nickel, and antimony, total uranium, uranium-238, and thorium-232 are the primary contributors to the total source term for miscellaneous materials.

- Material Category J - Lead, zinc, chromium, barium, manganese, copper, nickel, antimony, cadmium, and arsenic, total uranium, uranium-238, total thorium, uranium-235/236, and thorium-232 are the primary contributors to the total source term for product residues and special materials. It should be noted that these materials are containerized and will be disposed of separately.

B.6 UNCERTAINTY ASSOCIATED WITH SOURCE TERM ESTIMATES

This section explains areas of uncertainty encountered during the development of the source term and quantitatively presents how these uncertainties were accounted for in the calculations.

B.6.1 Sensitivity Analysis

To further evaluate the source term estimates, a sensitivity analysis was performed. This analysis tests the impact of the assumptions described in Sections B.2 and B.3. Three radiological (elemental uranium, technetium-99, and neptunium-237), one inorganic (chromium), and two organic constituents (gamma-Chlordane and tetrachloroethene) were used in this analysis as representative of other analytes in these groups.

B.6.1.1 Use of Baseline for Process Areas/Components Not Sampled

As described in Section 2, and per the WPA, components were not sampled during the OU3 RI/FS characterization program primarily because there was no indication of contamination. For those components, baseline values were used to estimate contamination source terms. Twice the baseline levels were applied as a comparison to assess the impact of using baseline values to those process areas/components that were not sampled.

The amount of material in components not sampled is over 13 percent of the total OU3 volume and nearly 14 percent of the weight. Using twice the baseline values for non-sampled components, instead of the baseline values, would increase the source terms from six percent for elemental uranium to 12 percent of the total source term. As discussed in Appendix A, baseline levels represent the 95th-percentile values from the baseline data set. This implies that 95 percent of the data in the baseline data set are at or below the selected baseline value. As a result, the use of baseline values for non-sampled components, for which there is no indication of contamination, should be conservative.

B.6.1.2 Use of UCL of Mean to Determine Baseline Values

As discussed in Appendix A, baseline values were statistically determined from sampled materials. Baseline levels represent the 95th-percentile values from the baseline data set. This implies that 95 percent of the data in the baseline data set is at or below the selected baseline value. The impact of using the upper confidence level (UCL) of the mean rather than the 95th-percentile is presented below.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	386,000	3,980,000	3,990,000	0	386,000
Percent of Total OU3 Volume	5	53	53	0	5
Weight of Material Affected (tons)	107000	280,000	28,000	0	107000
Percent of Total OU3 Weight	3	74	74	0	3
Source Term with Normal Baseline (kg)	0.127	3,340,000	2,470,000	351	0.070
Change in Source Term	2.28×10^{-5}	1,270	915	0.00	0.0003
Source Term with New Baseline (kg)	0.127	3,340,000	2,470,000	351	0.069
Percent Decrease/(-Increase)	-0.02	0.04	0.04	0	0.44

As detailed above, using the UCL of the mean values rather than the 95th-percentile values had negligible impacts on these analysis with all being changed by less than one percent. In neither instance is the percent increase or decrease significant, and there is no overall impact on the source term.

B.6.1.3 Assumption that All Chromium is Hexavalent

As stated in the WPA and described in Section B.3, it has been assumed that ten percent of total chromium at the FEMP would be considered hexavalent. This form of chromium is of most concern from a health aspect, particularly in terms of leaching from an on-property disposal facility. However, upon further consideration, the use of the ten percent assumption appears to be too low for OU3 materials; therefore, it has been conservatively assumed that all chromium measured in OU3 sampled materials is hexavalent.

The implications of this assumption are minimal. First of all, the measurement of chromium for purposes of determining hazardous characteristics (40 CFR 261) is in terms of total chromium. Therefore, the assumption that all of the chromium is hexavalent does not impact the hazardous classification except that, if a material does not exhibit a hazardous characteristic for any other contaminant and can be shown to contain minimal amounts of hexavalent chromium, it can be exempted from the hazardous classification. This demonstration would have to be done regardless of the relative percentage of hexavalent chromium.

B.6.1.4 Use of Non-Detect Values

As described in Section B.3, when results for inorganic, organic, and radiological contaminants were below detection limits, the reported non-detect value was used to conservatively estimate the source terms. To assess the impact of this approach, one-half of the reported non-detect value was applied to the material to which the reported, non-detect value was applied. However, during the process of determination of source term estimates, an error in the assignment of results occurred. Organic results with a reported non-detect value were not used but were set to zero. The impact of using one-half of the reported non-detect value for organic contaminants is assessed below.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	112000	0	46200	42000	524000
Percent of Total OU3 Volume	1.5	0	0.6	5.7	7.0
Weight of Material Affected (tons)	6800	0	3140	18900	26800
Percent of Total OU3 Weight	1.8	0	0.8	5.0	7.0
Source Term with Normal Non-Detect (kg)	0.127	3,340,000	2,470,000	351	0.067
Change in Source Term	6.75×10^{-5}	0.00	13.8	-13.2	0.001
Source Term with 50 percent Non-Detect (kg)	0.127	3,340,000	2,470,000	364	0.068
Percent Decrease/(-Increase)	0.05	0	0	-3.77	2

Using one-half of the reported non-detect values where inorganic results are below detection limits, instead of the reported non-detect values, would not decrease the source terms for chromium. Therefore, the use of the reported non-detect values when inorganic results are below detection limits is considered conservative and changing to a less conservative approach would be insignificant. Using one-half of the reported non-detect values where radiological results are below detection limits, instead of the reported non-detect values, would decrease the source terms for technetium-99 and neptunium-237 by 0.05 percent, and two percent, respectively. The source terms for elemental uranium and chromium were not impacted. Overall, use of the reported non-detected result rather than the half-nondetected value has little or no impact on the source term, except for tetrachlorothene, which was increased by nearly four percent.

B.6.1.5 Use of Non-Detects for Organics

As discussed above, the assumptions in Section B.3 outline the use of a reported non-detected result for an organic contaminant below the detection limit; however, an error in computation of the source

term for organics resulted in a zero value being used. To assess the impact of this approach, the reported non-detected results were applied to the appropriate material.

	Technetium-99	Elemental Uranium	Chromium		Tetrachloroethene		Neptunium-237	
Volume of Affected Material (cu. ft)		112000	0	46200	425000	524000		
Percent of Total OU3 Volume	1.5	0	0.6	5.7	7.0			
Weight of Material Affected (tons)		6800	0	3140	18900	26800		
Percent of Total OU3 Weight	1.8	0	0.8	5.0	7.0			
Source Term with Normal Non-Detect (kg)			0.013	3,340,000		2,470,000	351	0.070
Change in Source Term	9.24×10^{-7}		0.00	5.23	-0.265	-0.001		
Source Term with 100 percent Non-Detect			0.127	3,340,000		2,470,000	377	0.070
Percent Decrease/(-Increase)	0	0	0	-7.55	-1.47			

B.6.1.6 Assumption of 10 mil Paint Thickness

As described in Section B.2, a 10 mil thickness has been conservatively assumed for all painted surfaces. However, as also stated, studies have indicated that the normal thickness is 5 mil. To assess the impact of the 10 mil assumption, a 5 mil paint thickness was applied to all painted surfaces.

As indicated below, the amount of painted material represents less than one percent of the total OU3 material volume and only approximately one percent of the weight. Use of a 5 mil thickness on painted surfaces, instead of 10 mil, would decrease the source term from 2.8 percent for neptunium-237 and nearly two percent for technetium-99, to a negligible amount for elemental uranium. Overall, the impact of applying 10 mil paint, rather than 5 mil is slight; therefore, the use of the 10 mil paint thickness appears to be somewhat conservative, and changing to a less conservative estimate would be insignificant.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	4440	4440	4440	4440	4440
Percent of Total OU3 Volume	0.06	0.06	0.06	0.06	0.06
Weight of Material Affected (tons)	412	412	412	412	412
Percent of Total OU3 Weight	0.1	0.1	0.1	0.1	0.1
Source Term with 10 Mil Paint (kg)	0.127	3,340,000	2,470,000	351	0.070
Change in Source Term	0.002	2,410	1,760	0.00	0.002
Source Term with 5 Mil Paint (kg)	0.125	3,340,000	2,470,000	351	0.067
Percent Decrease/(-Increase)	1.95	0.07	0.07	0	2.84

B.6.1.7 Assumption of One Percent CRUD Layer on the Interior of Piping and Process Equipment

As described in Section B.2, the interior surface of all process piping and equipment are conservatively assumed to be contaminated with a one percent, by volume, layer of CRUD. This layer has been assigned a radiological contamination level that is concurrent with radiologically contaminated surface paint. This paint coats the interior surfaces of the component in which the piping and equipment are located. To assess this assumption, the impacts of the one percent layer of CRUD was compared to the impacts of a 0.1 percent layer of CRUD. Additionally, the impacts of the one percent layer was compared to the impacts of a 0.01 percent layer.

The amount of material affected by both comparisons is seven percent of the total OU3 material volume and 33 percent of the material weight.

The comparison of the 0.1 layer resulted in an estimated reduction of the source terms for technetium-99, elemental uranium, and neptunium-237. These source terms were reduced by two percent, 0.07 percent, and three percent, respectively. The use of these comparative layers for the piping and process equipment are assumed to be conservative. The results of the 0.01 percent comparison were inconclusive.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	1300	1300	1300	1300	1300
Percent of Total OU3 Volume	0.02	0.02	0.02	0.02	0.02
Weight of Material Affected (tons)	122	122	122	122	122
Percent of Total OU3 Weight	0.03	0.03	0.03	0.03	0.03
Source Term 1/0.1 Percent Vol (kg)	0.127	3,340,000	2,470,000	351	0.070
Change in Source Term	0.024	2,200	2,200	0.00	0.002
Source Term 0.1/0.01 Percent Vol (kg)	0.125	3.340,000	2,470,000	351	0.068
Percent Decrease	1.87	0.07	0.05	0	2.76

B.6.1.8 Assumption of One Percent UNH Holdup on Interior of Process Piping

As described in Section B.2, the interior surface of all process piping is conservatively assumed to be contaminated with a ten percent holdup layer by volume of UNH which consists of 43 percent elemental uranium. To assess the impact of this assumption, a one percent holdup layer was applied to the interior surface of all process piping. This application was performed to compare the impacts of the ten percent layer versus the one percent layer.

The amount of material affected by this assumption is approximately 1.2 percent of the total OU3 material volume and 32 percent of the weight. Use of the one percent layer would not decrease the technetium-99 and neptunium-237 source terms; however, the elemental uranium would decrease by 88 percent. Based on sitewide process knowledge of process piping, the use of a ten percent UNH holdup layer is appropriately conservative.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	0	95700	0	0	0
Percent of Total OU3 Volume	0	1.2	0	0	0
Weight of Material Affected (tons)	0	8380	0	0	0
Percent of Total OU3 Weight	0	2.2	0	0	0
Source Term with 10 percent UNH (kg)	0.127	3,340,000	2,470,000	351	0.070
Change in Source Term	0.00	2,940,000	0.00	0.00	0.00
Source Term with 1 percent UNH (kg)	0.127	395,000	2,470,000	351	0.070
Percent Decrease/(-Increase)	0	88.18	0	0	0

B.6.1.9 Assumption of One Percent UNH Holdup on Interior of Process Equipment

As described in Section B.2, the interior surface of all process equipment is conservatively assumed to be contaminated, with a ten percent holdup layer of UNH, which consists of 43 percent elemental uranium. To assess the impact of this assumption, a one percent holdup layer was applied to the interior surface of all process equipment. This application was performed to compare the impacts of the ten percent layer versus the one percent layer.

The amount of material affected by this assumption is approximately 33 percent of the total OU3 material volume and 73 percent of the weight. Use of one percent as UNH holdup in the interior of

process equipment would not decrease the technetium-99 and neptunium-237 source terms, however, the elemental uranium would decrease by nearly 85 percent. The use of a ten percent UNH holdup is assumed to be overly conservative for process equipment considering that the average interior cavity of process equipment is generally larger than the average interior diameter of process piping. Thus, it is expected that process equipment would not contain as much holdup relative to process piping.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	0	91905.5	0	0	0
Percent of Total OU3 Volume	0	33	0	0	0
Weight of Material Affected (tons)	0	8042.1	0	0	0
Percent of Total OU3 Weight	0	73.07	0	0	0
Source Term with 10 percent Equipment UNH (kg)	0.127	3,340,000	2,470,000	351	0.070
Change in Source Term	0.00	3,830,000	0.00	0.00	0.00
Source Term with 1 percent Equipment UNH (kg)	0.127	3,340,000	2,470,000	351	0.070
Percent Decrease/(-Increase)	0	84.67	0	0	0

B.6.1.10 Assumption of 5 Mil Dust Layer on Unpainted Surfaces

As described in Section B.2, all exterior surfaces of unpainted metals in process areas were conservatively assumed to be contaminated, with a 5 mil layer of dust characterized by radiological contamination in paint in the same process area/component. To assess the impact of this assumption, a 1 mil dust layer was applied to the material to which the 5 mil layer was applied.

As indicated below, the amount of material affected by this assumption is approximately 0.07 percent of the total OU3 material volume and nearly one percent of the weight. Use of a 1 mil thickness of dust on unpainted surfaces would decrease the technetium-99, elemental uranium, and neptunium-237 source terms by 0.9 percent, 0.03 percent, and 1.4 percent respectively. Therefore, the use of the 5 mil dust layer is considered conservative.

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237
Volume of Affected Material (cu. ft)	1474.8	1474.8	1474.8	1474.8	1474.8
Percent of Total OU3 Volume	0.07	0.07	0.07	0.07	0.07
Weight of Material Affected (tons)	69	69	69	69	69
Percent of Total OU3 Weight	0.02	0.02	0.02	0.02	0.02
Change in Source Term	0.002	1,110	551	0.00	0.0001
Source Term 1 Mil Dust (kg)	0.126	3,340,000	2,470,000	351	0.068
Percent Decrease	0.92	0.03	0.02	0	1.39

B.6.1.11 Assumption of OU5 Subsurface Soil Results to Below-Grade Concrete.

In this sensitivity analysis, below grade concrete is assumed to be contaminated with levels equal to those present in subsurface soils below or near production area components. This sensitivity analysis was performed to assess the impact of currently applying baseline values to below grade concrete.

Maximum subsurface soil results (depth of 5-10 feet) from around or beneath Plants 6, 2/3, 9 and the Plant 1 Pad were applied to components within these plants. The concrete foundations and footers are assumed to extend into the perched groundwater zone and to be contaminated throughout the concrete material, thus all of the below-grade concrete in components within Plants 6, 2/3, 9, and the Plant 1 Pad was assumed to be contaminated.

Maximum subsurface soil results (3-5 feet) were applied to all other components, based on the assumption that the foundations for these components extended approximately 5 feet down. The top

inch of concrete was assumed contaminated. The remaining 7 inches was assumed to be relatively uncontaminated, thus baseline values were applied.

As indicated below, the result of this sensitivity analysis is an increase in the elemental uranium and technetium-99 source term by less than 0.1 percent. Therefore, the application of baseline values to below-grade concrete is reasonable in relation to surrounding soil values.

	Technetium-99	Uranium, Total	Chromium	Tetrachloroethene
Volume of Affected Material (cu. ft)	1537709	1537709	1537709	1537709
Percent of Total OU3 Volume	0.166	0.166	0.166	0.166
Weight of Material Affected (tons)	115320	115320	115320	115320
Percent of Total OU3 Weight	0.26	0.26	0.26	0.26
Source Term with Soil (Max Results)	0.006	83960.6	1231.3	8.691
Percent Increase	0.04	0.01	0.00	0.025

B.6.1.12 Assumption of 10% UNH Holdup on Interior of Clay Piping and One Percent CRUD Layer to Interior of Clay Piping

Assumption of 10% UNH holdup and one percent CRUD layer on interior of clay piping. In this sensitivity analysis, the interior surface of clay piping located beneath process area is conservatively assumed to be contaminated with a 10 percent holdup layer consisting of 43 percent elemental uranium. A one percent CRUD layer is also assumed to be present on the interior of all clay piping.

As indicated below, the result of this sensitivity analysis adds less than one hundredth of a percent to the overall source term for elemental uranium, technetium-99, chromium, mercury, and tetrachloroethene. Lead increased by less than one percent.

The impact is insignificant to the overall source term. Therefore, the application of baseline values is sufficiently conservative for use in determination of a source term for clay piping.

	Technetium-99	Uranium, Total	Chromium	Tetrachloroethene
Volume of Affected Material (cu. ft)	94.52876	94.52876	94.52876	94.52876
Percent of Total OU3 Volume	1.02083E-05	1.02083E-05	1.02083E-05	1.02083E-05
Weight of Material Affected (tons)	8.746433	8.746433	8.746433	8.746433
Percent of Total OU3 Weight	1.96549E-05	1.96549E-05	1.96549E-05	1.96549E-05
10 percent UNH and 1 percent CRUD	6.46464E-06	532.4322697	8.0316494	0
Percent Increase of Source Term	5.08661E-05	6.63567E-05	3.25337E-06	0

B.6.2 Source Term Bounding Analysis

In addition to the sensitivity analyses discussed above, an estimate of maximum and minimum source terms to bound the expected results were used to validate the contamination source terms presented in Section B.5. The results of these estimates, including associated assumptions, are presented below.

B.6.2.1 Maximum Source Terms

A maximum source term for representative COCs (technetium-99, elemental uranium, neptunium-237, strontium-90, lead, mercury, chromium, alpha-Chlordane, gamma-Chlordane, dieldrin, nitrobenzene, and tetrachloroethene) were estimated based on the maximum analytical results for each sampled

media. Other assumptions and logic are as discussed in Sections B.2 and B.3. The maximum analytical results, by sampled media, used to estimate these maximum source terms are summarized, by sampled media, in Table B-19 and the estimated maximum source terms are presented in Table B-21. The sampled media results are applied to the OU3 material as described in Section B.4.

B.6.2.2 Minimum Source Terms

A minimum source term for representative COCs (technetium-99, elemental uranium, neptunium-237, strontium-90, lead, mercury, chromium, alpha-Chlordane, gamma-Chlordane, dieldrin, and tetrachloroethene) were estimated based on the minimum analytical results for each sampled medium. Other assumptions and logic are as discussed in Sections B.2 and B.3. The minimum analytical results used to estimate these minimum source terms are summarized, by sampled media, in Table B-19 and the estimated minimum source terms are presented in Table B-20. As described in Section B.4, no baseline values have been defined for organic compounds. A minimum result of zero was used for organics. The sampled media results are applied to the OU3 material, as described in Section B.4.

B.6.3 Comparison of Source Term Estimates

Table B-21 summarizes the results of the source term estimates presented in Section B.5 and the maximum and minimum source term bounding estimates described in the previous sections. The ratio between the maximum estimated source terms and the actual source terms varies from 1.1 (chromium) to 238 (alpha- and gamma -Chlordane). This ratio is generally lower for inorganics and higher for organics and radionuclides. This is expected for the organics since most of the organics were detected in relatively few samples. As discussed previously, this would result in the use of a value of zero in the source terms, while the maximum result was applied to all material for the estimated maximum. The lower ratio for inorganics compared to radionuclides is also expected since in general, inorganics results (especially those from steel scrapings/paint) are elevated. Baseline values are used extensively for radiological results in media such as concrete, whereas the maximum value was applied to all material in the estimated maximum. The ratios between the estimated maximum and the representative source terms indicate that the source terms appear to be reasonable, given the fact that the results are based on samples from the location of maximum contamination within each process area.

The ratio between the maximum and the minimum estimated source terms varies from zero (tetrachloroethene, dieldrin, alpha- and gamma-Chlordane) to one (chromium). The ratios for radiological contaminants were all less than one, the inorganics were close to or at one, and the organics were all zero, as discussed above. The source term estimates for organics were based on a few positive results with the majority being set to a zero value. The ratios between the estimated maximum and minimum source terms appear to be conservative for all but organics.

B.7 SEGREGATION OF MATERIALS BY MATERIAL CATEGORY

The purpose of this section is to further define how OU3 materials are segregated into material categories. Table B-2 provides weights and volumes by material category. Materials defined by material category are organized such that, in Section 5 of this RI/FS report possible disposition options, treatments, and cost estimates may be made. Discussion of OU3 material categories and associated material descriptions, along with determination of weights and volumes for additional materials (paint, holdup, CRUD, and dust), are provided in Section B.2. These materials are affected by decontamination activities prepared under the interim remedial action scope, such as vacuuming

and washdown. The assumption applied to these materials is that this process or similar will take place prior to final OU3 material disposition.

Layers of paint, dust, CRUD, or holdup may be categorized within several material categories based on the associated equipment or piping. Material such as holdup is assumed to be radiologically contaminated and all will be placed into Material Category J. Other materials, such as paint, dust, and CRUD, are placed into Material Categories B, C, and J based on decontamination and cleanup assumptions.

The following provides the decontamination/cleanup assumptions for OU3 materials and the subsequent categorization of those materials into a material category.

- Approximately 75 percent of all piping and process equipment is known from site process knowledge to be located in process areas and 25 percent of all piping and process equipment is located in non-process areas.

- The OU3 Estimated Material Quantities Report (DOE 1995), splits piping and process equipment materials into two Material Categories, B and C, based upon whether the metal was considered to be either inaccessible metals (Category B) or process-related metals (Category C). This division was based upon type of material, location, material function, or assumed decontamination effectiveness. Approximately 90 percent of all piping and process equipment material was classified as Category B and ten percent of all piping and process equipment material was classified as Category C.

- Figures B-4, B-5, B-6 and B-7 provide logic diagrams of the categorization of piping, equipment, and ductwork, and the associated layers or coatings. It is assumed that for approximately 87 percent of the piping and process equipment, 100 percent of the interior holdup contamination, 50 percent of the interior CRUD layer, and 80 percent (4 mils) of the exterior dust layer will be removed. For the remaining (13 percent) process area piping and process equipment, the associated coatings and layers remain with the piping material. These materials are placed in Category C. Non-process area piping and process equipment are placed in Category B because they are assumed to be free of radiological contamination and thus require minimal decontamination effort. The segregation of Category B and C materials occurs in two phases during the project. The first phase occurs during the Safe Shutdown program and results in the identification of a majority of the process related materials. When holdup material is detected within process equipment, the equipment is dismantled and the holdup removed. When piping is identified, the pipe is removed in its entirety. These materials are segregated into Material Category C.

  The second phase of the project occurs during the component D&D activities and is illustrated by the flow diagram in Figure B-7. Because some processing equipment and piping will remain in the facility after Safe Shutdown, all equipment and piping is visually verified to segregate the materials into either Category B or C. The basis for the segregation is whether visible process material is located on or in the equipment or

piping. Visible process material is defined as the visable process residues (such as green salt, yellow cake, orange oxide) on the interior or exterior surfaces of materials that is obvious to the eye and that if rubbed, would be easily removed. Stains, rust, corrosion, and flaking paint are not considered to be visible process material.

All non-process piping will be cut by the subcontractor and stacked at the point of generation. Once removed, a FERMCO CRU3 representative will perform a verification inspection for visible process material to confirm that the piping is non-process. After verification, as a best management practice, all ends of the piping will be sealed in accordance with the performance specification to minimize the spread of contamination throughout the facility. If visible process material is contained on or in the piping, it is segregated into Material Category C (Process Related Metals). Piping that passes the verification will be designated as Material Category B (Inaccessible Metals) and will have exterior surfaces cleaned prior to being containerized by the subcontractor for interim storage and eventual placement within the on-property disposal facility.

For the Category B and C materials that are not piping (e.g., equipment), after cutting and removal, all accessible surfaces will be cleaned by the subcontractor. As possible, inaccessible areas would be cleaned with a H_2O wand. After washing, accessible areas would be inspected to verify the removal of visible process material. If visible process material is discovered, the equipment will be re-cleaned and re-inspected. If it fails the second verification, the equipment will be segregated and containerized as Category C for off-site disposal. The materials passing the verification would be containerized for interim storage by the subcontractor as Category B.

- Ductwork is assumed to have an exterior 10 mil paint coating and an interior 10 mil dust layer. After decontamination, it is assumed that 90 percent of the interior 10 mil dust layer will be removed. A 1 mil residue is assumed to remain on the interior of the ductwork. The remaining 1 mil dust layer, the metal, and the paint layer are placed in Category D along with the ductwork material.

A description of the materials and associated coatings or layers placed in each material category (B, C, or J) follows.

Category B - Contains all inaccessible metals and associated surface coatings or layers. These metals are not easily decontaminated or surveyed. It is assumed that approximately 90 percent of all piping and process equipment will be placed in this category. All dust layers and CRUD are assumed to remain with the piping or process equipment in this category.

Category C - Contains all process-related metals not in Category B. Following decontamination efforts, the piping and process equipment along with remaining dust layer and CRUD will be placed in this category.

Category J - Any paint, dust layer, CRUD, or holdup removed from materials in Category C will be placed in this category. No metals will be included in this category. Fifty percent of CRUD,

eighty percent of dust, and one hundred percent of UNH piping and process equipment will be placed in Category J. No paint is placed in Category J because paint is assumed to stay in place and is placed with the associated material into the appropriate material category. Material accumulated from nine mils of dust from the interior of ductwork is placed in Category J.

B.8 SEGREGATION OF OU3 MATERIALS

The purpose of this section is to define the criteria used to segregate OU3 materials. These categories have been established to facilitate the disposition of materials generated as a result of the interim remedial action. Segregation categories are defined in B.8.1, materials selectively placed in segregation categories are discussed in B.8.2, and placement of OU3 materials into the appropriate segregation categories is discussed in B.8.3. Attachment B.III provides the segregation of OU3 materials on a component basis. The segregation of materials by regulatory criteria sets the framework to develop and evaluate alternatives based on disposition and treatment options.

B.8.1 Segregation Categories

Five criteria were used to segregate OU3 materials: hazardous waste, mixed waste, low level waste (LLW), PCB waste, and below baseline material.

Hazardous waste is defined by the concentration of RCRA metals or organics present in a material. The first determination in the segregation process is if a result is greater than or equal to 20 x TCLP criteria for any of the RCRA constituents, the associated material is considered hazardous. This accounts for the dilution, which occurs in the TCLP test and further assumes that any result above 20 times the criteria has the potential to be considered a RCRA material by characteristic.

Next, any result above the baseline value for a radiological constituent places the material in the LLW category. Table B-9 provides a listing of baseline values by media, with baseline values for total uranium and technetium-99 in concrete being 12.55 μg/g and 0.4 pCi/g, respectively.

Materials for which there is any single result greater than or equal to 20 x TCLP *and* any single result above a baseline value is considered a mixed waste.

Any material for which there are PCB results, such as transformers, are considered PCB waste under TSCA. Transformers are considered PCB contaminated even after removal of PCB containing materials.

All results which are at or below radiological baseline values, and are not greater than 20 x TCLP for a RCRA constituent are considered below baseline. These materials are considered to be uncontaminated.

B.8.2 Administrative Segregation of Materials

Several classes of material are categorized on Administrative decisions or intuitive knowledge.

- No painted material in OU3 is considered characteristically hazardous as a result of being painted with lead-based paint, supported by a study conducted at the FEMP (DOE 1995b) to evaluate the leachability of lead-based paint on painted light-gauge metal (Appendix G). However, any paint that is removed from any surface will be

considered characteristically hazardous waste unless actual TCLP results indicate otherwise. This conclusion is extended to the other toxicity characteristic (TC) metals because the maximum concentration for lead was so much higher than the maximum concentration for any of the other eight TC metals (375,000 mg/kg in lead vs 17,500 mg/kg in chromium, or 558 mg/kg for cadmium); thus, painted materials are only categorized as either LLW or below baseline.

- Materials such as lead flashing, basin liners, and PPE were not sampled but are known from process knowledge to be radiologically contaminated. Lead flashing is categorized as mixed waste, basin liners and PPE are categorized as LLW. Material from the copper and soil piles are categorized as LLW based on the limited data available.

- Material from the current waste inventory, i.e., thorium waste, product, and uncharacterized waste, is all categorized as either LLW or mixed waste based on the presence or absence of RCRA constituents within the material.

B.8.3 Segregation of OU3 Materials

Based on the criteria discussed above, 51 percent of the volume and 65 percent of the weight of all OU3 materials are categorized as below baseline. Most of the remainder of materials (33 percent of the weight and 47 percent of the volume) are categorized as LLW with two percent of the remaining volume categorized as mixed waste and less than one percent as either hazardous or PCB waste. Concrete slabs contribute the most material to mixed waste (39,300 ft^3 and 2,950 tons); nearly 45 percent of this material is concentrated in components 6A, 2A, 4A, and 8A. The associated source term for technetium-99 and total uranium for concrete slabs within these components is 0.0094 kg and 9206 kg, respectively. This represents less than one percent of the total source term for both technetium-99 and total uranium.

Other waste (RCRA) from the current waste inventory in Material Category J contributes 49,700 ft^3 and 2,720 tons to mixed waste. This material is containerized and will be administratively dispositioned off-site.

Acid brick contributes a significant weight and volume (717 tons and 10,200 ft^3, respectively) to mixed waste. Approximately 90 percent of this material is associated with components 2A, 6A, and 9A. The associated source term for technetium-99 and total uranium for acid brick within these components is 0.0004 kg and 3,178 kg, respectively. This represents less than one percent of the total source term for both technetium-99 and total uranium.

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US Department of Energy (DOE), 1995b, Letter DOE-1451-95 to USEPA and OEPA. Subject: Characterization of Light-Gauge Metal Coated with Lead-Based Paint.

University of Cincinnati, 1995, "Transite Characterization Treatability Study Final Report," prepared for US Department of Energy, Fernald Area Office, Fernald OH.

TABLE B-1
OU3 MATERIAL CATEGORIES/DESCRIPTIONS

A ACCESSIBLE METALS	B INACCESSIBLE METALS	C PROCESS-RELATED METALS	D PAINTED LIGHT-GAUGE METALS	E CONCRETE	F BRICK	G NON-REGULATED ACM	H REGULATED ACM	I MISCELLANEOUS MATERIALS	J PRODUCT, RESIDUES AND SPECIAL MATERIALS
STRUCTURAL AND MISC. STEEL	DOORS	ELECTRICAL EQUIPMENT	DUCTWORK	ASPHALT	ACID BRICK	CEILING DEMO.	DUCTWORK INSULATION	PVC CONDUIT	COAL PILE
	CONDUIT/WIRE (2" AND LESS)	EQUIPMENT AND MISCELLANEOUS	LEAD FLASHING	CONCRETE		FEEDER CABLE	PIPING INSULATION	BASIN LINERS	GRAVEL PILE
	CONDUIT/WIRE (2-1/2" TO 4")	HVAC EQUIPMENT	LOUVERS	CONCRETE BEAMS		FIRE BRICK	PPE	FABRIC	HAZARDOUS/MIXED WASTE
	CONDUIT/WIRE/CABLE TRAY (OVER 4")	MATERIAL HANDLING EQUIPMENT	EXTERIOR METAL WALL PANELS	CONCRETE COLUMNS		FLOOR TILE	COPPER SCRAP METAL PILE	FABRIC ROOF	LOW LEVEL WASTE
	ELECTRICAL FIXTURES	PROCESS EQUIPMENT	INTERIOR METAL WALL PANELS	CONCRETE FOUNDATION		EXTERIOR TRANSITE PANELS		FABRIC WALLS	MARKETABLE NUCLEAR MATERIAL
	ELECTRICAL WIRING	PIPING (2" AND LESS)	METAL PANEL ROOF	CONCRETE SLABS		INTERIOR TRANSITE PANELS		DRYWALL	OUTSIDE EQUIPMENT STORAGE AREA
	MISCELLANEOUS ELECTRICAL ITEMS	PIPING (2-1/2" TO 4")		CONCRETE WALLS		TRANSITE ROOF		BUILDING INSULATION	ROCK SALT PILE
	ELECTRICAL EQUIPMENT	PIPING (OVER 4")		MASONRY				MISCELLANEOUS DEBRIS	SAND PILES
	EQUIPMENT AND MISCELLANEOUS			MASONRY WALLS				PPE	SOIL PILES
	HVAC EQUIPMENT			CLAY PIPING				PVC PIPING	THORIUM INVENTORY
	MATERIAL HANDLING EQUIPMENT							ROOFING, BUILT-UP	SCRAP METAL PILE
	PROCESS EQUIPMENT							PROCESS TRAILERS	
	ELECTRICAL TRANSFORMERS							NON-PROCESS TRAILERS	
	PIPING (2" AND LESS)							WINDOWS	
	PIPING (2-1/2" TO 4")							WOOD	
	PIPING (OVER 4")								

Table B-2
Summary of Estimated OU3 Material Quantities

FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
A	STRUCTURAL AND MISC. STEEL	61,400	15,000
Totals for FS Category	A	61,400	15,000
B	CONDUIT/WIRE (2" AND LESS)	6,300	1,060
B	CONDUIT/WIRE (2-1/2" TO 4")	5,440	591
B	CONDUIT/WIRE/CABLE TRAY (OVER 4")	1,980	164
B	DOORS	10,200	204
B	ELECTRICAL EQUIPMENT	97,100	1,020
B	ELECTRICAL FIXTURES	26,100	163
B	ELECTRICAL TRANSFORMERS	14,900	334
B	ELECTRICAL WIRING	206	59.
B	EQUIPMENT AND MISCELLANEOUS	135,000	3,380
B	HVAC EQUIPMENT	66,100	347
B	MATERIAL HANDLING EQUIPMENT	103,000	645
B	MISCELLANEOUS ELECTRICAL ITEMS	16,600	415
B	PIPING (2" AND LESS)	12,800	1,440
B	PIPING (2-1/2" TO 4")	21,400	1,530
B	PIPING (OVER 4")	67,000	2,960
B	PROCESS EQUIPMENT	1,160,000	11,100
Totals for FS Category	B	1,740,000	25,400
C	ELECTRICAL EQUIPMENT	8,160	94.7
C	EQUIPMENT AND MISCELLANEOUS	15,000	375
C	HVAC EQUIPMENT	5,380	28.6
C	MATERIAL HANDLING EQUIPMENT	11,200	69.2
C	PIPING (2" AND LESS)	1,000	113
C	PIPING (2-1/2" TO 4")	2,750	197
C	PIPING (OVER 4")	14,000	620
C	PROCESS EQUIPMENT	91,900	1,090
Totals for FS Category	C	149,000	2,590
D	DUCTWORK	3,220	890
D	EXTERIOR METAL WALL PANELS	591	146
D	INTERIOR METAL WALL PANELS	91.1	22.5
D	LEAD FLASHING	49.4	17.5
D	LOUVERS	1,480	29.5
D	METAL PANEL ROOF	623	154
Totals for FS Category	D	6,060	1,260
E	ASPHALT	552,000	22,400
E	CLAY PIPING	7,910	554
E	CONCRETE	468,000	35,100
E	CONCRETE BEAMS	57,600	4,320
E	CONCRETE COLUMNS	22,400	1,680
E	CONCRETE FOUNDATION	921,000	69,100
E	CONCRETE SLABS	2,260,000	169,000
E	CONCRETE WALLS	139,000	10,400
E	MASONRY	12,200	336
E	MASONRY WALLS	260,000	7,150
Totals for FS Category	E	4,700,000	320,000
F	ACID BRICK	20,700	1,450

Table B-2 (Continued)

FS Category[1]	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
Totals for FS Category	F	20,700	1,450
G	CEILING DEMOLITION	12,300	147
G	EXTERIOR TRANSITE PANELS	17,500	982
G	FEEDER CABLE	1,120	321
G	FIRE BRICK	5,590	391
G	FLOOR TILE	3,720	179
G	INTERIOR TRANSITE PANELS	12,300	680
G	TRANSITE ROOF	18,900	1,060
Totals for FS Category	G	71,300	3,760
H	DUCTWORK INSULATION	5,390	12.1
H	PERSONAL PROTECTIVE EQUIPMENT	6,860	10.4
H	PIPING INSULATION	20,200	45.4
Totals for FS Category	H	32,400	68
I	BASIN LINERS	2,140	69.1
I	BUILDING INSULATION	155,000	349
I	DRYWALL	20,400	538
I	FABRIC	35.7	1.15
I	FABRIC ROOF	382	12.3
I	FABRIC WALLS	176	5.68
I	MISCELLANEOUS DEBRIS	31,200	467
I	NON PROCESS TRAILERS	305,000	896
I	PERSONAL PROTECTIVE EQUIPMENT	36,000	54.5
I	PROCESS TRAILERS	71,100	209
I	PVC CONDUIT	408	13.3
I	PVC PIPING	283	1.22
I	ROOFING (BUILT UP)	29,000	1,040
I	WINDOWS	21,000	419
I	WOOD	30,900	463
Totals for FS Category	I	703,000	4,540
	Totals:	7,480,000	374,000

1. Source: SWIFTS or Req. Doc.
2. FS Category
   - A = Inaccessible Metals
   - B = Accessible Metals
   - C = Process Related Metals
   - D = Painted Light Guage Metals
   - E = Concrete
   - F = Acid Brick
   - G = ACS-FMS-Release
   - H = ACS-
   - I = Misc. Materials
   - J = Other Materials

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TABLE B-3
SUMMARY OF WASTE INVENTORY MATERIALS

	NON-RCRA			RCRA			UNCHARACTERIZED		
	NUMBER OF CONTAINERS	VOLUME (cu.ft)	WEIGHT (tons)	NUMBER OF CONTAINERS	VOLUME (cu.ft)	WEIGHT (tons)	NUMBER OF CONTAINERS	VOLUME (cu.ft)	WEIGHT (tons)
THORIUM	4,529	63,000	1,673	16	457	6	1,891	14,050	396
PRODUCT	24,282	85,370	5,181	547	4,333	100	13,213	16,830	3,103
OTHER	15,326	267,600	3,496	4,511	49,650	2,721	13,659	223,500	3,116

TABLE B-4
SOIL PILE QUANTITY ESTIMATES

SOIL PILE	LOCATION	VOLUME (CU FT)	WEIGHT (TONS)
1	East of Building 2A	393	19
2	Southeast of Building 8A	2,945	141
3	West of Decon Pad 74P	10,000	480
4	South of Building 80	6,412	308
5	South of Building 5A	1,244	60
6	Between Railroad Tracks 6 & 9	160,363	7,697
7	3rd Street Dirt Pile	803,589	38,572
TOTAL		984,946	47,277

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TABLE B-5
DATA SOURCES FOR SAMPLED AND NON-SAMPLED MATERIAL

SAMPLED AND NON-SAMPLED	DATA SOURCE	APPLICATION
ACID BRICK	ACID BRICK	ENTIRE VOLUME ASSUMED TO BE CONTAMINATED
ASPHALT	ASPHALT	TOP INCH ASSUMED TO BE CONTAMINATED
BASIN LINERS	NONE	INSIGNIFICANT CONTRIBUTION TO SOURCETERM ASSUMED
BUILT-UP ROOFING	ASPHALT	ENTIRE VOLUME ASSUMED TO BE CONTAMINATED
CEILING DEMOLITION	MASONRY	ENTIRE VOLUME ASSUMED TO BE CONTAMINATED
CLAY PIPING	CONCRETE	BASELINE VALUES APPLIED TO ENTIRE VOLUME
CONCRETE	CONCRETE	RESULTS APPLIED DETERMINED BY DEPTH ; SEE FIGURE B-3
CONDUIT AND WIRE	STEEL COATINGS	RADIOLOGICAL CONTAMINATION;5 MIL DUST SURFACE CONTAMINATION
DOORS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
DRYWALL	MASONRY	RESULTS APPLIED TO ENTIRE VOLUME
DUCTWORK	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER RADIOLOGICAL CONTAMINATION; 10 MIL INTERIOR DUST LAYER
ELECTRICAL EQUIPMENT	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
ELECTRICAL FIXTURES	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
ELECTRICAL TRANSFORMERS	STEEL COATINGS	RADIOLOGICAL CONTAMINATION;5 MIL DUST SURFACE CONTAMINATION
ELECTRICAL WIRING	STEEL COATINGS	RADIOLOGICAL CONTAMINATION;5 MIL DUST SURFACE CONTAMINATION
EQUIPMENT AND MISCELLANEOUS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
EXTERIOR METAL WALL PANELS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
EXTERIOR TRANSITE PANELS	TRANSITE	RESULTS APPLIED TO ENTIRE VOLUME
FABRIC	MASONRY	RESULTS APPLIED TO ENTIRE VOLUME
FEEDER CABLE	STEEL COATINGS	RADIOLOGICAL CONTAMINATION;5 MIL DUST SURFACE CONTAMINATION
FLOOR TILE	MASONRY	RESULTS APPLIED TO ENTIRE VOLUME
HVAC EQUIPMENT	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
INSULATION, BUILDING	MASONRY	RESULTS APPLIED TO 100 PERCENT OF VOLUME
INSULATION, DUCTWORK	MASONRY	RESULTS APPLIED TO ENTIRE VOLUME
INSULATION, PIPING	MASONRY	RESULTS APPLIED TO ENTIRE VOLUME
INTERIOR METAL WALL PANELS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
INTERIOR TRANSITE PANELS	TRANSITE	RESULTS APPLIED TO ENTIRE VOLUME
LEAD FLASHING	LEAD STANDARD	SOURCETERM NOT CALCULATED

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TABLE B-5
DATA SOURCES FOR SAMPLED AND NON-SAMPLED MATERIAL

SAMPLED AND NON-SAMPLED	DATA SOURCE	APPLICATION
LOUVERS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
MASONRY	MASONRY	RESULTS APPLIED DETERMINED BY DEPTH ; SEE FIGURE B-2.
MATERIAL HANDLING EQUIPMENT	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
METAL PANEL ROOF	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
MISCELLANEOUS DEBRIS	NONE	INSIGNIFICANT CONTRIBUTION TO SOURCETERM ASSUMED
MISCELLANEOUS HANDLING EQUIPMENT	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
PERSONAL PROTECTIVE EQUIPMENT	NONE	INSIGNIFICANT CONTRIBUTION TO SOURCETERM ASSUMED
PIPING , NON-PROCESS	STEEL COATINGS	INTERIOR PIPING, 1% CRUD LAYER
PIPING, PROCESS	STEEL COATINGS	RADIOLOGICAL CONTAMINATION;5 MIL DUST SURFACE LAYER, INTERIOR PIPING, 10% HOLD-UP; AND 1% CRUD LAYER
PROCESS EQUIPMENT	STEEL COATINGS	RADIOLOGICAL AND CHEMICAL CONTAMINATION; 10 MIL PAINT LAYER RADIOLOGICAL CONTAMINATION; 5 MIL SURFACE CONTAMINATION ;INTERIOR PROCESS EQUIPMENT, 1% HOLD-UP ASSUMED
PVC CONDUIT AND PVC PIPING	NONE	INSIGNIFICANT CONTRIBUTION TO SOURCETERM ASSUMED
STRUCTURAL AND MISCELLANEOUS STEEL	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
NON-PROCESS TRAILERS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
PROCESS TRAILERS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
TRANSITE ROOF	TRANSITE	RESULTS APPLIED TO ENTIRE VOLUME
WINDOWS	STEEL COATINGS	CHEMICAL AND RADIOLOGICAL CONTAMINATION;10 MIL PAINT LAYER
WOOD	WOOD	RESULTS APPLIED TO ENTIRE VOLUME

Table B-6
Summary of Added Holdup and Contaminant Layer Quantities

FS Category	Material Description	Coating/Layer Type	Unbulked Volume (cu. ft)	Weight (tons)
A	STRUCTURAL AND MISC. STEEL	PAINT	2,000	187
Totals for FS Category	A		2,000	187
B	CONDUIT/WIRE (2" AND LESS)	DUST	210	9.82
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	40.3	1.89
B	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	10.6	.493
B	DOORS	PAINT	102	9.56
B	ELECTRICAL EQUIPMENT	PAINT	162	15.1
B	ELECTRICAL FIXTURES	PAINT	109	10.2
B	ELECTRICAL TRANSFORMERS	PAINT	3.97	.372
B	EQUIPMENT AND MISCELLANEOUS	PAINT	147	13.8
B	HVAC EQUIPMENT	PAINT	81.	7.58
B	MATERIAL HANDLING EQUIPMENT	PAINT	76.6	7.16
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	47.	4.4
B	PIPING (2" AND LESS)	CRUD	37.7	3.53
B	PIPING (2" AND LESS)	DUST	8.08	.378
B	PIPING (2" AND LESS)	PAINT	95.4	8.92
B	PIPING (2-1/2" TO 4")	CRUD	61.2	5.72
B	PIPING (2-1/2" TO 4")	DUST	11.9	.557
B	PIPING (2-1/2" TO 4")	PAINT	64.8	6.06
B	PIPING (OVER 4")	CRUD	72.4	6.77
B	PIPING (OVER 4")	DUST	3.26	.153
B	PIPING (OVER 4")	PAINT	66.3	6.2
B	PROCESS EQUIPMENT	CRUD	414	38.7
B	PROCESS EQUIPMENT	DUST	50.2	2.35
B	PROCESS EQUIPMENT	PAINT	360	33.6
Totals for FS Category	B		2,230	193
C	ELECTRICAL EQUIPMENT	PAINT	13.6	1.27
C	EQUIPMENT AND MISCELLANEOUS	PAINT	16.4	1.53
C	HVAC EQUIPMENT	PAINT	6.59	.616
C	MATERIAL HANDLING EQUIPMENT	PAINT	8.32	.778
C	PIPING (2" AND LESS)	CRUD	8.39	.784
C	PIPING (2" AND LESS)	DUST	8.08	.378
C	PIPING (2" AND LESS)	PAINT	.51	.048
C	PIPING (2" AND LESS)	HOLD-UP	83.9	7.34
C	PIPING (2-1/2" TO 4")	CRUD	13.6	1.27
C	PIPING (2-1/2" TO 4")	DUST	11.9	.557
C	PIPING (2-1/2" TO 4")	PAINT	2.69	.251
C	PIPING (2-1/2" TO 4")	HOLD-UP	136	11.9
C	PIPING (OVER 4")	CRUD	16.1	1.51
C	PIPING (OVER 4")	DUST	3.26	.153
C	PIPING (OVER 4")	HOLD-UP	161	14.1
C	PROCESS EQUIPMENT	CRUD	91.9	8.59
C	PROCESS EQUIPMENT	DUST	50.2	2.35
C	PROCESS EQUIPMENT	HOLD-UP	919	80.4
Totals for FS Category	C		1,550	134
D	DUCTWORK	DUST	53.9	2.52

Table B-6 (Continued)

FS Category	Material Description	Coating/Layer Type[1]	Unbulked Volume (cu. ft)	Weight (tons)
D	DUCTWORK	PAINT	539	50.4
D	EXTERIOR METAL WALL PANELS	PAINT	221	20.7
D	INTERIOR METAL WALL PANELS	PAINT	34.1	3.19
D	LOUVERS	PAINT	14.8	1.38
D	METAL PANEL ROOF	PAINT	233	21.8
Totals for FS Category	D		1,100	100
I	NON PROCESS TRAILERS	PAINT	18.9	1.77
I	PROCESS TRAILERS	PAINT	7.15	.669
I	WINDOWS	PAINT	11.6	1.09
Totals for FS Category	I		37.7	3.52
J	DUCTWORK	DUST	485	22.7
J	PIPING (2" AND LESS)	CRUD	37.7	3.53
J	PIPING (2" AND LESS)	DUST	64.6	3.02
J	PIPING (2" AND LESS)	HOLD-UP	755	66.
J	PIPING (2-1/2" TO 4")	CRUD	61.2	5.72
J	PIPING (2-1/2" TO 4")	DUST	95.3	4.46
J	PIPING (2-1/2" TO 4")	HOLD-UP	1,220	107
J	PIPING (OVER 4")	CRUD	72.4	6.77
J	PIPING (OVER 4")	DUST	26.1	1.22
J	PIPING (OVER 4")	HOLD-UP	1,450	127
J	PROCESS EQUIPMENT	CRUD	414	38.7
J	PROCESS EQUIPMENT	DUST	401	18.8
J	PROCESS EQUIPMENT	HOLD-UP	8,270	724
Totals for FS Category	J		13,400	1,130
	Totals		**20,300**	**1,750**

1. Coating/layer types are assumptions based on calculated materials. Assumptions information is provided in Section B.2.3

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Table B-7
Summary of All OU3 Material Quantities*

FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
A	STRUCTURAL AND MISC. STEEL	63,400	15,200
Totals for FS Category	A	63,400	15,200
B	CONDUIT/WIRE (2" AND LESS)	6,510	1,070
B	CONDUIT/WIRE (2-1/2" TO 4")	5,480	593
B	CONDUIT/WIRE/CABLE TRAY (OVER 4")	1,990	165
B	DOORS	10,300	214
B	ELECTRICAL EQUIPMENT	97,200	1,040
B	ELECTRICAL FIXTURES	26,200	173
B	ELECTRICAL TRANSFORMERS	14,900	334
B	ELECTRICAL WIRING	206	59.
B	EQUIPMENT AND MISCELLANEOUS	135,000	3,390
B	HVAC EQUIPMENT	66,200	355
B	MATERIAL HANDLING EQUIPMENT	103,000	653
B	MISCELLANEOUS ELECTRICAL ITEMS	16,600	419
B	PIPING (2" AND LESS)	12,900	1,450
B	PIPING (2-1/2" TO 4")	21,500	1,540
B	PIPING (OVER 4")	67,100	2,970
B	PROCESS EQUIPMENT	1,160,000	11,200
Totals for FS Category	B	1,740,000	25,600
C	ELECTRICAL EQUIPMENT	8,170	95.9
C	EQUIPMENT AND MISCELLANEOUS	15,000	377
C	HVAC EQUIPMENT	5,380	29.2
C	MATERIAL HANDLING EQUIPMENT	11,200	70.
C	PIPING (2" AND LESS)	1,100	122
C	PIPING (2-1/2" TO 4")	2,920	211
C	PIPING (OVER 4")	14,200	636
C	PROCESS EQUIPMENT	93,000	1,180
Totals for FS Category	C	151,000	2,720
D	DUCTWORK	3,820	943
D	EXTERIOR METAL WALL PANELS	812	167
D	INTERIOR METAL WALL PANELS	125	25.7
D	LEAD FLASHING	49.4	17.5
D	LOUVERS	1,490	30.9
D	METAL PANEL ROOF	857	176
Totals for FS Category	D	7,150	1,360
E	ASPHALT	552,000	22,400
E	CLAY PIPING	7,910	554
E	CONCRETE	468,000	35,100
E	CONCRETE BEAMS	57,600	4,320
E	CONCRETE COLUMNS	22,400	1,680
E	CONCRETE FOUNDATION	921,000	69,100
E	CONCRETE SLABS	2,260,000	169,000
E	CONCRETE WALLS	139,000	10,400
E	MASONRY	12,200	336
E	MASONRY WALLS	260,000	7,150
Totals for FS Category	E	4,700,000	320,000
F	ACID BRICK	20,700	1,450
Totals for FS Category	F	20,700	1,450
G	CEILING DEMOLITION	12,300	147

Table B-7 (Continued)*

FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
G	EXTERIOR TRANSITE PANELS	17,500	982
G	FEEDER CABLE	1,120	321
G	FIRE BRICK	5,590	391
G	FLOOR TILE	3,720	179
G	INTERIOR TRANSITE PANELS	12,300	680
G	TRANSITE ROOF	18,900	1,060
Totals for FS Category	G	71,300	3,760
H	COPPER PILE	47,800	1,370
H	DUCTWORK INSULATION	5,390	12.1
H	PERSONAL PROTECTIVE EQUIPMENT	6,860	10.4
H	PIPING INSULATION	20,200	45.4
Totals for FS Category	H	80,200	1,440
I	BASIN LINERS	2,140	69.1
I	BUILDING INSULATION	155,000	349
I	DRYWALL	20,400	538
I	FABRIC	35.7	1.15
I	FABRIC ROOF	382	12.3
I	FABRIC WALLS	176	5.68
I	MISCELLANEOUS DEBRIS	31,200	467
I	NON PROCESS TRAILERS	305,000	898
I	PERSONAL PROTECTIVE EQUIPMENT	36,000	54.5
I	PROCESS TRAILERS	71,100	210
I	PVC CONDUIT	408	13.3
I	PVC PIPING	283	1.22
I	ROOFING (BUILT UP)	29,000	1,040
I	WINDOWS	21,000	420
I	WOOD	30,900	463
Totals for FS Category	I	703,000	4,550
J	DUCTWORK	485	22.7
J	OTHER WASTE	541,000	9,330
J	PIPING (2" AND LESS)	857	72.6
J	PIPING (2-1/2" TO 4")	1,380	117
J	PIPING (OVER 4")	1,550	135
J	PROCESS EQUIPMENT	9,090	781
J	PRODUCT WASTE	107,000	8,380
J	SOIL PILE	985,000	47,300
J	THORIUM WASTE	77,500	2,080
Totals for FS Category	J	1,720,000	68,200
	Totals	**9,260,000**	**445,000**

*Volumes and Weights inclusive of Table B-2, B-4, B-5 and B-7

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TABLE B-8
COMPONENTS NOT SAMPLED

Component	Component Designation
Buildings - Administrative/Support	
Human Resources Building	28B
Guard Post on South End of 'D'	28C
Guard Post of T-81	28E
Guard Post South of Building 51	28G
In-Vivo Building	53B
Fire Brigade Training Center Bldg.	73A
Skeet Range Building	90 (28F)
Process Trailers	G06
Non-process Trailers	G07
Buildings - Warehouse/Storage	
Plant 1 Storage Shelter	01B
Plant 4 Warehouse	04B
Plant 5 Covered Storage Pad	05F
Plant 7	07A
Cylinder Storage Building	12B
Maintenance Building Warehouse	12D
Laboratory Chemical Storage Building 1	15B
Drum Storage Warehouse	30B
Magnesium Storage Building	32A
Storage Shed (West)	56B
Storage Shed (East)	56C
Quonset Hut #1	60
Quonset Hut #2	61
(Old) Plant 5 Warehouse	65
Tension Support Structure #1	TS-001
Tension Support Structure #2	TS-002
Tension Support Structure #3	TS-003
Tension Support Structure #4	TS-004
Tension Support Structure #5	TS-005
Tension Support Structure #6	TS-006
Buildings - Process	
Plant 6 Electrostatic Precipitator (North)	06E
Plant 6 Sump Building	06G
Biodenitrification Towers	18D
Buildings - Process Support	
West Derby Breakout/ Slag Mill	05D
Plant 8 Railroad Filter Building	08D
Wet Salt Storage Bin	10C
Utility Heavy Equipment Bldg.	10E
Dissolved Oxygen Building	18P
IAWWT Valve House	18Q
Tank Farm Control House	19C
Tank Farm Lime Slitter Bldg.	19E

TABLE B-8
COMPONENTS NOT SAMPLED

Component	Component Designation
Buildings - Administrative/Support	
Human Resources Building	28B
Guard Post on South End of 'D'	28C
Guard Post of T-81	28E
Guard Post South of Building 51	28G
In-Vivo Building	53B
Fire Brigade Training Center Bldg.	73A
Skeet Range Building	90 (28F)
Process Trailers	G06
Non-process Trailers	G07
Buildings - Warehouse/Storage	
Plant 1 Storage Shelter	01B
Plant 4 Warehouse	04B
Plant 5 Covered Storage Pad	05F
Plant 7	07A
Cylinder Storage Building	12B
Maintenance Building Warehouse	12D
Laboratory Chemical Storage Building 1	15B
Drum Storage Warehouse	30B
Magnesium Storage Building	32A
Storage Shed (West)	56B
Storage Shed (East)	56C
Quonset Hut #1	60
Quonset Hut #2	61
(Old) Plant 5 Warehouse	65
Tension Support Structure #1	TS-001
Tension Support Structure #2	TS-002
Tension Support Structure #3	TS-003
Tension Support Structure #4	TS-004
Tension Support Structure #5	TS-005
Tension Support Structure #6	TS-006
Buildings - Process	
Plant 6 Electrostatic Precipitator (North)	06E
Plant 6 Sump Building	06G
Biodenitrification Towers	18D
Buildings - Process Support	
West Derby Breakout/ Slag Mill	05D
Plant 8 Railroad Filter Building	08D
Wet Salt Storage Bin	10C
Utility Heavy Equipment Bldg.	10E
Dissolved Oxygen Building	18P
IAWWT Valve House	18Q
Tank Farm Control House	19C
Tank Farm Lime Slitter Bldg.	19E

TABLE B-8
COMPONENTS NOT SAMPLED

Component	Component Designation
Buildings - Process Support (Continued)	
Pump Station & Power Center	20A
Water Plant	20B
Well House #1	20E
Well House #2	20F
Well House #3	20G
Gas Meter Building	22A
Storm Sewer Lift Station	22B
Truck Scale	22C
Scale House & Weigh Scale	22D
Chlorination Building	25A
M.H.#175/Eff. Line/Sampling Bldg.	25B
Sewage Lift Station Building	25C
U.V. Disinfection Building	25D
Pump House-HP Fire Protection	26A
Guard Post on West End of 2nd	28D
Propane Storage	38A
Incinerator Sprinkler Riser House	39C
Six to Four Reduction Facility #2	51
D & D Building (Under Constr.)	78
Receiving/Incoming Mat'ls. Inspection	82
Containers/Containerized Material - Aboveground	
Plant 1 Ore Silos	01C
Main Tank Farm	19A
Pilot Plant Ammonia Tank Farm	19B
Elevated Potable Storage Tank	20D
Process Water Storage Tank	20H
Elevated Water Storage Tank	26B
Fire Training Tank	73C
Confined Space Burn Tank	73E
Drums (Non-RCRA)	G09
RCRA Drums	G10
Inventory	G11
Mobile Containers (Sea-Land)	G12
Containers/Containerized Material - Belowground	
Fire Training Burn Trough	73D
Underground Storage Tanks	G05
Bulk Material	
Rock salt pile	P-001
Sand piles	P-002
Gravel pile	P-003
Copper metal scrap pile	P-004
Coal pile	P-005
Scrap metal pile	P-006
Outside Equipment Storage Area	P-007

TABLE B-8
COMPONENTS NOT SAMPLED

Component	Component Designation
Storage Pads/Parking Lot/Roads/Railroads	
Old Ten Ton Scale	30C
Old Truck Scale	31B
Parking Lot	89
Railroad Tracks	G01
Piping, Utilities, Equipment - Aboveground	
Plant 7 Overhead Crane	07B
Drum Conveyor Shelter	08E
Building 14 EOC Generator Set	14B
10-Plex North Substation	16H
10-Plex South Substation	16J
Meteorological Tower	23
Cylinder Filling Station	38B
Pipe Bridges	G08
Piping, Utilities, Equipment - Belowground	
10-Plex Sewage Lift Station	25J
Utility Lines	G04
Ponds and Basins	
Fire Training Pond	73B

TABLE B-9
BASELINE RESULTS BY MEDIA

COC	CONCRETE	STEEL COATINGS
1,4-Dichlorobenzene	0 ug/kg	0 ug/kg
2,4-Dinitrotoluene	0 ug/kg	0 ug/kg
Americium-241	0.1 pCi/g	0.12 pCi/g
Antimony	1 mg/kg	108.76 mg/kg
Aroclor-1248	0 ug/kg	0 ug/kg
Aroclor-1254	0 ug/kg	0 ug/kg
Aroclor-1260	0 ug/kg	0 ug/kg
Arsenic	6.38 mg/kg	25.95 mg/kg
Barium	67.47 mg/kg	3278.72 mg/kg
Benzene	0 ug/kg	0 ug/kg
Benzo(a)anthracene	0 ug/kg	0 ug/kg
Benzo(a)pyrene	0 ug/kg	0 ug/kg
Benzo(b)fluoranthene	0 ug/kg	0 ug/kg
Benzo(k)fluoranthene	0 ug/kg	0 ug/kg
Beryllium	1.4 mg/kg	1.1 mg/kg
Cadmium	2.4 mg/kg	66.52 mg/kg
Carbazole	0 ug/kg	0 ug/kg
Cesium-137	0.064 pCi/g	0.34 pCi/g
Chromium	10.48 mg/kg	4539.9 mg/kg
Chrysene	0 ug/kg	0 ug/kg
Copper	18.48 mg/kg	318.65 mg/kg
Dibenzo(a,h)anthracene	0 ug/kg	0 ug/kg
Dieldrin	0 ug/kg	0 ug/kg
Indeno(1,2,3-cd)pyrene	0 ug/kg	0 ug/kg
Lead	5.28 mg/kg	239000 mg/kg
Lead-210	0.89 pCi/g	0.6 pCi/g
Manganese	462.6 mg/kg	958.51 mg/kg
Mercury	0.03 mg/kg	18.04 mg/kg
N-Nitroso-di-n-propylamine	0 ug/kg	0 ug/kg
Neptunium-237	0.12 pCi/g	0.23 pCi/g
Nickel	15.94 mg/kg	134.74 mg/kg
Pentachlorophenol	0 ug/kg	0 ug/kg
Plutonium-238	0.2 pCi/g	0.33 pCi/g
Plutonium-239/240	0.1 pCi/g	0.18 pCi/g
Plutonium-241	3.3 pCi/g	10 pCi/g
Polonium-210	1.42 pCi/g	7.9 pCi/g
Radium-226	1.13 pCi/g	4.54 pCi/g
Radium-228	0.37 pCi/g	2.71 pCi/g
Selenium	0.47 mg/kg	0.83 mg/kg
Strontium-90	3 pCi/g	1.58 pCi/g
Styrene	0 ug/kg	0 ug/kg
Technetium-99	0.33 pCi/g	1.45 pCi/g
Tetrachloroethene	0 ug/kg	0 ug/kg
Thallium	0.32 mg/kg	0 mg/kg
Thorium-228	0.73 pCi/g	4.37 pCi/g
Thorium-230	1.2 pCi/g	15 pCi/g
Thorium-232	0.56 pCi/g	4.21 pCi/g
Uranium, Total	6.83 ug/g	176 ug/g
Uranium-234	5.14 pCi/g	64 pCi/g
Uranium-235/236	0.71 pCi/g	6.8 pCi/g
Uranium-238	8.1 pCi/g	63 pCi/g
Vanadium	21.8 mg/kg	21.97 mg/kg
Zinc	47.54 mg/kg	55005.39 mg/kg
alpha-Chlordane	0 ug/kg	0 ug/kg
bis(2-Ethylhexyl)phthalate	0 ug/kg	0 ug/kg

Table B.10
Source Term by Constituent of Concern *

Sort Class	Parameter	Source Term (kg)
INORGANICS		
	Antimony	741
	Arsenic	2780
	Barium	26200
	Beryllium	397
	Cadmium	823
	Chromium	2470000
	Copper	182000
	Lead	103000
	Manganese	862000
	Mercury	31.9
	Nickel	1730000
	Selenium	1000
	Silver	3460
	Thallium	93.2
	Vanadium	6620
	Zinc	36500
PESTICIDES & PCBs		
	alpha-Chlordane	0.04
	Aroclor-1248	0.0443
	Aroclor-1254	8.46
	Aroclor-1260	5.3
	Dieldrin	0.00825
	gamma-Chlordane	0.0426
RADIOISOTOPES		
	Americium-241	0.0000227
	Cesium-137	0.000000746
	Lead-210	0.0000314
	Neptunium-237	0.0734
	Plutonium-238	0.0000362
	Plutonium-239/240	0.000967
	Plutonium-241	0.0000146
	Polonium-210	0.000000441
	Radium-226	0.00599
	Radium-228	0.0000102
	Strontium-90	0.00000798
	Technetium-99	0.127
	Thorium, Total	882000
	Thorium-228	0.00000143
	Thorium-230	0.148
	Thorium-232	3720
	Uranium, Total	8020000
	Uranium-233/234	1.37
	Uranium-234	5.27
	Uranium-235/236	41200
	Uranium-238	7560000

Table B.10 (Continued) *

Sort Class	Parameter	Source Term (kg)
SEMIVOLATILE		
	1,4-Dichlorobenzene	94.2
	2,4-Dinitrotoluene	0
	Benzo(a)anthracene	2.2
	Benzo(a)pyrene	0.246
	Benzo(b)fluoranthene	0.195
	Benzo(k)fluoranthene	0.00842
	bis(2-Ethylhexyl)phthalate	6.31
	Carbazole	0.00147
	Chrysene	6.9
	Dibenzo(a,h)anthracene	0
	Hexachlorobutadiene	81.6
	Indeno(1,2,3-cd)pyrene	0
	N-Nitroso-di-n-propylamine	0
	Nitrobenzene	155
	Pentachlorophenol	0
VOLATILE		
	Benzene	0
	Styrene	0.0354
	Tetrachloroethene	351

* Note: Includes source term contribution from inventory and soil piles.

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Table B-11
Source Term for Technetium-99 by Material Description

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A				
STRUCTURAL AND MISC. STEEL	METAL	0	15,000	61,400
STRUCTURAL AND MISC. STEEL	PAINT	2.55E-03	187	2,000
Totals for FS Category A		**2.55E-03**	**15,200**	**63,400**
MATERIAL CATEGORY: B				
CONDUIT/WIRE (2" AND LESS)	DUST	1.63E-04	9.81	210
CONDUIT/WIRE (2" AND LESS)	METAL	0	1,060	6,300
CONDUIT/WIRE (2-1/2" TO 4")	DUST	3.05E-05	1.89	40.3
CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	591	5,440
CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	5.27E-06	.493	10.5
CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	164	1,980
DOORS	METAL	0	204	10,200
DOORS	PAINT	1.07E-04	9.56	102
ELECTRICAL EQUIPMENT	METAL	0	1,020	97,000
ELECTRICAL EQUIPMENT	PAINT	2.02E-04	15.1	162
ELECTRICAL FIXTURES	METAL	0	163	26,100
ELECTRICAL FIXTURES	PAINT	1.68E-04	10.2	109
ELECTRICAL TRANSFORMERS	METAL	0	334	14,900
ELECTRICAL TRANSFORMERS	PAINT	1.52E-06	.372	3.97
ELECTRICAL WIRING	METAL	0	59.	206
EQUIPMENT AND MISCELLANEOUS	METAL	0	3,380	135,000
EQUIPMENT AND MISCELLANEOUS	PAINT	1.06E-06	13.8	147
HVAC EQUIPMENT	METAL	0	348	66,200
HVAC EQUIPMENT	PAINT	1.52E-04	7.58	81.1
MATERIAL HANDLING EQUIPMENT	METAL	0	645	103,000
MATERIAL HANDLING EQUIPMENT	PAINT	1.10E-04	7.16	76.6
MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	414	16,600
MISCELLANEOUS ELECTRICAL ITEMS	PAINT	4.56E-05	4.4	47.
PIPING (2" AND LESS)	CRUD	1.03E-04	3.53	37.7
PIPING (2" AND LESS)	DUST	1.11E-05	.378	8.08
PIPING (2" AND LESS)	METAL	0	600	5,330
PIPING (2" AND LESS)	PAINT	4.68E-06	8.92	95.3
PIPING (2" AND LESS)	SS METAL	0	837	7,440
PIPING (2-1/2" TO 4")	CRUD	1.61E-04	5.72	61.2
PIPING (2-1/2" TO 4")	DUST	1.56E-05	.557	11.9
PIPING (2-1/2" TO 4")	METAL	0	672	9,400
PIPING (2-1/2" TO 4")	PAINT	3.63E-06	6.06	64.8
PIPING (2-1/2" TO 4")	SS METAL	0	860	12,000
PIPING (OVER 4")	CRUD	1.75E-04	6.77	72.4
PIPING (OVER 4")	DUST	3.96E-06	.153	3.26
PIPING (OVER 4")	METAL	0	2,340	53,000
PIPING (OVER 4")	PAINT	2.81E-06	6.2	66.4
PIPING (OVER 4")	SS METAL	0	620	14,000
PROCESS EQUIPMENT	CRUD	7.52E-04	38.7	414
PROCESS EQUIPMENT	DUST	4.56E-05	2.35	50.2
PROCESS EQUIPMENT	METAL	0	1,300	330,000
PROCESS EQUIPMENT	PAINT	6.38E-06	33.7	360
PROCESS EQUIPMENT	SS METAL	0	9,830	828,000
Totals for FS Category B		**2.27E-03**	**25,600**	**1,740,000**

Table B-11 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: C				
ELECTRICAL EQUIPMENT	METAL	0	94.7	8,170
ELECTRICAL EQUIPMENT	PAINT	2.20E-05	1.27	13.6
EQUIPMENT AND MISCELLANEOUS	METAL	0	375	15,000
EQUIPMENT AND MISCELLANEOUS	PAINT	1.18E-07	1.53	16.4
HVAC EQUIPMENT	METAL	0	28.6	5,370
HVAC EQUIPMENT	PAINT	1.64E-05	.616	6.58
MATERIAL HANDLING EQUIPMENT	METAL	0	69.2	11,200
MATERIAL HANDLING EQUIPMENT	PAINT	1.22E-05	.778	8.33
PIPING (2" AND LESS)	CRUD	2.28E-05	.784	8.39
PIPING (2" AND LESS)	DUST	1.11E-05	.378	8.08
PIPING (2" AND LESS)	METAL	0	5.98	53.1
PIPING (2" AND LESS)	PAINT	3.68E-09	.048	.51
PIPING (2" AND LESS)	SS METAL	0	107	950
PIPING (2" AND LESS)	UNH	0	7.34	83.9
PIPING (2-1/2" TO 4")	CRUD	3.57E-05	1.27	13.6
PIPING (2-1/2" TO 4")	DUST	1.56E-05	.557	11.9
PIPING (2-1/2" TO 4")	METAL	0	82.3	1,150
PIPING (2-1/2" TO 4")	PAINT	1.94E-08	.251	2.69
PIPING (2-1/2" TO 4")	SS METAL	0	115	1,600
PIPING (2-1/2" TO 4")	UNH	0	11.9	136
PIPING (OVER 4")	CRUD	3.88E-05	1.51	16.1
PIPING (OVER 4")	DUST	3.96E-06	.153	3.26
PIPING (OVER 4")	METAL	0	529	12,000
PIPING (OVER 4")	SS METAL	0	90.9	2,060
PIPING (OVER 4")	UNH	0	14.1	161
PROCESS EQUIPMENT	CRUD	1.67E-04	8.59	91.9
PROCESS EQUIPMENT	DUST	4.56E-05	2.35	50.2
PROCESS EQUIPMENT	SS METAL	0	1,090	91,900
PROCESS EQUIPMENT	UNH	0	80.3	919
Totals for FS Category	**C**	**3.91E-04**	**2,720**	**151,000**
MATERIAL CATEGORY: D				
DUCTWORK	DUST	5.74E-05	2.52	53.9
DUCTWORK	METAL	0	889	3,220
DUCTWORK	PAINT	1.15E-03	50.4	539
EXTERIOR METAL WALL PANELS	METAL	0	146	591
EXTERIOR METAL WALL PANELS	PAINT	1.57E-04	20.7	221
INTERIOR METAL WALL PANELS	METAL	0	22.5	91.1
INTERIOR METAL WALL PANELS	PAINT	8.14E-05	3.19	34.1
LEAD FLASHING	LEAD	0	17.5	49.4
LOUVERS	METAL	0	29.5	1,480
LOUVERS	PAINT	1.36E-05	1.38	14.8
METAL PANEL ROOF	METAL	0	154	623
METAL PANEL ROOF	PAINT	1.36E-04	21.8	233
Totals for FS Category	**D**	**1.60E-03**	**1,360**	**7,150**
MATERIAL CATEGORY: E				
ASPHALT	OTHER	5.04E-03	22,400	552,000

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Table B-11 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
CLAY PIPING	OTHER	1.06E-05	554	7,910
CONCRETE	OTHER	1.29E-03	35,100	468,000
CONCRETE BEAMS	OTHER	1.48E-04	4,320	57,600
CONCRETE COLUMNS	OTHER	2.73E-04	1,680	22,400
CONCRETE FOUNDATION	OTHER	1.21E-03	69,100	921,000
CONCRETE SLABS	OTHER	9.34E-02	169,000	2,260,000
CONCRETE WALLS	OTHER	6.11E-04	10,400	139,000
MASONRY	OTHER	4.97E-05	335	12,200
MASONRY WALLS	OTHER	2.26E-04	7,150	260,000
Totals for FS Category	**E**	**1.02E-01**	**320,000**	**4,700,000**
MATERIAL CATEGORY: F				
ACID BRICK	OTHER	7.56E-03	1,450	20,700
Totals for FS Category	**F**	**7.56E-03**	**1,450**	**20,700**
MATERIAL CATEGORY: G				
CEILING DEMOLITION	OTHER	2.02E-06	147	12,300
EXTERIOR TRANSITE PANELS	OTHER	2.38E-03	982	17,500
FEEDER CABLE	METAL	0	321	1,120
FIRE BRICK	OTHER	4.39E-04	391	5,590
FLOOR TILE	OTHER	4.89E-05	178	3,720
INTERIOR TRANSITE PANELS	OTHER	1.79E-03	680	12,300
TRANSITE ROOF	OTHER	2.67E-03	1,060	18,900
Totals for FS Category	**G**	**7.33E-03**	**3,760**	**71,300**
MATERIAL CATEGORY: H				
COPPER PILE	OTHER	0	1,370	47,800
DUCTWORK INSULATION	OTHER	2.55E-05	12.1	5,390
PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	10.4	6,860
PIPING INSULATION	OTHER	3.43E-05	45.4	20,200
Totals for FS Category	**H**	**5.98E-05**	**1,440**	**80,200**
MATERIAL CATEGORY: I				
BASIN LINERS	OTHER	0	69.2	2,140
BUILDING INSULATION	OTHER	5.10E-05	350	155,000
DRYWALL	OTHER	3.03E-05	538	20,400
FABRIC	OTHER	2.35E-06	1.15	35.8
FABRIC ROOF	OTHER	2.47E-07	12.3	382
FABRIC WALLS	OTHER	1.14E-07	5.68	176
MISCELLANEOUS DEBRIS	OTHER	0	467	31,200
NON PROCESS TRAILERS	METAL	0	896	305,000
NON PROCESS TRAILERS	PAINT	4.24E-06	1.77	18.9
PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	54.5	36,000
PROCESS TRAILERS	METAL	0	209	71,100
PROCESS TRAILERS	PAINT	1.61E-06	.669	7.15
PVC CONDUIT	OTHER	0	13.3	408
PVC PIPING	OTHER	0	1.22	283
ROOFING (BUILT UP)	OTHER	2.01E-05	1,040	29,000
WINDOWS	OTHER	0	419	21,000

Table B-11 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
WINDOWS	PAINT	1.65E-05	1.09	11.6
WOOD	OTHER	1.05E-05	464	30,900
Totals for FS Category I		**1.37E-04**	**4,550**	**703,000**

MATERIAL CATEGORY: J

DUCTWORK	DUST	5.16E-04	22.7	485
OTHER WASTE	NON-RCRA	0	3,500	268,000
OTHER WASTE	RCRA	0	2,720	49,700
OTHER WASTE	UNCHAR	0	3,120	224,000
PIPING (2" AND LESS)	CRUD	1.03E-04	3.53	37.7
PIPING (2" AND LESS)	DUST	8.86E-05	3.02	64.6
PIPING (2" AND LESS)	UNH	0	66.	755
PIPING (2-1/2" TO 4")	CRUD	1.61E-04	5.72	61.2
PIPING (2-1/2" TO 4")	DUST	1.25E-04	4.46	95.3
PIPING (2-1/2" TO 4")	UNH	0	107	1,220
PIPING (OVER 4")	CRUD	1.75E-04	6.77	72.4
PIPING (OVER 4")	DUST	3.17E-05	1.22	26.1
PIPING (OVER 4")	UNH	0	127	1,450
PROCESS EQUIPMENT	CRUD	7.52E-04	38.7	414
PROCESS EQUIPMENT	DUST	3.65E-04	18.8	401
PROCESS EQUIPMENT	UNH	0	723	8,280
PRODUCT WASTE	NON-RCRA	0	5,180	85,400
PRODUCT WASTE	RCRA	0	100.	4,330
PRODUCT WASTE	UNCHAR	0	3,100	16,800
SOIL PILE	OTHER	2.50E-06	47,300	985,000
THORIUM WASTE	NON-RCRA	0	1,670	63,000
THORIUM WASTE	RCRA	0	6.24	457
THORIUM WASTE	UNCHAR	0	396	14,100
Totals for FS Category J		**2.32E-03**	**68,200**	**1,720,000**

Totals:	**1.265E-01**	**445,000**	**9,260,000**

Table B-12
Source Term for Technetium-99 by Component

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
01A	1.800E-03	3,100	86,600
01B	1.740E-05	1,030	13,700
01C	1.020E-05	581	7,750
02A	4.300E-03	7,880	243,000
02B	9.560E-06	264	11,000
02C	4.500E-06	201	5,030
02D	3.590E-04	424	15,600
02E	1.680E-06	133	8,620
02F	5.500E-06	324	10,000
02G	2.590E-06	152	9,410
02H	3.370E-06	162	2,170
03A	3.320E-05	1,720	33,400
03B	3.350E-06	125	1,870
03C	6.710E-06	291	12,600
03D	7.140E-06	702	46,700
03E	2.940E-04	1,840	47,700
03F	1.550E-06	125	2,560
03G	2.450E-06	98.3	2,580
03H	1.660E-05	206	14,700
03J	1.570E-03	662	23,900
03K	9.740E-07	55.8	1,010
03L	3.690E-06	201	9,080
04A	2.180E-03	8,960	176,000
04B	2.040E-05	1,230	16,600
04C	1.110E-05	375	6,780
05A	3.180E-03	10,300	302,000
05B	6.680E-06	303	6,530
05C	1.270E-06	91.2	2,010
05D	1.570E-05	1,600	39,000
05E	5.390E-06	307	4,280
05F	1.130E-05	688	9,220
05G	2.210E-06	111	1,510
06A	9.600E-03	28,200	548,000
06B	4.660E-06	89.2	1,200
06C	2.360E-05	42.4	724
06D	1.260E-06	76.2	1,150
06E	8.270E-07	61.5	1,470
06F	1.040E-04	192	4,260
06G	1.760E-05	1,280	26,200
07A	2.070E-03	29,000	387,000
08A	6.940E-03	5,510	142,000
08B	5.150E-06	257	4,990
08C	8.370E-04	3,030	76,600
08D	1.000E-05	652	8,020
08E	2.800E-07	22.9	315
08F	4.560E-09	.791	45.2
09A	5.800E-02	6,360	147,000
09B	5.280E-05	173	3,470
09C	7.850E-07	50.4	690
09D	3.000E-06	111	2,220
09E	9.010E-08	3.08	59.3

Table B-12 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
09F	3.170E-05	43.3	650
10A	1.580E-04	7,070	144,000
10B	5.200E-06	219	3,430
10C	7.290E-06	417	5,700
10D	5.730E-05	146	1,940
10E	3.020E-06	180	2,790
11	2.300E-04	11,500	246,000
12A	1.180E-04	4,410	98,700
12B	1.190E-05	681	10,100
12C	2.990E-06	180	2,530
12D	7.530E-06	459	7,670
13A	1.570E-03	2,740	57,300
13B	7.320E-06	379	6,870
13C	3.600E-05	149	2,580
13D	1.930E-05	286	13,300
14A	1.150E-04	4,330	82,900
14B	2.120E-07	8.88	358
15A	1.970E-03	13,300	255,000
15B	1.300E-06	81.4	2,070
16A	9.780E-06	619	12,000
16B	2.570E-06	109	3,850
16C	5.950E-08	7.33	297
16D	1.660E-06	84.3	2,210
16E	7.580E-07	264	10,600
16F	1.100E-07	9.59	288
16G	1.100E-07	9.79	291
16H	2.970E-07	21.5	1,060
16J	2.970E-07	21.5	1,060
18A	1.250E-06	71.3	1,590
18B	1.390E-03	599	8,970
18C	4.120E-06	212	2,830
18D	6.830E-06	633	16,500
18E	4.680E-09	35.2	1,200
18G	9.320E-06	25.1	555
18H	2.770E-04	269	40,700
18J	2.220E-06	133	1,770
18K	1.090E-08	19.4	661
18L	1.090E-08	19.4	666
18M	1.540E-05	878	11,800
18P	1.050E-06	93.4	18,200
18Q	2.620E-06	211	8,420
19A	5.910E-05	3,530	66,600
19B	1.010E-05	618	13,800
19C	6.310E-06	363	6,470
19D	2.770E-06	181	14,400
19E	3.480E-07	32.	1,050
20A	2.340E-06	181	3,430
20B	2.930E-05	1,960	29,800
20C	1.540E-05	1,030	193,000
20D	1.170E-05	796	9,910
20E	2.880E-07	18.9	615

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Table B-12 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
20F	2.890E-07	19.1	628
20G	3.610E-07	21.9	1,060
20H	1.750E-05	1,000	14,500
22A	9.180E-07	53.2	1,130
22B	4.700E-07	30.7	909
22C	8.940E-10	5.45	24.9
22D	2.540E-06	146	2,060
22E	5.540E-05	3,210	42,200
23	7.690E-08	4.93	81.
24A	5.720E-06	317	4,510
24B	4.610E-06	247	4,880
25A	2.750E-06	157	2,460
25B	6.820E-07	40.9	738
25C	4.450E-06	255	3,840
25D	2.010E-06	117	1,730
25E	1.640E-05	693	11,900
25F	1.540E-05	473	6,280
25G	9.070E-06	517	6,920
25H	3.970E-06	217	2,920
25J	3.250E-07	18.9	326
26A	2.170E-05	446	8,590
26B	1.280E-05	1,310	11,900
26C	5.610E-07	28.4	734
28A	2.030E-05	1,080	19,800
28B	1.320E-05	821	16,100
28C	6.700E-08	5.6	254
28D	6.330E-08	4.25	271
28E	2.030E-07	12.4	211
28F	7.310E-07	12.3	175
28G	2.020E-07	12.1	212
30A	3.610E-05	1,690	25,400
30B	4.870E-07	32.9	599
31A	5.710E-05	676	13,500
31B	4.810E-06	274	3,650
32A	1.650E-05	967	17,500
32B	1.760E-04	163	2,400
35A	0.000E+00	1.03	9.16
37	1.930E-04	1,110	30,500
38A	3.440E-06	221	3,910
38B	4.050E-07	63.7	2,500
39A	2.060E-05	289	4,750
39B	2.050E-05	513	6,860
39C	2.560E-07	20.	737
39D	1.340E-06	70.	1,680
45A	6.120E-05	1,510	23,600
45B	3.140E-07	1.48	194
46	3.040E-05	1,350	18,900
51	6.900E-05	7,970	203,000
53A	1.420E-04	7,430	128,000
53B	1.640E-05	1,060	15,500
54A	2.070E-04	1,680	55,200

Table B-12 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
54B	3.300E-06	202	3,530
54C	3.340E-06	114	2,980
55A	1.010E-04	412	12,700
55B	4.550E-05	238	3,670
56A	1.170E-05	647	9,230
56B	4.000E-08	3.92	357
56C	5.120E-08	5.38	373
60	2.070E-05	1,200	16,000
61	2.770E-06	167	2,290
62	5.080E-06	296	3,990
63	3.830E-05	2,280	40,400
64	6.830E-05	1,210	18,300
65	1.100E-05	729	10,000
66	1.320E-04	366	10,700
67	4.850E-05	233	3,330
68	1.330E-05	431	6,110
69	1.840E-04	744	14,000
71	4.440E-03	1,790	32,600
72	2.000E-06	121	1,880
73A	1.710E-06	97.	1,290
74A	8.840E-06	290	3,860
74B	2.040E-05	412	5,500
74C	2.280E-05	543	7,240
74D	1.870E-05	369	4,920
74E	3.360E-05	640	8,530
74F	2.360E-06	65.4	872
74G	7.080E-05	176	2,350
74H	3.720E-06	113	1,500
74J	2.190E-06	114	1,530
74K	2.530E-04	383	5,100
74L	3.170E-04	1,050	14,000
74M	8.050E-05	908	12,100
74N	4.310E-06	245	3,270
74P	4.640E-05	2,470	32,900
74Q	1.660E-05	94.4	1,290
74R	5.330E-05	154	2,050
74S	2.120E-06	120	1,610
74T	1.500E-02	33,600	448,000
74U	4.140E-06	235	3,140
74V	1.780E-06	101	1,350
74W	4.710E-06	206	2,750
77	1.910E-05	1,170	15,500
78	1.350E-05	897	24,000
79	1.730E-05	1,070	14,200
80	1.450E-05	903	12,300
81	1.200E-05	786	9,970
82	1.570E-05	955	14,800
89	5.150E-04	28,300	498,000
G-002	5.430E-03	45,700	743,000
G-004	1.390E-06	1,050	27,000
G-006	1.610E-06	210	71,100

Table B-12 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
G-007	4.240E-06	898	305,000
G-008	1.600E-06	589	2,700
G-011	0.000E+00	19,800	725,000
G-013	2.500E-06	47,300	985,000
GRID 1	1.440E-06	136	3,300
GRID 10	5.350E-06	458	8,030
GRID 11	1.430E-05	977	14,900
GRID 12	9.530E-06	619	8,890
GRID 13	2.720E-05	1,650	22,400
GRID 14	7.010E-06	645	10,100
GRID 15	3.090E-07	57.6	641
GRID 16	4.490E-06	295	5,620
GRID 17	3.080E-06	1,010	7,260
GRID 18	8.280E-05	4,850	66,800
GRID 19	2.240E-05	1,570	23,500
GRID 2	3.080E-06	233	3,660
GRID 20	1.460E-05	989	14,200
GRID 21	7.560E-07	128	2,340
GRID 22	9.030E-07	80.8	2,150
GRID 23	1.220E-07	318	1,810
GRID 24	4.890E-07	71.2	1,650
GRID 25	1.540E-05	1,010	14,900
GRID 26	4.540E-06	343	5,890
GRID 27	3.510E-06	278	4,100
GRID 28	7.240E-08	11.1	81.8
GRID 29	3.250E-08	25.8	395
GRID 3	8.660E-06	604	9,030
GRID 30	2.220E-08	139	2,960
GRID 31	1.390E-06	305	8,490
GRID 32	9.170E-07	139	2,350
GRID 33	7.920E-08	15.6	222
GRID 4	8.440E-06	553	7,650
GRID 5	3.500E-05	2,040	27,300
GRID 6	2.990E-05	1,860	25,800
GRID 7	5.920E-06	422	6,120
GRID 8	1.750E-06	129	1,680
GRID 9	3.510E-06	320	6,250
P-004	0.000E+00	1,370	47,800
TS-001	8.260E-08	57.6	835
TS-002	1.150E-07	75.1	764
TS-003	2.700E-08	15.7	201
TS-004	2.340E-07	125	1,560
TS-005	2.360E-07	125	1,590
TS-006	2.930E-08	15.2	261
Totals:	**1.270E-01**	**445,000**	**9,260,000**

Table B-13
Source Term for Technetium-99 by Component Category and Material Category

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A					
1	STRUCTURAL AND MISC. STEEL	METAL	0	263	1,070
1	STRUCTURAL AND MISC. STEEL	PAINT	5.62E-06	3.87	41.4
MATERIAL CATEGORY: B					
1	CONDUIT/WIRE (2" AND LESS)	DUST	1.64E-06	.704	15.1
1	CONDUIT/WIRE (2" AND LESS)	METAL	0	75.8	451
1	CONDUIT/WIRE (2-1/2" TO 4")	DUST	6.80E-07	.291	6.22
1	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	91.	838
1	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	3.07E-07	.147	3.15
1	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	49.1	590
1	DOORS	METAL	0	48.6	2,430
1	DOORS	PAINT	4.47E-06	2.27	24.3
1	ELECTRICAL EQUIPMENT	METAL	0	74.3	11,500
1	ELECTRICAL EQUIPMENT	PAINT	3.87E-06	1.79	19.1
1	ELECTRICAL FIXTURES	METAL	0	34.	5,450
1	ELECTRICAL FIXTURES	PAINT	4.68E-06	2.12	22.7
1	ELECTRICAL TRANSFORMERS	METAL	0	19.	440
1	ELECTRICAL TRANSFORMERS	PAINT	7.58E-08	.035	.369
1	HVAC EQUIPMENT	METAL	0	74.5	16,200
1	HVAC EQUIPMENT	PAINT	4.14E-06	1.86	19.9
1	MATERIAL HANDLING EQUIPMENT	METAL	0	3.	670
1	MATERIAL HANDLING EQUIPMENT	PAINT	1.11E-07	.046	.497
1	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	5.75	230
1	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	2.32E-08	.061	.652
1	PIPING (2" AND LESS)	METAL	0	116	1,030
1	PIPING (2" AND LESS)	PAINT	4.15E-06	1.88	20.1
1	PIPING (2-1/2" TO 4")	METAL	0	118	1,650
1	PIPING (2-1/2" TO 4")	PAINT	3.29E-06	1.41	15.1
1	PIPING (OVER 4")	METAL	0	133	3,020
1	PIPING (OVER 4")	PAINT	2.43E-06	1.06	11.4
1	PROCESS EQUIPMENT	METAL	0	203	17,000
1	PROCESS EQUIPMENT	PAINT	3.92E-06	1.74	18.6
MATERIAL CATEGORY: D					
1	DUCTWORK	DUST	8.08E-07	.403	8.63
1	DUCTWORK	METAL	0	142	516
1	DUCTWORK	PAINT	1.62E-05	8.07	86.3
1	EXTERIOR METAL WALL PANELS	METAL	0	8.38	34.
1	EXTERIOR METAL WALL PANELS	PAINT	2.03E-07	1.19	12.7
1	INTERIOR METAL WALL PANELS	METAL	0	1.6	6.48
1	INTERIOR METAL WALL PANELS	PAINT	1.76E-08	.227	2.43
1	LEAD FLASHING	LEAD	0	.15	.422
1	LOUVERS	METAL	0	1.38	69.
1	LOUVERS	PAINT	1.52E-07	.065	.69
1	METAL PANEL ROOF	METAL	0	10.5	42.6
1	METAL PANEL ROOF	PAINT	2.38E-07	1.49	16.
MATERIAL CATEGORY: E					
1	CLAY PIPING	OTHER	5.13E-08	2.67	38.2

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
1	CONCRETE	OTHER	5.86E-06	332	4,430
1	CONCRETE BEAMS	OTHER	4.42E-05	2,220	29,600
1	CONCRETE COLUMNS	OTHER	1.95E-05	959	12,800
1	CONCRETE FOUNDATION	OTHER	4.01E-05	2,280	30,400
1	CONCRETE SLABS	OTHER	3.20E-04	14,700	195,000
1	CONCRETE WALLS	OTHER	3.71E-05	1,920	25,700
1	MASONRY	OTHER	4.96E-07	25.9	940
1	MASONRY WALLS	OTHER	5.93E-05	3,090	112,000
MATERIAL CATEGORY: G					
1	CEILING DEMOLITION	OTHER	1.42E-07	73.9	6,170
1	EXTERIOR TRANSITE PANELS	OTHER	1.39E-07	7.24	129
1	FLOOR TILE	OTHER	2.24E-06	117	2,430
1	INTERIOR TRANSITE PANELS	OTHER	1.57E-07	8.17	148
1	TRANSITE ROOF	OTHER	1.41E-07	7.33	130
MATERIAL CATEGORY: H					
1	DUCTWORK INSULATION	OTHER	3.73E-08	1.94	863
1	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.235	156
1	PIPING INSULATION	OTHER	4.41E-08	2.3	1,020
MATERIAL CATEGORY: I					
1	BUILDING INSULATION	OTHER	1.13E-07	58.9	26,200
1	DRYWALL	OTHER	6.80E-06	355	13,400
1	MISCELLANEOUS DEBRIS	OTHER	0	97.5	6,500
1	NON PROCESS TRAILERS	METAL	0	896	305,000
1	NON PROCESS TRAILERS	PAINT	4.24E-06	1.77	18.9
1	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.24	816
1	PROCESS TRAILERS	METAL	0	209	71,100
1	PROCESS TRAILERS	PAINT	1.61E-06	.669	7.15
1	PVC CONDUIT	OTHER	0	.287	8.83
1	ROOFING (BUILT UP)	OTHER	7.05E-06	367	10,200
1	WINDOWS	OTHER	0	63.5	3,180
1	WINDOWS	PAINT	3.72E-07	.165	1.76
1	WOOD	OTHER	1.27E-08	.66	44.
MATERIAL CATEGORY: J					
1	DUCTWORK	DUST	7.27E-06	3.63	77.6
	Totals for Component Category:		**6.14E-04**	**29,300**	**923,000**
MATERIAL CATEGORY: A					
2	STRUCTURAL AND MISC. STEEL	METAL	0	1,450	5,910
2	STRUCTURAL AND MISC. STEEL	PAINT	9.37E-07	18.	192
MATERIAL CATEGORY: B					
2	CONDUIT/WIRE (2" AND LESS)	DUST	2.12E-08	.435	9.31
2	CONDUIT/WIRE (2" AND LESS)	METAL	0	46.9	279
2	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.65E-09	.039	.829
2	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	12.1	112
2	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	1.37E-10	.004	.087

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
2	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	1.36	16.4
2	DOORS	METAL	0	44.9	2,240
2	DOORS	PAINT	1.06E-07	2.1	22.5
2	ELECTRICAL EQUIPMENT	METAL	0	2.32	163
2	ELECTRICAL EQUIPMENT	PAINT	1.20E-09	.025	.271
2	ELECTRICAL FIXTURES	METAL	0	8.15	1,300
2	ELECTRICAL FIXTURES	PAINT	2.66E-08	.508	5.43
2	ELECTRICAL TRANSFORMERS	METAL	0	16.	640
2	ELECTRICAL TRANSFORMERS	PAINT	6.00E-10	.011	.117
2	ELECTRICAL WIRING	METAL	0	1.44	5.02
2	HVAC EQUIPMENT	METAL	0	5.9	450
2	HVAC EQUIPMENT	PAINT	3.59E-09	.052	.551
2	MATERIAL HANDLING EQUIPMENT	METAL	0	7.32	380
2	MATERIAL HANDLING EQUIPMENT	PAINT	8.86E-10	.026	.282
2	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	99.5	3,980
2	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	5.83E-08	1.05	11.3
2	PIPING (2" AND LESS)	METAL	0	35.7	317
2	PIPING (2" AND LESS)	PAINT	2.45E-08	.559	5.98
2	PIPING (2-1/2" TO 4")	METAL	0	70.7	987
2	PIPING (2-1/2" TO 4")	PAINT	4.60E-08	.856	9.16
2	PIPING (OVER 4")	METAL	0	64.5	1,460
2	PIPING (OVER 4")	PAINT	3.08E-08	.612	6.55
2	PROCESS EQUIPMENT	METAL	0	8.85	370
2	PROCESS EQUIPMENT	PAINT	2.32E-09	.038	.404
MATERIAL CATEGORY: D					
2	DUCTWORK	DUST	4.70E-10	.008	.172
2	DUCTWORK	METAL	0	2.83	10.3
2	DUCTWORK	PAINT	9.40E-09	.161	1.72
2	EXTERIOR METAL WALL PANELS	METAL	0	63.5	258
2	EXTERIOR METAL WALL PANELS	PAINT	4.89E-07	9.	96.3
2	INTERIOR METAL WALL PANELS	METAL	0	1.34	5.41
2	INTERIOR METAL WALL PANELS	PAINT	1.46E-08	.189	2.02
2	LEAD FLASHING	LEAD	0	2.15	6.06
2	LOUVERS	METAL	0	4.85	242
2	LOUVERS	PAINT	1.40E-08	.226	2.42
2	METAL PANEL ROOF	METAL	0	90.7	367
2	METAL PANEL ROOF	PAINT	7.39E-07	12.8	137
MATERIAL CATEGORY: E					
2	CLAY PIPING	OTHER	1.82E-08	.951	13.6
2	CONCRETE	OTHER	7.83E-06	446	5,940
2	CONCRETE FOUNDATION	OTHER	5.88E-04	33,500	446,000
2	CONCRETE SLABS	OTHER	6.49E-03	13,200	176,000
2	CONCRETE WALLS	OTHER	2.47E-06	90.2	1,200
2	MASONRY WALLS	OTHER	1.20E-05	626	22,700
MATERIAL CATEGORY: G					
2	CEILING DEMOLITION	OTHER	3.82E-09	1.79	149
2	EXTERIOR TRANSITE PANELS	OTHER	8.87E-07	41.6	740
2	FIRE BRICK	OTHER	5.52E-07	26.8	383

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
2	FLOOR TILE	OTHER	7.45E-09	.41	8.53
2	INTERIOR TRANSITE PANELS	OTHER	2.39E-07	11.2	203
2	TRANSITE ROOF	OTHER	1.55E-06	72.6	1,290
MATERIAL CATEGORY: H					
2	DUCTWORK INSULATION	OTHER	7.78E-10	.039	17.2
2	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.95	1,290
2	PIPING INSULATION	OTHER	2.19E-08	1.08	482
MATERIAL CATEGORY: I					
2	BUILDING INSULATION	OTHER	5.49E-08	29.2	13,000
2	DRYWALL	OTHER	8.91E-08	4.42	168
2	FABRIC ROOF	OTHER	2.47E-07	12.3	382
2	FABRIC WALLS	OTHER	1.14E-07	5.68	176
2	MISCELLANEOUS DEBRIS	OTHER	0	42.	2,800
2	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	10.2	6,770
2	PVC CONDUIT	OTHER	0	.258	7.94
2	ROOFING (BUILT UP)	OTHER	3.44E-06	179	4,970
2	WINDOWS	OTHER	0	49.1	2,450
2	WINDOWS	PAINT	5.65E-09	.127	1.36
2	WOOD	OTHER	7.77E-08	4.05	270
MATERIAL CATEGORY: J					
2	DUCTWORK	DUST	4.23E-09	.072	1.55
	Totals for Component Category:		**7.11E-03**	**50,400**	**707,000**
MATERIAL CATEGORY: A					
3	STRUCTURAL AND MISC. STEEL	METAL	0	8,300	33,800
3	STRUCTURAL AND MISC. STEEL	PAINT	2.51E-03	115	1,230
MATERIAL CATEGORY: B					
3	CONDUIT/WIRE (2" AND LESS)	DUST	1.60E-04	6.28	134
3	CONDUIT/WIRE (2" AND LESS)	METAL	0	678	4,030
3	CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.96E-05	1.11	23.7
3	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	348	3,200
3	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	4.88E-06	.188	4.02
3	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	62.6	753
3	DOORS	METAL	0	73.7	3,690
3	DOORS	PAINT	9.99E-05	3.45	36.9
3	ELECTRICAL EQUIPMENT	METAL	0	741	63,800
3	ELECTRICAL EQUIPMENT	PAINT	1.96E-04	9.94	106
3	ELECTRICAL FIXTURES	METAL	0	87.5	14,000
3	ELECTRICAL FIXTURES	PAINT	1.61E-04	5.46	58.3
3	ELECTRICAL TRANSFORMERS	METAL	0	41.1	1,440
3	ELECTRICAL TRANSFORMERS	PAINT	1.33E-06	.033	.355
3	ELECTRICAL WIRING	METAL	0	7.91	27.6
3	HVAC EQUIPMENT	METAL	0	221	41,300
3	HVAC EQUIPMENT	PAINT	1.46E-04	4.74	50.7
3	MATERIAL HANDLING EQUIPMENT	METAL	0	523	88,700
3	MATERIAL HANDLING EQUIPMENT	PAINT	1.09E-04	6.15	65.8

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	210	8,400
3	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	4.45E-05	2.23	23.8
3	PIPING (2" AND LESS)	CRUD	1.02E-04	3.11	33.2
3	PIPING (2" AND LESS)	DUST	1.10E-05	.331	7.08
3	PIPING (2" AND LESS)	SS METAL	0	736	6,540
3	PIPING (2-1/2" TO 4")	CRUD	1.60E-04	4.93	52.7
3	PIPING (2-1/2" TO 4")	DUST	1.55E-05	.476	10.2
3	PIPING (2-1/2" TO 4")	SS METAL	0	739	10,300
3	PIPING (OVER 4")	CRUD	1.74E-04	5.34	57.1
3	PIPING (OVER 4")	DUST	3.95E-06	.12	2.57
3	PIPING (OVER 4")	SS METAL	0	497	11,200
3	PROCESS EQUIPMENT	CRUD	7.44E-04	33.4	358
3	PROCESS EQUIPMENT	DUST	4.51E-05	2.03	43.4
3	PROCESS EQUIPMENT	SS METAL	0	8,500	716,000
MATERIAL CATEGORY: C					
3	ELECTRICAL EQUIPMENT	METAL	0	82.3	7,100
3	ELECTRICAL EQUIPMENT	PAINT	2.18E-05	1.11	11.8
3	HVAC EQUIPMENT	METAL	0	24.6	4,590
3	HVAC EQUIPMENT	PAINT	1.62E-05	.526	5.62
3	MATERIAL HANDLING EQUIPMENT	METAL	0	58.1	9,860
3	MATERIAL HANDLING EQUIPMENT	PAINT	1.21E-05	.683	7.32
3	PIPING (2" AND LESS)	CRUD	2.27E-05	.69	7.38
3	PIPING (2" AND LESS)	DUST	1.10E-05	.331	7.08
3	PIPING (2" AND LESS)	SS METAL	0	95.7	849
3	PIPING (2" AND LESS)	UNH	0	6.46	73.8
3	PIPING (2-1/2" TO 4")	CRUD	3.54E-05	1.1	11.7
3	PIPING (2-1/2" TO 4")	DUST	1.55E-05	.476	10.2
3	PIPING (2-1/2" TO 4")	SS METAL	0	101	1,420
3	PIPING (2-1/2" TO 4")	UNH	0	10.3	117
3	PIPING (OVER 4")	CRUD	3.87E-05	1.19	12.7
3	PIPING (OVER 4")	DUST	3.95E-06	.12	2.57
3	PIPING (OVER 4")	SS METAL	0	64.2	1,450
3	PIPING (OVER 4")	UNH	0	11.1	127
3	PROCESS EQUIPMENT	CRUD	1.66E-04	7.43	79.5
3	PROCESS EQUIPMENT	DUST	4.51E-05	2.03	43.4
3	PROCESS EQUIPMENT	SS METAL	0	942	79,500
3	PROCESS EQUIPMENT	UNH	0	69.5	795
MATERIAL CATEGORY: D					
3	DUCTWORK	DUST	5.65E-05	2.03	43.3
3	DUCTWORK	METAL	0	714	2,590
3	DUCTWORK	PAINT	1.13E-03	40.5	433
3	EXTERIOR METAL WALL PANELS	METAL	0	35.7	145
3	EXTERIOR METAL WALL PANELS	PAINT	1.51E-04	5.05	54.2
3	INTERIOR METAL WALL PANELS	METAL	0	14.8	60.
3	INTERIOR METAL WALL PANELS	PAINT	8.08E-05	2.1	22.5
3	LEAD FLASHING	LEAD	0	13.4	37.6
3	LOUVERS	METAL	0	12.2	611
3	LOUVERS	PAINT	1.29E-05	.571	6.11
3	METAL PANEL ROOF	METAL	0	22.4	90.8

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	METAL PANEL ROOF	PAINT	1.31E-04	3.17	33.9
MATERIAL CATEGORY: E					
3	CLAY PIPING	OTHER	1.60E-07	8.33	119
3	CONCRETE	OTHER	7.76E-04	9,480	126,000
3	CONCRETE BEAMS	OTHER	9.69E-05	1,730	23,100
3	CONCRETE COLUMNS	OTHER	2.53E-04	677	9,040
3	CONCRETE FOUNDATION	OTHER	3.58E-04	20,400	272,000
3	CONCRETE SLABS	OTHER	6.90E-02	32,700	436,000
3	CONCRETE WALLS	OTHER	4.83E-04	3,480	46,500
3	MASONRY	OTHER	4.84E-05	269	9,800
3	MASONRY WALLS	OTHER	1.22E-04	1,910	69,500
MATERIAL CATEGORY: F					
3	ACID BRICK	OTHER	4.97E-03	1,030	14,700
MATERIAL CATEGORY: G					
3	CEILING DEMOLITION	OTHER	1.78E-06	58.3	4,860
3	EXTERIOR TRANSITE PANELS	OTHER	2.37E-03	747	13,300
3	FIRE BRICK	OTHER	4.18E-04	130	1,860
3	FLOOR TILE	OTHER	4.60E-05	52.2	1,090
3	INTERIOR TRANSITE PANELS	OTHER	1.78E-03	536	9,700
3	TRANSITE ROOF	OTHER	2.66E-03	798	14,200
MATERIAL CATEGORY: H					
3	DUCTWORK INSULATION	OTHER	2.55E-05	9.75	4,330
3	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	4.23	2,790
3	PIPING INSULATION	OTHER	3.36E-05	14.5	6,430
MATERIAL CATEGORY: I					
3	BUILDING INSULATION	OTHER	5.05E-05	202	89,600
3	DRYWALL	OTHER	2.23E-05	164	6,240
3	FABRIC	OTHER	2.35E-06	1.15	35.8
3	MISCELLANEOUS DEBRIS	OTHER	0	242	16,200
3	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	22.2	14,700
3	PVC CONDUIT	OTHER	0	4.8	148
3	ROOFING (BUILT UP)	OTHER	7.76E-06	404	11,200
3	WINDOWS	OTHER	0	257	12,900
3	WINDOWS	PAINT	1.59E-05	.668	7.14
3	WOOD	OTHER	9.96E-08	5.19	346
MATERIAL CATEGORY: J					
3	DUCTWORK	DUST	5.08E-04	18.2	390
3	PIPING (2" AND LESS)	CRUD	1.02E-04	3.11	33.2
3	PIPING (2" AND LESS)	DUST	8.81E-05	2.65	56.6
3	PIPING (2" AND LESS)	UNH	0	58.1	664
3	PIPING (2-1/2" TO 4")	CRUD	1.60E-04	4.93	52.7
3	PIPING (2-1/2" TO 4")	DUST	1.24E-04	3.81	81.5
3	PIPING (2-1/2" TO 4")	UNH	0	92.3	1,050
3	PIPING (OVER 4")	CRUD	1.74E-04	5.34	57.1
3	PIPING (OVER 4")	DUST	3.16E-05	.961	20.6
3	PIPING (OVER 4")	UNH	0	100	1,140

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	PROCESS EQUIPMENT	CRUD	7.44E-04	33.4	358
3	PROCESS EQUIPMENT	DUST	3.61E-04	16.2	347
3	PROCESS EQUIPMENT	UNH	0	626	7,160
	Totals for Component Category:		**9.25E-02**	**101,000**	**2,350,000**
MATERIAL CATEGORY: A					
4	STRUCTURAL AND MISC. STEEL	METAL	0	2,070	8,430
4	STRUCTURAL AND MISC. STEEL	PAINT	3.61E-05	29.2	312
MATERIAL CATEGORY: B					
4	CONDUIT/WIRE (2" AND LESS)	DUST	1.34E-06	.858	18.3
4	CONDUIT/WIRE (2" AND LESS)	METAL	0	92.5	551
4	CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.23E-07	.12	2.56
4	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	37.6	346
4	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	7.84E-08	.071	1.53
4	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	23.8	286
4	DOORS	METAL	0	36.1	1,800
4	DOORS	PAINT	2.26E-06	1.69	18.
4	ELECTRICAL EQUIPMENT	METAL	0	112	9,600
4	ELECTRICAL EQUIPMENT	PAINT	1.71E-06	1.5	16.
4	ELECTRICAL FIXTURES	METAL	0	24.6	3,930
4	ELECTRICAL FIXTURES	PAINT	2.29E-06	1.53	16.4
4	ELECTRICAL TRANSFORMERS	METAL	0	24.5	2,080
4	ELECTRICAL TRANSFORMERS	PAINT	9.61E-08	.091	.973
4	EQUIPMENT AND MISCELLANEOUS	METAL	0	3,380	135,000
4	EQUIPMENT AND MISCELLANEOUS	PAINT	1.06E-06	13.8	147
4	HVAC EQUIPMENT	METAL	0	36.6	7,060
4	HVAC EQUIPMENT	PAINT	1.43E-06	.809	8.65
4	MATERIAL HANDLING EQUIPMENT	METAL	0	99.9	12,300
4	MATERIAL HANDLING EQUIPMENT	PAINT	1.08E-06	.849	9.08
4	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	53.6	2,150
4	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	9.65E-07	.57	6.09
4	PIPING (2" AND LESS)	CRUD	5.48E-07	.423	4.52
4	PIPING (2" AND LESS)	DUST	6.02E-08	.046	.993
4	PIPING (2" AND LESS)	SS METAL	0	102	904
4	PIPING (2-1/2" TO 4")	CRUD	1.08E-06	.788	8.43
4	PIPING (2-1/2" TO 4")	DUST	1.10E-07	.081	1.72
4	PIPING (2-1/2" TO 4")	SS METAL	0	121	1,690
4	PIPING (OVER 4")	CRUD	5.15E-07	1.43	15.3
4	PIPING (OVER 4")	DUST	1.22E-08	.032	.694
4	PIPING (OVER 4")	SS METAL	0	124	2,800
4	PROCESS EQUIPMENT	CRUD	7.69E-06	5.23	55.9
4	PROCESS EQUIPMENT	DUST	4.67E-07	.318	6.79
4	PROCESS EQUIPMENT	SS METAL	0	1,330	112,000
MATERIAL CATEGORY: C					
4	ELECTRICAL EQUIPMENT	METAL	0	12.4	1,070
4	ELECTRICAL EQUIPMENT	PAINT	1.90E-07	.166	1.78
4	EQUIPMENT AND MISCELLANEOUS	METAL	0	375	15,000
4	EQUIPMENT AND MISCELLANEOUS	PAINT	1.18E-07	1.53	16.4

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
4	HVAC EQUIPMENT	METAL	0	4.06	785
4	HVAC EQUIPMENT	PAINT	1.59E-07	.09	.961
4	MATERIAL HANDLING EQUIPMENT	METAL	0	11.1	1,360
4	MATERIAL HANDLING EQUIPMENT	PAINT	1.20E-07	.095	1.01
4	PIPING (2" AND LESS)	CRUD	1.22E-07	.094	1.01
4	PIPING (2" AND LESS)	DUST	6.02E-08	.046	.993
4	PIPING (2" AND LESS)	SS METAL	0	11.3	101
4	PIPING (2" AND LESS)	UNH	0	.878	10.
4	PIPING (2-1/2" TO 4")	CRUD	2.41E-07	.175	1.87
4	PIPING (2-1/2" TO 4")	DUST	1.10E-07	.081	1.72
4	PIPING (2-1/2" TO 4")	SS METAL	0	13.2	184
4	PIPING (2-1/2" TO 4")	UNH	0	1.64	18.7
4	PIPING (OVER 4")	CRUD	1.14E-07	.319	3.41
4	PIPING (OVER 4")	DUST	1.22E-08	.032	.694
4	PIPING (OVER 4")	SS METAL	0	26.7	606
4	PIPING (OVER 4")	UNH	0	2.98	34.1
4	PROCESS EQUIPMENT	CRUD	1.70E-06	1.16	12.4
4	PROCESS EQUIPMENT	DUST	4.67E-07	.318	6.79
4	PROCESS EQUIPMENT	SS METAL	0	148	12,400
4	PROCESS EQUIPMENT	UNH	0	10.9	124
MATERIAL CATEGORY: D					
4	DUCTWORK	DUST	1.16E-07	.071	1.52
4	DUCTWORK	METAL	0	25.	90.7
4	DUCTWORK	PAINT	2.31E-06	1.42	15.2
4	EXTERIOR METAL WALL PANELS	METAL	0	37.2	151
4	EXTERIOR METAL WALL PANELS	PAINT	5.18E-06	5.28	56.4
4	INTERIOR METAL WALL PANELS	METAL	0	4.73	19.1
4	INTERIOR METAL WALL PANELS	PAINT	5.98E-07	.671	7.17
4	LEAD FLASHING	LEAD	0	1.87	5.26
4	LOUVERS	METAL	0	5.74	287
4	LOUVERS	PAINT	4.46E-07	.268	2.87
4	METAL PANEL ROOF	METAL	0	29.4	119
4	METAL PANEL ROOF	PAINT	4.05E-06	4.17	44.6
MATERIAL CATEGORY: E					
4	CLAY PIPING	OTHER	4.73E-08	2.46	35.2
4	CONCRETE	OTHER	5.89E-05	3,350	44,600
4	CONCRETE BEAMS	OTHER	6.37E-06	340	4,540
4	CONCRETE COLUMNS	OTHER	1.36E-07	4.37	58.3
4	CONCRETE FOUNDATION	OTHER	1.24E-04	7,070	94,400
4	CONCRETE SLABS	OTHER	2.27E-04	11,000	147,000
4	CONCRETE WALLS	OTHER	5.09E-05	2,810	37,500
4	MASONRY	OTHER	7.77E-07	40.5	1,470
4	MASONRY WALLS	OTHER	3.29E-05	1,520	55,200
MATERIAL CATEGORY: F					
4	ACID BRICK	OTHER	4.80E-07	21.1	302
MATERIAL CATEGORY: G					
4	CEILING DEMOLITION	OTHER	9.63E-08	13.	1,080

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
4	EXTERIOR TRANSITE PANELS	OTHER	1.20E-05	158	2,800
4	FIRE BRICK	OTHER	2.03E-05	224	3,200
4	FLOOR TILE	OTHER	6.75E-07	8.57	179
4	INTERIOR TRANSITE PANELS	OTHER	8.77E-06	124	2,240
4	TRANSITE ROOF	OTHER	1.35E-05	176	3,130
MATERIAL CATEGORY: H					
4	DUCTWORK INSULATION	OTHER	2.15E-08	.341	152
4	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	2.16	1,430
4	PIPING INSULATION	OTHER	1.23E-07	2.52	1,120
MATERIAL CATEGORY: I					
4	BUILDING INSULATION	OTHER	3.55E-07	59.2	26,300
4	DRYWALL	OTHER	1.08E-06	14.3	543
4	MISCELLANEOUS DEBRIS	OTHER	0	83.6	5,570
4	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	11.4	7,510
4	PVC CONDUIT	OTHER	0	2.16	66.6
4	ROOFING (BUILT UP)	OTHER	1.79E-06	93.5	2,590
4	WINDOWS	OTHER	0	48.7	2,440
4	WINDOWS	PAINT	2.51E-07	.127	1.35
4	WOOD	OTHER	1.74E-06	7.62	508
MATERIAL CATEGORY: J					
4	DUCTWORK	DUST	1.04E-06	.638	13.7
4	PIPING (2" AND LESS)	CRUD	5.48E-07	.423	4.52
4	PIPING (2" AND LESS)	DUST	4.81E-07	.371	7.94
4	PIPING (2" AND LESS)	UNH	0	7.91	90.4
4	PIPING (2-1/2" TO 4")	CRUD	1.08E-06	.788	8.43
4	PIPING (2-1/2" TO 4")	DUST	8.79E-07	.645	13.8
4	PIPING (2-1/2" TO 4")	UNH	0	14.7	168
4	PIPING (OVER 4")	CRUD	5.15E-07	1.43	15.3
4	PIPING (OVER 4")	DUST	9.77E-08	.26	5.56
4	PIPING (OVER 4")	UNH	0	26.8	306
4	PROCESS EQUIPMENT	CRUD	7.69E-06	5.23	55.9
4	PROCESS EQUIPMENT	DUST	3.73E-06	2.54	54.3
4	PROCESS EQUIPMENT	UNH	0	97.8	1,120
	Totals for Component Category:		**6.54E-04**	**35,800**	**782,000**
MATERIAL CATEGORY: A					
5	STRUCTURAL AND MISC. STEEL	METAL	0	807	3,290
5	STRUCTURAL AND MISC. STEEL	PAINT	9.20E-07	11.9	127
MATERIAL CATEGORY: B					
5	CONDUIT/WIRE (2" AND LESS)	DUST	9.47E-08	1.23	26.2
5	CONDUIT/WIRE (2" AND LESS)	METAL	0	132	786
5	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.54E-08	.199	4.27
5	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	62.6	576
5	DOORS	METAL	0	.15	7.5
5	DOORS	PAINT	5.42E-10	.007	.075
5	ELECTRICAL EQUIPMENT	METAL	0	35.1	3,600

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
5	ELECTRICAL EQUIPMENT	PAINT	4.33E-08	.56	5.99
5	ELECTRICAL FIXTURES	METAL	0	7.47	1,190
5	ELECTRICAL FIXTURES	PAINT	3.60E-08	.465	4.98
5	ELECTRICAL TRANSFORMERS	METAL	0	3.5	140
5	ELECTRICAL TRANSFORMERS	PAINT	1.98E-10	.003	.028
5	HVAC EQUIPMENT	METAL	0	7.6	432
5	HVAC EQUIPMENT	PAINT	3.83E-09	.049	.53
5	MATERIAL HANDLING EQUIPMENT	METAL	0	10.2	1,060
5	MATERIAL HANDLING EQUIPMENT	PAINT	5.68E-09	.074	.785
5	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	23.5	940
5	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	1.92E-08	.249	2.66
5	PIPING (2" AND LESS)	METAL	0	75.7	672
5	PIPING (2" AND LESS)	PAINT	9.61E-08	1.24	13.3
5	PIPING (2-1/2" TO 4")	METAL	0	90.7	1,270
5	PIPING (2-1/2" TO 4")	PAINT	8.57E-08	1.11	11.9
5	PIPING (OVER 4")	METAL	0	74.5	1,680
5	PIPING (OVER 4")	PAINT	5.47E-08	.708	7.57
5	PROCESS EQUIPMENT	METAL	0	763	120,000
5	PROCESS EQUIPMENT	PAINT	9.46E-07	12.2	131
MATERIAL CATEGORY: C					
5	PIPING (2" AND LESS)	METAL	0	.074	.655
5	PIPING (OVER 4")	METAL	0	1.39	31.4
MATERIAL CATEGORY: D					
5	DUCTWORK	DUST	1.53E-10	.002	.042
5	DUCTWORK	METAL	0	.699	2.53
5	DUCTWORK	PAINT	3.06E-09	.04	.424
5	EXTERIOR METAL WALL PANELS	METAL	0	.413	1.67
5	EXTERIOR METAL WALL PANELS	PAINT	4.52E-09	.058	.625
MATERIAL CATEGORY: E					
5	CONCRETE	OTHER	1.49E-05	833	11,100
5	CONCRETE BEAMS	OTHER	4.99E-07	28.4	378
5	CONCRETE COLUMNS	OTHER	2.14E-07	12.1	162
5	CONCRETE FOUNDATION	OTHER	8.50E-05	4,840	64,500
5	CONCRETE SLABS	OTHER	4.58E-04	2,620	34,900
5	CONCRETE WALLS	OTHER	1.97E-05	1,120	14,900
5	MASONRY WALLS	OTHER	2.39E-07	10.5	383
MATERIAL CATEGORY: F					
5	ACID BRICK	OTHER	2.58E-03	365	5,220
MATERIAL CATEGORY: G					
5	FLOOR TILE	OTHER	1.06E-08	.55	11.5
5	INTERIOR TRANSITE PANELS	OTHER	7.38E-08	.989	17.9
MATERIAL CATEGORY: H					
5	DUCTWORK INSULATION	OTHER	7.11E-10	.01	4.24
5	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.31	863
5	PIPING INSULATION	OTHER	1.02E-07	1.62	720

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: I					
5	BUILDING INSULATION	OTHER	1.09E-09	.566	251
5	MISCELLANEOUS DEBRIS	OTHER	0	1.5	100.
5	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	6.85	4,530
5	ROOFING (BUILT UP)	OTHER	1.44E-08	.75	20.8
5	WINDOWS	OTHER	0	.067	3.33
5	WINDOWS	PAINT	1.34E-11	.	.002
MATERIAL CATEGORY: J					
5	DUCTWORK	DUST	1.38E-09	.018	.381
	Totals for Component Category:		**3.16E-03**	**12,000**	**274,000**
MATERIAL CATEGORY: E					
8	ASPHALT	OTHER	5.04E-03	22,400	552,000
8	CONCRETE	OTHER	6.15E-05	210	2,790
8	CONCRETE SLABS	OTHER	1.69E-02	94,200	1,260,000
MATERIAL CATEGORY: F					
8	ACID BRICK	OTHER	1.03E-05	30.6	437
	Totals for Component Category:		**2.20E-02**	**117,000**	**1,810,000**
MATERIAL CATEGORY: A					
9	STRUCTURAL AND MISC. STEEL	METAL	0	622	2,540
9	STRUCTURAL AND MISC. STEEL	PAINT	7.06E-07	9.14	97.8
MATERIAL CATEGORY: B					
9	CONDUIT/WIRE (2" AND LESS)	DUST	6.20E-09	.08	1.71
9	CONDUIT/WIRE (2" AND LESS)	METAL	0	8.63	51.4
9	CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.27E-09	.029	.628
9	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	9.21	84.8
9	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	1.01E-09	.013	.279
9	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	4.35	52.3
9	DOORS	METAL	0	.966	48.3
9	DOORS	PAINT	3.50E-09	.045	.483
9	ELECTRICAL EQUIPMENT	METAL	0	46.8	6,800
9	ELECTRICAL EQUIPMENT	PAINT	8.19E-08	1.06	11.3
9	ELECTRICAL FIXTURES	METAL	0	.575	92.
9	ELECTRICAL FIXTURES	PAINT	2.77E-09	.036	.383
9	ELECTRICAL TRANSFORMERS	METAL	0	226	10,000
9	ELECTRICAL TRANSFORMERS	PAINT	1.51E-08	.196	2.09
9	HVAC EQUIPMENT	METAL	0	2.02	691
9	HVAC EQUIPMENT	PAINT	6.12E-09	.079	.847
9	MATERIAL HANDLING EQUIPMENT	METAL	0	1.9	196
9	MATERIAL HANDLING EQUIPMENT	PAINT	1.05E-09	.014	.145
9	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	3.25	130
9	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	2.66E-09	.035	.368
9	PIPING (2" AND LESS)	METAL	0	4.94	43.9
9	PIPING (2" AND LESS)	PAINT	6.28E-09	.081	.868

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
9	PIPING (2-1/2" TO 4")	METAL	0	7.2	101
9	PIPING (2-1/2" TO 4")	PAINT	6.81E-09	.088	.943
9	PIPING (OVER 4")	METAL	0	18.7	424
9	PIPING (OVER 4")	PAINT	1.37E-08	.178	1.9
9	PROCESS EQUIPMENT	METAL	0	327	192,000
9	PROCESS EQUIPMENT	PAINT	1.51E-06	19.7	210
MATERIAL CATEGORY: D					
9	DUCTWORK	DUST	8.91E-10	.012	.246
9	DUCTWORK	METAL	0	4.07	14.8
9	DUCTWORK	PAINT	1.78E-08	.231	2.46
9	EXTERIOR METAL WALL PANELS	METAL	0	.583	2.36
9	EXTERIOR METAL WALL PANELS	PAINT	6.39E-09	.083	.883
9	LOUVERS	METAL	0	5.37	268
9	LOUVERS	PAINT	1.94E-08	.251	2.68
9	METAL PANEL ROOF	METAL	0	.93	3.77
9	METAL PANEL ROOF	PAINT	1.02E-08	.132	1.4
MATERIAL CATEGORY: E					
9	CLAY PIPING	OTHER	2.28E-09	.119	1.7
9	CONCRETE	OTHER	4.36E-06	245	3,260
9	CONCRETE COLUMNS	OTHER	9.66E-07	26.3	351
9	CONCRETE FOUNDATION	OTHER	1.32E-05	753	10,000
9	CONCRETE SLABS	OTHER	1.09E-05	486	6,480
9	CONCRETE WALLS	OTHER	6.69E-06	381	5,070
MATERIAL CATEGORY: G					
9	EXTERIOR TRANSITE PANELS	OTHER	5.57E-07	29.	516
9	FIRE BRICK	OTHER	2.01E-07	10.5	149
9	TRANSITE ROOF	OTHER	1.19E-07	6.19	110
MATERIAL CATEGORY: H					
9	DUCTWORK INSULATION	OTHER	1.07E-09	.056	24.6
9	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.427	282
9	PIPING INSULATION	OTHER	3.60E-09	.188	83.3
MATERIAL CATEGORY: I					
9	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	2.24	1,480
9	PVC CONDUIT	OTHER	0	1.47	45.2
9	WINDOWS	OTHER	0	.367	18.3
9	WINDOWS	PAINT	7.35E-11	.001	.01
9	WOOD	OTHER	1.48E-06	77.3	5,150
MATERIAL CATEGORY: J					
9	DUCTWORK	DUST	8.03E-09	.104	2.22
	Totals for Component Category:		**4.09E-05**	**3,350**	**247,000**
MATERIAL CATEGORY: A					
10	STRUCTURAL AND MISC. STEEL	METAL	0	1,530	6,250
10	STRUCTURAL AND MISC. STEEL	PAINT	1.52E-11	.	.002

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: B					
10	CONDUIT/WIRE (2" AND LESS)	DUST	1.66E-08	.216	4.6
10	CONDUIT/WIRE (2" AND LESS)	METAL	0	23.2	138
10	CONDUIT/WIRE (2-1/2" TO 4")	DUST	7.45E-09	.096	2.06
10	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	30.2	278
10	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	5.36E-09	.069	1.48
10	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	23.1	278
10	ELECTRICAL EQUIPMENT	METAL	0	7.91	1,320
10	ELECTRICAL EQUIPMENT	PAINT	1.59E-08	.206	2.2
10	ELECTRICAL FIXTURES	METAL	0	.113	18.
10	ELECTRICAL FIXTURES	PAINT	5.42E-10	.007	.075
10	ELECTRICAL WIRING	METAL	0	49.7	173
10	PIPING (2" AND LESS)	METAL	0	367	3,260
10	PIPING (2" AND LESS)	PAINT	3.98E-07	5.15	55.
10	PIPING (2-1/2" TO 4")	METAL	0	386	5,400
10	PIPING (2-1/2" TO 4")	PAINT	2.01E-07	2.6	27.8
10	PIPING (OVER 4")	METAL	0	2,040	46,200
10	PIPING (OVER 4")	PAINT	2.77E-07	3.58	38.3
10	PROCESS EQUIPMENT	METAL	0	.338	102
10	PROCESS EQUIPMENT	PAINT	8.05E-10	.01	.111
MATERIAL CATEGORY: C					
10	PIPING (2" AND LESS)	METAL	0	5.91	52.4
10	PIPING (2" AND LESS)	PAINT	3.68E-09	.048	.51
10	PIPING (2-1/2" TO 4")	METAL	0	82.3	1,150
10	PIPING (2-1/2" TO 4")	PAINT	1.94E-08	.251	2.69
10	PIPING (OVER 4")	METAL	0	528	11,900
MATERIAL CATEGORY: E					
10	CLAY PIPING	OTHER	1.03E-05	540	7,700
10	CONCRETE	OTHER	3.55E-04	20,200	269,000
10	CONCRETE FOUNDATION	OTHER	7.24E-07	41.1	548
10	CONCRETE SLABS	OTHER	2.76E-06	127	1,700
10	CONCRETE WALLS	OTHER	1.15E-06	65.5	873
MATERIAL CATEGORY: G					
10	FEEDER CABLE	METAL	0	321	1,120
MATERIAL CATEGORY: H					
10	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.056	37.2
10	PIPING INSULATION	OTHER	4.44E-07	23.1	10,300
MATERIAL CATEGORY: I					
10	MISCELLANEOUS DEBRIS	OTHER	0	.173	11.5
10	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.295	195
10	PVC CONDUIT	OTHER	0	4.28	132
10	PVC PIPING	OTHER	0	1.22	283
10	WOOD	OTHER	7.07E-06	369	24,600
	Totals for Component Category:		**3.78E-04**	**26,800**	**393,000**

Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A					
11	STRUCTURAL AND MISC. STEEL	METAL	0	11.5	46.9
11	STRUCTURAL AND MISC. STEEL	PAINT	8.63E-09	.112	1.2
MATERIAL CATEGORY: B					
11	CONDUIT/WIRE (2" AND LESS)	DUST	1.22E-09	.016	.337
11	CONDUIT/WIRE (2" AND LESS)	METAL	0	1.7	10.1
11	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.18E-10	.002	.033
11	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	.48	4.42
11	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	1.26E-11		.003
11	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	.054	.655
11	ELECTRICAL EQUIPMENT	METAL	0	1.72	286
11	ELECTRICAL EQUIPMENT	PAINT	3.45E-09	.045	.478
11	ELECTRICAL FIXTURES	METAL	0	.437	70.
11	ELECTRICAL FIXTURES	PAINT	2.11E-09	.027	.291
11	ELECTRICAL TRANSFORMERS	METAL	0	3.52	128
11	ELECTRICAL TRANSFORMERS	PAINT	2.68E-10	.003	.037
11	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	19.	760
11	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	1.56E-08	.202	2.16
11	PIPING (2" AND LESS)	METAL	0	.266	2.36
11	PIPING (2" AND LESS)	PAINT	3.38E-10	.004	.047
11	PIPING (OVER 4")	METAL	0	6.49	147
11	PIPING (OVER 4")	PAINT	4.76E-09	.062	.66
11	PROCESS EQUIPMENT	METAL	0	.515	42.
11	PROCESS EQUIPMENT	PAINT	3.31E-10	.004	.046
MATERIAL CATEGORY: E					
11	CONCRETE	OTHER	3.40E-07	19.3	258
11	CONCRETE FOUNDATION	OTHER	4.18E-06	238	3,170
11	CONCRETE SLABS	OTHER	1.50E-05	442	5,900
11	CONCRETE WALLS	OTHER	1.03E-05	533	7,100
MATERIAL CATEGORY: H					
11	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.013	8.34
11	PIPING INSULATION	OTHER	6.94E-10	.036	16.1
MATERIAL CATEGORY: I					
11	BASIN LINERS	OTHER	0	69.2	2,140
11	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.066	43.8
	Totals for Component Category:		**2.99E-05**	**1,350**	**20,100**
MATERIAL CATEGORY: H					
12	COPPER PILE	OTHER	0	1,370	47,800
MATERIAL CATEGORY: J					
12	OTHER WASTE	NON-RCRA	0	3,500	268,000
12	OTHER WASTE	RCRA	0	2,720	49,700
12	OTHER WASTE	UNCHAR	0	3,120	224,000
12	PRODUCT WASTE	NON-RCRA	0	5,180	85,400
12	PRODUCT WASTE	RCRA	0	100.	4,330

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Table B-13 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
12	PRODUCT WASTE	UNCHAR	0	3,100	16,800
12	SOIL PILE	OTHER	2.50E-06	47,300	985,000
12	THORIUM WASTE	NON-RCRA	0	1,670	63,000
12	THORIUM WASTE	RCRA	0	6.24	457
12	THORIUM WASTE	UNCHAR	0	396	14,100
	Totals for Component Category:		**2.50E-06**	**68,500**	**1,760,000**
	Totals:		**1.27E-01**	**445,000**	**9,260,000**

Table B-14
Source Term for Total Uranium by Material Description

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A				
STRUCTURAL AND MISC. STEEL	METAL	0	15,000	61,400
STRUCTURAL AND MISC. STEEL	PAINT	2.60E+03	187	2,000
Totals for FS Category A		**2.60E+03**	**15,200**	**63,400**
MATERIAL CATEGORY: B				
CONDUIT/WIRE (2" AND LESS)	DUST	1.69E+02	9.82	210
CONDUIT/WIRE (2" AND LESS)	METAL	0	1,060	6,300
CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.62E+01	1.89	40.3
CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	591	5,440
CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	5.53E+00	.493	10.6
CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	164	1,980
DOORS	METAL	0	204	10,200
DOORS	PAINT	9.39E+01	9.56	102
ELECTRICAL EQUIPMENT	METAL	0	1,020	97,100
ELECTRICAL EQUIPMENT	PAINT	2.00E+02	15.1	162
ELECTRICAL FIXTURES	METAL	0	163	26,100
ELECTRICAL FIXTURES	PAINT	1.62E+02	10.2	109
ELECTRICAL TRANSFORMERS	METAL	0	334	14,900
ELECTRICAL TRANSFORMERS	PAINT	1.66E+00	.372	3.97
ELECTRICAL WIRING	METAL	0	59.	206
EQUIPMENT AND MISCELLANEOUS	METAL	0	3,380	135,000
EQUIPMENT AND MISCELLANEOUS	PAINT	2.20E+00	13.8	147
HVAC EQUIPMENT	METAL	0	347	66,100
HVAC EQUIPMENT	PAINT	1.08E+02	7.58	81.
MATERIAL HANDLING EQUIPMENT	METAL	0	645	103,000
MATERIAL HANDLING EQUIPMENT	PAINT	1.12E+02	7.16	76.6
MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	415	16,600
MISCELLANEOUS ELECTRICAL ITEMS	PAINT	4.77E+01	4.4	47.
PIPING (2" AND LESS)	CRUD	7.53E+01	3.53	37.7
PIPING (2" AND LESS)	DUST	8.09E+00	.378	8.08
PIPING (2" AND LESS)	METAL	0	600	5,330
PIPING (2" AND LESS)	PAINT	2.27E+00	8.92	95.4
PIPING (2" AND LESS)	SS METAL	0	838	7,440
PIPING (2-1/2" TO 4")	CRUD	1.30E+02	5.72	61.2
PIPING (2-1/2" TO 4")	DUST	1.27E+01	.557	11.9
PIPING (2-1/2" TO 4")	METAL	0	673	9,390
PIPING (2-1/2" TO 4")	PAINT	1.74E+00	6.06	64.8
PIPING (2-1/2" TO 4")	SS METAL	0	859	12,000
PIPING (OVER 4")	CRUD	1.07E+02	6.77	72.4
PIPING (OVER 4")	DUST	2.33E+00	.153	3.26
PIPING (OVER 4")	METAL	0	2,340	53,000
PIPING (OVER 4")	PAINT	1.44E+00	6.2	66.3
PIPING (OVER 4")	SS METAL	0	620	14,000
PROCESS EQUIPMENT	CRUD	7.89E+02	38.7	414
PROCESS EQUIPMENT	DUST	4.79E+01	2.35	50.2
PROCESS EQUIPMENT	METAL	0	1,300	330,000
PROCESS EQUIPMENT	PAINT	1.07E+01	33.6	360
PROCESS EQUIPMENT	SS METAL	0	9,820	827,000
Totals for FS Category B		**2.12E+03**	**25,600**	**1,740,000**

Table B-14 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: C				
ELECTRICAL EQUIPMENT	METAL	0	94.7	8,160
ELECTRICAL EQUIPMENT	PAINT	2.21E+01	1.27	13.6
EQUIPMENT AND MISCELLANEOUS	METAL	0	375	15,000
EQUIPMENT AND MISCELLANEOUS	PAINT	2.45E-01	1.53	16.4
HVAC EQUIPMENT	METAL	0	28.6	5,380
HVAC EQUIPMENT	PAINT	1.20E+01	.616	6.59
MATERIAL HANDLING EQUIPMENT	METAL	0	69.2	11,200
MATERIAL HANDLING EQUIPMENT	PAINT	1.24E+01	.778	8.32
PIPING (2" AND LESS)	CRUD	1.67E+01	.784	8.39
PIPING (2" AND LESS)	DUST	8.09E+00	.378	8.08
PIPING (2" AND LESS)	METAL	0	5.98	53.1
PIPING (2" AND LESS)	PAINT	7.61E-03	.048	.51
PIPING (2" AND LESS)	SS METAL	0	107	950
PIPING (2" AND LESS)	UNH	2.86E+03	7.34	83.9
PIPING (2-1/2" TO 4")	CRUD	2.89E+01	1.27	13.6
PIPING (2-1/2" TO 4")	DUST	1.27E+01	.557	11.9
PIPING (2-1/2" TO 4")	METAL	0	82.4	1,150
PIPING (2-1/2" TO 4")	PAINT	4.01E-02	.251	2.69
PIPING (2-1/2" TO 4")	SS METAL	0	115	1,600
PIPING (2-1/2" TO 4")	UNH	4.64E+03	11.9	136
PIPING (OVER 4")	CRUD	2.37E+01	1.51	16.1
PIPING (OVER 4")	DUST	2.33E+00	.153	3.26
PIPING (OVER 4")	METAL	0	529	12,000
PIPING (OVER 4")	SS METAL	0	91.	2,060
PIPING (OVER 4")	UNH	5.50E+03	14.1	161
PROCESS EQUIPMENT	CRUD	1.75E+02	8.59	91.9
PROCESS EQUIPMENT	DUST	4.79E+01	2.35	50.2
PROCESS EQUIPMENT	SS METAL	0	1,090	91,900
PROCESS EQUIPMENT	UNH	3.14E+04	80.4	919
Totals for FS Category	**C**	**4.48E+04**	**2,720**	**151,000**
MATERIAL CATEGORY: D				
DUCTWORK	DUST	5.38E+01	2.52	53.9
DUCTWORK	METAL	0	890	3,220
DUCTWORK	PAINT	1.08E+03	50.4	539
EXTERIOR METAL WALL PANELS	METAL	0	146	591
EXTERIOR METAL WALL PANELS	PAINT	1.42E+02	20.7	221
INTERIOR METAL WALL PANELS	METAL	0	22.5	91.1
INTERIOR METAL WALL PANELS	PAINT	6.92E+01	3.19	34.1
LEAD FLASHING	LEAD	0	17.5	49.4
LOUVERS	METAL	0	29.5	1,480
LOUVERS	PAINT	1.18E+01	1.38	14.8
METAL PANEL ROOF	METAL	0	154	623
METAL PANEL ROOF	PAINT	1.18E+02	21.8	233
Totals for FS Category	**D**	**1.47E+03**	**1,360**	**7,150**
MATERIAL CATEGORY: E				
ASPHALT	OTHER	2.57E+03	22,400	552,000

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Table B-14 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
CLAY PIPING	OTHER	1.86E-01	554	7,910
CONCRETE	OTHER	1.01E+03	35,100	468,000
CONCRETE BEAMS	OTHER	3.30E+02	4,320	57,600
CONCRETE COLUMNS	OTHER	2.48E+02	1,680	22,400
CONCRETE FOUNDATION	OTHER	4.28E+02	69,100	921,000
CONCRETE SLABS	OTHER	3.16E+04	169,000	2,260,000
CONCRETE WALLS	OTHER	5.08E+02	10,400	139,000
MASONRY	OTHER	9.26E+01	336	12,200
MASONRY WALLS	OTHER	2.71E+02	7,150	260,000
Totals for FS Category	**E**	**3.71E+04**	**320,000**	**4,700,000**
MATERIAL CATEGORY: F				
ACID BRICK	OTHER	5.36E+03	1,450	20,700
Totals for FS Category	**F**	**5.36E+03**	**1,450**	**20,700**
MATERIAL CATEGORY: G				
CEILING DEMOLITION	OTHER	6.39E+00	147	12,300
EXTERIOR TRANSITE PANELS	OTHER	4.67E+03	982	17,500
FEEDER CABLE	METAL	0	321	1,120
FIRE BRICK	OTHER	1.12E+03	391	5,590
FLOOR TILE	OTHER	1.06E+02	179	3,720
INTERIOR TRANSITE PANELS	OTHER	3.42E+03	680	12,300
TRANSITE ROOF	OTHER	5.47E+03	1,060	18,900
Totals for FS Category	**G**	**1.48E+04**	**3,760**	**71,300**
MATERIAL CATEGORY: H				
COPPER PILE	OTHER	0	1,370	47,800
DUCTWORK INSULATION	OTHER	5.15E+01	12.1	5,390
PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	10.4	6,860
PIPING INSULATION	OTHER	6.45E+01	45.4	20,200
Totals for FS Category	**H**	**1.16E+02**	**1,440**	**80,200**
MATERIAL CATEGORY: I				
BASIN LINERS	OTHER	0	69.1	2,140
BUILDING INSULATION	OTHER	9.62E+01	349	155,000
DRYWALL	OTHER	1.17E+02	538	20,400
FABRIC	OTHER	4.95E+00	1.15	35.7
FABRIC ROOF	OTHER	1.30E-01	12.3	382
FABRIC WALLS	OTHER	6.69E-02	5.68	176
MISCELLANEOUS DEBRIS	OTHER	0	467	31,200
NON PROCESS TRAILERS	METAL	0	896	305,000
NON PROCESS TRAILERS	PAINT	6.57E-01	1.77	18.9
PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	54.5	36,000
PROCESS TRAILERS	METAL	0	209	71,100
PROCESS TRAILERS	PAINT	2.49E-01	.669	7.15
PVC CONDUIT	OTHER	0	13.3	408
PVC PIPING	OTHER	0	1.22	283
ROOFING (BUILT UP)	OTHER	3.51E-01	1,040	29,000
WINDOWS	OTHER	0	419	21,000

Table B-14 (Continued)

Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
WINDOWS	PAINT	1.64E+01	1.09	11.6
WOOD	OTHER	1.24E+01	463	30,900
Totals for FS Category I		**2.48E+02**	**4,550**	**703,000**

MATERIAL CATEGORY: J

DUCTWORK	DUST	4.84E+02	22.7	485
OTHER WASTE	NON-RCRA	4.08E+05	3,500	268,000
OTHER WASTE	RCRA	7.52E+05	2,720	49,700
OTHER WASTE	UNCHAR	1.30E+05	3,120	224,000
PIPING (2" AND LESS)	CRUD	7.53E+01	3.53	37.7
PIPING (2" AND LESS)	DUST	6.47E+01	3.02	64.6
PIPING (2" AND LESS)	UNH	2.58E+04	66.	755
PIPING (2-1/2" TO 4")	CRUD	1.30E+02	5.72	61.2
PIPING (2-1/2" TO 4")	DUST	1.02E+02	4.46	95.3
PIPING (2-1/2" TO 4")	UNH	4.18E+04	107	1,220
PIPING (OVER 4")	CRUD	1.07E+02	6.77	72.4
PIPING (OVER 4")	DUST	1.86E+01	1.22	26.1
PIPING (OVER 4")	UNH	4.95E+04	127	1,450
PROCESS EQUIPMENT	CRUD	7.89E+02	38.7	414
PROCESS EQUIPMENT	DUST	3.83E+02	18.8	401
PROCESS EQUIPMENT	UNH	2.83E+05	724	8,270
PRODUCT WASTE	NON-RCRA	3.70E+06	5,180	85,400
PRODUCT WASTE	RCRA	5.34E+04	100	4,330
PRODUCT WASTE	UNCHAR	2.46E+06	3,100	16,800
SOIL PILE	OTHER	0	47,300	985,000
THORIUM WASTE	NON-RCRA	0	1,670	63,000
THORIUM WASTE	RCRA	0	6.24	457
THORIUM WASTE	UNCHAR	0	396	14,100
Totals for FS Category J		**7.91E+06**	**68,200**	**1,720,000**

Totals:	**8.014E+06**	**445,000**	**9,260,000**

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Table B-15
Source Term for Total Uranium by Component

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
01A	1.998E+04	3,100	86,600
01B	6.350E+00	1,030	13,700
01C	3.602E+00	581	7,750
02A	5.751E+04	7,880	243,000
02B	2.331E+03	264	11,000
02C	4.116E+02	201	5,030
02D	3.565E+03	424	15,600
02E	7.177E+00	133	8,620
02F	7.659E+00	324	10,000
02G	7.683E+00	152	9,410
02H	3.966E+00	162	2,170
03A	3.277E+03	1,720	33,400
03B	4.554E+01	125	1,870
03C	2.769E+00	291	12,600
03D	1.100E+01	702	46,700
03E	9.459E+03	1,840	47,700
03F	6.988E-01	125	2,560
03G	5.965E+01	98.3	2,580
03H	1.189E+01	206	14,700
03J	2.343E+02	662	23,900
03K	4.343E-01	55.8	1,010
03L	1.869E+03	201	9,080
04A	3.418E+04	8,960	176,000
04B	7.518E+00	1,230	16,600
04C	8.689E+02	375	6,780
05A	5.894E+04	10,300	302,000
05B	8.303E+02	303	6,530
05C	4.519E+02	91.2	2,010
05D	6.560E+03	1,600	39,000
05E	2.635E+00	307	4,280
05F	4.200E+00	688	9,220
05G	7.081E+00	111	1,510
06A	7.444E+04	28,200	548,000
06B	8.846E+00	89.2	1,200
06C	9.182E+01	42.4	724
06D	4.968E-01	76.2	1,150
06E	2.094E+02	61.5	1,470
06F	3.611E+03	192	4,260
06G	5.422E+03	1,280	26,200
07A	6.835E+02	29,000	387,000
08A	3.851E+04	5,510	142,000
08B	9.127E+01	257	4,990
08C	1.113E+04	3,030	76,600
08D	8.904E+01	652	8,020
08E	1.257E-01	22.9	315
08F	9.077E-03	.791	45.2
09A	3.391E+04	6,360	147,000
09B	7.371E+02	173	3,470
09C	2.908E+01	50.4	690
09D	1.629E+01	111	2,220
09E	4.497E-01	3.08	59.3

Table B-15 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
09F	9.569E+01	43.3	650
10A	2.087E+04	7,070	144,000
10B	6.729E+01	219	3,430
10C	2.414E+01	417	5,700
10D	8.481E+01	146	1,940
10E	1.902E+01	180	2,790
11	5.479E+01	11,500	246,000
12A	3.364E+03	4,410	98,700
12B	4.050E+00	681	10,100
12C	6.964E+00	180	2,530
12D	2.837E+00	459	7,670
13A	1.396E+04	2,740	57,300
13B	1.048E+02	379	6,870
13C	2.750E+02	149	2,580
13D	1.135E+01	286	13,300
14A	4.743E+01	4,330	82,900
14B	3.316E+00	8.88	358
15A	2.527E+04	13,300	255,000
15B	3.460E-01	81.4	2,070
16A	3.766E+00	619	12,000
16B	3.498E+00	109	3,850
16C	2.088E-02	7.33	297
16D	1.828E+00	84.3	2,210
16E	2.848E-01	264	10,600
16F	4.728E-02	9.59	288
16G	1.072E-01	9.79	291
16H	1.222E-01	21.5	1,060
16J	1.222E-01	21.5	1,060
18A	2.344E-01	71.3	1,590
18B	1.090E+02	599	8,970
18C	1.309E+00	212	2,830
18D	2.826E+03	633	16,500
18E	9.680E-03	35.2	1,200
18G	3.540E+01	25.1	555
18H	1.327E+04	269	40,700
18J	8.295E-01	133	1,770
18K	2.238E-02	19.4	661
18L	2.238E-02	19.4	666
18M	5.318E+00	878	11,800
18P	5.549E+03	93.4	18,200
18Q	2.283E+03	211	8,420
19A	2.128E+01	3,530	66,600
19B	3.655E+00	618	13,800
19C	2.008E+00	363	6,470
19D	1.856E+00	181	14,400
19E	4.284E+01	32.	1,050
20A	1.976E+03	181	3,430
20B	7.075E+03	1,960	29,800
20C	8.230E+00	1,030	193,000
20D	4.388E+00	796	9,910
20E	5.566E+01	18.9	615

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Table B-15 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
20F	5.566E+01	19.1	628
20G	1.241E+02	21.9	1,060
20H	6.189E+00	1,000	14,500
22A	4.865E+01	53.2	1,130
22B	1.433E+02	30.7	909
22C	6.885E-01	5.45	24.9
22D	1.756E+00	146	2,060
22E	1.954E+01	3,210	42,200
23	9.056E-01	4.93	81.
24A	3.015E+00	317	4,510
24B	5.007E+01	247	4,880
25A	1.243E+01	157	2,460
25B	2.926E+01	40.9	738
25C	1.565E+01	255	3,840
25D	8.450E+01	117	1,730
25E	3.287E+02	693	11,900
25F	2.725E+00	473	6,280
25G	3.197E+00	517	6,920
25H	1.299E+00	217	2,920
25J	1.159E-01	18.9	326
26A	6.592E+02	446	8,590
26B	5.400E+00	1,310	11,900
26C	5.609E+01	28.4	734
28A	5.735E+00	1,080	19,800
28B	4.019E+00	821	16,100
28C	1.496E-02	5.6	254
28D	1.361E-02	4.25	271
28E	7.914E-02	12.4	211
28F	7.453E-01	12.3	175
28G	7.784E-02	12.1	212
30A	3.104E+01	1,690	25,400
30B	2.047E-01	32.9	599
31A	4.381E+02	676	13,500
31B	1.697E+00	274	3,650
32A	4.880E+00	967	17,500
32B	5.680E+01	163	2,400
35A	0.000E+00	1.03	9.16
37	4.981E+03	1,110	30,500
38A	1.228E+03	221	3,910
38B	6.960E+00	63.7	2,500
39A	5.850E+02	289	4,750
39B	2.701E+01	513	6,860
39C	8.079E+00	20.	737
39D	4.179E+00	70.	1,680
45A	8.235E+01	1,510	23,600
45B	2.193E+00	1.48	194
46	6.495E+02	1,350	18,900
51	1.046E+03	7,970	203,000
53A	4.385E+01	7,430	128,000
53B	5.858E+00	1,060	15,500
54A	1.072E+04	1,680	55,200

Table B-15 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
54B	1.213E+00	202	3,530
54C	8.025E+02	114	2,980
55A	1.747E+03	412	12,700
55B	2.375E+02	238	3,670
56A	4.267E+00	647	9,230
56B	2.785E-02	3.92	357
56C	4.095E-02	5.38	373
60	7.423E+00	1,200	16,000
61	1.063E+00	167	2,290
62	2.486E+00	296	3,990
63	1.063E+02	2,280	40,400
64	1.875E+01	1,210	18,300
65	4.291E+00	729	10,000
66	2.673E+03	366	10,700
67	1.708E+00	233	3,330
68	4.290E+00	431	6,110
69	9.966E+02	744	14,000
71	1.433E+03	1,790	32,600
72	1.331E+00	121	1,880
73A	6.017E-01	97.	1,290
74A	2.133E+01	290	3,860
74B	1.464E+01	412	5,500
74C	1.040E+02	543	7,240
74D	1.109E+02	369	4,920
74E	7.136E+00	640	8,530
74F	1.609E+00	65.4	872
74G	7.445E+01	176	2,350
74H	6.636E+00	113	1,500
74J	6.203E+00	114	1,530
74K	1.194E+02	383	5,100
74L	6.133E+02	1,050	14,000
74M	3.171E+01	908	12,100
74N	1.581E+00	245	3,270
74P	1.030E+02	2,470	32,900
74Q	1.135E+01	94.4	1,290
74R	1.295E+01	154	2,050
74S	6.946E-01	120	1,610
74T	7.401E+03	33,600	448,000
74U	1.575E+00	235	3,140
74V	5.860E-01	101	1,350
74W	1.473E+01	206	2,750
77	6.537E+00	1,170	15,500
78	1.515E+03	897	24,000
79	6.438E+00	1,070	14,200
80	5.101E+00	903	12,300
81	4.002E+00	786	9,970
82	3.128E+02	955	14,800
89	1.137E+02	28,300	498,000
G-002	2.778E+03	45,700	743,000
G-004	1.959E+00	1,050	27,000
G-006	2.490E-01	210	71,100

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Table B-15 (Continued)

Component	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
G-007	6.574E-01	898	305,000
G-008	1.869E+01	589	2,700
G-011	7.507E+06	19,800	725,000
G-013	0.000E+00	47,300	985,000
GRID 1	2.337E-01	136	3,300
GRID 10	1.580E+00	458	8,030
GRID 11	4.679E+00	977	14,900
GRID 12	3.209E+00	619	8,890
GRID 13	9.448E+00	1,650	22,400
GRID 14	2.199E+00	645	10,100
GRID 15	5.410E-03	57.6	641
GRID 16	1.250E+00	295	5,620
GRID 17	8.917E-01	1,010	7,260
GRID 18	2.894E+01	4,850	66,800
GRID 19	7.629E+00	1,570	23,500
GRID 2	8.807E-01	233	3,660
GRID 20	4.982E+00	989	14,200
GRID 21	1.735E-01	128	2,340
GRID 22	1.759E-01	80.8	2,150
GRID 23	6.211E-03	318	1,810
GRID 24	6.352E-02	71.2	1,650
GRID 25	5.288E+00	1,010	14,900
GRID 26	1.338E+00	343	5,890
GRID 27	1.164E+00	278	4,100
GRID 28	1.268E-03	11.1	81.8
GRID 29	5.689E-04	25.8	395
GRID 3	2.802E+00	604	9,030
GRID 30	3.892E-04	139	2,960
GRID 31	7.733E-02	305	8,490
GRID 32	3.044E-01	139	2,350
GRID 33	1.387E-03	15.6	222
GRID 4	2.908E+00	553	7,650
GRID 5	1.234E+01	2,040	27,300
GRID 6	1.035E+01	1,860	25,800
GRID 7	1.990E+00	422	6,120
GRID 8	4.682E-01	129	1,680
GRID 9	8.193E-01	320	6,250
P-004	0.000E+00	1,370	47,800
TS-001	2.034E-01	57.6	835
TS-002	2.773E-01	75.1	764
TS-003	6.483E-02	15.7	201
TS-004	2.800E-01	125	1,560
TS-005	2.849E-01	125	1,590
TS-006	3.707E-02	15.2	261
Totals:	**8.020E+06**	**445,000**	**9,260,000**

Table B-16
Source Term for Total Uranium by Component Category and Material Category

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A					
1	STRUCTURAL AND MISC. STEEL	METAL	0	263	1,070
1	STRUCTURAL AND MISC. STEEL	PAINT	1.09E+00	3.87	41.4
MATERIAL CATEGORY: B					
1	CONDUIT/WIRE (2" AND LESS)	DUST	2.57E-01	.704	15.1
1	CONDUIT/WIRE (2" AND LESS)	METAL	0	75.9	452
1	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.06E-01	.29	6.21
1	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	91.1	838
1	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	5.01E-02	.147	3.15
1	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	49.1	591
1	DOORS	METAL	0	48.6	2,430
1	DOORS	PAINT	7.50E-01	2.27	24.3
1	ELECTRICAL EQUIPMENT	METAL	0	74.3	11,500
1	ELECTRICAL EQUIPMENT	PAINT	6.23E-01	1.79	19.1
1	ELECTRICAL FIXTURES	METAL	0	34.	5,440
1	ELECTRICAL FIXTURES	PAINT	7.49E-01	2.12	22.7
1	ELECTRICAL TRANSFORMERS	METAL	0	19.	440
1	ELECTRICAL TRANSFORMERS	PAINT	1.22E-02	.035	.369
1	HVAC EQUIPMENT	METAL	0	74.4	16,200
1	HVAC EQUIPMENT	PAINT	6.59E-01	1.85	19.8
1	MATERIAL HANDLING EQUIPMENT	METAL	0	3.	670
1	MATERIAL HANDLING EQUIPMENT	PAINT	1.73E-02	.047	.497
1	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	5.75	230
1	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	9.69E-03	.061	.652
1	PIPING (2" AND LESS)	METAL	0	116	1,030
1	PIPING (2" AND LESS)	PAINT	6.64E-01	1.88	20.1
1	PIPING (2-1/2" TO 4")	METAL	0	118	1,640
1	PIPING (2-1/2" TO 4")	PAINT	5.15E-01	1.41	15.1
1	PIPING (OVER 4")	METAL	0	133	3,020
1	PIPING (OVER 4")	PAINT	3.83E-01	1.06	11.4
1	PROCESS EQUIPMENT	METAL	0	203	17,000
1	PROCESS EQUIPMENT	PAINT	6.24E-01	1.74	18.6
MATERIAL CATEGORY: D					
1	DUCTWORK	DUST	1.34E-01	.403	8.63
1	DUCTWORK	METAL	0	142	516
1	DUCTWORK	PAINT	2.69E+00	8.06	86.2
1	EXTERIOR METAL WALL PANELS	METAL	0	8.38	33.9
1	EXTERIOR METAL WALL PANELS	PAINT	1.70E-01	1.19	12.7
1	INTERIOR METAL WALL PANELS	METAL	0	1.6	6.49
1	INTERIOR METAL WALL PANELS	PAINT	3.63E-02	.227	2.43
1	LEAD FLASHING	LEAD	0	.15	.422
1	LOUVERS	METAL	0	1.38	69.
1	LOUVERS	PAINT	2.37E-02	.065	.69
1	METAL PANEL ROOF	METAL	0	10.5	42.6
1	METAL PANEL ROOF	PAINT	2.09E-01	1.49	16.
MATERIAL CATEGORY: E					
1	CLAY PIPING	OTHER	8.98E-04	2.67	38.2

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
1	CONCRETE	OTHER	2.06E+00	333	4,430
1	CONCRETE BEAMS	OTHER	1.59E+01	2,220	29,600
1	CONCRETE COLUMNS	OTHER	6.74E+00	959	12,800
1	CONCRETE FOUNDATION	OTHER	1.41E+01	2,280	30,400
1	CONCRETE SLABS	OTHER	1.76E+02	14,700	195,000
1	CONCRETE WALLS	OTHER	1.43E+01	1,920	25,700
1	MASONRY	OTHER	3.26E-02	25.9	940
1	MASONRY WALLS	OTHER	3.50E+00	3,090	112,000
MATERIAL CATEGORY: G					
1	CEILING DEMOLITION	OTHER	6.94E-02	74.	6,160
1	EXTERIOR TRANSITE PANELS	OTHER	1.10E-01	7.24	129
1	FLOOR TILE	OTHER	1.31E+00	117	2,430
1	INTERIOR TRANSITE PANELS	OTHER	1.24E-01	8.17	148
1	TRANSITE ROOF	OTHER	1.11E-01	7.33	130
MATERIAL CATEGORY: H					
1	DUCTWORK INSULATION	OTHER	2.46E-02	1.94	863
1	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.235	156
1	PIPING INSULATION	OTHER	3.04E-02	2.3	1,020
MATERIAL CATEGORY: I					
1	BUILDING INSULATION	OTHER	6.49E-02	58.8	26,200
1	DRYWALL	OTHER	2.79E+00	355	13,400
1	MISCELLANEOUS DEBRIS	OTHER	0	97.5	6,500
1	NON PROCESS TRAILERS	METAL	0	896	305,000
1	NON PROCESS TRAILERS	PAINT	6.57E-01	1.77	18.9
1	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.23	817
1	PROCESS TRAILERS	METAL	0	209	71,100
1	PROCESS TRAILERS	PAINT	2.49E-01	.669	7.15
1	PVC CONDUIT	OTHER	0	.287	8.84
1	ROOFING (BUILT UP)	OTHER	1.23E-01	367	10,200
1	WINDOWS	OTHER	0	63.5	3,180
1	WINDOWS	PAINT	5.92E-02	.165	1.76
1	WOOD	OTHER	7.49E-04	.66	44.
MATERIAL CATEGORY: J					
1	DUCTWORK	DUST	1.21E+00	3.63	77.6
	Totals for Component Category:		**2.49E+02**	**29,300**	**922,000**
MATERIAL CATEGORY: A					
2	STRUCTURAL AND MISC. STEEL	METAL	0	1,450	5,910
2	STRUCTURAL AND MISC. STEEL	PAINT	2.76E+00	18.	192
MATERIAL CATEGORY: B					
2	CONDUIT/WIRE (2" AND LESS)	DUST	6.62E-02	.435	9.31
2	CONDUIT/WIRE (2" AND LESS)	METAL	0	46.9	279
2	CONDUIT/WIRE (2-1/2" TO 4")	DUST	6.11E-03	.039	.828
2	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	12.1	112
2	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	6.52E-04	.004	.087

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Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
2	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	1.36	16.4
2	DOORS	METAL	0	44.9	2,250
2	DOORS	PAINT	3.24E-01	2.1	22.5
2	ELECTRICAL EQUIPMENT	METAL	0	2.32	163
2	ELECTRICAL EQUIPMENT	PAINT	3.87E-03	.025	.271
2	ELECTRICAL FIXTURES	METAL	0	8.15	1,300
2	ELECTRICAL FIXTURES	PAINT	8.00E-02	.508	5.43
2	ELECTRICAL TRANSFORMERS	METAL	0	16.	640
2	ELECTRICAL TRANSFORMERS	PAINT	1.64E-03	.011	.117
2	ELECTRICAL WIRING	METAL	0	1.44	5.02
2	HVAC EQUIPMENT	METAL	0	5.9	450
2	HVAC EQUIPMENT	PAINT	8.22E-03	.052	.551
2	MATERIAL HANDLING EQUIPMENT	METAL	0	7.32	380
2	MATERIAL HANDLING EQUIPMENT	PAINT	4.21E-03	.026	.282
2	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	99.5	3,980
2	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	1.59E-01	1.05	11.3
2	PIPING (2" AND LESS)	METAL	0	35.7	317
2	PIPING (2" AND LESS)	PAINT	8.36E-02	.559	5.98
2	PIPING (2-1/2" TO 4")	METAL	0	70.6	986
2	PIPING (2-1/2" TO 4")	PAINT	1.22E-01	.856	9.16
2	PIPING (OVER 4")	METAL	0	64.5	1,460
2	PIPING (OVER 4")	PAINT	8.65E-02	.612	6.54
2	PROCESS EQUIPMENT	METAL	0	8.85	370
2	PROCESS EQUIPMENT	PAINT	6.03E-03	.038	.404
MATERIAL CATEGORY: D					
2	DUCTWORK	DUST	1.28E-03	.008	.172
2	DUCTWORK	METAL	0	2.84	10.3
2	DUCTWORK	PAINT	2.57E-02	.161	1.72
2	EXTERIOR METAL WALL PANELS	METAL	0	63.5	257
2	EXTERIOR METAL WALL PANELS	PAINT	1.31E+00	9.	96.3
2	INTERIOR METAL WALL PANELS	METAL	0	1.34	5.41
2	INTERIOR METAL WALL PANELS	PAINT	3.03E-02	.189	2.02
2	LEAD FLASHING	LEAD	0	2.15	6.06
2	LOUVERS	METAL	0	4.85	242
2	LOUVERS	PAINT	3.38E-02	.227	2.42
2	METAL PANEL ROOF	METAL	0	90.6	367
2	METAL PANEL ROOF	PAINT	1.77E+00	12.8	137
MATERIAL CATEGORY: E					
2	CLAY PIPING	OTHER	3.19E-04	.951	13.6
2	CONCRETE	OTHER	2.76E+00	446	5,940
2	CONCRETE FOUNDATION	OTHER	2.08E+02	33,500	446,000
2	CONCRETE SLABS	OTHER	2.21E+03	13,200	176,000
2	CONCRETE WALLS	OTHER	7.51E-01	90.2	1,200
2	MASONRY WALLS	OTHER	8.07E-01	625	22,700
MATERIAL CATEGORY: G					
2	CEILING DEMOLITION	OTHER	4.88E-03	1.79	149
2	EXTERIOR TRANSITE PANELS	OTHER	1.13E+00	41.6	740
2	FIRE BRICK	OTHER	7.31E-01	26.8	383

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
2	FLOOR TILE	OTHER	1.12E-02	.41	8.54
2	INTERIOR TRANSITE PANELS	OTHER	3.06E-01	11.2	203
2	TRANSITE ROOF	OTHER	1.98E+00	72.7	1,290
MATERIAL CATEGORY: H					
2	DUCTWORK INSULATION	OTHER	4.62E-04	.039	17.2
2	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.95	1,290
2	PIPING INSULATION	OTHER	2.22E-02	1.08	482
MATERIAL CATEGORY: I					
2	BUILDING INSULATION	OTHER	4.94E-02	29.1	13,000
2	DRYWALL	OTHER	5.48E-02	4.42	168
2	FABRIC ROOF	OTHER	1.30E-01	12.3	382
2	FABRIC WALLS	OTHER	6.69E-02	5.68	176
2	MISCELLANEOUS DEBRIS	OTHER	0	42.	2,800
2	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	10.2	6,780
2	PVC CONDUIT	OTHER	0	.258	7.94
2	ROOFING (BUILT UP)	OTHER	6.01E-02	179	4,970
2	WINDOWS	OTHER	0	49.1	2,450
2	WINDOWS	PAINT	2.03E-02	.127	1.36
2	WOOD	OTHER	4.60E-03	4.05	270
MATERIAL CATEGORY: J					
2	DUCTWORK	DUST	1.16E-02	.072	1.55
	Totals for Component Category:		**2.43E+03**	**50,400**	**707,000**
MATERIAL CATEGORY: A					
3	STRUCTURAL AND MISC. STEEL	METAL	0	8,290	33,800
3	STRUCTURAL AND MISC. STEEL	PAINT	2.38E+03	115	1,230
MATERIAL CATEGORY: B					
3	CONDUIT/WIRE (2" AND LESS)	DUST	1.60E+02	6.28	134
3	CONDUIT/WIRE (2" AND LESS)	METAL	0	678	4,030
3	CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.47E+01	1.11	23.7
3	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	348	3,200
3	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	4.73E+00	.188	4.02
3	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	62.6	753
3	DOORS	METAL	0	73.7	3,680
3	DOORS	PAINT	7.94E+01	3.45	36.8
3	ELECTRICAL EQUIPMENT	METAL	0	740	63,800
3	ELECTRICAL EQUIPMENT	PAINT	1.89E+02	9.95	106
3	ELECTRICAL FIXTURES	METAL	0	87.6	14,000
3	ELECTRICAL FIXTURES	PAINT	1.47E+02	5.46	58.4
3	ELECTRICAL TRANSFORMERS	METAL	0	41.1	1,440
3	ELECTRICAL TRANSFORMERS	PAINT	1.06E+00	.033	.355
3	ELECTRICAL WIRING	METAL	0	7.91	27.6
3	HVAC EQUIPMENT	METAL	0	221	41,300
3	HVAC EQUIPMENT	PAINT	9.93E+01	4.73	50.6
3	MATERIAL HANDLING EQUIPMENT	METAL	0	523	88,700
3	MATERIAL HANDLING EQUIPMENT	PAINT	1.05E+02	6.15	65.8

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	210	8,400
3	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	4.17E+01	2.23	23.8
3	PIPING (2" AND LESS)	CRUD	7.22E+01	3.11	33.2
3	PIPING (2" AND LESS)	DUST	7.75E+00	.331	7.08
3	PIPING (2" AND LESS)	SS METAL	0	736	6,530
3	PIPING (2-1/2" TO 4")	CRUD	1.24E+02	4.93	52.8
3	PIPING (2-1/2" TO 4")	DUST	1.21E+01	.477	10.2
3	PIPING (2-1/2" TO 4")	SS METAL	0	738	10,300
3	PIPING (OVER 4")	CRUD	1.04E+02	5.34	57.1
3	PIPING (OVER 4")	DUST	2.27E+00	.12	2.57
3	PIPING (OVER 4")	SS METAL	0	496	11,200
3	PROCESS EQUIPMENT	CRUD	7.43E+02	33.4	358
3	PROCESS EQUIPMENT	DUST	4.51E+01	2.03	43.4
3	PROCESS EQUIPMENT	SS METAL	0	8,490	715,000
MATERIAL CATEGORY: C					
3	ELECTRICAL EQUIPMENT	METAL	0	82.2	7,090
3	ELECTRICAL EQUIPMENT	PAINT	2.10E+01	1.11	11.8
3	HVAC EQUIPMENT	METAL	0	24.6	4,590
3	HVAC EQUIPMENT	PAINT	1.10E+01	.526	5.62
3	MATERIAL HANDLING EQUIPMENT	METAL	0	58.1	9,860
3	MATERIAL HANDLING EQUIPMENT	PAINT	1.17E+01	.684	7.31
3	PIPING (2" AND LESS)	CRUD	1.60E+01	.69	7.38
3	PIPING (2" AND LESS)	DUST	7.75E+00	.331	7.08
3	PIPING (2" AND LESS)	SS METAL	0	95.8	850
3	PIPING (2" AND LESS)	UNH	2.52E+03	6.46	73.8
3	PIPING (2-1/2" TO 4")	CRUD	2.75E+01	1.1	11.7
3	PIPING (2-1/2" TO 4")	DUST	1.21E+01	.477	10.2
3	PIPING (2-1/2" TO 4")	SS METAL	0	101	1,420
3	PIPING (2-1/2" TO 4")	UNH	4.00E+03	10.3	117
3	PIPING (OVER 4")	CRUD	2.31E+01	1.19	12.7
3	PIPING (OVER 4")	DUST	2.27E+00	.12	2.57
3	PIPING (OVER 4")	SS METAL	0	64.2	1,450
3	PIPING (OVER 4")	UNH	4.34E+03	11.1	127
3	PROCESS EQUIPMENT	CRUD	1.65E+02	7.43	79.5
3	PROCESS EQUIPMENT	DUST	4.51E+01	2.03	43.4
3	PROCESS EQUIPMENT	SS METAL	0	943	79,500
3	PROCESS EQUIPMENT	UNH	2.72E+04	69.5	795
MATERIAL CATEGORY: D					
3	DUCTWORK	DUST	5.30E+01	2.03	43.3
3	DUCTWORK	METAL	0	715	2,590
3	DUCTWORK	PAINT	1.06E+03	40.5	433
3	EXTERIOR METAL WALL PANELS	METAL	0	35.7	145
3	EXTERIOR METAL WALL PANELS	PAINT	1.11E+02	5.06	54.1
3	INTERIOR METAL WALL PANELS	METAL	0	14.8	60.1
3	INTERIOR METAL WALL PANELS	PAINT	6.58E+01	2.1	22.5
3	LEAD FLASHING	LEAD	0	13.4	37.7
3	LOUVERS	METAL	0	12.2	611
3	LOUVERS	PAINT	9.08E+00	.571	6.11
3	METAL PANEL ROOF	METAL	0	22.4	90.8

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	METAL PANEL ROOF	PAINT	9.34E+01	3.18	34.
MATERIAL CATEGORY: E					
3	CLAY PIPING	OTHER	2.79E-03	8.32	119
3	CONCRETE	OTHER	7.29E+02	9,480	126,000
3	CONCRETE BEAMS	OTHER	3.11E+02	1,730	23,100
3	CONCRETE COLUMNS	OTHER	2.23E+02	677	9,030
3	CONCRETE FOUNDATION	OTHER	1.27E+02	20,400	272,000
3	CONCRETE SLABS	OTHER	1.99E+04	32,700	436,000
3	CONCRETE WALLS	OTHER	4.62E+02	3,480	46,400
3	MASONRY	OTHER	9.25E+01	269	9,800
3	MASONRY WALLS	OTHER	2.01E+02	1,910	69,500
MATERIAL CATEGORY: F					
3	ACID BRICK	OTHER	5.10E+03	1,030	14,700
MATERIAL CATEGORY: G					
3	CEILING DEMOLITION	OTHER	5.18E+00	58.3	4,860
3	EXTERIOR TRANSITE PANELS	OTHER	4.52E+03	747	13,300
3	FIRE BRICK	OTHER	8.70E+02	130	1,860
3	FLOOR TILE	OTHER	9.59E+01	52.2	1,090
3	INTERIOR TRANSITE PANELS	OTHER	3.30E+03	536	9,720
3	TRANSITE ROOF	OTHER	5.29E+03	798	14,200
MATERIAL CATEGORY: H					
3	DUCTWORK INSULATION	OTHER	5.12E+01	9.74	4,330
3	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	4.23	2,800
3	PIPING INSULATION	OTHER	5.93E+01	14.5	6,440
MATERIAL CATEGORY: I					
3	BUILDING INSULATION	OTHER	9.18E+01	202	89,600
3	DRYWALL	OTHER	1.00E+02	165	6,240
3	FABRIC	OTHER	4.95E+00	1.15	35.7
3	MISCELLANEOUS DEBRIS	OTHER	0	243	16,200
3	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	22.2	14,700
3	PVC CONDUIT	OTHER	0	4.8	148
3	ROOFING (BUILT UP)	OTHER	1.36E-01	404	11,200
3	WINDOWS	OTHER	0	257	12,900
3	WINDOWS	PAINT	1.48E+01	.668	7.14
3	WOOD	OTHER	5.89E-03	5.19	346
MATERIAL CATEGORY: J					
3	DUCTWORK	DUST	4.77E+02	18.2	390
3	PIPING (2" AND LESS)	CRUD	7.22E+01	3.11	33.2
3	PIPING (2" AND LESS)	DUST	6.20E+01	2.65	56.7
3	PIPING (2" AND LESS)	UNH	2.27E+04	58.1	664
3	PIPING (2-1/2" TO 4")	CRUD	1.24E+02	4.93	52.8
3	PIPING (2-1/2" TO 4")	DUST	9.64E+01	3.81	81.6
3	PIPING (2-1/2" TO 4")	UNH	3.60E+04	92.3	1,060
3	PIPING (OVER 4")	CRUD	1.04E+02	5.34	57.1
3	PIPING (OVER 4")	DUST	1.81E+01	.961	20.6
3	PIPING (OVER 4")	UNH	3.90E+04	100.	1,140

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Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
3	PROCESS EQUIPMENT	CRUD	7.43E+02	33.4	358
3	PROCESS EQUIPMENT	DUST	3.61E+02	16.2	347
3	PROCESS EQUIPMENT	UNH	2.44E+05	626	7,150
	Totals for Component Category:		**4.29E+05**	**101,000**	**2,350,000**
MATERIAL CATEGORY: A					
4	STRUCTURAL AND MISC. STEEL	METAL	0	2,070	8,430
4	STRUCTURAL AND MISC. STEEL	PAINT	2.08E+02	29.2	312
MATERIAL CATEGORY: B					
4	CONDUIT/WIRE (2" AND LESS)	DUST	7.85E+00	.858	18.3
4	CONDUIT/WIRE (2" AND LESS)	METAL	0	92.5	550
4	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.32E+00	.12	2.56
4	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	37.6	346
4	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	7.39E-01	.071	1.53
4	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	23.8	286
4	DOORS	METAL	0	36.1	1,800
4	DOORS	PAINT	1.34E+01	1.69	18.
4	ELECTRICAL EQUIPMENT	METAL	0	112	9,610
4	ELECTRICAL EQUIPMENT	PAINT	1.00E+01	1.5	16.
4	ELECTRICAL FIXTURES	METAL	0	24.6	3,930
4	ELECTRICAL FIXTURES	PAINT	1.33E+01	1.53	16.4
4	ELECTRICAL TRANSFORMERS	METAL	0	24.5	2,080
4	ELECTRICAL TRANSFORMERS	PAINT	5.46E-01	.091	.973
4	EQUIPMENT AND MISCELLANEOUS	METAL	0	3,380	135,000
4	EQUIPMENT AND MISCELLANEOUS	PAINT	2.20E+00	13.8	147
4	HVAC EQUIPMENT	METAL	0	36.6	7,060
4	HVAC EQUIPMENT	PAINT	8.31E+00	.809	8.65
4	MATERIAL HANDLING EQUIPMENT	METAL	0	99.9	12,200
4	MATERIAL HANDLING EQUIPMENT	PAINT	6.21E+00	.849	9.08
4	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	53.7	2,150
4	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	5.64E+00	.57	6.09
4	PIPING (2" AND LESS)	CRUD	3.15E+00	.423	4.52
4	PIPING (2" AND LESS)	DUST	3.46E-01	.046	.992
4	PIPING (2" AND LESS)	SS METAL	0	102	904
4	PIPING (2-1/2" TO 4")	CRUD	6.23E+00	.788	8.42
4	PIPING (2-1/2" TO 4")	DUST	6.33E-01	.081	1.72
4	PIPING (2-1/2" TO 4")	SS METAL	0	121	1,690
4	PIPING (OVER 4")	CRUD	2.64E+00	1.43	15.3
4	PIPING (OVER 4")	DUST	6.30E-02	.033	.694
4	PIPING (OVER 4")	SS METAL	0	124	2,800
4	PROCESS EQUIPMENT	CRUD	4.58E+01	5.23	56.
4	PROCESS EQUIPMENT	DUST	2.78E+00	.318	6.79
4	PROCESS EQUIPMENT	SS METAL	0	1,330	112,000
MATERIAL CATEGORY: C					
4	ELECTRICAL EQUIPMENT	METAL	0	12.4	1,070
4	ELECTRICAL EQUIPMENT	PAINT	1.11E+00	.166	1.78
4	EQUIPMENT AND MISCELLANEOUS	METAL	0	375	15,000
4	EQUIPMENT AND MISCELLANEOUS	PAINT	2.45E-01	1.53	16.4

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Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
4	HVAC EQUIPMENT	METAL	0	4.06	785
4	HVAC EQUIPMENT	PAINT	9.24E-01	.09	.961
4	MATERIAL HANDLING EQUIPMENT	METAL	0	11.1	1,360
4	MATERIAL HANDLING EQUIPMENT	PAINT	6.90E-01	.094	1.01
4	PIPING (2" AND LESS)	CRUD	7.01E-01	.094	1.
4	PIPING (2" AND LESS)	DUST	3.46E-01	.046	.992
4	PIPING (2" AND LESS)	SS METAL	0	11.3	101
4	PIPING (2" AND LESS)	UNH	3.43E+02	.879	10.
4	PIPING (2-1/2" TO 4")	CRUD	1.38E+00	.175	1.87
4	PIPING (2-1/2" TO 4")	DUST	6.33E-01	.081	1.72
4	PIPING (2-1/2" TO 4")	SS METAL	0	13.2	184
4	PIPING (2-1/2" TO 4")	UNH	6.40E+02	1.64	18.7
4	PIPING (OVER 4")	CRUD	5.86E-01	.318	3.41
4	PIPING (OVER 4")	DUST	6.30E-02	.033	.694
4	PIPING (OVER 4")	SS METAL	0	26.8	607
4	PIPING (OVER 4")	UNH	1.16E+03	2.98	34.1
4	PROCESS EQUIPMENT	CRUD	1.02E+01	1.16	12.4
4	PROCESS EQUIPMENT	DUST	2.78E+00	.318	6.79
4	PROCESS EQUIPMENT	SS METAL	0	148	12,400
4	PROCESS EQUIPMENT	UNH	4.25E+03	10.9	124
MATERIAL CATEGORY: D					
4	DUCTWORK	DUST	6.70E-01	.071	1.52
4	DUCTWORK	METAL	0	25.	90.7
4	DUCTWORK	PAINT	1.34E+01	1.42	15.2
4	EXTERIOR METAL WALL PANELS	METAL	0	37.2	151
4	EXTERIOR METAL WALL PANELS	PAINT	2.93E+01	5.27	56.4
4	INTERIOR METAL WALL PANELS	METAL	0	4.73	19.2
4	INTERIOR METAL WALL PANELS	PAINT	3.37E+00	.67	7.17
4	LEAD FLASHING	LEAD	0	1.87	5.26
4	LOUVERS	METAL	0	5.73	287
4	LOUVERS	PAINT	2.58E+00	.268	2.87
4	METAL PANEL ROOF	METAL	0	29.4	119
4	METAL PANEL ROOF	PAINT	2.29E+01	4.17	44.6
MATERIAL CATEGORY: E					
4	CLAY PIPING	OTHER	8.28E-04	2.47	35.2
4	CONCRETE	OTHER	2.22E+01	3,350	44,600
4	CONCRETE BEAMS	OTHER	3.12E+00	340	4,540
4	CONCRETE COLUMNS	OTHER	2.01E-02	4.37	58.3
4	CONCRETE FOUNDATION	OTHER	4.39E+01	7,070	94,300
4	CONCRETE SLABS	OTHER	1.39E+02	11,000	147,000
4	CONCRETE WALLS	OTHER	1.73E+01	2,810	37,500
4	MASONRY	OTHER	2.22E-02	40.5	1,470
4	MASONRY WALLS	OTHER	6.34E+01	1,520	55,200
MATERIAL CATEGORY: F					
4	ACID BRICK	OTHER	2.18E+01	21.1	301
MATERIAL CATEGORY: G					
4	CEILING DEMOLITION	OTHER	1.13E+00	13.	1,080

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Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
4	EXTERIOR TRANSITE PANELS	OTHER	1.50E+02	158	2,800
4	FIRE BRICK	OTHER	2.52E+02	224	3,200
4	FLOOR TILE	OTHER	8.96E+00	8.58	179
4	INTERIOR TRANSITE PANELS	OTHER	1.16E+02	124	2,240
4	TRANSITE ROOF	OTHER	1.80E+02	176	3,120
MATERIAL CATEGORY: H					
4	DUCTWORK INSULATION	OTHER	2.67E-01	.341	152
4	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	2.16	1,430
4	PIPING INSULATION	OTHER	1.18E+00	2.52	1,120
MATERIAL CATEGORY: I					
4	BUILDING INSULATION	OTHER	4.34E+00	59.2	26,300
4	DRYWALL	OTHER	1.37E+01	14.3	543
4	MISCELLANEOUS DEBRIS	OTHER	0	83.6	5,580
4	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	11.4	7,520
4	PVC CONDUIT	OTHER	0	2.16	66.5
4	ROOFING (BUILT UP)	OTHER	3.14E-02	93.4	2,590
4	WINDOWS	OTHER	0	48.8	2,440
4	WINDOWS	PAINT	1.47E+00	.127	1.35
4	WOOD	OTHER	1.19E+01	7.62	508
MATERIAL CATEGORY: J					
4	DUCTWORK	DUST	6.03E+00	.638	13.7
4	PIPING (2" AND LESS)	CRUD	3.15E+00	.423	4.52
4	PIPING (2" AND LESS)	DUST	2.77E+00	.371	7.94
4	PIPING (2" AND LESS)	UNH	3.09E+03	7.91	90.4
4	PIPING (2-1/2" TO 4")	CRUD	6.23E+00	.788	8.42
4	PIPING (2-1/2" TO 4")	DUST	5.06E+00	.645	13.8
4	PIPING (2-1/2" TO 4")	UNH	5.76E+03	14.7	168
4	PIPING (OVER 4")	CRUD	2.64E+00	1.43	15.3
4	PIPING (OVER 4")	DUST	5.04E-01	.26	5.55
4	PIPING (OVER 4")	UNH	1.05E+04	26.8	306
4	PROCESS EQUIPMENT	CRUD	4.58E+01	5.23	56.
4	PROCESS EQUIPMENT	DUST	2.22E+01	2.54	54.3
4	PROCESS EQUIPMENT	UNH	3.82E+04	97.9	1,120
	Totals for Component Category:		**6.55E+04**	**35,800**	**782,000**
MATERIAL CATEGORY: A					
5	STRUCTURAL AND MISC. STEEL	METAL	0	806	3,290
5	STRUCTURAL AND MISC. STEEL	PAINT	3.09E+00	11.9	127
MATERIAL CATEGORY: B					
5	CONDUIT/WIRE (2" AND LESS)	DUST	8.13E-01	1.22	26.2
5	CONDUIT/WIRE (2" AND LESS)	METAL	0	132	786
5	CONDUIT/WIRE (2-1/2" TO 4")	DUST	5.65E-02	.199	4.26
5	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	62.5	575
5	DOORS	METAL	0	.15	7.5
5	DOORS	PAINT	4.84E-03	.007	.075
5	ELECTRICAL EQUIPMENT	METAL	0	35.1	3,590

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
5	ELECTRICAL EQUIPMENT	PAINT	3.80E-01	.56	5.98
5	ELECTRICAL FIXTURES	METAL	0	7.46	1,190
5	ELECTRICAL FIXTURES	PAINT	3.08E-01	.465	4.98
5	ELECTRICAL TRANSFORMERS	METAL	0	3.5	140
5	ELECTRICAL TRANSFORMERS	PAINT	1.44E-03	.003	.027
5	HVAC EQUIPMENT	METAL	0	7.6	432
5	HVAC EQUIPMENT	PAINT	3.41E-02	.05	.529
5	MATERIAL HANDLING EQUIPMENT	METAL	0	10.2	1,060
5	MATERIAL HANDLING EQUIPMENT	PAINT	5.07E-02	.074	.786
5	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	23.5	940
5	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	1.24E-01	.249	2.66
5	PIPING (2" AND LESS)	METAL	0	75.7	672
5	PIPING (2" AND LESS)	PAINT	6.89E-01	1.24	13.3
5	PIPING (2-1/2" TO 4")	METAL	0	90.6	1,270
5	PIPING (2-1/2" TO 4")	PAINT	6.71E-01	1.11	11.9
5	PIPING (OVER 4")	METAL	0	74.5	1,690
5	PIPING (OVER 4")	PAINT	3.63E-01	.708	7.57
5	PROCESS EQUIPMENT	METAL	0	763	120,000
5	PROCESS EQUIPMENT	PAINT	6.96E+00	12.2	131
MATERIAL CATEGORY: C					
5	PIPING (2" AND LESS)	METAL	0	.074	.655
5	PIPING (OVER 4")	METAL	0	1.39	31.4
MATERIAL CATEGORY: D					
5	DUCTWORK	DUST	1.09E-03	.002	.042
5	DUCTWORK	METAL	0	.699	2.53
5	DUCTWORK	PAINT	2.19E-02	.04	.424
5	EXTERIOR METAL WALL PANELS	METAL	0	.413	1.67
5	EXTERIOR METAL WALL PANELS	PAINT	4.03E-02	.058	.625
MATERIAL CATEGORY: E					
5	CONCRETE	OTHER	6.77E+00	833	11,100
5	CONCRETE BEAMS	OTHER	1.76E-01	28.4	378
5	CONCRETE COLUMNS	OTHER	7.53E-02	12.1	162
5	CONCRETE FOUNDATION	OTHER	3.00E+01	4,830	64,500
5	CONCRETE SLABS	OTHER	1.37E+02	2,620	34,900
5	CONCRETE WALLS	OTHER	6.89E+00	1,120	14,900
5	MASONRY WALLS	OTHER	2.04E+00	10.5	383
MATERIAL CATEGORY: F					
5	ACID BRICK	OTHER	2.35E+02	365	5,220
MATERIAL CATEGORY: G					
5	FLOOR TILE	OTHER	1.85E-04	.55	11.5
5	INTERIOR TRANSITE PANELS	OTHER	3.05E+00	.989	17.9
MATERIAL CATEGORY: H					
5	DUCTWORK INSULATION	OTHER	2.94E-02	.01	4.24
5	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	1.31	864
5	PIPING INSULATION	OTHER	3.93E+00	1.62	720

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Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: I					
5	BUILDING INSULATION	OTHER	1.90E-05	.566	251
5	MISCELLANEOUS DEBRIS	OTHER	0	1.5	100.
5	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	6.85	4,530
5	ROOFING (BUILT UP)	OTHER	2.52E-04	.75	20.8
5	WINDOWS	OTHER	0	.067	3.33
5	WINDOWS	PAINT	1.19E-04	.	.002
MATERIAL CATEGORY: J					
5	DUCTWORK	DUST	9.85E-03	.018	.381
	Totals for Component Category:		**4.39E+02**	**12,000**	**274,000**
MATERIAL CATEGORY: E					
8	ASPHALT	OTHER	2.57E+03	22,400	552,000
8	CONCRETE	OTHER	1.19E+02	209	2,790
8	CONCRETE SLABS	OTHER	8.94E+03	94,100	1,250,000
MATERIAL CATEGORY: F					
8	ACID BRICK	OTHER	3.48E+00	30.6	437
	Totals for Component Category:		**1.16E+04**	**117,000**	**1,810,000**
MATERIAL CATEGORY: A					
9	STRUCTURAL AND MISC. STEEL	METAL	0	623	2,540
9	STRUCTURAL AND MISC. STEEL	PAINT	1.46E+00	9.14	97.7
MATERIAL CATEGORY: B					
9	CONDUIT/WIRE (2" AND LESS)	DUST	1.28E-02	.08	1.71
9	CONDUIT/WIRE (2" AND LESS)	METAL	0	8.64	51.4
9	CONDUIT/WIRE (2-1/2" TO 4")	DUST	4.69E-03	.029	.628
9	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	9.21	84.8
9	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	2.09E-03	.013	.279
9	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	4.35	52.4
9	DOORS	METAL	0	.967	48.3
9	DOORS	PAINT	7.22E-03	.045	.483
9	ELECTRICAL EQUIPMENT	METAL	0	46.8	6,810
9	ELECTRICAL EQUIPMENT	PAINT	1.69E-01	1.06	11.3
9	ELECTRICAL FIXTURES	METAL	0	.575	92.
9	ELECTRICAL FIXTURES	PAINT	5.73E-03	.036	.383
9	ELECTRICAL TRANSFORMERS	METAL	0	226	10,000
9	ELECTRICAL TRANSFORMERS	PAINT	3.13E-02	.196	2.1
9	HVAC EQUIPMENT	METAL	0	2.02	691
9	HVAC EQUIPMENT	PAINT	1.26E-02	.079	.846
9	MATERIAL HANDLING EQUIPMENT	METAL	0	1.9	196
9	MATERIAL HANDLING EQUIPMENT	PAINT	2.17E-03	.014	.145
9	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	3.25	130
9	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	5.50E-03	.034	.368
9	PIPING (2" AND LESS)	METAL	0	4.94	43.9
9	PIPING (2" AND LESS)	PAINT	1.30E-02	.081	.868

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
9	PIPING (2-1/2" TO 4")	METAL	0	7.21	101
9	PIPING (2-1/2" TO 4")	PAINT	1.41E-02	.088	.943
9	PIPING (OVER 4")	METAL	0	18.7	424
9	PIPING (OVER 4")	PAINT	2.84E-02	.178	1.9
9	PROCESS EQUIPMENT	METAL	0	327	192,000
9	PROCESS EQUIPMENT	PAINT	3.13E+00	19.6	210
MATERIAL CATEGORY: D					
9	DUCTWORK	DUST	1.84E-03	.012	.247
9	DUCTWORK	METAL	0	4.07	14.8
9	DUCTWORK	PAINT	3.69E-02	.231	2.47
9	EXTERIOR METAL WALL PANELS	METAL	0	.583	2.36
9	EXTERIOR METAL WALL PANELS	PAINT	1.32E-02	.083	.883
9	LOUVERS	METAL	0	5.37	268
9	LOUVERS	PAINT	4.01E-02	.251	2.68
9	METAL PANEL ROOF	METAL	0	.93	3.76
9	METAL PANEL ROOF	PAINT	2.10E-02	.132	1.41
MATERIAL CATEGORY: E					
9	CLAY PIPING	OTHER	3.99E-05	.119	1.7
9	CONCRETE	OTHER	2.62E+00	245	3,270
9	CONCRETE COLUMNS	OTHER	1.74E+01	26.3	351
9	CONCRETE FOUNDATION	OTHER	4.67E+00	753	10,000
9	CONCRETE SLABS	OTHER	5.95E+01	486	6,480
9	CONCRETE WALLS	OTHER	2.57E+00	381	5,070
MATERIAL CATEGORY: G					
9	EXTERIOR TRANSITE PANELS	OTHER	9.75E-03	29.	516
9	FIRE BRICK	OTHER	3.51E-03	10.5	149
9	TRANSITE ROOF	OTHER	2.08E-03	6.19	110
MATERIAL CATEGORY: H					
9	DUCTWORK INSULATION	OTHER	1.87E-05	.056	24.7
9	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.427	282
9	PIPING INSULATION	OTHER	6.30E-05	.188	83.4
MATERIAL CATEGORY: I					
9	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	2.24	1,480
9	PVC CONDUIT	OTHER	0	1.47	45.2
9	WINDOWS	OTHER	0	.367	18.3
9	WINDOWS	PAINT	1.52E-04	.001	.01
9	WOOD	OTHER	5.61E-02	77.3	5,150
MATERIAL CATEGORY: J					
9	DUCTWORK	DUST	1.66E-02	.104	2.22
	Totals for Component Category:		**9.19E+01**	**3,350**	**247,000**
MATERIAL CATEGORY: A					
10	STRUCTURAL AND MISC. STEEL	METAL	0	1,530	6,260
10	STRUCTURAL AND MISC. STEEL	PAINT	3.14E-05	.	.002

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: B					
10	CONDUIT/WIRE (2" AND LESS)	DUST	3.44E-02	.215	4.6
10	CONDUIT/WIRE (2" AND LESS)	METAL	0	23.2	138
10	CONDUIT/WIRE (2-1/2" TO 4")	DUST	1.54E-02	.096	2.06
10	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	30.2	278
10	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	1.11E-02	.069	1.48
10	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	23.1	278
10	ELECTRICAL EQUIPMENT	METAL	0	7.91	1,320
10	ELECTRICAL EQUIPMENT	PAINT	3.28E-02	.205	2.2
10	ELECTRICAL FIXTURES	METAL	0	.113	18.
10	ELECTRICAL FIXTURES	PAINT	1.12E-03	.007	.075
10	ELECTRICAL WIRING	METAL	0	49.7	173
10	PIPING (2" AND LESS)	METAL	0	367	3,260
10	PIPING (2" AND LESS)	PAINT	8.22E-01	5.15	55.
10	PIPING (2-1/2" TO 4")	METAL	0	386	5,400
10	PIPING (2-1/2" TO 4")	PAINT	4.15E-01	2.6	27.8
10	PIPING (OVER 4")	METAL	0	2,040	46,200
10	PIPING (OVER 4")	PAINT	5.72E-01	3.58	38.3
10	PROCESS EQUIPMENT	METAL	0	.338	102
10	PROCESS EQUIPMENT	PAINT	1.66E-03	.01	.111
MATERIAL CATEGORY: C					
10	PIPING (2" AND LESS)	METAL	0	5.91	52.4
10	PIPING (2" AND LESS)	PAINT	7.61E-03	.048	.51
10	PIPING (2-1/2" TO 4")	METAL	0	82.4	1,150
10	PIPING (2-1/2" TO 4")	PAINT	4.01E-02	.251	2.69
10	PIPING (OVER 4")	METAL	0	528	12,000
MATERIAL CATEGORY: E					
10	CLAY PIPING	OTHER	1.81E-01	539	7,700
10	CONCRETE	OTHER	1.25E+02	20,200	269,000
10	CONCRETE FOUNDATION	OTHER	2.55E-01	41.1	548
10	CONCRETE SLABS	OTHER	3.82E+00	127	1,700
10	CONCRETE WALLS	OTHER	4.27E-01	65.5	873
MATERIAL CATEGORY: G					
10	FEEDER CABLE	METAL	0	321	1,120
MATERIAL CATEGORY: H					
10	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.056	37.2
10	PIPING INSULATION	OTHER	7.77E-03	23.1	10,300
MATERIAL CATEGORY: I					
10	MISCELLANEOUS DEBRIS	OTHER	0	.173	11.5
10	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.295	195
10	PVC CONDUIT	OTHER	0	4.28	132
10	PVC PIPING	OTHER	0	1.21	283
10	WOOD	OTHER	4.18E-01	369	24,600
	Totals for Component Category:		**1.32E+02**	**26,800**	**393,000**

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
MATERIAL CATEGORY: A					
11	STRUCTURAL AND MISC. STEEL	METAL	0	11.5	46.9
11	STRUCTURAL AND MISC. STEEL	PAINT	1.79E-02	.112	1.2
MATERIAL CATEGORY: B					
11	CONDUIT/WIRE (2" AND LESS)	DUST	2.52E-03	.016	.337
11	CONDUIT/WIRE (2" AND LESS)	METAL	0	1.7	10.1
11	CONDUIT/WIRE (2-1/2" TO 4")	DUST	2.45E-04	.002	.033
11	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	.48	4.42
11	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	2.61E-05	.	.003
11	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	0	.054	.655
11	ELECTRICAL EQUIPMENT	METAL	0	1.72	286
11	ELECTRICAL EQUIPMENT	PAINT	7.13E-03	.045	.477
11	ELECTRICAL FIXTURES	METAL	0	.437	70.
11	ELECTRICAL FIXTURES	PAINT	4.36E-03	.027	.292
11	ELECTRICAL TRANSFORMERS	METAL	0	3.52	128
11	ELECTRICAL TRANSFORMERS	PAINT	5.54E-04	.003	.037
11	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	19.	760
11	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	3.22E-02	.201	2.15
11	PIPING (2" AND LESS)	METAL	0	.266	2.36
11	PIPING (2" AND LESS)	PAINT	6.98E-04	.004	.047
11	PIPING (OVER 4")	METAL	0	6.49	147
11	PIPING (OVER 4")	PAINT	9.86E-03	.062	.66
11	PROCESS EQUIPMENT	METAL	0	.515	42.
11	PROCESS EQUIPMENT	PAINT	6.85E-04	.004	.046
MATERIAL CATEGORY: E					
11	CONCRETE	OTHER	1.20E-01	19.3	258
11	CONCRETE FOUNDATION	OTHER	1.48E+00	238	3,170
11	CONCRETE SLABS	OTHER	2.56E+00	442	5,900
11	CONCRETE WALLS	OTHER	3.29E+00	533	7,110
MATERIAL CATEGORY: H					
11	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.013	8.35
11	PIPING INSULATION	OTHER	1.22E-05	.036	16.1
MATERIAL CATEGORY: I					
11	BASIN LINERS	OTHER	0	69.1	2,140
11	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	.066	43.8
	Totals for Component Category:		**7.53E+00**	**1,350**	**20,100**
MATERIAL CATEGORY: H					
12	COPPER PILE	OTHER	0	1,370	47,800
MATERIAL CATEGORY: J					
12	OTHER WASTE	NON-RCRA	4.08E+05	3,500	268,000
12	OTHER WASTE	RCRA	7.52E+05	2,720	49,700
12	OTHER WASTE	UNCHAR	1.30E+05	3,120	224,000
12	PRODUCT WASTE	NON-RCRA	3.70E+06	5,180	85,400
12	PRODUCT WASTE	RCRA	5.34E+04	100.	4,330

001673

Table B-16 (Continued)

Component Category	Material	Coating/Layer Type	Source Term (kg)	Weight (tons)	Unbulked Volume (cu. ft)
12	PRODUCT WASTE	UNCHAR	2.46E+06	3,100	16,800
12	SOIL PILE	OTHER	0	47,300	985,000
12	THORIUM WASTE	NON-RCRA	0	1,670	63,000
12	THORIUM WASTE	RCRA	0	6.24	457
12	THORIUM WASTE	UNCHAR	0	396	14,100
	Totals for Component Category:		**7.50E+06**	**68,500**	**1,760,000**
	Totals:		**8.013E+06**	**445,000**	**9,260,000**

TABLE B-17

SUMMARY OF SOURCE TERM FOR WASTE INVENTORY MATERIALS AND SOIL PILES

MATERIAL	ANALYTE				
	Total Thorium	Total Uranium	Uranium-235/236	Uranium-238	Technetium-99
Thorium Waste					
RCRA	0.57				
Non-RCRA	776,585				
Uncharacterized	105,635				
Product					
RCRA		53,427	532	52,865	
Non-RCRA		3,700,204	18,421	3,680,936	
Uncharacterized		2,463,861	13,015	2,450,231	
Other					
RCRA		751,586	6,764	744,445	
Non-RCRA		408,199	1,423	406,681	
Uncharacterized		129,740	559	129,157	
Soil Piles		0			
	0	0	5.85E-11	2.25E-10	1.25E-06

Table B-18
Sensitivity Analysis - Minimum Source Terms

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237	Dieldrin	Lead	Nitrobenzene	Strontium-90	alpha-Chlordane	gamma-Chlordane
Volume of Affect Material (cu. ft)	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5
Percent of Total OU3 Volume	100	100	100	100	100	100	100	100	100	100	100
Weight of Material Affected (tons)	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8
Percent of Total OU3 Weight	100	100	100	100	100	100	100	100	100	100	100
Src Term w/ Normal Background	1.27E-01	3.34E+06	2.47E+06	3.51E+02	6.95E-02	1.64E-02	1.01E+05	1.55E+02	2.92E-06	7.89E-02	8.41E-02
Decrease in Source Term	1.20E-01	6.41E+04	2.65E+03	3.51E+02	2.57E-02	1.64E-02	1.03E+04	1.55E+02	2.92E-06	7.89E-02	8.41E-02
Src Term w/ Min Background	7.00E-03	3.27E+06	2.47E+06	0.00E+00	4.37E-02	0.00E+00	9.11E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Percent Decrease / (-Increase)	0.055	0.98	0.099	0	0.62	0	0.89	0	0	0	0

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Table B-19
Sensitivity Analysis - Maximum Source Terms

	Technetium-99	Elemental Uranium	Chromium	Tetrachloroethene	Neptunium-237	Dieldrin	Lead	Nitrobenzene	Strontium-90	alpha-Chlordane	gamma-Chlordane
Volume of Affect Material (cu. ft)	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5	7461121.5
Percent of Total OU3 Volume	100	100	100	100	100	100	100	100	100	100	100
Weight of Material Affected (tons)	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8	385155.8
Percent of Total OU3 Weight	100	100	100	100	100	100	100	100	100	100	100
Src Term w/ Normal Background	1.27E-01	3.34E+06	2.47E+06	3.51E+02	6.95E-02	1.64E-02	1.01E+05	1.55E+02	2.92E-06	7.89E-02	8.41E-02
Decrease in Source Term	-1.25E+02	-1.72E+07	-1.75E+05	-2.57E+03	-6.78E+00	-1.80E+00	-1.00E+06	-1.24E+03	-1.14E-04	-1.86E+01	-1.99E+01
Src Term w/ Max Background	1.25E+02	2.05E+07	2.64E+06	2.92E+03	6.85E+00	1.82E+00	1.10E+06	1.40E+03	1.17E-04	1.87E+01	2.00E+01
Percent Decrease / (-Increase)	983	6.15	1.07	8.33	98	110	10.8	9.03	40	236	237

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001577

TABLE B-20

COMPARISON OF MINIMUM/MAXIMUM SOURCE TERM ESTIMATES

Constituent of Concern	Minimum Source Term (kg)	Minimum[1] ST/ST	Source Term (kg)	Maximum[2] ST/ST	Maximum Source Term (kg)
Inorganics					
Chromium	2.47E+06	0.9989	2.47E+06	1.0709	2.64E+06
Lead	9.11E+04	0.8980	1.01E+05	10.8777	1.10E+06
Mercury	0.00E+00	0.0000	2.83E+01	120.5177	3.41E+03
Volatiles					
Tetrachloroethene	0.00E+00	0.0000	3.51E+02	8.3362	2.92E+03
Semivolatiles					
Nitrobenzene	0.00E+00	0.0000	1.55E+02	9.0318	1.40E+03
Pesticides/PCBs					
alpha-Chlordane	0.00E+00	0.0000	7.89E-02	236.8548	1.87E+01
Diedrin	0.00E+00	0.0000	1.64E-02	110.8549	1.82E+00
gamma-Chlordane	0.00E+00	0.0000	8.41E-02	237.8142	2.00E+01
Radionuclides					
Neptunium-237	4.37E-02	0.6294	6.95E-02	98.6799	6.85E+00
Strontium-90	0.00E+00	0.0000	2.92E-06	39.9011	1.17E-04
Technetium-99	7.00E-03	0.0550	1.27E-01	983.9258	1.25E+02
Elemental Uranium	3.27E+06	0.9808	3.34E+06	6.1505	2.05E+07

1- (Minimum ST/ST) is the ratio of the Minimum Source Term divided by the Source Term

2- (Maximum ST/ST) is the ratio of the Maximum Source Term divided by the Source Term

Table B-21
Segregation Category Summary

Segregation Category	FS Category	Unbulked Volume (cu. ft)	Weight (tons)
BELOW BASELINE			
	E	4,160,000	291,000
	I	502,000	3,540
Segregation Category Totals:		4,660,000	294,000
LOW LEVEL			
	A	63,400	15,200
	B	1,730,000	25,300
	C	151,000	2,720
	D	7,100	1,340
	E	541,000	29,800
	F	15,400	1,080
	G	71,400	3,760
	H	80,300	1,440
	I	201,000	1,010
	J	1,670,000	65,300
Segregation Category Totals:		4,530,000	147,000
MIXED			
	D	49.4	17.5
	F	5,280	370
	J	56,000	2,920
Segregation Category Totals:		61,400 [a]	3,310 [b]
PCB WASTE			
	B	14,900	334
Segregation Category Totals:		14,900	334
Totals:		**9,270,000**	**445,000**

[a] Includes 10 cubic feet of inventory considered hazardous.

[b] Includes 0.47 tons of inventory conisdered hazardous.

Table B-22
Segregation Category by Material Description

Segregation Category	FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
BELOW BASELINE				
	E	ASPHALT	261,000	10,600
	E	CLAY PIPING	7,910	554
	E	CONCRETE	462,000	34,700
	E	CONCRETE BEAMS	51,400	3,850
	E	CONCRETE COLUMNS	18,400	1,380
	E	CONCRETE FOUNDATION	921,000	69,100
	E	CONCRETE SLABS	2,050,000	154,000
	E	CONCRETE WALLS	131,000	9,800
	E	MASONRY	11,400	315
	E	MASONRY WALLS	245,000	6,740
	I	BUILDING INSULATION	16,400	36.8
	I	DRYWALL	2,220	58.7
	I	FABRIC	11.1	.356
	I	FABRIC ROOF	238	7.67
	I	FABRIC WALLS	101	3.27
	I	MISCELLANEOUS DEBRIS	31,200	467
	I	NON PROCESS TRAILERS	305,000	896
	I	PROCESS TRAILERS	71,100	209
	I	PVC CONDUIT	408	13.3
	I	PVC PIPING	283	1.22
	I	ROOFING (BUILT UP)	29,000	1,040
	I	WINDOWS	21,000	419
	I	WOOD	25,400	381
Segregation Category Totals:			4,660,000	294,000
LOW LEVEL				
	A	STRUCTURAL AND MISC. STEEL	63,400	15,200
	B	CONDUIT/WIRE (2" AND LESS)	6,510	1,070
	B	CONDUIT/WIRE (2-1/2" TO 4")	5,480	593
	B	CONDUIT/WIRE/CABLE TRAY (OV	1,990	165
	B	DOORS	10,300	214
	B	ELECTRICAL EQUIPMENT	97,300	1,040
	B	ELECTRICAL FIXTURES	26,200	173
	B	ELECTRICAL WIRING	206	59.
	B	EQUIPMENT AND MISCELLANEO	135,000	3,390
	B	HVAC EQUIPMENT	66,200	355
	B	MATERIAL HANDLING EQUIPMEN	103,000	653
	B	MISCELLANEOUS ELECTRICAL IT	16,600	419
	B	PIPING (2" AND LESS)	12,900	1,450
	B	PIPING (2-1/2" TO 4")	21,500	1,540
	B	PIPING (OVER 4")	67,100	2,970
	B	PROCESS EQUIPMENT	1,160,000	11,200
	C	ELECTRICAL EQUIPMENT	8,170	95.9
	C	EQUIPMENT AND MISCELLANEO	15,000	377
	C	HVAC EQUIPMENT	5,390	29.2
	C	MATERIAL HANDLING EQUIPMEN	11,200	70.
	C	PIPING (2" AND LESS)	1,100	122
	C	PIPING (2-1/2" TO 4")	2,910	211
	C	PIPING (OVER 4")	14,200	636

Table B-22 (Continued)

Segregation Category	FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
	C	PROCESS EQUIPMENT	93,000	1,180
	D	DUCTWORK	3,810	943
	D	EXTERIOR METAL WALL PANELS	812	167
	D	INTERIOR METAL WALL PANELS	125	25.7
	D	LOUVERS	1,490	30.9
	D	METAL PANEL ROOF	856	176
	E	ASPHALT	291,000	11,800
	E	CONCRETE	5,730	429
	E	CONCRETE BEAMS	6,220	467
	E	CONCRETE COLUMNS	4,000	300
	E	CONCRETE SLABS	210,000	15,800
	E	CONCRETE WALLS	8,060	605
	E	MASONRY	763	21.
	E	MASONRY WALLS	14,800	407
	F	ACID BRICK	15,400	1,080
	G	CEILING DEMOLITION	12,300	147
	G	EXTERIOR TRANSITE PANELS	17,500	982
	G	FEEDER CABLE	1,120	321
	G	FIRE BRICK	5,590	391
	G	FLOOR TILE	3,720	179
	G	INTERIOR TRANSITE PANELS	12,300	680
	G	TRANSITE ROOF	18,900	1,060
	H	COPPER PILE	47,800	1,370
	H	DUCTWORK INSULATION	5,390	12.1
	H	PERSONAL PROTECTIVE EQUIPM	6,860	10.4
	H	PIPING INSULATION	20,200	45.4
	I	BASIN LINERS	2,140	69.1
	I	BUILDING INSULATION	139,000	313
	I	DRYWALL	18,200	480
	I	FABRIC	24.7	.796
	I	FABRIC ROOF	145	4.67
	I	FABRIC WALLS	74.9	2.42
	I	NON PROCESS TRAILERS	18.9	1.77
	I	PERSONAL PROTECTIVE EQUIPM	36,000	54.5
	I	PROCESS TRAILERS	7.15	.669
	I	WINDOWS	11.6	1.09
	I	WOOD	5,490	82.3
	J	DUCTWORK	12.9	.604
	J	OTHER WASTE	492,000	6,610
	J	PIPING (2" AND LESS)	763	66.5
	J	PIPING (2-1/2" TO 4")	1,230	108
	J	PIPING (OVER 4")	1,470	128
	J	PROCESS EQUIPMENT	8,320	727
	J	PRODUCT WASTE	102,000	8,280
	J	SOIL PILE	985,000	47,300
	J	THORIUM WASTE	77,100	2,070
Segregation Category Totals:			4,530,000	147,000
MIXED				
	D	LEAD FLASHING	49.4	17.5

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Table B-22 (Continued)

Segregation Category	FS Category	Material Description	Unbulked Volume (cu. ft)	Weight (tons)
	F	ACID BRICK	5,280	370
	J	DUCTWORK	462	21.6
	J	OTHER WASTE	49,700	2,720
	J	PIPING (2" AND LESS)	94.5	6.05
	J	PIPING (2-1/2" TO 4")	142	9.25
	J	PIPING (OVER 4")	77.2	6.27
	J	PROCESS EQUIPMENT	767	54.1
	J	PRODUCT WASTE	4,330	100
	J	THORIUM WASTE	457	6.24
Segregation Category Totals:			61,400 [a]	3,310 [b]
PCB WASTE				
	B	ELECTRICAL TRANSFORMERS	14,900	334
Segregation Category Totals:			14,900	334
		Totals:	*9,260,000*	*445,000*

[a] Includes 10 cubic feet of inventory considered hazardous.

[b] Includes 0.47 tons of inventory conisdered hazardous.

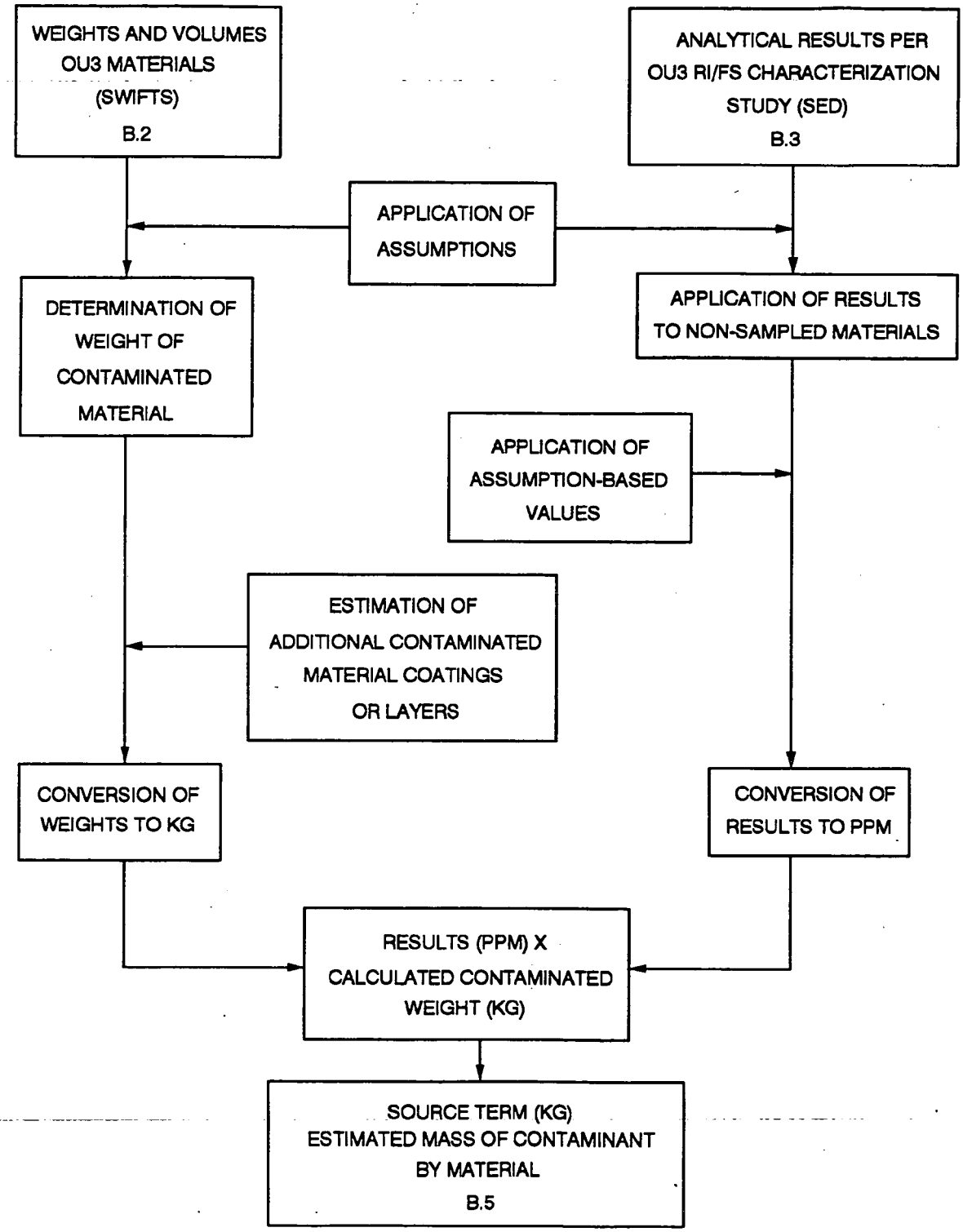

FIGURE B-1
SOURCE TERM DEVELOPEMENT

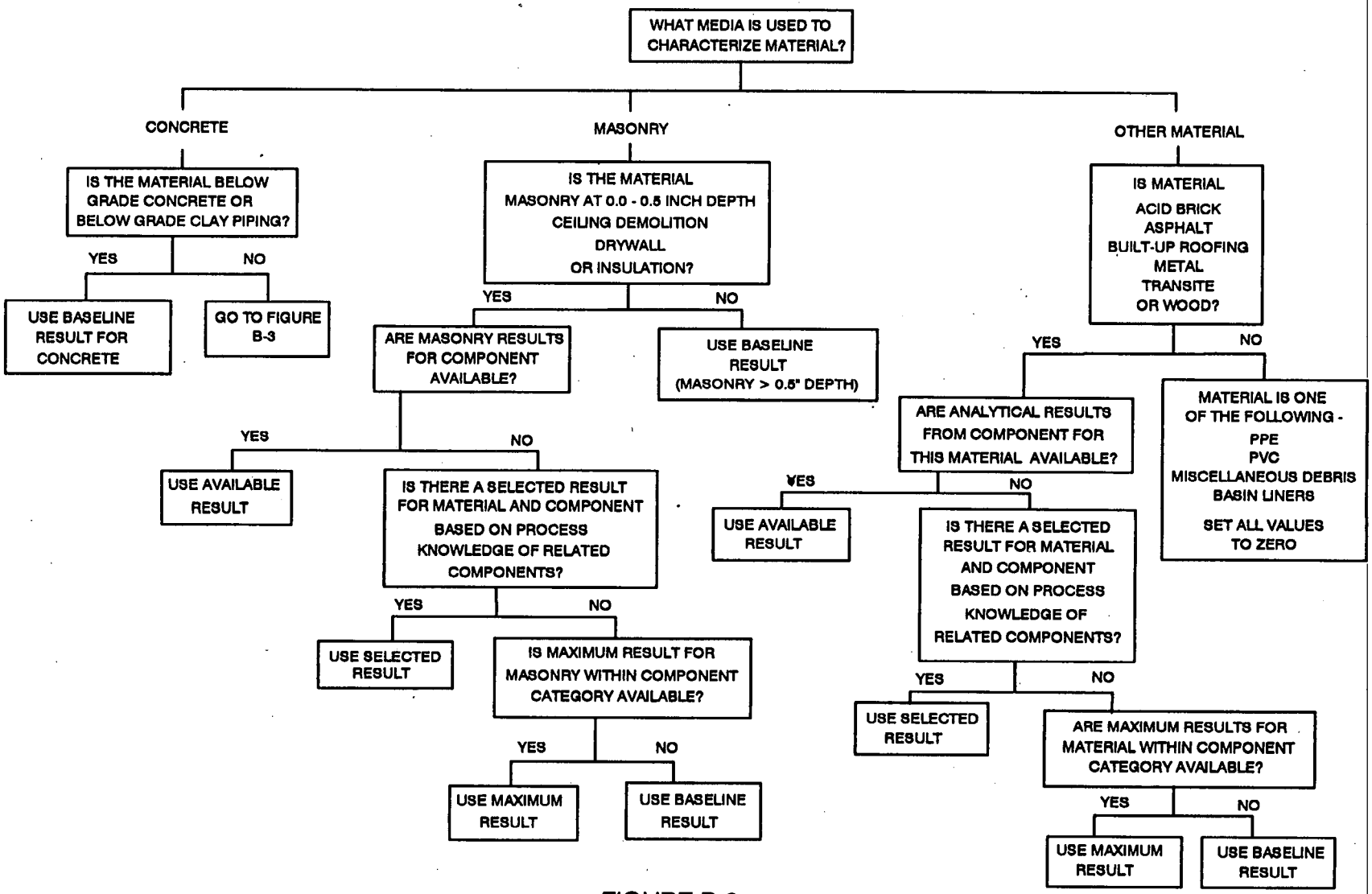

FIGURE B-2
LOGIC DIAGRAM for MATERIALS and RESULTS LINKAGE

001684

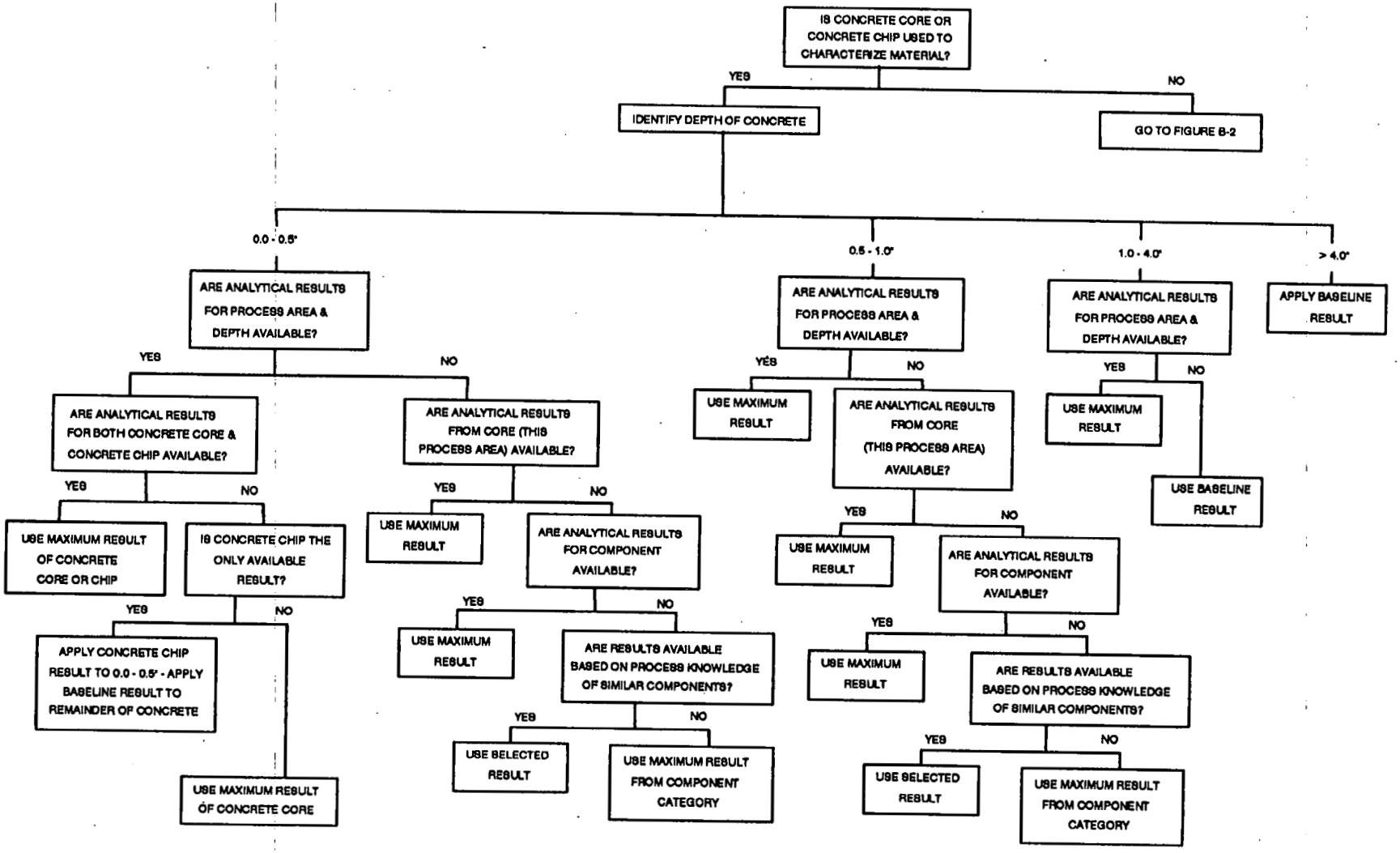

FIGURE B-3
APPLICATION of RESULTS to CONCRETE MATERIALS

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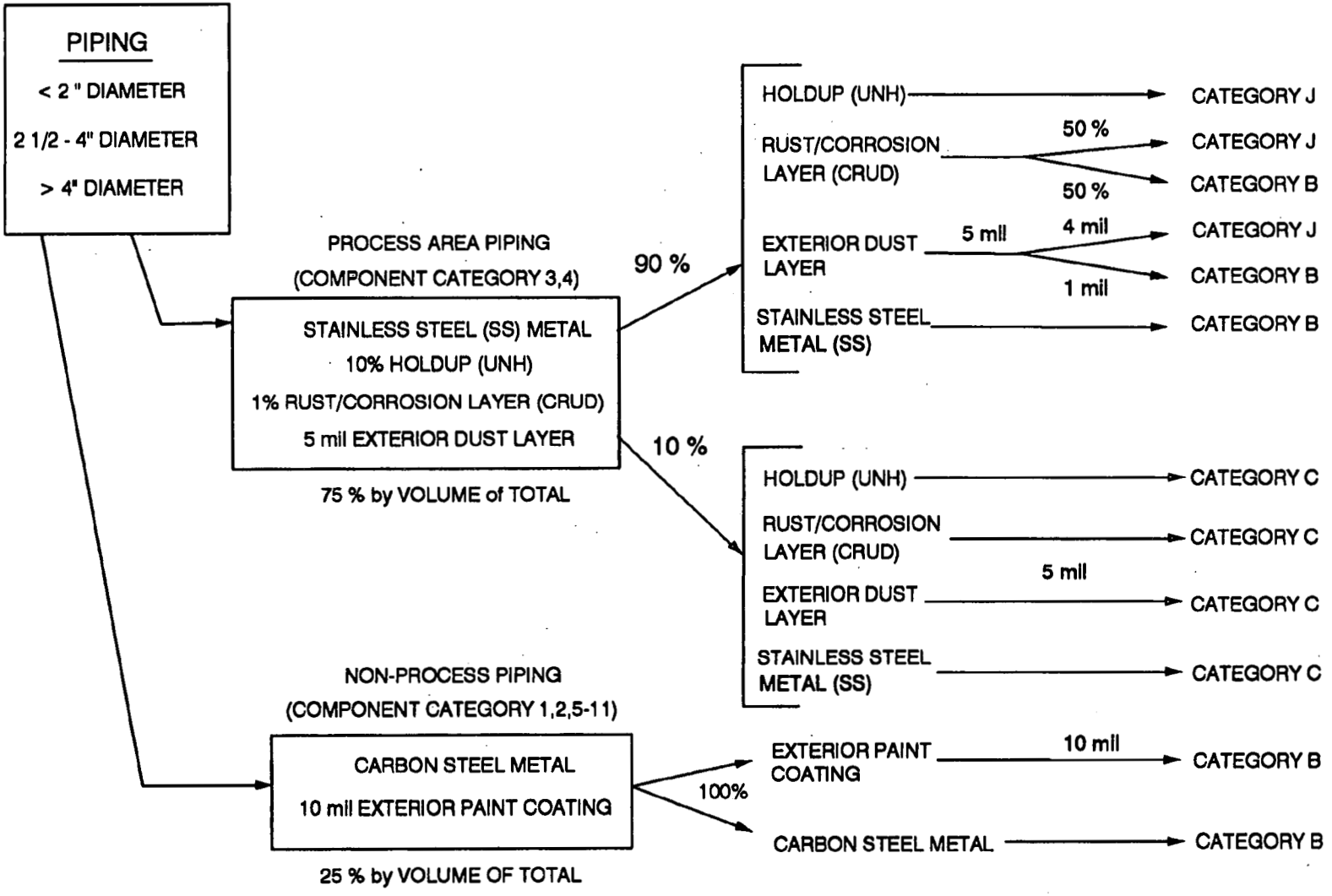

FIGURE B-4

ASSUMPTIONS and DISPOSITION of PIPING & RELATED MATERIALS

001686

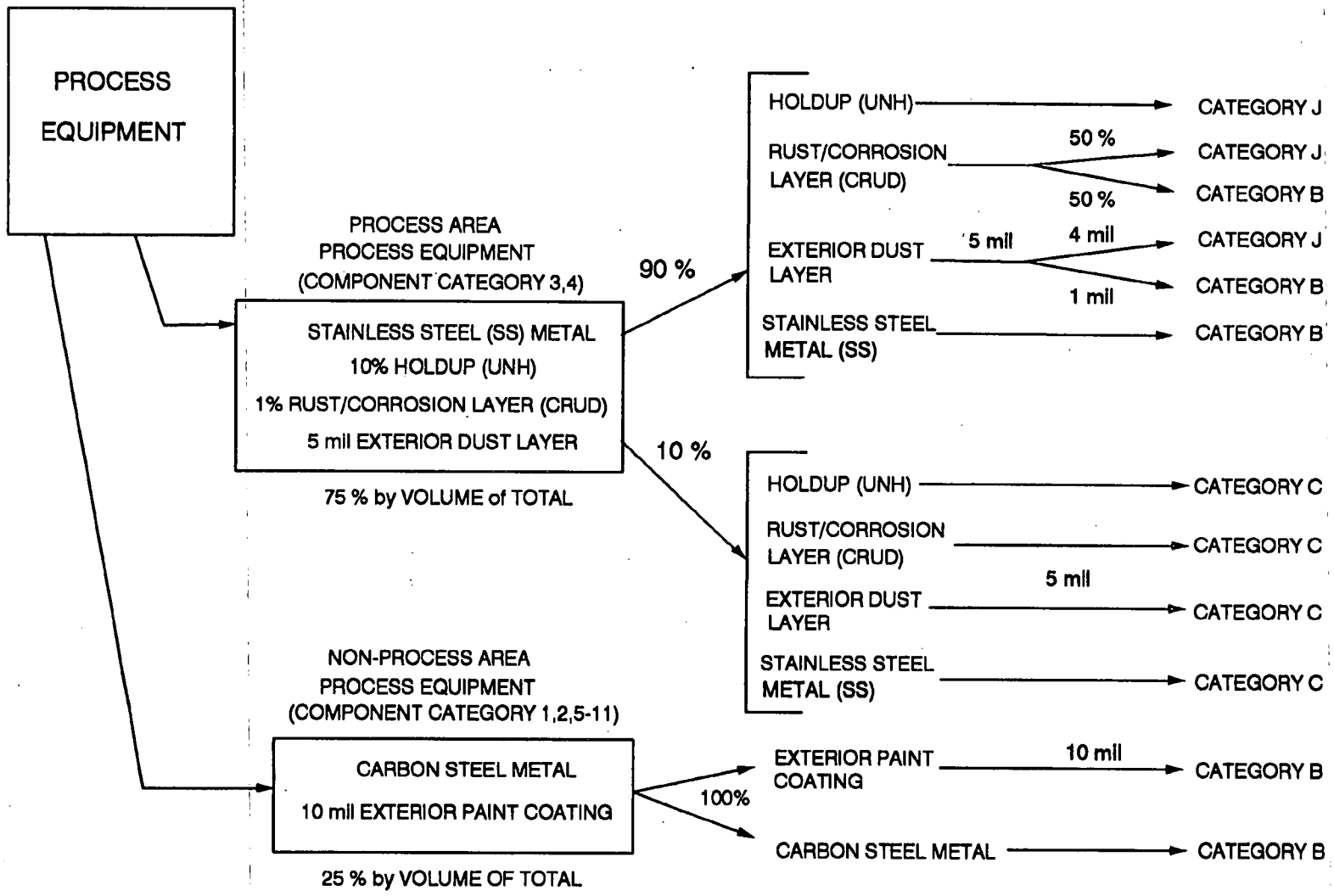

FIGURE B-5

ASSUMPTIONS and DISPOSITION of PROCESS EQUIPMENT & RELATED MATERIALS

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001687

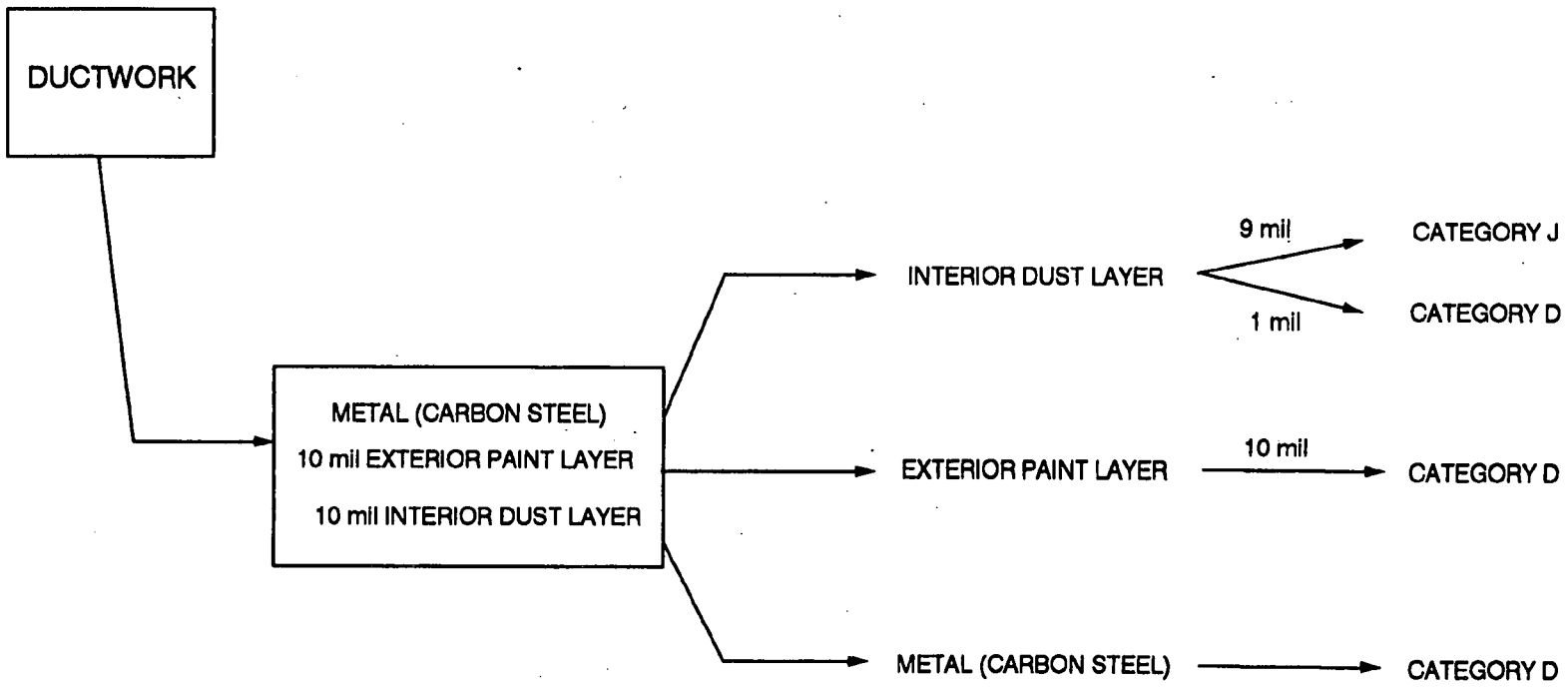

FIGURE B-6

ASSUMPTIONS and DISPOSITION of DUCTWORK & RELATED MATERIALS

001658

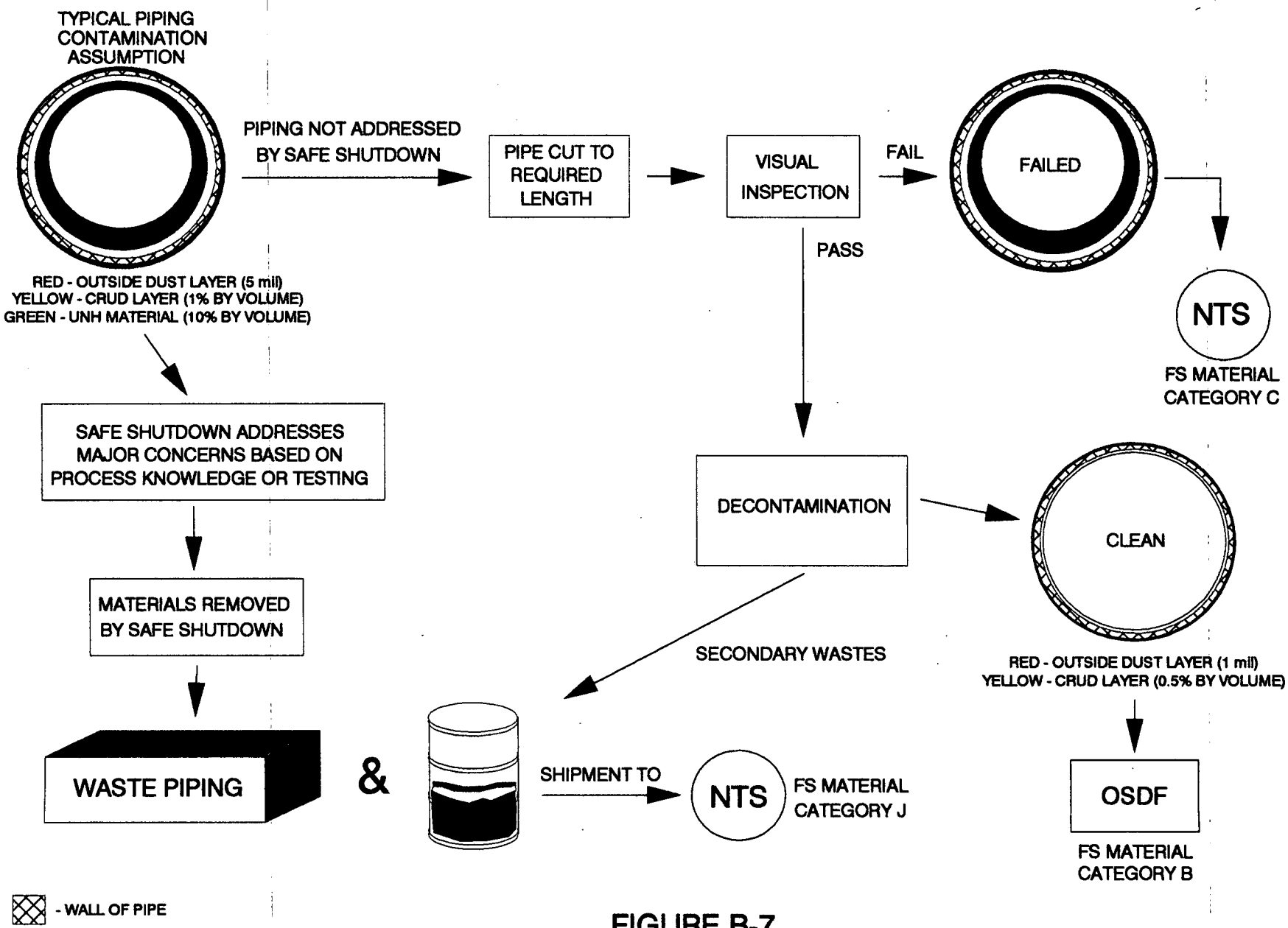

FIGURE B-7
MATERIAL SEGREGATION APPROACH for PIPING and RELATED MATERIALS

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B.1

ATTACHMENT B.I

SUMMARY OF SOURCE TERM BY COC, COMPONENT CATEGORY, AND MATERIAL DESCRIPTION

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ATTACHMENT B.I

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B.I Summary of Source Term by COC, Component Category, and Material Description B.I-1

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001693

B.I SUMMARY OF SOURCE TERM BY COC, COMPONENT CATEGORY, AND MATERIAL DESCRIPTION

B.I.1 INTRODUCTION

The following attachment provides the source term for each OU3 COC, by material description and component category. As discussed in detail in Appendix A, OU3 is categorized into 11 component categories, generally based on similarity of function. These categories are defined as follows:

1. Administrative/Support Buildings - Category 1 includes all administrative and support buildings.

2. Warehouse/Storage Buildings - Category 2 consists of all warehouse and storage buildings.

3. Process Buildings - Category 3 includes all buildings that housed major processing activities.

4. Process Support Buildings - Category 4 includes all buildings that provided or provide support for plant operations.

5. Containers/Containerized Material, Aboveground (includes all drums) - Category 5 includes: all aboveground containers (whether empty or not) and containerized material; all waste and product inventories, including hold-up material; and all uranium and thorium inventories. Category 5 does not include tanking/piping/distribution systems or bulk stored materials.

6. Containers/Containerized Material, Belowground - Same as Category 5, except components are belowground.

7. Bulk Material (includes waste piles) - Category 7 includes all existing scrap metal piles, copper piles, soil piles, and similar items within OU3 scope. It also is intended that this category will include any newly generated soil piles, rubble piles, and the like that result from ongoing activities both in and out of the scope of OU3.

8. Storage Pads/Parking Lot/Roads/Railroads - Category 8 consists of waste storage or handling pads, railroads, roads, the parking lot, and sidewalks.

9. Piping/Utilities/Equipment, Aboveground - Category 9 includes all aboveground piping and utility systems, including outside tank and distribution systems.

10. Piping/Utilities/Equipment, Belowground - Category 10 includes all underground piping and utility systems.

11. Ponds and Basins - Category 11 includes surface impoundments, ponds, and basins. The largest of these are biodenitrification (BDN) surge lagoon and the storm-water retention basins.

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OC1035

Attachment B. I
Summary of Source Term by COC, Component Category and Material Description

Antimony

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.30E+00	2.18E-01	3.78E+00	3.17E-01	0	0	0	1.16E+01
ASPHALT	0	0	0	0	0	2.32E+02	0	0	0	2.32E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	6.09E-02	3.02E-02	1.40E-01	6.13E-02	5.85E-04	0	0	0	0	2.93E-01
CEILING DEMOLITION	7.66E-02	1.85E-03	5.75E-02	1.35E-02	0	0	0	0	0	1.49E-01
CLAY PIPING	2.77E-02	9.84E-03	8.61E-02	2.55E-02	0	0	1.23E-03	5.58E+00	0	5.73E+00
CONCRETE	3.02E-01	4.05E-01	8.61E+00	3.56E+00	7.57E-01	1.90E-01	2.22E-01	1.83E+01	1.76E-02	3.24E+01
CONCRETE BEAMS	2.01E+00	0	1.59E+00	3.18E-01	2.57E-02	0	0	0	0	3.95E+00
CONCRETE COLUMNS	8.71E-01	0	6.25E-01	3.97E-03	1.10E-02	0	2.66E-02	0	0	1.54E+00
CONCRETE FOUNDATION	2.07E+00	3.04E+01	1.85E+01	6.42E+00	4.39E+00	0	6.83E-01	3.73E-02	2.16E-01	6.27E+01
CONCRETE SLABS	1.33E+01	1.35E+01	4.47E+01	1.09E+01	3.21E+00	8.54E+01	4.50E-01	1.17E-01	4.02E-01	1.72E+02
CONCRETE WALLS	1.75E+00	8.19E-02	4.48E+00	2.55E+00	1.24E+00	0	3.49E-01	5.97E-02	4.84E-01	1.10E+01
CONDUIT/WIRE (2" AND LESS)	0	3.56E-02	1.47E+00	4.82E-02	3.98E-02	0	3.90E-03	5.42E-03	0	1.60E+00
CONDUIT/WIRE (2-1/2" TO 4")	0	3.22E-03	2.66E-01	1.39E-02	1.39E-03	0	1.70E-03	2.43E-03	0	2.88E-01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	5.46E-02	1.53E-03	0	0	8.25E-04	1.75E-03	0	5.88E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	3.74E-01	3.67E-01	7.39E-01	2.55E-01	2.99E-04	0	1.51E-03	0	0	1.74E+00
DRYWALL	3.67E+00	4.58E-02	1.70E+00	1.48E-01	0	0	0	0	0	5.56E+00
DUCTWORK	1.33E+00	2.65E-02	1.40E+01	2.61E-01	3.46E-03	0	2.33E-02	0	0	1.56E+01
DUCTWORK INSULATION	2.01E-02	4.00E-04	6.72E-02	3.53E-03	9.87E-05	0	5.75E-04	0	0	9.19E-02
ELECTRICAL EQUIPMENT	2.95E-01	4.12E-03	2.20E+00	2.49E-01	7.20E-02	0	8.94E-02	5.30E-03	7.35E-03	2.92E+00
ELECTRICAL FIXTURES	3.49E-01	8.62E-02	1.39E+00	2.55E-01	3.27E-02	0	2.26E-03	2.86E-04	4.49E-03	2.12E+00
ELECTRICAL TRANSFORMERS	5.68E-03	1.83E-03	9.32E-03	1.62E-02	2.80E-04	0	1.24E-02	0	5.71E-04	4.63E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.52E+00	0	0	0	0	0	2.52E+00
EXTERIOR METAL WALL PANELS	1.95E-01	1.43E+00	1.24E+00	7.31E-01	9.63E-03	0	5.22E-03	0	0	3.61E+00
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	8.53E-03	0	0	0	0	0	0	8.53E-03
FABRIC ROOF	0	1.28E-01	0	0	0	0	0	0	0	1.28E-01
FABRIC WALLS	0	5.88E-02	0	0	0	0	0	0	0	5.88E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.78E-01	8.17E-01	2.32E+00	0	0	1.08E-01	0	0	3.52E+00
FLOOR TILE	1.21E+00	4.24E-03	4.83E-01	8.88E-02	5.69E-03	0	0	0	0	1.79E+00
HVAC EQUIPMENT	3.05E-01	8.79E-03	1.20E+00	1.68E-01	6.33E-03	0	1.16E-02	0	0	1.70E+00
INTERIOR METAL WALL PANELS	3.74E-02	3.12E-02	5.95E-01	9.41E-02	0	0	0	0	0	7.57E-01
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.06E-02	3.40E-02	1.01E-01	4.45E-02	0	0	1.59E-02	0	0	2.06E-01
MASONRY	2.68E-01	0	2.73E+00	4.19E-01	0	0	0	0	0	3.42E+00
MASONRY WALLS	3.20E+01	6.47E+00	1.96E+01	1.57E+01	1.09E-01	0	0	0	0	7.39E+01
MATERIAL HANDLING EQUIPMENT	7.65E-03	4.35E-03	1.54E+00	1.39E-01	9.41E-03	0	2.41E-04	0	0	1.70E+00
METAL PANEL ROOF	2.46E-01	1.89E+00	8.59E-01	5.07E-01	0	0	1.91E-02	0	0	3.52E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.00E-02	1.78E-01	4.03E-01	8.79E-02	2.94E-02	0	1.97E-03	0	3.32E-02	7.43E-01
NON PROCESS TRAILERS	2.91E-01	0	0	0	0	0	0	0	0	2.91E-01
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	3.10E-01	9.69E-02	2.20E+00	1.01E-01	1.43E-01	0	4.01E-03	1.31E-01	7.20E-04	2.98E+00
PIPING (2-1/2" TO 4")	2.32E-01	1.31E-01	2.80E+00	2.39E-01	1.07E-01	0	5.57E-03	7.19E-02	0	3.59E+00
PIPING (OVER 4")	1.75E-01	1.00E-01	2.39E+00	4.15E-02	1.11E-01	0	1.12E-02	9.04E-02	1.02E-02	2.93E+00
PIPING INSULATION	2.38E-02	1.12E-02	9.96E-02	2.61E-02	1.68E-02	0	1.94E-03	2.40E-01	3.75E-04	4.19E-01
PROCESS EQUIPMENT	2.86E-01	6.20E-03	2.02E+01	1.25E+00	1.63E+00	0	1.18E+00	1.29E-03	7.06E-04	2.45E+01
PROCESS TRAILERS	1.10E-01	0	0	0	0	0	0	0	0	1.10E-01
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.80E+00	1.85E+00	4.18E+00	9.67E-01	7.76E-03	0	0	0	0	1.08E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	6.38E-01	3.09E+00	2.21E+01	4.83E+00	1.88E+00	0	5.75E-01	3.23E-05	1.84E-02	3.31E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	2.72E-02	1.89E-02	1.38E-01	2.17E-02	7.37E-06	0	1.73E-05	0	0	2.06E-01
WOOD	0	0	0	0	0	0	1.43E+00	0	0	1.43E+00
Totals for: Antimony	6.67E+01	6.08E+01	1.92E+02	5.57E+01	1.76E+01	3.18E+02	5.24E+00	2.47E+01	1.20E+00	7.41E+02

Arsenic

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.47E+00	2.87E-02	8.39E-01	2.61E-02	0	0	0	8.36E+00
ASPHALT	0	0	0	0	0	1.16E+02	0	0	0	1.16E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	2.04E-02	4.79E-02	1.91E-01	2.78E-02	3.23E-04	0	0	0	0	2.88E-01
CEILING DEMOLITION	2.46E-02	5.50E-03	3.77E-02	5.74E-03	0	0	0	0	0	7.35E-02
CLAY PIPING	1.53E-02	5.44E-03	4.76E-02	1.41E-02	0	0	6.80E-04	3.09E+00	0	3.17E+00
CONCRETE	1.93E+00	2.58E+00	5.57E+01	1.93E+01	4.79E+00	1.21E+00	1.41E+00	1.17E+02	1.12E-01	2.04E+02
CONCRETE BEAMS	1.20E+01	0	1.00E+01	1.98E+00	1.64E-01	0	0	0	0	2.41E+01
CONCRETE COLUMNS	4.90E+00	0	4.61E+00	2.70E-02	7.04E-02	0	1.53E-01	0	0	9.76E+00
CONCRETE FOUNDATION	1.32E+01	1.94E+02	1.18E+02	4.10E+01	2.80E+01	0	4.36E+00	2.38E-01	1.38E+00	4.00E+02
CONCRETE SLABS	8.13E+01	7.47E+01	1.85E+02	6.15E+01	1.66E+01	5.38E+02	2.72E+00	7.24E-01	2.45E+00	9.63E+02
CONCRETE WALLS	1.10E+01	5.22E-01	1.91E+01	1.63E+01	6.42E+00	0	2.20E+00	3.74E-01	3.08E+00	5.91E+01
CONDUIT/WIRE (2" AND LESS)	1.69E-03	1.85E-02	3.89E-01	2.91E-02	5.86E-03	0	2.43E-03	8.29E-03	0	4.55E-01
CONDUIT/WIRE (2-1/2" TO 4")	6.98E-04	1.45E-03	6.93E-02	4.17E-03	3.31E-04	0	1.54E-03	3.71E-03	0	8.12E-02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	3.43E-04	1.30E-05	1.77E-02	9.89E-04	0	0	6.86E-04	2.68E-03	0	2.24E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.67E-02	1.56E-01	3.15E-01	8.01E-02	2.65E-04	0	2.21E-03	0	0	5.70E-01
DRYWALL	1.18E+00	7.48E-02	1.03E+00	7.24E-02	0	0	0	0	0	2.35E+00
DUCTWORK	5.74E-02	4.96E-03	4.93E+00	1.12E-01	3.41E-04	0	1.14E-02	0	0	5.12E+00
DUCTWORK INSULATION	6.70E-03	6.38E-04	1.04E-01	1.67E-03	2.34E-05	0	3.18E-04	0	0	1.13E-01
ELECTRICAL EQUIPMENT	6.18E-03	6.41E-04	7.58E-01	7.48E-02	9.11E-03	0	5.40E-02	7.94E-03	2.28E-03	9.13E-01
ELECTRICAL FIXTURES	9.54E-03	4.21E-02	4.94E-01	8.12E-02	4.35E-03	0	1.62E-03	2.80E-04	1.39E-03	6.34E-01
ELECTRICAL TRANSFORMERS	2.09E-04	8.08E-04	4.97E-03	5.00E-03	7.18E-05	0	1.03E-02	0	1.77E-04	2.15E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	7.82E-01	0	0	0	0	0	7.82E-01
EXTERIOR METAL WALL PANELS	1.34E-02	4.87E-01	5.51E-01	2.20E-01	2.34E-04	0	4.34E-03	0	0	1.28E+00
EXTERIOR TRANSITE PANELS	0	0	2.83E+02	0	0	0	0	0	0	2.83E+02
FABRIC	0	0	1.14E-02	0	0	0	0	0	0	1.14E-02
FABRIC ROOF	0	1.87E-01	0	0	0	0	0	0	0	1.87E-01
FABRIC WALLS	0	9.29E-02	0	0	0	0	0	0	0	9.29E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	7.31E-01	1.60E+00	1.28E+00	0	0	5.98E-02	0	0	3.67E+00
FLOOR TILE	4.05E-01	6.75E-03	3.89E-01	3.81E-02	3.15E-03	0	0	0	0	8.42E-01
HVAC EQUIPMENT	7.83E-03	3.38E-03	4.99E-01	5.19E-02	7.63E-04	0	9.79E-04	0	0	5.63E-01
INTERIOR METAL WALL PANELS	1.16E-02	9.67E-03	3.41E-01	2.99E-02	0	0	0	0	0	3.92E-01
INTERIOR TRANSITE PANELS	0	0	2.48E+02	0	0	0	0	0	0	2.48E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.19E-04	9.98E-03	3.99E-02	1.24E-02	0	0	1.32E-02	0	0	7.56E-02
MASONRY	1.44E-01	0	1.63E+00	2.32E-01	0	0	0	0	0	2.01E+00
MASONRY WALLS	1.72E+01	3.85E+00	1.11E+01	8.59E+00	5.81E-02	0	0	0	0	4.08E+01
MATERIAL HANDLING EQUIPMENT	1.14E-04	1.33E-04	3.13E-01	4.22E-02	1.14E-03	0	5.48E-04	0	0	3.57E-01
METAL PANEL ROOF	1.31E-02	4.82E-01	4.37E-01	1.58E-01	0	0	6.76E-03	0	0	1.10E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.20E-04	7.39E-02	1.58E-01	2.89E-02	7.53E-03	0	1.50E-03	0	1.03E-02	2.80E-01
NON PROCESS TRAILERS	4.33E-03	0	0	0	0	0	0	0	0	4.33E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	7.53E-03	3.11E-02	1.06E+00	4.09E-02	3.26E-02	0	3.73E-03	2.00E-01	2.23E-04	1.38E+00
PIPING (2-1/2" TO 4")	4.21E-03	3.82E-02	1.25E+00	7.90E-02	2.69E-02	0	4.09E-03	1.10E-01	0	1.52E+00
PIPING (OVER 4")	2.58E-03	2.50E-02	1.29E+00	1.54E-02	1.41E-02	0	8.76E-03	1.38E-01	3.15E-03	1.49E+00
PIPING INSULATION	7.54E-03	2.43E-02	1.22E-01	1.41E-02	5.10E-03	0	1.07E-03	1.32E-01	2.07E-04	3.07E-01
PROCESS EQUIPMENT	9.38E-03	1.35E-03	6.02E+00	4.37E-01	3.34E-01	0	1.01E+00	4.94E-04	2.19E-04	7.81E+00
PROCESS TRAILERS	1.64E-03	0	0	0	0	0	0	0	0	1.64E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	2.10E+00	1.02E+00	2.31E+00	5.34E-01	4.29E-03	0	0	0	0	5.97E+00
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	5.63E-02	1.37E+00	9.48E+00	1.53E+00	4.97E-01	0	4.74E-01	1.00E-05	5.71E-03	1.34E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	1.81E+02	0	0	0	0	0	0	1.81E+02
WINDOWS	9.00E-04	3.18E-03	5.33E-02	6.82E-03	6.53E-06	0	3.78E-05	0	0	6.43E-02
WOOD	0	0	0	0	0	0	1.89E+02	0	0	1.89E+02
Totals for: Arsenic	1.46E+02	2.80E+02	1.16E+03	1.55E+02	5.79E+01	6.55E+02	2.01E+02	1.22E+02	7.05E+00	2.78E+03

001697

Attachment B. I (Continued)

Barium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	6.37E+02	1.01E+00	1.17E+02	2.47E-01	0	0	0	7.55E+02
ASPHALT	0	0	0	0	0	1.18E+03	0	0	0	1.18E+03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.99E+00	1.20E-01	4.40E+01	9.37E-01	4.17E-03	0	0	0	0	4.70E+01
CEILING DEMOLITION	2.13E+00	5.98E-03	1.01E+00	2.30E-01	0	0	0	0	0	3.38E+00
CLAY PIPING	1.97E-01	7.01E-02	6.13E-01	1.82E-01	0	0	8.76E-03	3.98E+01	0	4.08E+01
CONCRETE	2.04E+01	2.73E+01	5.95E+02	2.14E+02	5.06E+01	1.26E+01	1.50E+01	1.24E+03	1.18E+00	2.17E+03
CONCRETE BEAMS	1.23E+02	0	1.05E+02	2.21E+01	1.74E+00	0	0	0	0	2.52E+02
CONCRETE COLUMNS	4.99E+01	0	5.07E+01	2.64E-01	7.44E-01	0	1.85E+00	0	0	1.03E+02
CONCRETE FOUNDATION	1.40E+02	2.05E+03	1.25E+03	4.33E+02	2.96E+02	0	4.61E+01	2.52E+00	1.46E+01	4.23E+03
CONCRETE SLABS	8.36E+02	8.12E+02	2.15E+03	7.76E+02	1.62E+02	5.72E+03	3.09E+01	7.85E+00	2.64E+01	1.05E+04
CONCRETE WALLS	1.17E+02	5.48E+00	2.10E+02	1.72E+02	6.78E+01	0	2.34E+01	4.03E+00	3.26E+01	6.33E+02
CONDUIT/WIRE (2" AND LESS)	2.88E+00	1.08E+00	2.58E+01	3.20E+00	1.00E+00	0	2.53E-01	1.37E-02	0	3.43E+01
CONDUIT/WIRE (2-1/2" TO 4")	1.15E+00	8.41E-02	5.14E+00	7.21E-01	1.08E-01	0	1.54E-01	6.14E-03	0	7.36E+00
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.95E-01	5.15E-04	1.44E+00	8.21E-02	0	0	7.51E-02	4.43E-03	0	2.20E+00
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	9.79E+00	1.05E+01	1.88E+01	8.56E+00	1.51E-01	0	1.57E-01	0	0	4.79E+01
DRYWALL	8.63E+01	2.46E-01	6.76E+00	4.42E+00	0	0	0	0	0	9.78E+01
DUCTWORK	5.10E+01	1.62E+00	3.05E+02	6.96E+00	1.92E-02	0	1.10E+00	0	0	3.66E+02
DUCTWORK INSULATION	7.50E-01	2.18E-03	2.45E+01	6.53E-02	2.85E-04	0	4.09E-03	0	0	2.54E+01
ELECTRICAL EQUIPMENT	7.46E+00	4.38E-02	5.36E+01	9.51E+00	1.27E+00	0	5.65E+00	1.71E-02	2.24E-01	7.78E+01
ELECTRICAL FIXTURES	9.04E+00	1.97E+00	2.91E+01	8.54E+00	5.14E-01	0	1.52E-01	4.31E-03	1.37E-01	4.94E+01
ELECTRICAL TRANSFORMERS	1.50E-01	5.27E-02	2.43E-01	7.07E-01	1.20E-02	0	1.13E+00	0	1.74E-02	2.31E+00
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	7.68E+01	0	0	0	0	0	7.68E+01
EXTERIOR METAL WALL PANELS	5.25E+00	3.47E+01	3.19E+01	3.39E+01	2.12E-03	0	4.76E-01	0	0	1.06E+02
EXTERIOR TRANSITE PANELS	0	0	6.70E+02	0	0	0	0	0	0	6.70E+02
FABRIC	0	0	2.43E+00	0	0	0	0	0	0	2.43E+00
FABRIC ROOF	0	7.21E-01	0	0	0	0	0	0	0	7.21E-01
FABRIC WALLS	0	3.22E-01	0	0	0	0	0	0	0	3.22E-01
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	8.97E-01	4.32E+02	1.24E+02	0	0	7.71E-01	0	0	5.58E+02
FLOOR TILE	4.03E+01	1.37E-02	4.05E+01	1.85E+00	4.06E-02	0	0	0	0	8.27E+01
HVAC EQUIPMENT	7.97E+00	2.81E-01	3.31E+01	8.36E+00	1.07E-01	0	3.89E-02	0	0	4.98E+01
INTERIOR METAL WALL PANELS	1.14E+00	9.50E-01	1.43E+01	3.51E+00	0	0	0	0	0	1.99E+01
INTERIOR TRANSITE PANELS	0	0	4.53E+02	0	0	0	0	0	0	4.53E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.77E-01	7.49E-01	2.47E+00	1.63E+00	0	0	1.44E+00	0	0	6.57E+00
MASONRY	2.53E+00	0	6.32E+01	2.99E+00	0	0	0	0	0	6.88E+01
MASONRY WALLS	2.90E+02	4.50E+01	2.24E+02	1.24E+02	7.48E-01	0	0	0	0	6.83E+02
MATERIAL HANDLING EQUIPMENT	1.68E-01	4.89E-03	3.98E+01	5.81E+00	1.59E-01	0	4.57E-02	0	0	4.59E+01
METAL PANEL ROOF	6.54E+00	3.79E+01	2.30E+01	2.83E+01	0	0	6.80E-01	0	0	9.64E+01
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.28E-01	5.11E+00	9.57E+00	2.76E+00	1.50E+00	0	1.35E-01	0	1.01E+00	2.03E+01
NON PROCESS TRAILERS	7.57E+00	0	0	0	0	0	0	0	0	7.57E+00
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	8.05E+00	2.10E+00	4.93E+01	6.41E+00	6.45E+00	0	3.94E-01	3.32E-01	2.19E-02	7.30E+01
PIPING (2-1/2" TO 4")	5.85E+00	2.83E+00	6.58E+01	1.47E+01	6.15E+00	0	4.71E-01	1.82E-01	0	9.59E+01
PIPING (OVER 4")	4.45E+00	1.66E+00	5.36E+01	3.40E+00	1.54E+00	0	9.68E-01	2.29E-01	3.10E-01	6.62E+01
PIPING INSULATION	9.17E-01	4.56E-02	2.58E+01	6.35E-01	6.36E-02	0	1.38E-02	1.71E+00	2.67E-03	2.92E+01
PROCESS EQUIPMENT	4.45E+00	1.27E-01	4.27E+02	7.25E+01	5.02E+01	0	1.10E+02	3.71E-02	2.15E-02	6.65E+02
PROCESS TRAILERS	2.87E+00	0	0	0	0	0	0	0	0	2.87E+00
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	2.71E+01	1.32E+01	2.98E+01	6.89E+00	5.53E-02	0	0	0	0	7.70E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.62E+01	9.06E+01	4.76E+02	1.70E+02	4.82E+01	0	5.13E+01	9.85E-04	5.61E-01	8.53E+02
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	7.30E+02	0	0	0	0	0	0	7.30E+02
WINDOWS	6.93E-01	2.14E-01	2.86E+00	9.61E-01	3.72E-03	0	3.33E-03	0	0	4.73E+00
WOOD	0	0	0	4.24E-02	0	0	9.12E-01	0	0	9.55E-01
Totals for: Barium	1.89E+03	3.15E+03	9.41E+03	2.35E+03	8.15E+02	6.91E+03	2.93E+02	1.29E+03	7.71E+01	**2.62E+04**

Beryllium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	8.85E-01	1.82E-02	3.15E-01	2.64E-02	0	0	0	1.24E+00
ASPHALT	0	0	0	0	0	1.93E+01	0	0	0	1.93E+01
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	4.76E-03	1.63E-03	2.03E-02	5.01E-03	4.88E-05	0	0	0	0	3.18E-02
CEILING DEMOLITION	6.34E-03	3.41E-05	1.67E-03	1.11E-03	0	0	0	0	0	9.16E-03
CLAY PIPING	2.31E-03	8.20E-04	7.18E-03	2.13E-03	0	0	1.03E-04	4.65E-01	0	4.78E-01
CONCRETE	4.23E-01	5.66E-01	1.20E+01	4.25E+00	1.06E+00	2.84E-01	3.11E-01	2.57E+01	2.46E-02	4.46E+01
CONCRETE BEAMS	2.75E+00	0	2.05E+00	4.33E-01	3.60E-02	0	0	0	0	5.27E+00
CONCRETE COLUMNS	1.21E+00	0	8.35E-01	5.56E-03	1.54E-02	0	3.00E-02	0	0	2.10E+00
CONCRETE FOUNDATION	2.90E+00	4.25E+01	2.59E+01	8.99E+00	6.15E+00	0	9.57E-01	5.22E-02	3.02E-01	8.78E+01
CONCRETE SLABS	1.82E+01	1.65E+01	4.15E+01	1.39E+01	3.29E+00	1.19E+02	6.13E-01	1.58E-01	5.62E-01	2.14E+02
CONCRETE WALLS	2.45E+00	1.15E-01	4.41E+00	3.58E+00	1.42E+00	0	4.84E-01	8.22E-02	6.78E-01	1.32E+01
CONDUIT/WIRE (2" AND LESS)	0	8.59E-05	1.19E-02	2.35E-04	0	0	0	8.19E-04	0	1.30E-02
CONDUIT/WIRE (2-1/2" TO 4")	0	7.52E-06	2.55E-03	5.36E-05	0	0	0	3.66E-04	0	2.97E-03
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	1.11E-06	3.99E-04	6.43E-06	0	0	0	2.65E-04	0	6.71E-04
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.27E-03	1.64E-03	9.83E-03	1.68E-03	7.00E-06	0	4.51E-05	0	0	1.55E-02
DRYWALL	2.97E-01	2.49E-03	3.54E-02	1.18E-02	0	0	0	0	0	3.46E-01
DUCTWORK	8.05E-03	1.61E-04	1.55E-01	1.53E-03	3.96E-05	0	2.30E-04	0	0	1.65E-01
DUCTWORK INSULATION	1.62E-03	2.22E-05	9.98E-03	2.89E-04	4.33E-06	0	4.79E-05	0	0	1.20E-02
ELECTRICAL EQUIPMENT	1.79E-03	1.58E-05	2.41E-02	1.61E-03	5.59E-04	0	1.06E-03	7.81E-04	4.46E-05	3.00E-02
ELECTRICAL FIXTURES	2.12E-03	4.71E-04	1.39E-02	1.53E-03	4.65E-04	0	3.58E-05	2.46E-05	2.72E-05	1.86E-02
ELECTRICAL TRANSFORMERS	3.44E-05	9.50E-06	1.10E-04	9.09E-05	2.56E-06	0	1.96E-04	0	3.46E-06	4.46E-04
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.53E-02	0	0	0	0	0	1.53E-02
EXTERIOR METAL WALL PANELS	1.19E-03	7.28E-03	1.30E-02	5.27E-03	5.84E-05	0	8.25E-05	0	0	2.69E-02
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	1.28E-03	0	0	0	0	0	0	1.28E-03
FABRIC ROOF	0	7.50E-03	0	0	0	0	0	0	0	7.50E-03
FABRIC WALLS	0	3.28E-03	0	0	0	0	0	0	0	3.28E-03
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	7.47E-03	1.63E-01	1.71E-01	0	0	9.02E-03	0	0	3.50E-01
FLOOR TILE	9.92E-02	2.26E-04	2.33E-02	7.25E-03	4.74E-04	0	0	0	0	1.30E-01
HVAC EQUIPMENT	1.85E-03	4.90E-05	1.80E-02	8.97E-04	4.94E-05	0	7.91E-05	0	0	2.09E-02
INTERIOR METAL WALL PANELS	2.27E-04	1.89E-04	7.50E-03	6.69E-04	0	0	0	0	0	8.59E-03
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	6.44E-05	1.95E-04	1.67E-03	2.66E-04	0	0	2.51E-04	0	0	2.44E-03
MASONRY	2.23E-02	0	2.35E-01	3.49E-02	0	0	0	0	0	2.92E-01
MASONRY WALLS	2.66E+00	5.31E-01	1.60E+00	1.31E+00	8.82E-03	0	0	0	0	6.11E+00
MATERIAL HANDLING EQUIPMENT	4.64E-05	7.33E-06	1.49E-02	9.42E-04	7.34E-05	0	1.36E-05	0	0	1.60E-02
METAL PANEL ROOF	1.49E-03	1.13E-02	9.34E-03	4.16E-03	0	0	1.31E-04	0	0	2.64E-02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	6.09E-05	9.09E-04	5.03E-03	5.68E-04	2.49E-04	0	3.44E-05	0	2.01E-04	7.06E-03
NON PROCESS TRAILERS	1.76E-03	0	0	0	0	0	0	0	0	1.76E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.88E-03	4.84E-04	2.72E-02	5.07E-04	1.24E-03	0	8.11E-05	1.98E-02	4.36E-06	5.12E-02
PIPING (2-1/2" TO 4")	1.41E-03	6.70E-04	3.55E-02	1.18E-03	1.11E-03	0	8.81E-05	1.09E-02	0	5.08E-02
PIPING (OVER 4")	1.06E-03	5.64E-04	3.61E-02	3.11E-04	7.07E-04	0	1.78E-04	1.37E-02	6.16E-05	5.26E-02
PIPING INSULATION	1.96E-03	4.43E-04	1.35E-02	2.07E-03	8.77E-04	0	1.62E-04	2.00E-02	3.12E-05	3.91E-02
PROCESS EQUIPMENT	1.73E-03	2.81E-05	1.84E-01	6.09E-03	1.22E-02	0	1.96E-02	1.90E-05	4.28E-06	2.24E-01
PROCESS TRAILERS	6.68E-04	0	0	0	0	0	0	0	0	6.68E-04
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.17E-01	1.54E-01	3.49E-01	8.06E-02	6.47E-04	0	0	0	0	9.01E-01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	3.87E-03	1.53E-02	2.53E-01	2.91E-02	1.19E-02	0	9.13E-03	1.96E-07	1.12E-04	3.22E-01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	1.65E-04	8.87E-05	1.47E-03	1.26E-04	1.73E-07	0	9.50E-07	0	0	1.86E-03
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Beryllium	3.14E+01	6.04E+01	9.09E+01	3.29E+01	1.23E+01	1.39E+02	2.44E+00	2.65E+01	1.57E+00	3.97E+02

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Attachment B. I (Continued)

Cadmium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.78E+00	1.17E-02	6.63E-01	5.56E-02	0	0	0	2.51E+00
ASPHALT	0	0	0	0	0	4.06E+01	0	0	0	4.06E+01
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	8.61E-02	5.29E-03	3.67E-02	1.56E-02	1.03E-04	0	0	0	0	1.44E-01
CEILING DEMOLITION	8.82E-02	3.25E-04	1.03E-02	3.88E-03	0	0	0	0	0	1.03E-01
CLAY PIPING	4.86E-03	1.73E-03	1.51E-02	4.48E-03	0	0	2.16E-04	9.80E-01	0	1.01E+00
CONCRETE	7.25E-01	9.71E-01	2.08E+01	7.19E+00	1.80E+00	4.33E-01	5.34E-01	4.40E+01	4.21E-02	7.64E+01
CONCRETE BEAMS	4.76E+00	0	3.63E+00	7.43E-01	6.18E-02	0	0	0	0	9.20E+00
CONCRETE COLUMNS	2.02E+00	0	1.55E+00	9.26E-03	2.65E-02	0	5.83E-02	0	0	3.66E+00
CONCRETE FOUNDATION	4.97E+00	7.29E+01	4.44E+01	1.54E+01	1.05E+01	0	1.64E+00	8.96E-02	5.18E-01	1.51E+02
CONCRETE SLABS	3.15E+01	2.91E+01	7.37E+01	2.29E+01	5.60E+00	2.05E+02	1.06E+00	2.77E-01	9.64E-01	3.70E+02
CONCRETE WALLS	4.20E+00	1.97E-01	7.60E+00	6.12E+00	2.44E+00	0	8.28E-01	1.43E-01	1.16E+00	2.27E+01
CONDUIT/WIRE (2" AND LESS)	4.49E-03	1.83E-02	5.75E-01	8.33E-02	3.13E-02	0	9.32E-04	4.19E-03	0	7.18E-01
CONDUIT/WIRE (2-1/2" TO 4")	1.81E-03	1.90E-03	1.23E-01	1.19E-02	4.33E-03	0	5.03E-04	1.88E-03	0	1.45E-01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	9.29E-04	1.85E-05	3.57E-02	1.32E-03	0	0	2.24E-04	1.35E-03	0	3.95E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	3.52E-02	1.77E-01	5.70E-01	1.95E-01	1.48E-03	0	7.37E-04	0	0	9.80E-01
DRYWALL	3.66E+00	8.03E-03	2.98E-01	1.16E-01	0	0	0	0	0	4.08E+00
DUCTWORK	1.31E-01	1.52E-02	8.71E+00	3.07E-01	9.51E-04	0	4.24E-03	0	0	9.17E+00
DUCTWORK INSULATION	3.16E-02	7.03E-05	1.80E-02	1.32E-03	1.73E-05	0	1.01E-04	0	0	5.11E-02
ELECTRICAL EQUIPMENT	1.50E-02	1.08E-03	6.93E-01	1.67E-01	4.02E-02	0	3.84E-02	4.07E-03	4.21E-03	9.63E-01
ELECTRICAL FIXTURES	2.19E-02	4.26E-02	9.17E-01	2.08E-01	2.03E-02	0	1.01E-03	1.95E-04	2.57E-03	1.21E+00
ELECTRICAL TRANSFORMERS	4.54E-04	9.06E-04	1.10E-02	1.19E-02	2.40E-04	0	3.36E-03	0	3.28E-04	2.82E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.45E+00	0	0	0	0	0	1.45E+00
EXTERIOR METAL WALL PANELS	2.78E-02	6.12E-01	1.23E+00	4.61E-01	5.84E-05	0	1.42E-03	0	0	2.33E+00
EXTERIOR TRANSITE PANELS	0	0	2.28E+01	0	0	0	0	0	0	2.28E+01
FABRIC	0	0	2.17E-03	0	0	0	0	0	0	2.17E-03
FABRIC ROOF	0	2.24E-02	0	0	0	0	0	0	0	2.24E-02
FABRIC WALLS	0	1.03E-02	0	0	0	0	0	0	0	1.03E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	4.87E-02	2.47E-01	3.97E+00	0	0	1.90E-02	0	0	4.28E+00
FLOOR TILE	1.68E+00	7.45E-04	9.46E-02	3.44E-02	9.99E-04	0	0	0	0	1.81E+00
HVAC EQUIPMENT	1.83E-02	5.00E-03	9.88E-01	1.42E-01	3.51E-03	0	6.64E-03	0	0	1.16E+00
INTERIOR METAL WALL PANELS	2.14E-02	1.79E-02	7.27E-01	5.27E-02	0	0	0	0	0	8.19E-01
INTERIOR TRANSITE PANELS	0	0	1.46E+01	0	0	0	0	0	0	1.46E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	5.37E-04	1.55E-02	5.25E-02	3.26E-02	0	0	4.31E-03	0	0	1.05E-01
MASONRY	7.48E-02	0	4.90E-01	7.36E-02	0	0	0	0	0	6.39E-01
MASONRY WALLS	8.47E+00	1.14E+00	3.46E+00	2.95E+00	1.91E-02	0	0	0	0	1.60E+01
MATERIAL HANDLING EQUIPMENT	2.74E-04	1.44E-04	3.40E-01	1.01E-01	5.22E-03	0	1.96E-04	0	0	4.47E-01
METAL PANEL ROOF	2.81E-02	7.81E-01	9.81E-01	3.02E-01	0	0	1.05E-02	0	0	2.10E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	3.67E-04	9.08E-02	1.47E-01	7.50E-02	2.32E-02	0	9.35E-04	0	1.90E-02	3.57E-01
NON PROCESS TRAILERS	1.17E-02	0	0	0	0	0	0	0	0	1.17E-02
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.78E-02	5.44E-02	1.47E+00	1.18E-01	1.21E-01	0	1.44E-03	1.01E-01	4.13E-04	1.89E+00
PIPING (2-1/2" TO 4")	1.05E-02	4.35E-02	1.92E+00	2.29E-01	7.80E-02	0	1.87E-03	5.56E-02	0	2.34E+00
PIPING (OVER 4")	6.93E-03	5.05E-02	1.53E+00	4.26E-02	3.27E-02	0	3.03E-03	6.99E-02	5.82E-03	1.75E+00
PIPING INSULATION	3.83E-02	1.97E-03	2.61E-02	1.89E-02	2.94E-03	0	3.41E-04	4.20E-02	6.57E-05	1.31E-01
PROCESS EQUIPMENT	1.74E-02	2.38E-03	8.08E+00	1.25E+00	1.10E+00	0	3.33E-01	7.54E-04	4.05E-04	1.08E+01
PROCESS TRAILERS	4.43E-03	0	0	0	0	0	0	0	0	4.43E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	6.67E-01	3.25E-01	7.34E-01	1.70E-01	1.36E-03	0	0	0	0	1.90E+00
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.10E-01	1.63E+00	9.15E+00	3.68E+00	1.01E+00	0	1.65E-01	1.85E-05	1.06E-02	1.58E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.51E+01	0	0	0	0	0	0	2.51E+01
WINDOWS	1.97E-03	7.37E-03	6.13E-02	1.90E-02	3.64E-05	0	1.36E-05	0	0	8.97E-02
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Cadmium	6.34E+01	1.08E+02	2.60E+02	6.87E+01	2.36E+01	2.46E+02	4.72E+00	4.57E+01	2.73E+00	**8.23E+02**

Chromium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.37E+02	1.13E-01	1.83E+00	1.00E-01	0	0	0	1.39E+02
ASPHALT	0	0	0	0	0	1.62E+02	0	0	0	1.62E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	7.68E-02	2.59E-02	4.12E+00	2.00E-01	6.57E-04	0	0	0	0	4.43E+00
CEILING DEMOLITION	1.17E-01	1.63E-03	1.45E-01	4.68E-02	0	0	0	0	0	3.11E-01
CLAY PIPING	3.11E-02	1.11E-02	9.67E-02	2.87E-02	0	0	1.38E-03	6.27E+00	0	6.44E+00
CONCRETE	3.16E+00	4.24E+00	9.27E+01	3.47E+01	8.00E+00	2.20E+00	2.33E+00	1.92E+02	1.84E-01	3.40E+02
CONCRETE BEAMS	2.11E+01	0	1.70E+01	3.76E+00	2.70E-01	0	0	0	0	4.21E+01
CONCRETE COLUMNS	7.88E+00	0	7.82E+00	3.58E-02	1.16E-01	0	9.99E-01	0	0	1.69E+01
CONCRETE FOUNDATION	2.17E+01	3.18E+02	1.94E+02	6.73E+01	4.60E+01	0	7.16E+00	3.91E-01	2.26E+00	6.57E+02
CONCRETE SLABS	1.48E+02	1.26E+02	3.54E+02	1.60E+02	2.88E+01	8.94E+02	9.61E+00	2.06E+00	4.20E+00	1.73E+03
CONCRETE WALLS	1.81E+01	8.58E-01	3.48E+01	2.66E+01	1.09E+01	0	3.83E+00	8.80E-01	5.07E+00	1.01E+02
CONDUIT/WIRE (2" AND LESS)	3.08E-01	1.89E+00	7.31E+01	3.26E+00	2.43E+00	0	3.41E-01	1.73E-01	0	8.15E+01
CONDUIT/WIRE (2-1/2" TO 4")	1.27E-01	1.28E-01	1.35E+01	8.06E-01	6.67E-02	0	1.54E-01	7.75E-02	0	1.49E+01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.91E-02	7.11E-03	2.71E+00	7.87E-02	0	0	6.91E-02	5.60E-02	0	2.98E+00
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.68E+00	1.63E+01	4.17E+01	1.02E+01	1.94E-02	0	2.04E-01	0	0	7.11E+01
DRYWALL	5.37E+00	4.64E-02	2.31E+00	5.61E-01	0	0	0	0	0	8.28E+00
DUCTWORK	9.39E+00	8.06E-01	7.71E+02	9.81E+00	1.27E-01	0	1.53E+00	0	0	7.93E+02
DUCTWORK INSULATION	2.89E-02	4.07E-04	2.09E+00	1.17E-02	1.30E-05	0	6.45E-04	0	0	2.14E+00
ELECTRICAL EQUIPMENT	1.04E+00	1.07E-01	1.33E+02	1.18E+01	4.08E-01	0	6.09E+00	1.71E-01	3.53E-01	1.53E+02
ELECTRICAL FIXTURES	1.60E+00	3.43E+00	6.80E+01	1.05E+01	9.80E-01	0	1.82E-01	1.12E-02	2.16E-01	8.49E+01
ELECTRICAL TRANSFORMERS	3.45E-02	8.33E-02	4.46E-01	8.30E-01	6.50E-03	0	1.04E+00	0	2.74E-02	2.46E+00
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.21E+02	0	0	0	0	0	1.21E+02
EXTERIOR METAL WALL PANELS	1.92E+00	6.34E+01	5.50E+01	3.31E+01	7.22E-03	0	4.37E-01	0	0	1.54E+02
EXTERIOR TRANSITE PANELS	0	0	1.11E+03	0	0	0	0	0	0	1.11E+03
FABRIC	0	0	1.98E-01	0	0	0	0	0	0	1.98E-01
FABRIC ROOF	0	1.31E-01	0	0	0	0	0	0	0	1.31E-01
FABRIC WALLS	0	5.99E-02	0	0	0	0	0	0	0	5.99E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.37E-01	3.45E+01	9.84E+00	0	0	1.22E-01	0	0	4.47E+01
FLOOR TILE	1.71E+00	3.28E-03	3.90E+00	3.63E-01	6.39E-03	0	0	0	0	5.98E+00
HVAC EQUIPMENT	1.32E+00	4.21E-01	7.09E+01	8.71E+00	2.78E-02	0	5.79E-01	0	0	8.19E+01
INTERIOR METAL WALL PANELS	1.80E+00	1.50E+00	2.75E+01	3.43E+00	0	0	0	0	0	3.43E+01
INTERIOR TRANSITE PANELS	0	0	2.74E+02	0	0	0	0	0	0	2.74E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	3.83E-02	1.45E+00	6.76E+00	1.90E+00	0	0	1.33E+00	0	0	1.15E+01
MASONRY	3.20E-01	0	6.55E+00	5.13E-01	0	0	0	0	0	7.39E+00
MASONRY WALLS	3.56E+01	7.17E+00	2.75E+01	1.95E+01	1.16E-01	0	0	0	0	8.99E+01
MATERIAL HANDLING EQUIPMENT	2.09E-02	4.78E-02	9.01E+01	6.86E+00	4.13E-02	0	4.25E-02	0	0	9.71E+01
METAL PANEL ROOF	1.81E+00	8.53E+01	3.86E+01	2.29E+01	0	0	9.75E-01	0	0	1.50E+02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	9.78E-03	8.20E+00	2.55E+01	3.09E+00	8.52E-01	0	1.65E-01	0	1.59E+00	3.94E+01
NON PROCESS TRAILERS	7.94E-01	0	0	0	0	0	0	0	0	7.94E-01
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.27E+00	3.87E+00	1.51E+05	2.06E+04	3.23E+00	0	3.63E-01	4.19E+00	3.46E-02	1.72E+05
PIPING (2-1/2" TO 4")	7.43E-01	5.30E+00	1.53E+05	2.44E+04	3.03E+00	0	4.33E-01	2.30E+00	0	1.77E+05
PIPING (OVER 4")	4.60E-01	3.96E+00	1.02E+05	2.73E+04	1.88E+00	0	9.27E-01	2.89E+00	4.88E-01	1.29E+05
PIPING INSULATION	2.76E-02	1.02E-02	2.70E+00	6.46E-02	5.76E-03	0	2.18E-03	2.69E-01	4.21E-04	3.08E+00
PROCESS EQUIPMENT	1.57E+00	2.18E-01	1.71E+06	2.69E+05	2.81E+01	0	1.01E+02	6.06E-02	3.39E-02	1.98E+06
PROCESS TRAILERS	3.01E-01	0	0	0	0	0	0	0	0	3.01E-01
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	4.27E+00	2.08E+00	4.70E+00	1.09E+00	8.72E-03	0	0	0	0	1.21E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	8.77E+00	1.35E+02	1.33E+03	2.08E+02	7.40E+01	0	4.81E+01	1.55E-03	8.84E-01	1.80E+03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.65E+02	0	0	0	0	0	0	2.65E+02
WINDOWS	1.50E-01	4.05E-01	7.62E+00	9.85E-01	4.77E-04	0	2.90E-03	0	0	9.16E+00
WOOD	0	0	0	0	0	0	1.92E+02	0	0	1.92E+02
Totals for: Chromium	3.04E+02	7.92E+02	2.12E+06	3.42E+05	2.11E+02	1.06E+03	3.80E+02	2.12E+02	1.53E+01	**2.47E+06**

001701

Attachment B. I (Continued)

Copper

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	5.96E+02	6.13E-01	3.98E+00	1.56E-01	0	0	0	6.01E+02
ASPHALT	0	0	0	0	0	2.65E+02	0	0	0	2.65E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	4.50E-02	3.15E-02	1.87E+00	9.39E-02	9.35E-04	0	0	0	0	2.04E+00
CEILING DEMOLITION	5.58E-02	2.02E-03	9.06E-02	2.11E-02	0	0	0	0	0	1.70E-01
CLAY PIPING	4.42E-02	1.57E-02	1.37E-01	4.07E-02	0	0	1.96E-03	8.91E+00	0	9.15E+00
CONCRETE	5.58E+00	7.48E+00	1.64E+02	5.52E+01	1.38E+01	3.67E+00	4.11E+00	3.39E+02	3.24E-01	5.93E+02
CONCRETE BEAMS	3.65E+01	0	2.94E+01	6.13E+00	4.76E-01	0	0	0	0	7.26E+01
CONCRETE COLUMNS	1.31E+01	0	1.46E+01	5.35E-02	2.04E-01	0	7.93E-01	0	0	2.87E+01
CONCRETE FOUNDATION	3.83E+01	5.61E+02	3.42E+02	1.19E+02	8.11E+01	0	1.26E+01	6.90E-01	3.99E+00	1.16E+03
CONCRETE SLABS	2.65E+02	2.21E+02	6.86E+02	2.16E+02	4.97E+01	1.58E+03	8.31E+00	2.19E+00	7.37E+00	3.03E+03
CONCRETE WALLS	3.20E+01	1.51E+00	6.39E+01	4.67E+01	1.86E+01	0	8.22E+00	1.11E+00	8.90E+00	1.81E+02
CONDUIT/WIRE (2" AND LESS)	4.14E+02	2.56E+02	3.70E+03	5.05E+02	7.20E+02	0	4.71E+01	1.26E+02	9.25E+00	5.77E+03
CONDUIT/WIRE (2-1/2" TO 4")	4.96E+02	6.61E+01	1.90E+03	2.05E+02	3.41E+02	0	5.02E+01	1.65E+02	2.62E+00	3.22E+03
CONDUIT/WIRE/CABLE TRAY (OVER 4")	2.68E+02	7.40E+00	3.41E+02	1.30E+02	0	0	2.37E+01	1.26E+02	2.96E-01	8.96E+02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.65E+02	2.46E+02	4.05E+02	1.98E+02	8.18E-01	0	5.28E+00	0	0	1.12E+03
DRYWALL	2.73E+00	6.27E-02	1.53E+00	2.42E-01	0	0	0	0	0	4.57E+00
DUCTWORK	7.77E+02	1.55E+01	3.95E+03	1.39E+02	3.81E+00	0	2.23E+01	0	0	4.91E+03
DUCTWORK INSULATION	1.44E-02	5.51E-04	9.70E-01	5.59E-03	9.43E-04	0	9.17E-04	0	0	9.92E-01
ELECTRICAL EQUIPMENT	4.05E+02	1.26E+01	4.49E+03	6.79E+02	1.91E+02	0	2.56E+02	4.31E+01	9.39E+00	6.08E+03
ELECTRICAL FIXTURES	1.85E+02	4.46E+01	4.83E+02	1.36E+02	4.07E+01	0	3.14E+00	6.14E-01	2.40E+00	8.96E+02
ELECTRICAL TRANSFORMERS	1.03E+02	8.72E+01	2.24E+02	1.34E+02	1.91E+01	0	1.23E+03	0	1.92E+01	1.82E+03
ELECTRICAL WIRING	0	7.85E+00	4.31E+01	0	0	0	0	2.71E+02	0	3.22E+02
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.04E+04	0	0	0	0	0	2.04E+04
EXTERIOR METAL WALL PANELS	4.64E+01	3.50E+02	2.01E+02	2.07E+02	2.25E+00	0	3.20E+00	0	0	8.10E+02
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	9.76E-02	0	0	0	0	0	0	9.76E-02
FABRIC ROOF	0	1.79E-01	0	0	0	0	0	0	0	1.79E-01
FABRIC WALLS	0	8.12E-02	0	0	0	0	0	0	0	8.12E-02
FEEDER CABLE	0	0	0	0	0	0	0	1.75E+03	0	1.75E+03
FIRE BRICK	0	2.87E-01	1.61E+01	4.05E+00	0	0	1.73E-01	0	0	2.06E+01
FLOOR TILE	9.00E-01	3.66E-03	1.83E+00	1.37E-01	9.09E-03	0	0	0	0	2.88E+00
HVAC EQUIPMENT	4.06E+02	3.22E+01	1.34E+03	2.23E+02	4.14E+01	0	1.10E+01	0	0	2.06E+03
INTERIOR METAL WALL PANELS	8.88E+00	7.41E+00	8.42E+01	2.61E+01	0	0	0	0	0	1.27E+02
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	7.52E+00	2.65E+01	6.70E+01	3.16E+01	0	0	2.93E+01	0	0	1.62E+02
MASONRY	4.12E-01	0	5.86E+00	6.71E-01	0	0	0	0	0	6.94E+00
MASONRY WALLS	4.92E+01	1.01E+01	3.40E+01	2.50E+01	2.29E-01	0	0	0	0	1.18E+02
MATERIAL HANDLING EQUIPMENT	1.63E+01	3.99E+01	3.17E+03	6.06E+02	5.56E+01	0	1.04E+01	0	0	3.90E+03
METAL PANEL ROOF	5.83E+01	4.98E+02	1.27E+02	1.63E+02	0	0	5.14E+00	0	0	8.51E+02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	3.14E+01	5.43E+02	1.15E+03	2.94E+02	1.28E+02	0	1.77E+01	0	1.04E+02	2.26E+03
NON PROCESS TRAILERS	4.88E+03	0	0	0	0	0	0	0	0	4.88E+03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.35E+02	1.95E+02	1.16E+01	1.24E+00	4.13E+02	0	2.69E+01	2.03E+03	1.45E+00	3.32E+03
PIPING (2-1/2" TO 4")	6.41E+02	3.85E+02	1.40E+01	2.38E+00	4.94E+02	0	3.93E+01	2.56E+03	0	4.13E+03
PIPING (OVER 4")	7.26E+02	3.52E+02	1.46E+01	4.59E-01	4.13E+02	0	1.02E+02	1.40E+04	3.54E+01	1.56E+04
PIPING INSULATION	1.56E-02	1.29E-02	1.19E+00	4.25E-02	1.32E-01	0	3.10E-03	3.82E-01	5.98E-04	1.78E+00
PROCESS EQUIPMENT	1.11E+03	4.82E+01	6.80E+01	1.32E+01	4.16E+03	0	1.79E+03	1.85E+00	2.81E+00	7.19E+03
PROCESS TRAILERS	1.14E+03	0	0	0	0	0	0	0	0	1.14E+03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	6.07E+00	2.96E+00	6.68E+00	1.54E+00	1.24E-02	0	0	0	0	1.73E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.43E+03	7.90E+03	4.52E+04	1.13E+04	4.40E+03	0	3.39E+03	8.35E+03	6.27E+01	8.21E+04
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	1.26E-02	3.98E-02	5.05E-01	1.90E-01	2.48E-05	0	1.22E-04	0	0	7.47E-01
WOOD	0	0	0	4.11E-02	0	0	1.19E+02	0	0	1.19E+02
Totals for: Copper	1.45E+04	1.19E+04	6.90E+04	3.59E+04	1.16E+04	1.85E+03	7.22E+03	2.98E+04	2.70E+02	**1.82E+05**

Lead

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.04E+02	3.91E-01	1.01E+01	1.86E-01	0	0	0	2.14E+02
ASPHALT	0	0	0	0	0	1.70E+02	0	0	0	1.70E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	3.32E-01	4.99E-02	1.90E+02	1.14E+00	4.76E-04	0	0	0	0	1.92E+02
CEILING DEMOLITION	3.92E-01	4.00E-03	6.59E+00	4.28E-01	0	0	0	0	0	7.41E+00
CLAY PIPING	2.25E-02	8.00E-03	7.00E-02	2.08E-02	0	0	1.00E-03	4.54E+00	0	4.66E+00
CONCRETE	1.59E+00	2.14E+00	5.26E+01	1.62E+01	4.24E+00	1.20E+00	1.18E+00	9.67E+01	9.27E-02	1.76E+02
CONCRETE BEAMS	1.10E+01	0	9.41E+00	1.83E+00	1.36E-01	0	0	0	0	2.24E+01
CONCRETE COLUMNS	5.36E+00	0	8.07E+00	2.10E-02	5.83E-02	0	3.86E-01	0	0	1.39E+01
CONCRETE FOUNDATION	1.09E+01	1.60E+02	9.78E+01	3.39E+01	2.32E+01	0	3.61E+00	1.97E-01	1.14E+00	3.31E+02
CONCRETE SLABS	7.86E+01	7.05E+01	5.38E+02	6.99E+01	1.61E+01	5.67E+02	4.76E+00	9.50E-01	2.12E+00	1.35E+03
CONCRETE WALLS	9.23E+00	5.27E-01	2.05E+01	1.35E+01	5.34E+00	0	2.06E+00	4.17E-01	2.55E+00	5.41E+01
CONDUIT/WIRE (2" AND LESS)	1.49E+02	3.46E+01	7.50E+02	1.05E+02	7.62E+01	0	6.00E+00	2.59E+01	0	1.15E+03
CONDUIT/WIRE (2-1/2" TO 4")	6.19E+01	3.32E+00	1.75E+02	2.12E+01	2.21E+00	0	3.21E+00	1.16E+01	0	2.79E+02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	2.79E+01	3.49E-03	5.29E+01	1.75E+01	0	0	1.54E+00	8.38E+00	0	1.08E+02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	4.55E+02	3.31E+02	6.60E+02	3.20E+02	6.00E-01	0	3.51E+00	0	0	1.77E+03
DRYWALL	1.80E+01	6.48E-02	2.32E+01	6.78E+00	0	0	0	0	0	4.81E+01
DUCTWORK	2.33E+03	2.10E+01	1.13E+04	2.85E+02	3.91E+00	0	2.53E+01	0	0	1.40E+04
DUCTWORK INSULATION	1.14E-01	5.58E-04	1.08E+02	8.62E-02	3.46E-05	0	4.67E-04	0	0	1.08E+02
ELECTRICAL EQUIPMENT	3.61E+02	1.89E+00	1.86E+03	3.73E+02	1.28E+01	0	1.46E+02	2.49E+01	9.68E+00	2.79E+03
ELECTRICAL FIXTURES	4.45E+02	7.52E+01	9.71E+02	3.02E+02	3.07E+01	0	3.49E+00	9.22E-01	5.92E+00	1.83E+03
ELECTRICAL TRANSFORMERS	7.46E+00	1.69E+00	8.49E+00	2.39E+01	1.86E-01	0	2.31E+01	0	7.53E-01	6.56E+01
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	3.32E+03	0	0	0	0	0	3.32E+03
EXTERIOR METAL WALL PANELS	6.04E+01	1.07E+03	1.17E+03	1.02E+03	1.01E-01	0	9.75E+00	0	0	3.32E+03
EXTERIOR TRANSITE PANELS	0	0	4.12E+02	0	0	0	0	0	0	4.12E+02
FABRIC	0	0	1.03E+01	0	0	0	0	0	0	1.03E+01
FABRIC ROOF	0	1.69E-01	0	0	0	0	0	0	0	1.69E-01
FABRIC WALLS	0	8.15E-02	0	0	0	0	0	0	0	8.15E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	5.75E-01	1.84E+03	2.10E+02	0	0	8.80E-02	0	0	2.05E+03
FLOOR TILE	6.47E+00	7.64E-03	1.63E+02	2.83E+00	4.63E-03	0	0	0	0	1.72E+02
HVAC EQUIPMENT	3.91E+02	1.10E+01	1.17E+03	2.58E+02	9.05E-01	0	8.72E-01	0	0	1.83E+03
INTERIOR METAL WALL PANELS	4.93E+01	4.11E+01	5.27E+02	1.13E+02	0	0	0	0	0	7.30E+02
INTERIOR TRANSITE PANELS	0	0	2.66E+02	0	0	0	0	0	0	2.66E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.41E+01	3.02E+01	8.79E+01	5.47E+01	0	0	2.96E+01	0	0	2.17E+02
MASONRY	3.08E-01	0	1.92E+02	6.72E-01	0	0	0	0	0	1.93E+02
MASONRY WALLS	3.62E+01	5.54E+00	3.63E+02	3.54E+01	8.56E-02	0	0	0	0	4.40E+02
MATERIAL HANDLING EQUIPMENT	1.02E+01	5.58E-02	1.51E+03	2.10E+02	1.35E+00	0	1.03E+00	0	0	1.73E+03
METAL PANEL ROOF	5.75E+01	1.25E+03	7.98E+02	7.56E+02	0	0	2.60E+01	0	0	2.89E+03
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.78E+00	1.71E+02	3.33E+02	9.60E+01	2.40E+01	0	3.59E+00	0	4.37E+01	6.72E+02
NON PROCESS TRAILERS	3.86E+02	0	0	0	0	0	0	0	0	3.86E+02
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	3.91E+02	8.27E+01	1.81E+03	1.87E+02	9.36E+01	0	8.26E+00	6.27E+02	9.48E-01	3.20E+03
PIPING (2-1/2" TO 4")	3.03E+02	8.45E+01	2.41E+03	4.12E+02	8.88E+01	0	9.68E+00	3.44E+02	0	3.66E+03
PIPING (OVER 4")	2.21E+02	8.08E+01	1.98E+03	8.91E+01	5.14E+01	0	2.01E+01	4.32E+02	1.34E+01	2.89E+03
PIPING INSULATION	1.41E-01	2.01E-02	1.12E+02	9.13E-01	7.54E-03	0	1.58E-03	1.95E-01	3.05E-04	1.13E+02
PROCESS EQUIPMENT	3.80E+02	5.32E+00	1.39E+04	2.43E+03	8.01E+02	0	2.26E+03	1.96E+00	9.30E-01	1.98E+04
PROCESS TRAILERS	1.46E+02	0	0	0	0	0	0	0	0	1.46E+02
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.09E+00	1.51E+00	3.40E+00	7.86E-01	6.31E-03	0	0	0	0	8.79E+00
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	7.12E+02	3.04E+03	1.67E+04	6.09E+03	2.04E+03	0	1.07E+03	4.26E-02	2.43E+01	2.96E+04
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	4.75E+02	0	0	0	0	0	0	4.75E+02
WINDOWS	3.61E+01	1.47E+01	9.82E+01	2.99E+01	1.48E-02	0	7.42E-02	0	0	1.79E+02
WOOD	0	0	0	1.46E-01	0	0	2.11E-01	0	0	3.57E-01
Totals for: Lead	7.18E+03	6.59E+03	6.34E+04	1.69E+04	3.28E+03	7.39E+02	3.66E+03	1.58E+03	1.05E+02	**1.03E+05**

001703

Attachment B. I (Continued)

Manganese

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.26E+01	1.80E+00	2.01E+01	2.28E-01	0	0	0	9.47E+01
ASPHALT	0	0	0	0	0	8.90E+03	0	0	0	8.90E+03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.48E+00	9.02E-01	5.81E+00	2.15E+00	2.20E-02	0	0	0	0	1.04E+01
CEILING DEMOLITION	1.77E+00	5.61E-02	1.42E+00	4.77E-01	0	0	0	0	0	3.72E+00
CLAY PIPING	1.04E+00	3.70E-01	3.24E+00	9.61E-01	0	0	4.63E-02	2.10E+02	0	2.16E+02
CONCRETE	1.40E+02	1.87E+02	3.95E+03	1.39E+03	3.46E+02	8.44E+01	1.03E+02	8.48E+03	8.12E+00	1.47E+04
CONCRETE BEAMS	8.57E+02	0	7.05E+02	1.43E+02	1.19E+01	0	0	0	0	1.72E+03
CONCRETE COLUMNS	3.50E+02	0	2.57E+02	1.63E+00	5.10E+00	0	1.09E+01	0	0	6.24E+02
CONCRETE FOUNDATION	9.58E+02	1.41E+04	8.57E+03	2.97E+03	2.03E+03	0	3.16E+02	1.73E+01	9.99E+01	2.90E+04
CONCRETE SLABS	5.78E+03	5.39E+03	1.31E+04	4.46E+03	1.02E+03	3.92E+04	1.98E+02	5.43E+01	1.78E+02	6.94E+04
CONCRETE WALLS	8.02E+02	3.80E+01	1.42E+03	1.18E+03	4.63E+02	0	1.55E+02	2.78E+01	2.23E+02	4.30E+03
CONDUIT/WIRE (2" AND LESS)	1.14E+03	7.03E+02	1.02E+04	1.39E+03	1.98E+03	0	1.30E+02	3.48E+02	2.54E+01	1.59E+04
CONDUIT/WIRE (2-1/2" TO 4")	1.36E+03	1.82E+02	5.22E+03	5.64E+02	9.37E+02	0	1.38E+02	4.53E+02	7.19E+00	8.86E+03
CONDUIT/WIRE/CABLE TRAY (OVER 4")	7.36E+02	2.04E+01	9.39E+02	3.56E+02	0	0	6.52E+01	3.46E+02	8.15E-01	2.46E+03
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	7.29E+02	6.75E+02	1.11E+03	5.45E+02	2.25E+00	0	1.45E+01	0	0	3.08E+03
DRYWALL	8.45E+01	1.57E+00	3.92E+01	5.36E+00	0	0	0	0	0	1.31E+02
DUCTWORK	2.14E+03	4.28E+01	1.08E+04	3.79E+02	1.05E+01	0	6.13E+01	0	0	1.35E+04
DUCTWORK INSULATION	4.86E-01	1.38E-02	2.98E+00	1.28E-01	2.57E-03	0	2.16E-02	0	0	3.63E+00
ELECTRICAL EQUIPMENT	1.11E+03	3.47E+01	1.23E+04	1.87E+03	5.26E+02	0	7.03E+02	1.19E+02	2.58E+01	1.67E+04
ELECTRICAL FIXTURES	5.10E+02	1.23E+02	1.32E+03	3.72E+02	1.12E+02	0	8.66E+00	1.69E+00	6.61E+00	2.46E+03
ELECTRICAL TRANSFORMERS	2.84E+02	2.40E+02	6.16E+02	3.68E+02	5.24E+01	0	3.39E+03	0	5.27E+01	5.01E+03
ELECTRICAL WIRING	0	2.16E+01	1.19E+02	0	0	0	0	7.44E+02	0	8.84E+02
EQUIPMENT AND MISCELLANEOUS	0	0	0	5.62E+04	0	0	0	0	0	5.62E+04
EXTERIOR METAL WALL PANELS	1.26E+02	9.62E+02	5.50E+02	5.69E+02	6.19E+00	0	8.86E+00	0	0	2.22E+03
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	3.81E-01	0	0	0	0	0	0	3.81E-01
FABRIC ROOF	0	4.45E+00	0	0	0	0	0	0	0	4.45E+00
FABRIC WALLS	0	2.03E+00	0	0	0	0	0	0	0	2.03E+00
FEEDER CABLE	0	0	0	0	0	0	0	4.81E+03	0	4.81E+03
FIRE BRICK	0	8.21E+00	4.21E+01	8.32E+01	0	0	4.07E+00	0	0	1.38E+02
FLOOR TILE	2.92E+01	1.16E-01	1.30E+01	3.14E+00	2.14E-01	0	0	0	0	4.56E+01
HVAC EQUIPMENT	1.12E+03	8.85E+01	3.69E+03	6.12E+02	1.14E+02	0	3.04E+01	0	0	5.65E+03
INTERIOR METAL WALL PANELS	2.44E+01	2.04E+01	2.29E+02	7.19E+01	0	0	0	0	0	3.46E+02
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.07E+01	7.29E+01	1.84E+02	8.66E+01	0	0	8.08E+01	0	0	4.45E+02
MASONRY	9.84E+00	0	1.04E+02	1.54E+01	0	0	0	0	0	1.29E+02
MASONRY WALLS	1.17E+03	2.41E+02	7.28E+02	5.88E+02	4.03E+00	0	0	0	0	2.73E+03
MATERIAL HANDLING EQUIPMENT	4.49E+01	1.10E+02	8.72E+03	1.67E+03	1.53E+02	0	2.85E+01	0	0	1.07E+04
METAL PANEL ROOF	1.58E+02	1.37E+03	3.47E+02	4.48E+02	0	0	1.42E+01	0	0	2.34E+03
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	8.62E+01	1.49E+03	3.15E+03	8.07E+02	3.52E+02	0	4.87E+01	0	2.85E+02	6.22E+03
NON PROCESS TRAILERS	1.34E+04	0	0	0	0	0	0	0	0	1.34E+04
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.75E+03	5.36E+02	1.51E+04	2.06E+03	1.14E+03	0	7.42E+01	5.59E+03	3.99E+00	2.63E+04
PIPING (2-1/2" TO 4")	1.76E+03	1.06E+03	1.53E+04	2.44E+03	1.36E+03	0	1.08E+02	7.03E+03	0	2.90E+04
PIPING (OVER 4")	2.00E+03	9.67E+02	1.02E+04	2.73E+03	1.14E+03	0	2.81E+02	3.85E+04	9.73E+01	5.59E+04
PIPING INSULATION	5.49E-01	3.51E-01	3.78E+00	9.48E-01	4.78E-01	0	7.31E-02	9.01E+00	1.41E-02	1.52E+01
PROCESS EQUIPMENT	3.04E+03	1.33E+02	1.71E+05	2.69E+04	1.14E+04	0	4.93E+03	5.08E+00	7.72E+00	2.18E+05
PROCESS TRAILERS	3.13E+03	0	0	0	0	0	0	0	0	3.13E+03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.43E+02	6.97E+01	1.57E+02	3.64E+01	2.92E-01	0	0	0	0	4.07E+02
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	3.94E+03	2.17E+04	1.24E+05	3.10E+04	1.21E+04	0	9.34E+03	2.30E+04	1.72E+02	2.26E+05
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	4.74E-02	1.44E-01	1.15E+00	4.36E-01	1.50E-04	0	5.59E-04	0	0	1.77E+00
WOOD	0	0	0	1.86E-01	0	0	3.42E+00	0	0	3.60E+00
Totals for: Manganese	4.90E+04	5.06E+04	4.25E+05	1.42E+05	3.53E+04	4.82E+04	2.02E+04	8.97E+04	1.19E+03	**8.62E+05**

Mercury

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	4.61E-01	1.34E-01	7.61E-01	5.28E-03	0	0	0	1.36E+00
ASPHALT	0	0	0	0	0	3.86E+00	0	0	0	3.86E+00
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	8.95E-03	4.19E-04	3.50E-02	6.10E-03	9.76E-06	0	0	0	0	5.05E-02
CEILING DEMOLITION	9.58E-03	1.95E-05	4.84E-03	1.61E-03	0	0	0	0	0	1.60E-02
CLAY PIPING	4.61E-04	1.64E-04	1.44E-03	4.25E-04	0	0	2.05E-05	9.31E-02	0	9.56E-02
CONCRETE	9.06E-03	1.21E-02	2.75E-01	9.34E-02	2.29E-02	5.70E-03	6.67E-03	5.50E-01	5.27E-04	9.75E-01
CONCRETE BEAMS	6.08E-02	0	1.42E-01	1.97E-02	7.72E-04	0	0	0	0	2.23E-01
CONCRETE COLUMNS	2.62E-02	0	5.32E-02	1.19E-04	3.31E-04	0	7.77E-04	0	0	8.06E-02
CONCRETE FOUNDATION	6.21E-02	9.11E-01	5.56E-01	1.93E-01	1.32E-01	0	2.05E-02	1.12E-03	6.48E-03	1.88E+00
CONCRETE SLABS	4.07E-01	3.59E-01	1.37E+00	7.73E-01	1.74E-01	2.83E+00	1.35E-02	3.47E-03	1.20E-02	5.94E+00
CONCRETE WALLS	5.24E-02	2.46E-03	9.75E-02	7.66E-02	3.05E-02	0	1.04E-02	1.78E-03	1.45E-02	2.86E-01
CONDUIT/WIRE (2" AND LESS)	9.93E-04	2.33E-03	7.18E-02	1.07E-02	9.74E-03	0	8.19E-04	2.73E-05	0	9.65E-02
CONDUIT/WIRE (2-1/2" TO 4")	4.12E-04	1.79E-04	1.41E-02	1.55E-03	2.12E-04	0	4.93E-04	1.22E-05	0	1.69E-02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.87E-04	4.44E-07	4.75E-03	3.03E-04	0	0	2.31E-04	8.82E-06	0	5.48E-03
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	6.60E-03	3.05E-02	5.40E-02	2.86E-02	7.96E-05	0	6.08E-04	0	0	1.20E-01
DRYWALL	3.84E-01	6.37E-04	1.17E-01	3.47E-02	0	0	0	0	0	5.37E-01
DUCTWORK	2.48E-02	2.70E-03	1.04E+00	4.08E-02	6.32E-04	0	4.17E-03	0	0	1.11E+00
DUCTWORK INSULATION	3.39E-03	5.61E-06	1.94E-02	4.68E-04	1.64E-06	0	9.58E-06	0	0	2.33E-02
ELECTRICAL EQUIPMENT	3.01E-03	1.83E-04	1.82E-01	2.68E-02	5.73E-03	0	1.81E-02	3.94E-05	7.49E-04	2.37E-01
ELECTRICAL FIXTURES	4.35E-03	8.23E-03	9.08E-02	2.93E-02	4.58E-03	0	5.66E-04	1.39E-05	4.58E-04	1.38E-01
ELECTRICAL TRANSFORMERS	8.89E-05	1.70E-04	7.76E-04	1.76E-03	2.16E-05	0	3.47E-03	0	5.82E-05	6.34E-03
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.57E-01	0	0	0	0	0	2.57E-01
EXTERIOR METAL WALL PANELS	4.02E-03	1.23E-01	1.03E-01	7.33E-02	9.81E-04	0	1.46E-03	0	0	3.06E-01
EXTERIOR TRANSITE PANELS	0	0	1.73E+00	0	0	0	0	0	0	1.73E+00
FABRIC	0	0	1.78E-03	0	0	0	0	0	0	1.78E-03
FABRIC ROOF	0	1.83E-03	0	0	0	0	0	0	0	1.83E-03
FABRIC WALLS	0	8.27E-04	0	0	0	0	0	0	0	8.27E-04
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.15E-03	3.05E-01	1.06E+00	0	0	1.80E-03	0	0	1.37E+00
FLOOR TILE	1.82E-01	5.87E-05	5.51E-02	1.38E-02	9.49E-05	0	0	0	0	2.51E-01
HVAC EQUIPMENT	3.65E-03	8.72E-04	7.75E-02	1.90E-02	5.00E-04	0	1.30E-03	0	0	1.03E-01
INTERIOR METAL WALL PANELS	3.81E-03	3.18E-03	5.75E-02	7.64E-03	0	0	0	0	0	7.21E-02
INTERIOR TRANSITE PANELS	0	0	1.12E+00	0	0	0	0	0	0	1.12E+00
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.13E-04	3.04E-03	6.88E-03	4.55E-03	0	0	4.44E-03	0	0	1.90E-02
MASONRY	7.55E-03	0	7.79E-02	1.71E-02	0	0	0	0	0	1.03E-01
MASONRY WALLS	8.46E-01	1.07E-01	4.30E-01	3.74E-01	1.82E-03	0	0	0	0	1.76E+00
MATERIAL HANDLING EQUIPMENT	6.75E-05	9.44E-06	1.15E-01	1.57E-02	7.42E-04	0	1.80E-04	0	0	1.32E-01
METAL PANEL ROOF	3.75E-03	1.76E-01	6.70E-02	5.06E-02	0	0	2.23E-03	0	0	2.99E-01
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.97E-05	1.62E-02	3.45E-02	1.04E-02	2.85E-03	0	4.79E-04	0	3.38E-03	6.78E-02
NON PROCESS TRAILERS	2.57E-03	0	0	0	0	0	0	0	0	2.57E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	3.54E-03	7.14E-03	1.61E-01	1.51E-02	1.33E-02	0	1.32E-03	6.60E-04	7.34E-05	2.02E-01
PIPING (2-1/2" TO 4")	2.26E-03	1.03E-02	1.84E-01	2.90E-02	1.27E-02	0	1.55E-03	3.62E-04	0	2.40E-01
PIPING (OVER 4")	1.48E-03	7.56E-03	1.58E-01	5.89E-03	1.11E-02	0	3.00E-03	4.55E-04	1.04E-03	1.89E-01
PIPING INSULATION	4.18E-03	1.40E-04	2.18E-02	4.89E-03	2.79E-04	0	3.24E-05	3.99E-03	6.24E-06	3.53E-02
PROCESS EQUIPMENT	4.14E-03	4.15E-04	1.42E+00	1.64E-01	1.30E-01	0	3.41E-01	1.24E-04	7.20E-05	2.06E+00
PROCESS TRAILERS	9.72E-04	0	0	0	0	0	0	0	0	9.72E-04
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	6.34E-02	3.09E-02	6.97E-02	1.61E-02	1.29E-04	0	0	0	0	1.80E-01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.97E-02	2.73E-01	1.88E+00	5.36E-01	1.84E-01	0	1.60E-01	3.30E-06	1.88E-03	3.05E+00
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	1.24E+00	0	0	0	0	0	0	1.24E+00
WINDOWS	3.96E-04	6.71E-04	9.83E-03	2.54E-03	1.96E-06	0	1.29E-05	0	0	1.35E-02
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Mercury	2.22E+00	2.10E+00	1.39E+01	4.15E+00	1.50E+00	6.70E+00	5.99E-01	6.55E-01	4.13E-02	**3.19E+01**

001705

Attachment B. I (Continued)

Nickel

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	5.42E+01	5.71E-01	5.02E-01	3.64E-01	0	0	0	5.56E+01
ASPHALT	0	0	0	0	0	1.98E+02	0	0	0	1.98E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	3.61E-02	3.47E-02	6.42E-01	6.23E-02	6.73E-04	0	0	0	0	7.76E-01
CEILING DEMOLITION	4.65E-02	2.13E-03	1.01E-01	1.38E-02	0	0	0	0	0	1.64E-01
CLAY PIPING	3.18E-02	1.13E-02	9.89E-02	2.93E-02	0	0	1.41E-03	6.42E+00	0	6.59E+00
CONCRETE	4.81E+00	6.45E+00	1.37E+02	4.75E+01	1.19E+01	3.33E+00	3.55E+00	2.92E+02	2.80E-01	5.07E+02
CONCRETE BEAMS	3.21E+01	0	2.48E+01	5.05E+00	4.10E-01	0	0	0	0	6.24E+01
CONCRETE COLUMNS	1.28E+01	0	1.02E+01	5.08E-02	1.76E-01	0	3.65E-01	0	0	2.35E+01
CONCRETE FOUNDATION	3.30E+01	4.84E+02	2.95E+02	1.02E+02	7.00E+01	0	1.09E+01	5.95E-01	3.44E+00	1.00E+03
CONCRETE SLABS	2.14E+02	1.88E+02	4.82E+02	1.65E+02	3.69E+01	1.35E+03	6.96E+00	1.84E+00	6.37E+00	2.45E+03
CONCRETE WALLS	2.75E+01	1.31E+00	5.00E+01	4.04E+01	1.60E+01	0	5.35E+00	9.48E-01	7.69E+00	1.49E+02
CONDUIT/WIRE (2" AND LESS)	8.99E-03	1.87E-02	1.60E+00	1.08E+00	2.16E-02	0	5.02E-03	7.65E-03	0	2.75E+00
CONDUIT/WIRE (2-1/2" TO 4")	3.73E-03	1.87E-03	2.82E-01	1.55E-01	1.20E-03	0	2.91E-03	3.42E-03	0	4.50E-01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.68E-03	1.28E-04	6.86E-02	1.96E-02	0	0	1.36E-03	2.47E-03	0	9.38E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.42E-01	2.94E-01	1.07E+00	1.81E+00	3.65E-04	0	3.25E-03	0	0	3.32E+00
DRYWALL	2.22E+00	5.26E-02	2.68E+00	2.43E-01	0	0	0	0	0	5.19E+00
DUCTWORK	5.13E-01	2.86E-02	1.71E+01	3.57E+00	1.37E-03	0	2.34E-02	0	0	2.12E+01
DUCTWORK INSULATION	1.22E-02	4.60E-04	3.51E-01	4.15E-03	1.46E-04	0	6.60E-04	0	0	3.68E-01
ELECTRICAL EQUIPMENT	7.07E-02	2.40E-03	3.03E+00	1.31E+00	1.56E-02	0	1.50E-01	7.50E-03	1.24E-02	4.60E+00
ELECTRICAL FIXTURES	7.46E-02	7.55E-02	1.78E+00	2.12E+00	1.21E-02	0	3.48E-03	4.39E-04	7.59E-03	4.07E+00
ELECTRICAL TRANSFORMERS	1.24E-03	1.61E-03	1.53E-02	1.06E-01	2.09E-04	0	2.05E-02	0	9.65E-04	1.46E-01
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	4.26E+00	0	0	0	0	0	4.26E+00
EXTERIOR METAL WALL PANELS	3.18E-01	1.13E+00	1.97E+00	2.71E+00	7.06E-04	0	8.62E-03	0	0	6.14E+00
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	3.54E-02	0	0	0	0	0	0	3.54E-02
FABRIC ROOF	0	1.47E-01	0	0	0	0	0	0	0	1.47E-01
FABRIC WALLS	0	6.76E-02	0	0	0	0	0	0	0	6.76E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.19E-01	5.48E+00	6.35E+00	0	0	1.24E-01	0	0	1.23E+01
FLOOR TILE	7.43E-01	4.88E-03	1.11E+00	9.78E-02	6.54E-03	0	0	0	0	1.96E+00
HVAC EQUIPMENT	5.98E-02	1.27E-02	1.69E+00	1.63E+00	1.09E-03	0	7.73E-03	0	0	3.40E+00
INTERIOR METAL WALL PANELS	6.32E-02	5.27E-02	1.07E+00	1.36E-01	0	0	0	0	0	1.33E+00
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.18E-03	3.82E-02	1.47E-01	3.45E-01	0	0	2.62E-02	0	0	5.57E-01
MASONRY	3.00E-01	0	3.63E+00	4.72E-01	0	0	0	0	0	4.41E+00
MASONRY WALLS	3.54E+01	7.44E+00	2.38E+01	1.81E+01	1.28E-01	0	0	0	0	8.48E+01
MATERIAL HANDLING EQUIPMENT	6.12E-04	8.36E-04	1.48E+00	8.85E-01	1.62E-03	0	6.25E-04	0	0	2.37E+00
METAL PANEL ROOF	4.01E-01	1.45E+00	1.42E+00	1.43E+00	0	0	3.22E-02	0	0	4.74E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.49E-02	1.61E-01	5.92E-01	8.16E-01	2.78E-02	0	3.36E-03	0	5.61E-02	1.67E+00
NON PROCESS TRAILERS	2.33E-02	0	0	0	0	0	0	0	0	2.33E-02
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.67E-02	5.63E-02	1.06E+05	1.44E+04	1.01E-01	0	6.64E-03	1.85E-01	1.22E-03	1.20E+05
PIPING (2-1/2" TO 4")	3.01E-02	8.70E-02	1.07E+05	1.70E+04	6.94E-02	0	8.30E-03	1.01E-01	0	1.24E+05
PIPING (OVER 4")	2.80E-02	6.05E-02	7.13E+04	1.91E+04	6.97E-02	0	1.75E-02	1.27E-01	1.72E-02	9.04E+04
PIPING INSULATION	1.24E-02	1.29E-02	4.06E-01	4.39E-02	2.37E-02	0	2.23E-03	2.75E-01	4.30E-04	7.77E-01
PROCESS EQUIPMENT	5.09E-02	7.14E-03	1.20E+06	1.88E+05	9.74E-01	0	1.97E+00	2.16E-03	1.19E-03	1.39E+06
PROCESS TRAILERS	8.81E-03	0	0	0	0	0	0	0	0	8.81E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	4.37E+00	2.13E+00	4.81E+00	1.11E+00	8.92E-03	0	0	0	0	1.24E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	4.70E-01	2.65E+00	3.46E+01	3.42E+01	2.62E+00	0	9.50E-01	5.46E-05	3.11E-02	7.55E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	4.87E-03	1.37E-02	1.98E-01	2.30E-01	9.00E-06	0	4.35E-05	0	0	4.46E-01
WOOD	0	0	0	0	0	0	3.37E-02	0	0	3.37E-02
Totals for: Nickel	3.69E+02	6.96E+02	1.48E+06	2.39E+05	1.40E+02	1.55E+03	3.05E+01	3.03E+02	1.79E+01	**1.73E+06**

Selenium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.10E+00	0	0	0	0	0	0	2.10E+00
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	2.51E-03	1.24E-03	8.61E-03	3.37E-03	2.41E-05	0	0	0	0	1.58E-02
CEILING DEMOLITION	3.16E-03	7.64E-05	2.49E-03	1.02E-03	0	0	0	0	0	6.74E-03
CLAY PIPING	1.14E-03	4.06E-04	3.55E-03	1.05E-03	0	0	5.07E-05	2.30E-01	0	2.36E-01
CONCRETE	0	0	6.45E-01	1.93E-02	0	0	0	0	0	6.64E-01
CONCRETE BEAMS	2.92E-01	0	0	1.16E-03	0	0	0	0	0	2.93E-01
CONCRETE COLUMNS	3.16E-01	0	3.86E-01	7.00E-04	0	0	5.38E-03	0	0	7.09E-01
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	1.91E+00	8.19E-01	3.74E+00	1.20E-01	2.72E-01	0	3.44E-03	7.76E-03	2.08E-03	6.87E+00
CONCRETE WALLS	0	1.82E-02	9.26E-03	1.72E-02	5.54E-02	0	2.81E-02	0	2.03E-03	1.30E-01
CONDUIT/WIRE (2" AND LESS)	0	7.72E-05	9.25E-02	9.15E-04	4.29E-02	0	0	0	0	1.36E-01
CONDUIT/WIRE (2-1/2" TO 4")	0	7.03E-06	1.52E-02	1.29E-04	1.51E-03	0	0	0	0	1.68E-02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	5.84E-03	9.55E-05	0	0	0	0	0	5.93E-03
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.71E-03	1.53E-03	8.53E-02	2.12E-03	2.69E-04	0	3.41E-05	0	0	9.09E-02
DRYWALL	1.51E-01	1.89E-03	7.03E-02	1.60E-02	0	0	0	0	0	2.40E-01
DUCTWORK	6.08E-03	1.21E-04	1.28E+00	3.01E-03	1.75E-03	0	1.74E-04	0	0	1.29E+00
DUCTWORK INSULATION	8.28E-04	1.65E-05	4.16E-03	2.33E-04	4.07E-06	0	2.37E-05	0	0	5.26E-03
ELECTRICAL EQUIPMENT	1.35E-03	1.89E-05	1.97E-01	2.01E-03	1.75E-02	0	7.99E-04	1.55E-04	3.36E-05	2.19E-01
ELECTRICAL FIXTURES	1.60E-03	3.67E-04	1.37E-01	2.08E-03	1.59E-02	0	2.70E-05	5.29E-06	2.06E-05	1.57E-01
ELECTRICAL TRANSFORMERS	2.60E-05	7.94E-06	1.59E-03	1.11E-04	6.04E-05	0	1.48E-04	0	2.61E-06	1.94E-03
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.15E-02	0	0	0	0	0	1.15E-02
EXTERIOR METAL WALL PANELS	8.94E-04	6.61E-03	1.59E-01	4.73E-03	2.24E-03	0	6.23E-05	0	0	1.73E-01
EXTERIOR TRANSITE PANELS	0	0	3.83E+02	0	0	0	0	0	0	3.83E+02
FABRIC	0	0	4.92E-04	0	0	0	0	0	0	4.92E-04
FABRIC ROOF	0	5.26E-03	0	0	0	0	0	0	0	5.26E-03
FABRIC WALLS	0	2.43E-03	0	0	0	0	0	0	0	2.43E-03
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.15E-02	5.55E-02	4.68E-01	0	0	4.46E-03	0	0	5.39E-01
FLOOR TILE	4.99E-02	1.75E-04	2.23E-02	6.41E-03	2.35E-04	0	0	0	0	7.89E-02
HVAC EQUIPMENT	1.40E-03	3.83E-05	1.34E-01	1.41E-03	1.58E-03	0	5.96E-05	0	0	1.38E-01
INTERIOR METAL WALL PANELS	1.71E-04	1.43E-04	1.14E-01	5.05E-04	0	0	0	0	0	1.15E-01
INTERIOR TRANSITE PANELS	0	0	2.98E+02	0	0	0	0	0	0	2.98E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.86E-05	1.69E-04	8.43E-03	3.61E-04	0	0	1.89E-04	0	0	9.20E-03
MASONRY	1.10E-02	0	1.15E-01	1.73E-02	0	0	0	0	0	1.43E-01
MASONRY WALLS	1.32E+00	2.67E-01	8.15E-01	6.81E-01	4.50E-03	0	0	0	0	3.09E+00
MATERIAL HANDLING EQUIPMENT	3.50E-05	1.98E-05	6.13E-02	1.07E-03	2.35E-03	0	1.02E-05	0	0	6.48E-02
METAL PANEL ROOF	1.12E-03	9.52E-03	1.34E-01	3.39E-03	0	0	9.92E-05	0	0	1.48E-01
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	4.59E-05	7.70E-04	3.88E-02	8.01E-04	5.56E-03	0	2.60E-05	0	1.52E-04	4.61E-02
NON PROCESS TRAILERS	1.33E-03	0	0	0	0	0	0	0	0	1.33E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.42E-03	4.11E-04	2.51E-01	1.25E-03	3.05E-02	0	6.12E-05	3.91E-03	3.29E-06	2.89E-01
PIPING (2-1/2" TO 4")	1.06E-03	6.28E-04	3.52E-01	2.54E-03	3.06E-02	0	6.65E-05	2.15E-03	0	3.89E-01
PIPING (OVER 4")	8.01E-04	4.52E-04	2.71E-01	4.49E-04	1.83E-02	0	1.34E-04	2.70E-03	4.65E-05	2.94E-01
PIPING INSULATION	9.81E-04	4.62E-04	6.18E-03	2.62E-03	6.91E-04	0	8.01E-05	9.88E-03	1.54E-05	2.09E-02
PROCESS EQUIPMENT	1.31E-03	2.84E-05	1.54E+00	1.57E-02	2.72E-01	0	1.48E-02	7.85E-06	3.23E-06	1.84E+00
PROCESS TRAILERS	5.04E-04	0	0	0	0	0	0	0	0	5.04E-04
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.92E-03	1.31E-02	2.49E+00	3.64E-02	8.58E-02	0	6.89E-03	1.48E-07	8.42E-05	2.63E+00
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.95E+02	0	0	0	0	0	0	2.95E+02
WINDOWS	1.24E-04	9.57E-05	1.32E-02	2.04E-04	6.63E-06	0	7.17E-07	0	0	1.36E-02
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Selenium	4.08E+00	1.16E+00	9.92E+02	1.45E+00	8.62E-01	0	6.51E-02	2.57E-01	4.47E-03	**1.00E+03**

001707

Attachment B. I (Continued)

Silver

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	5.74E+00	1.78E-02	5.17E+00	4.45E-02	0	0	0	1.10E+01
ASPHALT	0	0	0	0	0	3.17E+02	0	0	0	3.17E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	8.33E-02	4.13E-02	1.01E+00	7.74E-02	8.01E-04	0	0	0	0	1.22E+00
CEILING DEMOLITION	1.05E-01	2.54E-03	9.73E-02	1.45E-02	0	0	0	0	0	2.19E-01
CLAY PIPING	3.79E-02	1.35E-02	1.18E-01	3.49E-02	0	0	1.68E-03	7.64E+00	0	7.85E+00
CONCRETE	2.81E+00	3.76E+00	7.92E+01	2.79E+01	6.96E+00	1.77E+00	2.07E+00	1.70E+02	1.63E-01	2.95E+02
CONCRETE BEAMS	1.69E+01	0	1.43E+01	2.88E+00	2.39E-01	0	0	0	0	3.43E+01
CONCRETE COLUMNS	6.09E+00	0	5.31E+00	3.56E-02	1.03E-01	0	1.98E-01	0	0	1.17E+01
CONCRETE FOUNDATION	1.93E+01	2.83E+02	1.72E+02	5.97E+01	4.08E+01	0	6.36E+00	3.47E-01	2.01E+00	5.83E+02
CONCRETE SLABS	1.12E+02	1.10E+02	2.74E+02	8.53E+01	2.08E+01	7.94E+02	4.09E+00	1.07E+00	3.70E+00	1.40E+03
CONCRETE WALLS	1.63E+01	7.61E-01	2.83E+01	2.37E+01	9.42E+00	0	3.09E+00	5.53E-01	4.47E+00	8.66E+01
CONDUIT/WIRE (2" AND LESS)	1.36E-03	9.08E-04	1.20E-01	2.15E-03	1.39E-03	0	4.74E-05	2.73E-04	0	1.26E-01
CONDUIT/WIRE (2-1/2" TO 4")	5.65E-04	1.11E-04	2.55E-02	4.68E-04	4.25E-05	0	2.19E-05	1.22E-04	0	2.68E-02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	2.54E-04	2.15E-05	4.88E-03	9.45E-05	0	0	1.08E-05	8.82E-05	0	5.35E-03
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	6.15E-03	1.13E-02	9.75E-02	1.04E-02	1.08E-05	0	1.69E-04	0	0	1.26E-01
DRYWALL	5.02E+00	6.27E-02	2.36E+00	1.20E-01	0	0	0	0	0	7.57E+00
DUCTWORK	2.80E-02	9.34E-04	1.29E+00	9.79E-03	1.24E-04	0	5.22E-04	0	0	1.33E+00
DUCTWORK INSULATION	2.75E-02	5.48E-04	5.73E-01	4.10E-03	3.03E-05	0	7.86E-04	0	0	6.06E-01
ELECTRICAL EQUIPMENT	4.25E-03	1.30E-04	2.07E-01	1.07E-02	2.48E-03	0	2.70E-03	2.65E-04	2.59E-04	2.28E-01
ELECTRICAL FIXTURES	4.91E-03	2.75E-03	1.34E-01	1.01E-02	1.13E-03	0	1.15E-04	1.25E-05	1.58E-04	1.54E-01
ELECTRICAL TRANSFORMERS	8.01E-05	5.83E-05	1.27E-03	6.34E-04	9.57E-06	0	1.62E-04	0	2.02E-05	2.23E-03
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	8.90E-02	0	0	0	0	0	8.90E-02
EXTERIOR METAL WALL PANELS	6.71E-03	4.58E-02	1.40E-01	3.17E-02	3.40E-04	0	6.82E-05	0	0	2.24E-01
EXTERIOR TRANSITE PANELS	0	0	1.98E+02	0	0	0	0	0	0	1.98E+02
FABRIC	0	0	5.98E-02	0	0	0	0	0	0	5.98E-02
FABRIC ROOF	0	1.75E-01	0	0	0	0	0	0	0	1.75E-01
FABRIC WALLS	0	8.05E-02	0	0	0	0	0	0	0	8.05E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.80E-01	9.62E+00	4.68E-02	0	0	1.48E-01	0	0	1.02E+01
FLOOR TILE	1.65E+00	5.81E-03	1.34E+00	9.84E-02	7.79E-03	0	0	0	0	3.10E+00
HVAC EQUIPMENT	4.21E-03	2.99E-04	1.90E-01	6.90E-03	2.18E-04	0	4.54E-04	0	0	2.02E-01
INTERIOR METAL WALL PANELS	1.32E-03	1.10E-03	7.84E-02	3.89E-03	0	0	0	0	0	8.47E-02
INTERIOR TRANSITE PANELS	0	0	1.13E+02	0	0	0	0	0	0	1.13E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.34E-04	1.22E-03	1.46E-02	1.70E-03	0	0	2.07E-04	0	0	1.78E-02
MASONRY	3.66E-01	0	4.62E+00	5.74E-01	0	0	0	0	0	5.56E+00
MASONRY WALLS	4.37E+01	8.86E+00	2.83E+01	2.13E+01	1.42E-01	0	0	0	0	1.02E+02
MATERIAL HANDLING EQUIPMENT	9.28E-05	1.39E-04	1.22E-01	5.74E-03	3.24E-04	0	7.90E-05	0	0	1.29E-01
METAL PANEL ROOF	8.47E-03	6.11E-02	1.15E-01	2.45E-02	0	0	6.37E-04	0	0	2.10E-01
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	3.24E-04	5.65E-03	4.02E-02	3.60E-03	1.02E-03	0	1.34E-04	0	1.17E-03	5.21E-02
NON PROCESS TRAILERS	3.53E-03	0	0	0	0	0	0	0	0	3.53E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	4.36E-03	2.73E-03	2.58E-01	4.41E-03	4.95E-03	0	2.27E-04	6.60E-03	2.54E-05	2.81E-01
PIPING (2-1/2" TO 4")	2.98E-03	4.49E-03	3.89E-01	1.06E-02	3.81E-03	0	1.74E-04	3.62E-03	0	4.15E-01
PIPING (OVER 4")	2.33E-03	2.93E-03	3.51E-01	1.95E-03	3.89E-03	0	1.80E-04	4.55E-03	3.58E-04	3.67E-01
PIPING INSULATION	3.26E-02	1.54E-02	6.19E-01	2.28E-02	8.95E-03	0	2.66E-03	3.28E-01	5.13E-04	1.03E+00
PROCESS EQUIPMENT	3.87E-03	2.13E-04	1.75E+00	6.00E-02	5.68E-02	0	2.29E-02	4.66E-05	2.49E-05	1.89E+00
PROCESS TRAILERS	1.34E-03	0	0	0	0	0	0	0	0	1.34E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	5.20E+00	2.53E+00	5.72E+00	1.32E+00	1.06E-02	0	0	0	0	1.48E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.38E-02	9.89E-02	2.06E+00	1.89E-01	6.61E-02	0	9.67E-03	1.14E-06	6.50E-04	2.44E+00
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.38E+02	0	0	0	0	0	0	2.38E+02
WINDOWS	3.68E-04	7.18E-04	1.28E-02	9.21E-04	2.67E-07	0	5.53E-06	0	0	1.48E-02
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Silver	2.30E+02	4.09E+02	1.19E+03	2.24E+02	8.38E+01	1.11E+03	1.60E+01	1.80E+02	1.04E+01	3.46E+03

Thallium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.97E-01	4.02E-03	6.96E-02	5.84E-03	0	0	0	2.76E-01
ASPHALT	0	0	0	0	0	4.27E+00	0	0	0	4.27E+00
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.12E-03	5.56E-04	1.85E-03	1.18E-03	1.08E-05	0	0	0	0	4.71E-03
CEILING DEMOLITION	1.41E-03	3.41E-05	1.08E-03	2.62E-04	0	0	0	0	0	2.79E-03
CLAY PIPING	5.10E-04	1.81E-04	1.59E-03	4.70E-04	0	0	2.27E-05	1.03E-01	0	1.06E-01
CONCRETE	9.66E-02	1.29E-01	2.75E+00	9.72E-01	2.42E-01	6.08E-02	7.12E-02	5.86E+00	5.62E-03	1.02E+01
CONCRETE BEAMS	6.44E-01	0	5.04E-01	9.90E-02	8.24E-03	0	0	0	0	1.25E+00
CONCRETE COLUMNS	2.79E-01	0	1.97E-01	1.27E-03	3.53E-03	0	7.65E-03	0	0	4.88E-01
CONCRETE FOUNDATION	6.63E-01	9.72E+00	5.93E+00	2.06E+00	1.40E+00	0	2.19E-01	1.19E-02	6.91E-02	2.01E+01
CONCRETE SLABS	4.26E+00	3.84E+00	1.13E+01	3.21E+00	7.61E-01	2.73E+01	1.41E-01	3.70E-02	1.29E-01	5.10E+01
CONCRETE WALLS	5.59E-01	2.62E-02	1.10E+00	8.17E-01	3.25E-01	0	1.11E-01	1.90E-02	1.55E-01	3.11E+00
CONDUIT/WIRE (2" AND LESS)	0	0	4.34E-03	0	0	0	0	0	0	4.34E-03
CONDUIT/WIRE (2-1/2" TO 4")	0	0	1.00E-03	0	0	0	0	0	0	1.00E-03
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	2.56E-04	0	0	0	0	0	0	2.56E-04
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.69E-03	1.56E-03	4.63E-03	1.26E-03	5.22E-06	0	3.36E-05	0	0	9.18E-03
DRYWALL	6.76E-02	8.44E-04	3.13E-02	3.33E-03	0	0	0	0	0	1.03E-01
DUCTWORK	6.00E-03	1.20E-04	8.69E-02	1.06E-03	2.95E-05	0	1.72E-04	0	0	9.43E-02
DUCTWORK INSULATION	3.70E-04	7.38E-06	8.51E-04	7.03E-05	1.82E-06	0	1.06E-05	0	0	1.31E-03
ELECTRICAL EQUIPMENT	1.33E-03	1.89E-05	1.01E-02	1.24E-03	4.17E-04	0	7.90E-04	1.53E-04	3.32E-05	1.41E-02
ELECTRICAL FIXTURES	1.58E-03	3.78E-04	7.40E-03	1.14E-03	3.46E-04	0	2.67E-05	5.22E-06	2.03E-05	1.09E-02
ELECTRICAL TRANSFORMERS	2.57E-05	8.15E-06	6.78E-05	6.78E-05	1.91E-06	0	1.46E-04	0	2.58E-06	3.20E-04
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.14E-02	0	0	0	0	0	1.14E-02
EXTERIOR METAL WALL PANELS	8.84E-04	6.70E-03	8.12E-03	3.93E-03	4.35E-05	0	6.15E-05	0	0	1.97E-02
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	1.25E-04	0	0	0	0	0	0	1.25E-04
FABRIC ROOF	0	2.35E-03	0	0	0	0	0	0	0	2.35E-03
FABRIC WALLS	0	1.08E-03	0	0	0	0	0	0	0	1.08E-03
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	5.12E-03	7.91E-03	6.51E-02	0	0	1.99E-03	0	0	8.01E-02
FLOOR TILE	2.23E-02	7.82E-05	8.33E-03	1.78E-03	1.05E-04	0	0	0	0	3.26E-02
HVAC EQUIPMENT	1.38E-03	3.83E-05	7.32E-03	6.69E-04	3.68E-05	0	5.89E-05	0	0	9.50E-03
INTERIOR METAL WALL PANELS	1.69E-04	1.41E-04	4.33E-03	4.99E-04	0	0	0	0	0	5.14E-03
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.80E-05	1.69E-04	5.40E-04	2.00E-04	0	0	1.87E-04	0	0	1.14E-03
MASONRY	4.93E-03	0	4.96E-02	7.73E-03	0	0	0	0	0	6.23E-02
MASONRY WALLS	5.89E-01	1.19E-01	3.61E-01	2.91E-01	2.01E-03	0	0	0	0	1.36E+00
MATERIAL HANDLING EQUIPMENT	3.46E-05	1.96E-05	6.72E-03	7.02E-04	5.47E-05	0	1.01E-05	0	0	7.54E-03
METAL PANEL ROOF	1.11E-03	9.56E-03	6.26E-03	3.10E-03	0	0	9.80E-05	0	0	2.01E-02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	4.54E-05	7.85E-04	2.04E-03	4.24E-04	1.85E-04	0	2.56E-05	0	1.50E-04	3.66E-03
NON PROCESS TRAILERS	1.32E-03	0	0	0	0	0	0	0	0	1.32E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.40E-03	4.16E-04	1.28E-02	0	9.26E-04	0	6.05E-05	3.87E-03	3.25E-06	1.95E-02
PIPING (2-1/2" TO 4")	1.05E-03	6.37E-04	1.96E-02	0	8.26E-04	0	6.57E-05	2.12E-03	0	2.43E-02
PIPING (OVER 4")	7.92E-04	4.56E-04	1.33E-02	0	5.27E-04	0	1.33E-04	2.67E-03	4.59E-05	1.79E-02
PIPING INSULATION	4.38E-04	2.07E-04	1.46E-03	5.71E-04	3.09E-04	0	3.58E-05	4.41E-03	6.90E-06	7.44E-03
PROCESS EQUIPMENT	1.29E-03	2.81E-05	7.16E-02	0	9.11E-03	0	1.46E-02	7.75E-06	3.19E-06	9.66E-02
PROCESS TRAILERS	4.98E-04	0	0	0	0	0	0	0	0	4.98E-04
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	7.00E-02	3.41E-02	7.71E-02	1.78E-02	1.43E-04	0	0	0	0	1.99E-01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.88E-03	1.34E-02	1.15E-01	2.17E-02	8.86E-03	0	6.80E-03	1.46E-07	8.32E-05	1.69E-01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	1.23E-04	9.48E-05	6.45E-04	9.42E-05	1.29E-07	0	7.08E-07	0	0	9.57E-04
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Thallium	7.28E+00	1.39E+01	2.29E+01	7.60E+00	2.84E+00	3.17E+01	5.75E-01	6.05E+00	3.59E-01	**9.32E+01**

001709

Attachment B. I (Continued)

Vanadium

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.23E+01	2.03E-01	1.36E+00	8.70E-01	0	0	0	1.47E+01
ASPHALT	0	0	0	0	0	5.71E+02	0	0	0	5.71E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.23E-01	4.08E-02	6.30E-01	1.06E-01	1.61E-03	0	0	0	0	9.02E-01
CEILING DEMOLITION	1.41E-01	1.90E-03	6.67E-02	2.14E-02	0	0	0	0	0	2.31E-01
CLAY PIPING	7.60E-02	2.70E-02	2.36E-01	7.01E-02	0	0	3.38E-03	1.53E+01	0	1.57E+01
CONCRETE	6.59E+00	8.82E+00	1.87E+02	6.53E+01	1.63E+01	4.14E+00	4.85E+00	4.00E+02	3.83E-01	6.93E+02
CONCRETE BEAMS	4.14E+01	0	3.30E+01	6.77E+00	5.61E-01	0	0	0	0	8.17E+01
CONCRETE COLUMNS	1.54E+01	0	1.22E+01	6.94E-02	2.41E-01	0	5.80E-01	0	0	2.84E+01
CONCRETE FOUNDATION	4.52E+01	6.63E+02	4.04E+02	1.40E+02	9.57E+01	0	1.49E+01	8.14E-01	4.71E+00	1.37E+03
CONCRETE SLABS	2.76E+02	2.57E+02	6.77E+02	2.07E+02	5.47E+01	1.83E+03	1.01E+01	2.51E+00	8.73E+00	3.33E+03
CONCRETE WALLS	3.77E+01	1.95E+00	9.13E+01	5.53E+01	2.22E+01	0	7.42E+00	1.30E+00	1.05E+01	2.28E+02
CONDUIT/WIRE (2" AND LESS)	0	1.99E-03	2.24E-01	8.91E-03	1.22E-02	0	3.32E-03	1.66E-03	0	2.52E-01
CONDUIT/WIRE (2-1/2" TO 4")	0	1.07E-04	5.14E-02	2.02E-03	4.20E-04	0	1.80E-03	7.42E-04	0	5.64E-02
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	1.50E-02	3.10E-04	0	0	8.58E-04	5.35E-04	0	1.67E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	9.61E-02	6.00E-02	1.99E-01	4.75E-02	9.17E-05	0	2.08E-03	0	0	4.05E-01
DRYWALL	6.35E+00	9.05E-02	1.66E+00	4.01E-01	0	0	0	0	0	8.51E+00
DUCTWORK	3.41E-01	4.83E-03	3.30E+00	3.71E-02	9.86E-04	0	1.39E-02	0	0	3.70E+00
DUCTWORK INSULATION	4.28E-02	8.03E-04	3.39E-01	7.32E-03	2.71E-04	0	1.58E-03	0	0	3.92E-01
ELECTRICAL EQUIPMENT	7.57E-02	9.00E-04	4.40E-01	5.19E-02	1.51E-02	0	6.14E-02	1.61E-03	1.89E-03	6.48E-01
ELECTRICAL FIXTURES	8.97E-02	1.40E-02	3.18E-01	4.15E-02	7.91E-03	0	1.90E-03	8.11E-05	1.15E-03	4.74E-01
ELECTRICAL TRANSFORMERS	1.46E-03	2.83E-04	3.13E-03	3.21E-03	5.39E-05	0	1.29E-02	0	1.47E-04	2.12E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	6.48E-01	0	0	0	0	0	6.48E-01
EXTERIOR METAL WALL PANELS	5.02E-02	2.36E-01	3.94E-01	1.98E-01	2.47E-03	0	5.43E-03	0	0	8.85E-01
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	4.40E-02	0	0	0	0	0	0	4.40E-02
FABRIC ROOF	0	2.67E-01	0	0	0	0	0	0	0	2.67E-01
FABRIC WALLS	0	1.19E-01	0	0	0	0	0	0	0	1.19E-01
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.83E-01	5.71E+00	1.02E+01	0	0	2.97E-01	0	0	1.65E+01
FLOOR TILE	2.48E+00	4.24E-03	8.33E-01	1.45E-01	1.56E-02	0	0	0	0	3.48E+00
HVAC EQUIPMENT	7.84E-02	1.97E-03	3.30E-01	2.64E-02	1.32E-03	0	2.70E-03	0	0	4.41E-01
INTERIOR METAL WALL PANELS	9.60E-03	8.01E-03	2.00E-01	2.83E-02	0	0	0	0	0	2.46E-01
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.73E-03	7.27E-03	2.15E-02	6.72E-03	0	0	1.65E-02	0	0	5.47E-02
MASONRY	7.26E-01	0	7.79E+00	1.11E+00	0	0	0	0	0	9.63E+00
MASONRY WALLS	8.64E+01	1.73E+01	5.28E+01	4.24E+01	3.00E-01	0	0	0	0	1.99E+02
MATERIAL HANDLING EQUIPMENT	1.97E-03	1.11E-03	3.19E-01	2.74E-02	1.96E-03	0	6.13E-04	0	0	3.52E-01
METAL PANEL ROOF	6.31E-02	3.13E-01	2.93E-01	1.64E-01	0	0	6.17E-03	0	0	8.39E-01
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.58E-03	2.95E-02	8.22E-02	1.38E-02	6.73E-03	0	1.61E-03	0	8.52E-03	1.45E-01
NON PROCESS TRAILERS	7.47E-02	0	0	0	0	0	0	0	0	7.47E-02
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	7.96E-02	1.41E-02	5.52E-01	1.55E-02	3.18E-02	0	4.73E-03	4.01E-02	1.85E-04	7.38E-01
PIPING (2-1/2" TO 4")	5.97E-02	2.16E-02	8.27E-01	3.43E-02	2.38E-02	0	5.57E-03	2.20E-02	0	9.94E-01
PIPING (OVER 4")	4.50E-02	1.51E-02	5.89E-01	5.78E-03	2.84E-02	0	1.12E-02	2.76E-02	2.61E-03	7.25E-01
PIPING INSULATION	4.92E-02	1.56E-02	3.97E-01	8.27E-02	4.60E-02	0	5.33E-03	6.58E-01	1.03E-03	1.25E+00
PROCESS EQUIPMENT	7.34E-02	1.57E-03	3.70E+00	1.85E-01	3.76E-01	0	1.26E+00	3.35E-04	1.81E-04	5.60E+00
PROCESS TRAILERS	2.83E-02	0	0	0	0	0	0	0	0	2.83E-02
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.04E+01	5.09E+00	1.15E+01	2.65E+00	2.13E-02	0	0	0	0	2.97E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.64E-01	5.04E-01	4.46E+00	8.95E-01	4.74E-01	0	5.88E-01	8.30E-06	4.73E-03	7.09E+00
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	6.97E-03	4.63E-03	2.75E-02	3.05E-03	2.26E-06	0	4.40E-05	0	0	4.23E-02
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Vanadium	5.30E+02	9.55E+02	1.52E+03	5.34E+02	1.92E+02	2.41E+03	4.01E+01	4.20E+02	2.44E+01	6.62E+03

Zinc

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.47E+01	7.68E-01	2.26E+00	1.85E+00	0	0	0	7.96E+01
ASPHALT	0	0	0	0	0	2.93E+03	0	0	0	2.93E+03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	3.57E+00	6.42E-01	2.38E+01	6.77E-01	3.41E-03	0	0	0	0	2.87E+01
CEILING DEMOLITION	3.79E+00	8.00E-02	1.07E+00	2.04E-01	0	0	0	0	0	5.14E+00
CLAY PIPING	1.61E-01	5.73E-02	5.02E-01	1.49E-01	0	0	7.17E-03	3.25E+01	0	3.34E+01
CONCRETE	1.44E+01	1.92E+01	4.10E+02	1.49E+02	3.54E+01	8.61E+00	1.06E+01	8.71E+02	8.34E-01	1.52E+03
CONCRETE BEAMS	8.64E+01	0	7.68E+01	1.55E+01	1.22E+00	0	0	0	0	1.80E+02
CONCRETE COLUMNS	3.41E+01	0	3.32E+01	1.25E-01	5.24E-01	0	6.34E+00	0	0	7.43E+01
CONCRETE FOUNDATION	9.85E+01	1.44E+03	8.80E+02	3.05E+02	2.09E+02	0	3.25E+01	1.77E+00	1.03E+01	2.98E+03
CONCRETE SLABS	6.47E+02	6.18E+02	1.95E+03	4.82E+02	1.12E+02	4.09E+03	2.58E+01	5.62E+00	1.91E+01	7.96E+03
CONCRETE WALLS	8.24E+01	4.09E+00	1.42E+02	1.20E+02	4.82E+01	0	4.37E+01	2.84E+00	2.30E+01	4.66E+02
CONDUIT/WIRE (2" AND LESS)	4.86E+00	8.42E+00	1.42E+02	3.51E+01	1.62E+01	0	9.02E-01	1.05E-01	0	2.07E+02
CONDUIT/WIRE (2-1/2" TO 4")	2.02E+00	6.53E-01	2.63E+01	5.25E+00	2.26E+00	0	5.23E-01	4.69E-02	0	3.70E+01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	9.13E-01	4.18E-02	5.93E+00	6.36E-01	0	0	2.34E-01	3.38E-02	0	7.79E+00
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.96E+01	1.00E+02	1.05E+02	9.95E+01	1.37E+00	0	7.39E-01	0	0	3.37E+02
DRYWALL	1.52E+02	1.03E+00	1.79E+01	3.86E+00	0	0	0	0	0	1.75E+02
DUCTWORK	1.14E+02	6.49E+00	1.54E+03	1.40E+02	7.81E-02	0	4.21E+00	0	0	1.81E+03
DUCTWORK INSULATION	1.35E+00	8.78E-03	1.34E+01	5.28E-02	4.86E-04	0	3.35E-03	0	0	1.48E+01
ELECTRICAL EQUIPMENT	1.42E+01	6.93E-01	2.96E+02	9.49E+01	2.86E+01	0	3.22E+01	1.56E-01	3.15E+00	4.70E+02
ELECTRICAL FIXTURES	2.03E+01	2.75E+01	1.50E+02	1.01E+02	9.34E+00	0	6.62E-01	5.81E-02	1.93E+00	3.11E+02
ELECTRICAL TRANSFORMERS	4.06E-01	5.42E-01	1.16E+00	6.51E+00	1.21E-01	0	3.51E+00	0	2.45E-01	1.25E+01
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.08E+03	0	0	0	0	0	1.08E+03
EXTERIOR METAL WALL PANELS	1.68E+01	3.75E+02	2.20E+02	2.84E+02	7.43E-03	0	1.48E+00	0	0	8.97E+02
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	1.33E+00	0	0	0	0	0	0	1.33E+00
FABRIC ROOF	0	2.55E+00	0	0	0	0	0	0	0	2.55E+00
FABRIC WALLS	0	1.28E+00	0	0	0	0	0	0	0	1.28E+00
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.05E+01	2.31E+02	1.20E+02	0	0	6.30E-01	0	0	3.62E+02
FLOOR TILE	7.20E+01	8.92E-02	2.51E+01	1.43E+00	3.32E-02	0	0	0	0	9.86E+01
HVAC EQUIPMENT	1.71E+01	3.47E+00	1.87E+02	6.48E+01	2.49E+00	0	1.74E-01	0	0	2.75E+02
INTERIOR METAL WALL PANELS	1.60E+01	1.34E+01	6.85E+01	3.12E+01	0	0	0	0	0	1.29E+02
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	5.38E-01	1.07E+01	1.82E+01	1.57E+01	0	0	4.49E+00	0	0	4.97E+01
MASONRY	2.80E+00	0	3.95E+01	3.64E+00	0	0	0	0	0	4.60E+01
MASONRY WALLS	3.12E+02	4.16E+01	1.65E+02	1.02E+02	6.29E-01	0	0	0	0	6.22E+02
MATERIAL HANDLING EQUIPMENT	3.31E-01	2.86E-01	1.84E+02	5.48E+01	3.71E+00	0	1.75E-01	0	0	2.44E+02
METAL PANEL ROOF	1.56E+01	4.48E+02	1.32E+02	2.06E+02	0	0	7.95E+00	0	0	8.10E+02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	8.03E-02	5.18E+01	5.85E+01	3.52E+01	1.30E+01	0	7.93E-01	0	1.42E+01	1.74E+02
NON PROCESS TRAILERS	1.26E+01	0	0	0	0	0	0	0	0	1.26E+01
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.66E+01	1.88E+01	2.35E+02	5.01E+01	8.99E+01	0	1.24E+00	2.53E+00	3.09E-01	4.15E+02
PIPING (2-1/2" TO 4")	1.09E+01	2.79E+01	2.93E+02	9.88E+01	8.59E+01	0	1.36E+00	1.39E+00	0	5.19E+02
PIPING (OVER 4")	7.22E+00	1.80E+01	2.98E+02	1.87E+01	1.82E+01	0	3.01E+00	1.75E+00	4.36E+00	3.69E+02
PIPING INSULATION	1.66E+00	3.43E-01	1.40E+01	6.07E-01	8.59E-02	0	1.13E-02	1.40E+00	2.18E-03	1.81E+01
PROCESS EQUIPMENT	1.91E+01	1.86E+00	2.22E+03	5.21E+02	7.46E+02	0	3.44E+02	5.21E-01	3.03E-01	3.85E+03
PROCESS TRAILERS	4.76E+00	0	0	0	0	0	0	0	0	4.76E+00
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	2.21E+01	1.08E+01	2.44E+01	5.63E+00	4.52E-02	0	0	0	0	6.30E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	8.51E+01	8.69E+02	3.00E+03	1.93E+03	7.10E+02	0	1.66E+02	1.39E-02	7.90E+00	6.78E+03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	1.82E+00	3.04E+00	1.56E+01	8.33E+00	3.38E-02	0	1.20E-02	0	0	2.89E+01
WOOD	0	0	0	1.45E-01	0	0	5.43E+00	0	0	5.57E+00
Totals for: Zinc	1.95E+03	4.14E+03	1.33E+04	6.20E+03	2.14E+03	7.03E+03	6.99E+02	9.22E+02	8.55E+01	**3.65E+04**

001711

Attachment B. I (Continued)

alpha-Chlordane

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	4.65E-06	0	0	4.65E-06
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	8.07E-06	0	0	8.07E-06
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	3.96E-02	0	0	0	0	1.12E-04	0	0	3.97E-02
CONCRETE WALLS	0	1.80E-04	0	0	0	0	8.44E-05	0	0	2.64E-04
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: alpha-Chlordane	0	3.98E-02	0	0	0	0	2.09E-04	0	0	4.00E-02

Aroclor-1248

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	2.93E-03	0	0	2.93E-03
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	2.54E-03	0	0	2.54E-03
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	3.88E-02	0	0	3.88E-02
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Aroclor-1248	0	0	0	0	0	0	4.43E-02	0	0	4.43E-02

001713

Attachment B. I (Continued)

Aroclor-1254

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	5.29E-02	0	0	4.74E-02	5.52E-03	0	0	1.06E-01
CONCRETE BEAMS	0	0	9.06E-02	0	0	0	0	0	0	9.06E-02
CONCRETE COLUMNS	0	0	4.23E-02	0	0	0	4.78E-03	0	0	4.70E-02
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	1.76E+00	0	0	6.32E+00	7.32E-02	0	0	8.16E+00
CONCRETE WALLS	0	0	5.96E-02	0	0	0	0	0	0	5.96E-02
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Aroclor-1254	0	0	2.01E+00	0	0	6.37E+00	8.35E-02	0	0	8.46E+00

Aroclor-1260

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	8.73E-04	0	3.93E-02	2.76E-03	0	0	4.29E-02
CONCRETE BEAMS	0	0	0	2.19E-05	0	0	0	0	0	2.19E-05
CONCRETE COLUMNS	0	0	0	1.24E-05	0	0	2.39E-03	0	0	2.40E-03
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	1.54E-02	0	5.20E+00	3.65E-02	0	0	5.25E+00
CONCRETE WALLS	0	0	0	3.05E-04	0	0	0	0	0	3.05E-04
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Aroclor-1260	0	0	0	1.66E-02	0	5.24E+00	4.17E-02	0	0	5.30E+00

001715

Attachment B. I (Continued)

Dieldrin

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	1.97E-04	2.79E-05	0	0	5.95E-06	0	0	2.31E-04
CONCRETE BEAMS	0	0	3.38E-04	7.01E-07	0	0	0	0	0	3.38E-04
CONCRETE COLUMNS	0	0	1.57E-04	3.97E-07	0	0	1.03E-05	0	0	1.68E-04
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	6.54E-03	4.94E-04	0	0	1.43E-04	0	0	7.18E-03
CONCRETE WALLS	0	0	2.22E-04	9.75E-06	0	0	1.08E-04	0	0	3.40E-04
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Dieldrin	0	0	7.45E-03	5.32E-04	0	0	2.67E-04	0	0	8.25E-03

gamma-Chlordane

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	3.62E-07	0	0	3.62E-07
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	6.28E-07	0	0	6.28E-07
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	4.24E-02	0	0	0	0	1.03E-05	0	0	4.24E-02
CONCRETE WALLS	0	1.92E-04	0	0	0	0	0	0	0	1.92E-04
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: gamma-Chlordane	0	4.26E-02	0	0	0	0	1.13E-05	0	0	4.26E-02

001717

Attachment B. I (Continued)

Americium-241

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	4.05E-06	8.29E-10	1.43E-08	1.20E-09	0	0	0	4.06E-06
ASPHALT	0	0	0	0	0	8.79E-07	0	0	0	8.79E-07
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	2.43E-10	1.14E-10	4.14E-08	2.33E-10	2.22E-12	0	0	0	0	4.20E-08
CEILING DEMOLITION	3.26E-10	7.03E-12	1.04E-09	5.11E-11	0	0	0	0	0	1.42E-09
CLAY PIPING	1.05E-10	3.73E-11	3.27E-10	9.69E-11	0	0	4.67E-12	2.12E-08	0	2.18E-08
CONCRETE	9.33E-09	1.25E-08	3.22E-07	9.39E-08	2.35E-08	9.79E-08	6.87E-09	5.66E-07	5.42E-10	1.13E-06
CONCRETE BEAMS	6.34E-08	0	5.10E-08	9.65E-09	7.95E-10	0	0	0	0	1.25E-07
CONCRETE COLUMNS	2.74E-08	0	5.60E-08	1.23E-10	3.41E-10	0	7.94E-10	0	0	8.47E-08
CONCRETE FOUNDATION	6.40E-08	9.39E-07	5.72E-07	1.98E-07	1.36E-07	0	2.11E-08	1.15E-09	6.68E-09	1.94E-06
CONCRETE SLABS	4.14E-07	5.78E-07	1.19E-06	3.16E-07	8.07E-08	3.03E-06	1.37E-08	3.60E-09	1.24E-08	5.63E-06
CONCRETE WALLS	5.49E-08	2.53E-09	1.21E-07	7.89E-08	3.11E-08	0	1.10E-08	1.84E-09	1.50E-08	3.16E-07
CONDUIT/WIRE (2" AND LESS)	2.41E-11	1.49E-11	1.41E-08	4.22E-11	1.76E-10	0	2.74E-12	7.36E-12	5.39E-13	1.44E-08
CONDUIT/WIRE (2-1/2" TO 4")	9.94E-12	1.32E-12	3.11E-09	6.32E-12	1.22E-11	0	1.00E-12	3.30E-12	5.24E-14	3.14E-09
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.04E-12	1.40E-13	1.01E-09	3.78E-12	0	0	4.47E-13	2.37E-12	5.59E-15	1.03E-09
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	7.78E-11	7.19E-11	1.41E-08	7.98E-11	1.04E-12	0	1.55E-12	0	0	1.44E-08
DRYWALL	1.56E-08	1.74E-10	8.22E-09	5.63E-10	0	0	0	0	0	2.45E-08
DUCTWORK	4.14E-10	8.25E-12	2.58E-07	1.05E-10	7.25E-12	0	1.18E-11	0	0	2.59E-07
DUCTWORK INSULATION	8.13E-11	1.52E-12	2.38E-08	1.34E-11	1.36E-12	0	2.18E-12	0	0	2.39E-08
ELECTRICAL EQUIPMENT	6.12E-11	8.68E-13	2.83E-08	7.56E-11	8.18E-11	0	3.63E-11	7.03E-12	1.53E-12	2.85E-08
ELECTRICAL FIXTURES	7.26E-11	1.74E-11	2.07E-08	7.41E-11	6.65E-11	0	1.23E-12	2.40E-13	9.34E-13	2.09E-08
ELECTRICAL TRANSFORMERS	1.18E-12	3.75E-13	2.18E-10	4.02E-12	3.11E-13	0	6.71E-12	0	1.19E-13	2.31E-10
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	5.24E-10	0	0	0	0	0	5.24E-10
EXTERIOR METAL WALL PANELS	4.06E-11	3.08E-10	2.53E-08	2.29E-10	8.69E-12	0	2.83E-12	0	0	2.58E-08
EXTERIOR TRANSITE PANELS	3.25E-10	1.63E-09	2.12E-06	6.19E-09	0	0	1.14E-09	0	0	2.13E-06
FABRIC	0	0	2.35E-09	0	0	0	0	0	0	2.35E-09
FABRIC ROOF	0	4.84E-10	0	0	0	0	0	0	0	4.84E-10
FABRIC WALLS	0	2.23E-10	0	0	0	0	0	0	0	2.23E-10
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.05E-09	4.38E-07	8.80E-09	0	0	4.11E-10	0	0	4.48E-07
FLOOR TILE	4.96E-09	1.61E-11	3.53E-08	3.37E-10	2.16E-11	0	0	0	0	4.07E-08
HVAC EQUIPMENT	6.34E-11	1.76E-12	2.11E-08	4.63E-11	7.36E-12	0	2.71E-12	0	0	2.12E-08
INTERIOR METAL WALL PANELS	7.77E-12	6.48E-12	1.43E-08	2.85E-11	0	0	0	0	0	1.43E-08
INTERIOR TRANSITE PANELS	3.67E-10	4.41E-10	1.57E-06	4.85E-09	1.41E-10	0	0	0	0	1.58E-06
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.21E-12	7.76E-12	1.15E-09	1.35E-11	0	0	8.59E-12	0	0	1.18E-09
MASONRY	1.02E-09	0	5.33E-08	1.59E-09	0	0	0	0	0	5.59E-08
MASONRY WALLS	1.22E-07	2.46E-08	1.28E-07	5.96E-08	4.82E-10	0	0	0	0	3.34E-07
MATERIAL HANDLING EQUIPMENT	1.59E-12	9.02E-13	2.21E-08	4.38E-11	1.09E-11	0	4.65E-13	0	0	2.21E-08
METAL PANEL ROOF	5.11E-11	4.40E-10	2.08E-08	1.81E-10	0	0	4.51E-12	0	0	2.14E-08
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.09E-12	3.61E-11	5.42E-09	2.87E-11	2.67E-11	0	1.18E-12	0	6.89E-12	5.52E-09
NON PROCESS TRAILERS	6.04E-11	0	0	0	0	0	0	0	0	6.04E-11
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.44E-11	1.91E-11	4.19E-08	6.53E-11	1.49E-10	0	2.78E-12	1.78E-10	1.50E-13	4.24E-08
PIPING (2-1/2" TO 4")	4.83E-11	2.93E-11	8.28E-08	1.21E-10	1.45E-10	0	3.02E-12	9.76E-11	0	8.32E-08
PIPING (OVER 4")	3.64E-11	2.09E-11	4.25E-08	1.30E-10	7.83E-11	0	6.09E-12	1.23E-10	2.11E-12	4.29E-08
PIPING INSULATION	9.51E-11	4.26E-11	2.45E-08	9.90E-11	1.95E-10	0	7.37E-12	9.09E-10	1.42E-12	2.58E-08
PROCESS EQUIPMENT	5.94E-11	1.29E-12	2.59E-07	7.25E-10	1.50E-09	0	6.71E-10	3.56E-13	1.47E-13	2.62E-07
PROCESS TRAILERS	2.29E-11	0	0	0	0	0	0	0	0	2.29E-11
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.44E-08	7.03E-09	1.59E-08	3.67E-09	2.95E-11	0	0	0	0	4.10E-08
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.33E-10	6.15E-10	2.80E-07	1.34E-09	6.69E-10	0	3.13E-10	6.72E-15	3.83E-12	2.83E-07
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	3.29E-10	2.85E-09	2.54E-06	6.90E-09	0	0	2.43E-10	0	0	2.55E-06
WINDOWS	5.64E-12	4.36E-12	1.94E-09	6.77E-12	2.57E-14	0	3.26E-14	0	0	1.96E-09
WOOD	1.30E-11	7.95E-11	1.02E-10	1.50E-10	0	0	2.17E-09	7.24E-09	0	9.75E-09
Totals for: Americium-241	7.94E-07	1.57E-06	1.45E-05	7.95E-07	2.90E-07	4.00E-06	5.85E-08	6.03E-07	3.46E-08	2.27E-05

Cesium-137

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	9.93E-08	2.02E-10	6.10E-10	5.12E-11	0	0	0	1.00E-07
ASPHALT	0	0	0	0	0	3.62E-08	0	0	0	3.62E-08
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	9.83E-12	4.87E-12	2.04E-09	2.01E-11	9.45E-14	0	0	0	0	2.07E-09
CEILING DEMOLITION	1.24E-11	2.99E-13	4.51E-11	4.79E-12	0	0	0	0	0	6.25E-11
CLAY PIPING	4.47E-12	1.59E-12	1.39E-11	4.12E-12	0	0	1.99E-13	9.01E-10	0	9.25E-10
CONCRETE	2.22E-10	2.98E-10	6.79E-09	2.24E-09	5.57E-10	1.40E-10	1.64E-10	1.35E-08	1.29E-11	2.39E-08
CONCRETE BEAMS	1.48E-09	0	1.16E-09	2.29E-10	1.89E-11	0	0	0	0	2.89E-09
CONCRETE COLUMNS	6.41E-10	0	7.99E-10	2.92E-12	8.12E-12	0	2.57E-11	0	0	1.48E-09
CONCRETE FOUNDATION	1.52E-09	2.24E-08	1.36E-08	4.73E-09	3.23E-09	0	5.03E-10	2.75E-11	1.59E-10	4.62E-08
CONCRETE SLABS	9.84E-09	8.98E-09	2.74E-08	7.45E-09	1.92E-09	9.81E-08	3.90E-10	8.52E-11	2.98E-10	1.54E-07
CONCRETE WALLS	1.29E-09	6.03E-11	3.99E-09	1.88E-09	7.47E-10	0	2.97E-10	4.39E-11	3.60E-10	8.66E-09
CONDUIT/WIRE (2" AND LESS)	2.50E-12	1.55E-12	1.37E-10	3.04E-12	4.35E-12	0	2.84E-13	7.64E-13	5.59E-14	1.50E-10
CONDUIT/WIRE (2-1/2" TO 4")	1.03E-12	1.37E-13	2.79E-11	4.26E-13	7.07E-13	0	1.04E-13	3.42E-13	5.43E-15	3.06E-11
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.23E-13	1.45E-14	6.42E-12	2.53E-13	0	0	4.63E-14	2.46E-13	5.79E-16	7.50E-12
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	8.07E-12	7.45E-12	1.04E-10	5.99E-12	2.49E-14	0	1.60E-13	0	0	1.26E-10
DRYWALL	5.93E-10	7.39E-12	2.50E-10	5.63E-11	0	0	0	0	0	9.06E-10
DUCTWORK	4.30E-11	8.56E-13	1.70E-09	7.55E-12	2.11E-13	0	1.23E-12	0	0	1.75E-09
DUCTWORK INSULATION	3.24E-12	6.46E-14	1.17E-09	1.20E-12	2.59E-14	0	9.27E-14	0	0	1.18E-09
ELECTRICAL EQUIPMENT	6.35E-12	9.01E-14	2.93E-10	5.90E-12	1.99E-12	0	3.77E-12	7.29E-13	1.58E-13	3.12E-10
ELECTRICAL FIXTURES	7.53E-12	1.80E-12	1.42E-10	5.44E-12	1.65E-12	0	1.27E-13	2.49E-14	9.68E-14	1.59E-10
ELECTRICAL TRANSFORMERS	1.22E-13	3.89E-14	1.14E-12	3.23E-13	9.11E-15	0	6.96E-13	0	1.23E-14	2.34E-12
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	5.44E-11	0	0	0	0	0	5.44E-11
EXTERIOR METAL WALL PANELS	4.21E-12	3.20E-11	1.24E-10	1.87E-11	2.08E-13	0	2.93E-13	0	0	1.79E-10
EXTERIOR TRANSITE PANELS	1.21E-11	6.96E-11	1.05E-07	6.15E-10	0	0	4.85E-11	0	0	1.06E-07
FABRIC	0	0	1.17E-10	0	0	0	0	0	0	1.17E-10
FABRIC ROOF	0	2.06E-11	0	0	0	0	0	0	0	2.06E-11
FABRIC WALLS	0	9.50E-12	0	0	0	0	0	0	0	9.50E-12
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	4.48E-11	2.17E-08	9.68E-10	0	0	1.75E-11	0	0	2.28E-08
FLOOR TILE	1.95E-10	6.85E-13	1.71E-09	3.53E-11	9.19E-13	0	0	0	0	1.94E-09
HVAC EQUIPMENT	6.58E-12	1.83E-13	1.91E-10	3.19E-12	1.76E-13	0	2.81E-13	0	0	2.02E-10
INTERIOR METAL WALL PANELS	8.06E-13	6.72E-13	6.50E-11	2.38E-12	0	0	0	0	0	6.88E-11
INTERIOR TRANSITE PANELS	1.36E-11	1.88E-11	7.76E-08	4.78E-10	2.69E-12	0	0	0	0	7.82E-08
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.29E-13	8.04E-13	1.53E-11	9.52E-13	0	0	8.91E-13	0	0	1.81E-11
MASONRY	4.32E-11	0	2.57E-09	6.77E-11	0	0	0	0	0	2.68E-09
MASONRY WALLS	5.16E-09	1.04E-09	5.70E-09	2.68E-09	1.83E-11	0	0	0	0	1.46E-08
MATERIAL HANDLING EQUIPMENT	1.65E-13	9.36E-14	2.15E-10	3.35E-12	2.61E-13	0	4.83E-14	0	0	2.19E-10
METAL PANEL ROOF	5.30E-12	4.56E-11	1.03E-10	1.48E-11	0	0	4.67E-13	0	0	1.69E-10
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.16E-13	3.74E-12	5.47E-11	2.02E-12	8.84E-13	0	1.22E-13	0	7.15E-13	6.24E-11
NON PROCESS TRAILERS	6.27E-12	0	0	0	0	0	0	0	0	6.27E-12
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.68E-12	1.98E-12	2.84E-10	4.98E-12	4.42E-12	0	2.88E-13	1.84E-11	1.55E-14	3.21E-10
PIPING (2-1/2" TO 4")	5.01E-12	3.04E-12	4.37E-10	9.07E-12	3.94E-12	0	3.13E-13	1.01E-11	0	4.68E-10
PIPING (OVER 4")	3.78E-12	2.17E-12	3.49E-10	1.25E-11	2.51E-12	0	6.32E-13	1.27E-11	2.19E-13	3.83E-10
PIPING INSULATION	3.84E-12	1.81E-12	1.20E-09	6.99E-12	4.04E-12	0	3.13E-13	3.87E-11	6.05E-14	1.26E-09
PROCESS EQUIPMENT	6.16E-12	1.34E-13	2.22E-09	5.25E-11	4.34E-11	0	6.96E-11	3.70E-14	1.52E-14	2.39E-09
PROCESS TRAILERS	2.38E-12	0	0	0	0	0	0	0	0	2.38E-12
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	6.14E-10	2.99E-10	6.75E-10	1.56E-10	1.25E-12	0	0	0	0	1.74E-09
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.37E-11	6.38E-11	2.67E-09	1.04E-10	4.22E-11	0	3.24E-11	6.97E-16	3.97E-13	2.93E-09
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.22E-11	1.21E-10	1.26E-07	7.15E-10	0	0	1.03E-11	0	0	1.27E-07
WINDOWS	5.85E-13	4.52E-13	1.53E-11	4.49E-13	6.14E-16	0	3.38E-15	0	0	1.68E-11
WOOD	1.38E-12	8.46E-12	1.08E-11	1.59E-11	0	0	1.61E-10	7.70E-10	0	9.68E-10
Totals for: Cesium-137	2.18E-08	3.35E-08	5.08E-07	2.29E-08	7.23E-09	1.34E-07	1.73E-09	1.54E-08	8.31E-10	**7.46E-07**

001719

Attachment B. I (Continued)

Lead-210

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.50E-06	6.24E-10	1.85E-07	1.20E-09	0	0	0	7.69E-06
ASPHALT	0	0	0	0	0	5.19E-07	0	0	0	5.19E-07
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.26E-10	2.47E-11	1.10E-07	5.97E-10	1.09E-12	0	0	0	0	1.10E-07
CEILING DEMOLITION	1.61E-10	1.32E-12	2.23E-09	1.40E-10	0	0	0	0	0	2.53E-09
CLAY PIPING	5.14E-11	1.83E-11	1.60E-10	4.74E-11	0	0	2.28E-12	1.04E-08	0	1.06E-08
CONCRETE	3.31E-09	4.43E-09	9.79E-08	3.29E-08	8.21E-09	2.08E-09	2.51E-09	2.01E-07	1.92E-10	3.52E-07
CONCRETE BEAMS	2.23E-08	0	1.73E-08	3.51E-09	2.82E-10	0	0	0	0	4.33E-08
CONCRETE COLUMNS	9.53E-09	0	1.10E-08	3.15E-11	1.21E-10	0	7.55E-10	0	0	2.14E-08
CONCRETE FOUNDATION	2.27E-08	3.33E-07	2.03E-07	7.03E-08	4.81E-08	0	7.48E-09	4.09E-10	2.37E-09	6.87E-07
CONCRETE SLABS	1.50E-07	2.30E-07	3.66E-07	1.09E-07	5.15E-08	1.19E-06	7.05E-09	1.54E-09	4.61E-09	2.11E-06
CONCRETE WALLS	1.91E-08	4.65E-09	3.63E-08	2.77E-08	1.14E-08	0	4.21E-09	6.50E-10	5.56E-09	1.10E-07
CONDUIT/WIRE (2" AND LESS)	4.72E-12	2.92E-12	1.30E-08	9.63E-10	1.05E-10	0	5.37E-13	1.44E-12	1.06E-13	1.41E-08
CONDUIT/WIRE (2-1/2" TO 4")	1.95E-12	2.59E-13	2.64E-09	1.61E-10	5.13E-12	0	1.97E-13	6.45E-13	1.03E-14	2.81E-09
CONDUIT/WIRE/CABLE TRAY (OVER 4")	9.88E-13	2.73E-14	8.44E-10	2.49E-11	0	0	8.75E-14	4.65E-13	1.09E-15	8.71E-10
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.52E-11	1.41E-11	1.51E-08	1.58E-09	7.13E-13	0	3.03E-13	0	0	1.67E-08
DRYWALL	7.40E-09	6.15E-11	7.62E-09	1.72E-09	0	0	0	0	0	1.68E-08
DUCTWORK	8.11E-11	1.62E-12	2.53E-07	2.53E-09	6.04E-12	0	2.32E-12	0	0	2.56E-07
DUCTWORK INSULATION	4.35E-11	5.46E-13	6.34E-08	3.45E-11	1.17E-13	0	1.07E-12	0	0	6.35E-08
ELECTRICAL EQUIPMENT	1.20E-11	1.70E-13	1.77E-08	1.33E-09	2.81E-11	0	7.11E-12	1.38E-12	2.99E-13	1.91E-08
ELECTRICAL FIXTURES	1.42E-11	3.40E-12	2.14E-08	1.66E-09	4.11E-11	0	2.40E-13	4.70E-14	1.83E-13	2.31E-08
ELECTRICAL TRANSFORMERS	2.31E-13	7.34E-14	2.63E-10	6.83E-11	1.65E-13	0	1.31E-12	0	2.32E-14	3.33E-10
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.03E-10	0	0	0	0	0	1.03E-10
EXTERIOR METAL WALL PANELS	7.95E-12	6.03E-11	3.02E-08	3.66E-09	3.92E-13	0	5.53E-13	0	0	3.39E-08
EXTERIOR TRANSITE PANELS	1.71E-10	3.07E-10	5.68E-06	1.96E-08	0	0	5.58E-10	0	0	5.70E-06
FABRIC	0	0	6.28E-09	0	0	0	0	0	0	6.28E-09
FABRIC ROOF	0	1.82E-10	0	0	0	0	0	0	0	1.82E-10
FABRIC WALLS	0	8.06E-11	0	0	0	0	0	0	0	8.06E-11
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.98E-10	1.18E-06	3.08E-08	0	0	2.01E-10	0	0	1.21E-06
FLOOR TILE	2.60E-09	3.02E-12	9.06E-08	1.13E-09	1.06E-11	0	0	0	0	9.44E-08
HVAC EQUIPMENT	1.24E-11	3.45E-13	2.26E-08	1.16E-09	2.53E-12	0	5.30E-13	0	0	2.37E-08
INTERIOR METAL WALL PANELS	1.52E-12	1.27E-12	1.68E-08	4.21E-10	0	0	0	0	0	1.72E-08
INTERIOR TRANSITE PANELS	1.92E-10	8.28E-11	4.20E-06	1.54E-08	1.22E-11	0	0	0	0	4.21E-06
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.32E-13	1.52E-12	1.03E-09	3.25E-10	0	0	1.68E-12	0	0	1.36E-09
MASONRY	5.04E-10	0	1.21E-07	7.38E-10	0	0	0	0	0	1.22E-07
MASONRY WALLS	6.00E-08	1.16E-08	1.77E-07	3.56E-08	1.98E-10	0	0	0	0	2.84E-07
MATERIAL HANDLING EQUIPMENT	3.11E-13	1.77E-13	1.09E-08	8.57E-10	3.76E-12	0	9.11E-14	0	0	1.18E-08
METAL PANEL ROOF	1.00E-11	8.60E-11	2.59E-08	2.86E-09	0	0	8.82E-13	0	0	2.89E-08
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	4.08E-13	7.07E-12	3.98E-09	6.98E-10	1.25E-11	0	2.31E-13	0	1.35E-12	4.70E-09
NON PROCESS TRAILERS	1.18E-11	0	0	0	0	0	0	0	0	1.18E-11
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.26E-11	3.75E-12	4.14E-08	1.31E-09	7.52E-11	0	5.44E-13	3.48E-11	2.93E-14	4.29E-08
PIPING (2-1/2" TO 4")	9.46E-12	5.74E-12	9.14E-08	2.53E-09	7.99E-11	0	5.91E-13	1.91E-11	0	9.41E-08
PIPING (OVER 4")	7.13E-12	4.10E-12	4.25E-08	7.79E-10	1.05E-11	0	1.19E-12	2.40E-11	4.13E-13	4.33E-08
PIPING INSULATION	5.27E-11	1.05E-11	6.44E-08	1.75E-10	2.23E-11	0	3.60E-12	4.45E-10	6.95E-13	6.51E-08
PROCESS EQUIPMENT	1.16E-11	2.53E-13	2.09E-07	1.53E-08	6.22E-10	0	1.31E-10	6.98E-14	2.87E-14	2.25E-07
PROCESS TRAILERS	4.48E-12	0	0	0	0	0	0	0	0	4.48E-12
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	7.06E-09	3.44E-09	7.76E-09	1.79E-09	1.44E-11	0	0	0	0	2.01E-08
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.60E-11	1.20E-10	2.17E-07	2.58E-08	2.08E-10	0	6.12E-11	1.32E-15	7.49E-13	2.43E-07
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.73E-10	5.36E-10	6.82E-06	2.30E-08	0	0	1.19E-10	0	0	6.84E-06
WINDOWS	1.10E-12	8.53E-13	1.64E-09	1.84E-10	1.76E-14	0	6.38E-15	0	0	1.83E-09
WOOD	4.13E-12	2.53E-11	3.25E-11	5.10E-10	0	0	1.04E-09	2.31E-09	0	3.91E-09
Totals for: Lead-210	3.06E-07	5.88E-07	2.78E-05	4.39E-07	3.06E-07	1.71E-06	2.41E-08	2.16E-07	1.27E-08	**3.14E-05**

Neptunium-237

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.19E-03	3.26E-06	5.65E-05	4.74E-06	0	0	0	1.26E-03
ASPHALT	0	0	0	0	0	3.46E-03	0	0	0	3.46E-03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	9.10E-07	4.51E-07	6.92E-05	9.30E-07	8.75E-09	0	0	0	0	7.15E-05
CEILING DEMOLITION	1.14E-06	2.77E-08	2.18E-06	1.91E-07	0	0	0	0	0	3.55E-06
CLAY PIPING	4.14E-07	1.47E-07	1.29E-06	3.82E-07	0	0	1.84E-08	8.35E-05	0	8.57E-05
CONCRETE	5.15E-05	6.89E-05	1.58E-03	5.18E-04	1.30E-04	3.30E-05	3.79E-05	3.12E-03	2.99E-06	5.55E-03
CONCRETE BEAMS	3.43E-04	0	2.68E-04	5.30E-05	4.39E-06	0	0	0	0	6.69E-04
CONCRETE COLUMNS	1.48E-04	0	1.94E-04	6.46E-07	1.88E-06	0	4.00E-06	0	0	3.49E-04
CONCRETE FOUNDATION	3.53E-04	5.18E-03	3.16E-03	1.09E-03	7.48E-04	0	1.16E-04	6.36E-06	3.68E-05	1.07E-02
CONCRETE SLABS	2.27E-03	2.06E-03	8.10E-03	1.72E-03	4.60E-04	1.46E-02	7.50E-05	2.01E-05	6.84E-05	2.94E-02
CONCRETE WALLS	2.98E-04	1.40E-05	6.91E-04	4.35E-04	1.73E-04	0	5.89E-05	1.01E-05	8.25E-05	1.76E-03
CONDUIT/WIRE (2" AND LESS)	5.21E-08	8.56E-08	1.10E-04	3.11E-07	3.63E-07	0	2.38E-08	6.38E-08	4.67E-09	1.11E-04
CONDUIT/WIRE (2-1/2" TO 4")	2.11E-08	6.64E-09	2.51E-05	4.47E-08	5.91E-08	0	8.71E-09	2.86E-08	4.54E-10	2.53E-05
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.45E-08	5.89E-10	4.63E-06	1.32E-08	0	0	3.87E-09	2.06E-08	4.84E-11	4.69E-06
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.49E-07	4.25E-07	9.27E-05	5.85E-07	2.08E-09	0	1.34E-08	0	0	9.40E-05
DRYWALL	5.49E-05	6.84E-07	2.81E-05	2.39E-06	0	0	0	0	0	8.60E-05
DUCTWORK	1.28E-06	5.57E-08	1.56E-03	7.88E-07	1.76E-08	0	1.03E-07	0	0	1.56E-03
DUCTWORK INSULATION	3.00E-07	5.99E-09	3.87E-05	5.44E-08	6.39E-09	0	8.59E-09	0	0	3.91E-05
ELECTRICAL EQUIPMENT	1.61E-07	4.70E-09	1.38E-04	5.67E-07	1.66E-07	0	3.15E-07	6.09E-08	1.32E-08	1.39E-04
ELECTRICAL FIXTURES	1.83E-07	1.09E-07	1.43E-04	5.57E-07	1.38E-07	0	1.06E-08	2.08E-09	8.09E-09	1.44E-04
ELECTRICAL TRANSFORMERS	2.99E-09	2.27E-09	1.46E-06	3.12E-08	7.61E-10	0	5.81E-08	0	1.03E-09	1.56E-06
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	4.54E-06	0	0	0	0	0	4.54E-06
EXTERIOR METAL WALL PANELS	3.41E-07	1.85E-06	1.78E-04	1.79E-06	1.73E-08	0	2.45E-08	0	0	1.82E-04
EXTERIOR TRANSITE PANELS	1.12E-06	6.44E-06	3.50E-03	2.67E-05	0	0	4.49E-06	0	0	3.54E-03
FABRIC	0	0	3.83E-06	0	0	0	0	0	0	3.83E-06
FABRIC ROOF	0	1.91E-06	0	0	0	0	0	0	0	1.91E-06
FABRIC WALLS	0	8.79E-07	0	0	0	0	0	0	0	8.79E-07
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	4.15E-06	7.04E-04	4.10E-05	0	0	1.62E-06	0	0	7.51E-04
FLOOR TILE	1.81E-05	6.34E-08	6.19E-05	1.35E-06	8.51E-08	0	0	0	0	8.14E-05
HVAC EQUIPMENT	1.55E-07	1.39E-08	1.53E-04	3.38E-07	1.47E-08	0	2.35E-08	0	0	1.53E-04
INTERIOR METAL WALL PANELS	6.73E-08	5.62E-08	9.20E-05	2.25E-07	0	0	0	0	0	9.24E-05
INTERIOR TRANSITE PANELS	1.26E-06	1.74E-06	2.58E-03	1.94E-05	6.63E-07	0	0	0	0	2.60E-03
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.61E-09	5.29E-08	9.88E-06	9.97E-08	0	0	7.44E-08	0	0	1.01E-05
MASONRY	4.00E-06	0	1.09E-04	6.34E-06	0	0	0	0	0	1.20E-04
MASONRY WALLS	4.78E-04	9.67E-05	3.83E-04	2.35E-04	1.97E-06	0	0	0	0	1.19E-03
MATERIAL HANDLING EQUIPMENT	3.12E-09	3.80E-09	8.27E-05	3.32E-07	2.18E-08	0	4.03E-09	0	0	8.31E-05
METAL PANEL ROOF	4.30E-07	2.67E-06	1.55E-04	1.41E-06	0	0	3.90E-08	0	0	1.60E-04
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.62E-08	2.24E-07	2.95E-05	2.11E-07	7.38E-08	0	1.02E-08	0	5.97E-08	3.01E-05
NON PROCESS TRAILERS	1.18E-07	0	0	0	0	0	0	0	0	1.18E-07
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.62E-07	1.07E-07	3.36E-04	4.96E-07	3.69E-07	0	2.41E-08	1.54E-06	1.30E-09	3.38E-04
PIPING (2-1/2" TO 4")	1.05E-07	1.58E-07	5.07E-04	9.15E-07	3.29E-07	0	2.62E-08	8.45E-07	0	5.10E-04
PIPING (OVER 4")	8.34E-08	1.18E-07	4.13E-04	1.09E-06	2.10E-07	0	5.28E-08	1.06E-06	1.83E-08	4.16E-04
PIPING INSULATION	3.56E-07	1.68E-07	4.24E-05	4.15E-07	9.08E-07	0	2.90E-08	3.58E-06	5.60E-09	4.79E-05
PROCESS EQUIPMENT	1.41E-07	9.10E-09	1.49E-03	5.21E-06	3.63E-06	0	5.82E-06	3.09E-09	1.27E-09	1.51E-03
PROCESS TRAILERS	4.48E-08	0	0	0	0	0	0	0	0	4.48E-08
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	5.68E-05	2.77E-05	6.25E-05	1.45E-05	1.16E-07	0	0	0	0	1.62E-04
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	6.22E-07	3.66E-06	1.76E-03	1.02E-05	3.53E-06	0	2.71E-06	5.82E-11	3.31E-08	1.78E-03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.13E-06	1.12E-05	4.12E-03	2.84E-05	0	0	9.58E-07	0	0	4.16E-03
WINDOWS	1.34E-08	2.31E-08	1.11E-05	4.88E-08	5.13E-11	0	2.82E-10	0	0	1.12E-05
WOOD	2.55E-08	1.57E-07	2.01E-07	6.83E-07	0	0	2.99E-06	1.43E-05	0	1.83E-05
Totals for: Neptunium-237	4.08E-03	7.49E-03	3.42E-02	4.23E-03	1.59E-03	1.81E-02	3.12E-04	3.26E-03	1.91E-04	7.34E-02

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Attachment B. I (Continued)

Plutonium-238

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.94E-05	2.41E-10	8.00E-09	1.26E-10	0	0	0	2.94E-05
ASPHALT	0	0	0	0	0	2.13E-07	0	0	0	2.13E-07
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	6.72E-11	3.33E-11	4.00E-09	2.87E-10	6.46E-13	0	0	0	0	4.39E-09
CEILING DEMOLITION	8.45E-11	2.05E-12	1.65E-10	7.13E-11	0	0	0	0	0	3.23E-10
CLAY PIPING	3.06E-11	1.09E-11	9.50E-11	2.82E-11	0	0	1.36E-12	6.16E-09	0	6.33E-09
CONCRETE	3.45E-09	4.63E-09	2.69E-07	3.48E-08	8.66E-09	4.02E-09	2.55E-09	2.10E-07	2.01E-10	5.37E-07
CONCRETE BEAMS	2.30E-08	0	1.88E-08	3.62E-09	2.94E-10	0	0	0	0	4.58E-08
CONCRETE COLUMNS	9.97E-09	0	1.39E-07	4.54E-11	1.26E-10	0	2.59E-10	0	0	1.49E-07
CONCRETE FOUNDATION	2.37E-08	3.48E-07	2.12E-07	7.35E-08	5.02E-08	0	7.82E-09	4.27E-10	2.47E-09	7.18E-07
CONCRETE SLABS	1.51E-07	1.41E-07	8.12E-07	1.19E-07	2.97E-08	9.83E-07	5.01E-09	1.32E-09	4.56E-09	2.25E-06
CONCRETE WALLS	2.00E-08	1.31E-09	3.72E-08	2.92E-08	1.14E-08	0	3.95E-09	6.80E-10	5.49E-09	1.09E-07
CONDUIT/WIRE (2" AND LESS)	1.20E-11	7.17E-12	2.45E-08	1.00E-10	1.82E-11	0	1.36E-12	3.65E-12	2.67E-13	2.47E-08
CONDUIT/WIRE (2-1/2" TO 4")	4.93E-12	6.51E-13	5.04E-09	1.63E-11	3.29E-12	0	4.98E-13	1.63E-12	2.60E-14	5.07E-09
CONDUIT/WIRE/CABLE TRAY (OVER 4")	2.50E-12	6.92E-14	1.57E-09	3.63E-12	0	0	2.22E-13	1.18E-12	2.77E-15	1.58E-09
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	3.86E-11	3.49E-11	2.87E-08	1.69E-10	1.17E-13	0	7.67E-13	0	0	2.89E-08
DRYWALL	4.05E-09	5.05E-11	2.14E-09	8.61E-10	0	0	0	0	0	7.10E-09
DUCTWORK	2.05E-10	4.09E-12	4.86E-07	2.61E-10	9.87E-13	0	5.88E-12	0	0	4.87E-07
DUCTWORK INSULATION	2.22E-11	4.42E-13	2.25E-09	1.74E-11	2.87E-13	0	6.34E-13	0	0	2.29E-09
ELECTRICAL EQUIPMENT	3.04E-11	4.20E-13	3.44E-08	1.46E-10	5.80E-12	0	1.80E-11	3.49E-12	7.57E-13	3.46E-08
ELECTRICAL FIXTURES	3.60E-11	8.39E-12	4.01E-08	1.74E-10	7.09E-12	0	6.09E-13	1.19E-13	4.63E-13	4.03E-08
ELECTRICAL TRANSFORMERS	5.85E-13	1.78E-13	4.97E-10	7.60E-12	3.82E-14	0	3.33E-12	0	5.89E-14	5.09E-10
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.60E-10	0	0	0	0	0	2.60E-10
EXTERIOR METAL WALL PANELS	2.01E-11	1.45E-10	6.06E-08	4.14E-10	2.67E-13	0	1.40E-12	0	0	6.12E-08
EXTERIOR TRANSITE PANELS	8.27E-11	4.75E-10	1.94E-07	9.38E-09	0	0	3.32E-10	0	0	2.05E-07
FABRIC	0	0	2.21E-10	0	0	0	0	0	0	2.21E-10
FABRIC ROOF	0	1.41E-10	0	0	0	0	0	0	0	1.41E-10
FABRIC WALLS	0	6.49E-11	0	0	0	0	0	0	0	6.49E-11
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.06E-10	3.86E-08	1.54E-08	0	0	1.19E-10	0	0	5.44E-08
FLOOR TILE	1.33E-09	4.68E-12	3.68E-09	5.51E-10	6.28E-12	0	0	0	0	5.58E-09
HVAC EQUIPMENT	3.15E-11	8.72E-13	4.27E-08	1.18E-10	5.05E-13	0	1.34E-12	0	0	4.29E-08
INTERIOR METAL WALL PANELS	3.85E-12	3.22E-12	3.50E-08	4.86E-11	0	0	0	0	0	3.51E-08
INTERIOR TRANSITE PANELS	9.33E-11	1.28E-10	1.44E-07	7.26E-09	2.98E-11	0	0	0	0	1.52E-07
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.10E-12	3.70E-12	2.15E-09	3.35E-11	0	0	4.26E-12	0	0	2.20E-09
MASONRY	2.95E-10	0	6.93E-09	4.63E-10	0	0	0	0	0	7.69E-09
MASONRY WALLS	3.53E-08	7.14E-09	3.10E-08	2.05E-08	1.33E-10	0	0	0	0	9.40E-08
MATERIAL HANDLING EQUIPMENT	7.89E-13	4.47E-13	2.04E-08	9.21E-11	7.50E-13	0	2.31E-13	0	0	2.05E-08
METAL PANEL ROOF	2.53E-11	1.99E-10	4.89E-08	3.24E-10	0	0	2.24E-12	0	0	4.95E-08
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.03E-12	1.73E-11	7.86E-09	7.17E-11	3.59E-12	0	5.85E-13	0	3.42E-12	7.96E-09
NON PROCESS TRAILERS	3.00E-11	0	0	0	0	0	0	0	0	3.00E-11
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	3.20E-11	9.47E-12	8.02E-08	1.40E-10	1.74E-11	0	1.38E-12	8.82E-11	7.42E-14	8.05E-08
PIPING (2-1/2" TO 4")	2.40E-11	1.26E-11	1.75E-07	2.68E-10	1.63E-11	0	1.50E-12	4.84E-11	0	1.76E-07
PIPING (OVER 4")	1.81E-11	9.63E-12	8.17E-08	1.27E-10	6.73E-12	0	3.02E-12	6.08E-11	1.05E-12	8.19E-08
PIPING INSULATION	2.63E-11	1.24E-11	2.40E-09	8.86E-11	4.23E-11	0	2.14E-12	2.64E-10	4.13E-13	2.83E-09
PROCESS EQUIPMENT	2.95E-11	6.39E-13	4.17E-07	1.62E-09	1.58E-10	0	3.33E-10	1.77E-13	7.28E-14	4.19E-07
PROCESS TRAILERS	1.14E-11	0	0	0	0	0	0	0	0	1.14E-11
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	4.19E-09	2.04E-09	4.62E-09	1.07E-09	8.57E-12	0	0	0	0	1.19E-08
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	6.58E-11	2.98E-10	4.23E-07	2.78E-09	1.84E-10	0	1.55E-10	3.33E-15	1.90E-12	4.26E-07
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	8.37E-11	8.30E-10	2.34E-07	1.11E-08	0	0	7.07E-11	0	0	2.46E-07
WINDOWS	2.80E-12	2.16E-12	3.13E-09	1.85E-11	2.87E-15	0	1.62E-14	0	0	3.15E-09
WOOD	3.77E-12	2.31E-11	2.96E-11	3.80E-10	0	0	4.42E-10	2.11E-09	0	2.98E-09
Totals for: Plutonium-238	2.77E-07	5.06E-07	3.36E-05	3.35E-07	1.09E-07	1.20E-06	2.11E-08	2.21E-07	1.27E-08	**3.62E-05**

Plutonium-239/240

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	4.83E-04	1.87E-08	2.47E-05	1.02E-07	0	0	0	5.08E-04
ASPHALT	0	0	0	0	0	1.56E-05	0	0	0	1.56E-05
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	2.38E-09	2.59E-09	7.20E-07	5.69E-08	5.02E-11	0	0	0	0	7.82E-07
CEILING DEMOLITION	3.59E-09	1.59E-10	1.93E-08	1.46E-08	0	0	0	0	0	3.76E-08
CLAY PIPING	2.37E-09	8.44E-10	7.39E-09	2.19E-09	0	0	1.06E-10	4.79E-07	0	4.92E-07
CONCRETE	4.92E-08	6.59E-08	7.21E-06	1.15E-06	1.34E-07	9.50E-08	3.63E-08	2.99E-06	2.86E-09	1.17E-05
CONCRETE BEAMS	3.28E-07	0	2.91E-07	1.11E-07	4.20E-09	0	0	0	0	7.34E-07
CONCRETE COLUMNS	1.42E-07	0	4.49E-06	1.38E-09	1.80E-09	0	1.50E-08	0	0	4.65E-06
CONCRETE FOUNDATION	3.38E-07	4.95E-06	3.02E-06	1.05E-06	7.15E-07	0	1.11E-07	6.08E-09	3.52E-08	1.02E-05
CONCRETE SLABS	2.20E-06	2.56E-06	6.00E-05	1.12E-05	1.17E-05	1.60E-05	1.15E-07	1.88E-08	6.55E-08	1.04E-04
CONCRETE WALLS	2.85E-07	1.47E-08	8.41E-06	4.34E-07	1.66E-07	0	5.63E-08	9.69E-09	7.89E-08	9.45E-06
CONDUIT/WIRE (2" AND LESS)	1.57E-09	9.43E-10	2.79E-06	8.11E-09	1.36E-08	0	2.13E-10	5.73E-10	4.19E-11	2.82E-06
CONDUIT/WIRE (2-1/2" TO 4")	6.48E-10	7.94E-11	5.78E-07	1.30E-09	9.44E-10	0	7.82E-11	2.57E-10	4.08E-12	5.82E-07
CONDUIT/WIRE/CABLE TRAY (OVER 4")	3.36E-10	7.72E-12	1.00E-07	6.65E-10	0	0	3.48E-11	1.85E-10	4.35E-13	1.02E-07
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	5.23E-09	4.62E-09	2.04E-06	1.43E-08	8.09E-11	0	1.20E-10	0	0	2.06E-06
DRYWALL	1.99E-07	3.93E-09	1.72E-07	2.38E-07	0	0	0	0	0	6.13E-07
DUCTWORK	2.78E-08	5.62E-10	3.47E-05	2.07E-08	5.63E-10	0	9.22E-10	0	0	3.47E-05
DUCTWORK INSULATION	6.28E-10	3.44E-11	3.83E-07	3.79E-09	2.40E-10	0	4.93E-11	0	0	3.87E-07
ELECTRICAL EQUIPMENT	4.05E-09	5.40E-11	3.20E-06	1.26E-08	6.35E-09	0	2.83E-09	5.47E-10	1.19E-10	3.23E-06
ELECTRICAL FIXTURES	4.78E-09	1.15E-09	3.31E-06	1.39E-08	5.16E-09	0	9.55E-11	1.87E-11	7.27E-11	3.34E-06
ELECTRICAL TRANSFORMERS	7.79E-11	2.46E-11	3.19E-08	6.46E-10	2.41E-11	0	5.22E-10	0	9.24E-12	3.32E-08
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	4.08E-08	0	0	0	0	0	4.08E-08
EXTERIOR METAL WALL PANELS	3.14E-09	2.01E-08	3.85E-06	3.56E-08	6.74E-10	0	2.20E-10	0	0	3.91E-06
EXTERIOR TRANSITE PANELS	1.46E-09	3.70E-08	3.53E-05	2.84E-06	0	0	2.58E-08	0	0	3.82E-05
FABRIC	0	0	3.67E-08	0	0	0	0	0	0	3.67E-08
FABRIC ROOF	0	1.10E-08	0	0	0	0	0	0	0	1.10E-08
FABRIC WALLS	0	5.05E-09	0	0	0	0	0	0	0	5.05E-09
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.38E-08	6.50E-06	5.97E-06	0	0	9.28E-09	0	0	1.25E-05
FLOOR TILE	4.59E-08	3.64E-10	6.12E-07	1.20E-07	4.88E-10	0	0	0	0	7.79E-07
HVAC EQUIPMENT	4.17E-09	1.30E-10	3.27E-06	9.29E-09	5.71E-10	0	2.11E-10	0	0	3.29E-06
INTERIOR METAL WALL PANELS	6.05E-10	5.04E-10	2.00E-06	4.27E-09	0	0	0	0	0	2.00E-06
INTERIOR TRANSITE PANELS	1.64E-09	9.98E-09	2.60E-05	1.45E-06	2.49E-08	0	0	0	0	2.75E-05
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.44E-10	5.36E-10	2.15E-07	2.64E-09	0	0	6.68E-10	0	0	2.19E-07
MASONRY	2.19E-08	0	9.00E-07	3.60E-08	0	0	0	0	0	9.58E-07
MASONRY WALLS	2.63E-06	5.55E-07	2.71E-06	2.21E-06	2.54E-08	0	0	0	0	8.13E-06
MATERIAL HANDLING EQUIPMENT	1.03E-10	4.99E-11	1.80E-06	7.62E-09	8.48E-10	0	3.62E-11	0	0	1.81E-06
METAL PANEL ROOF	3.95E-09	2.96E-08	3.34E-06	2.80E-08	0	0	3.51E-10	0	0	3.40E-06
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.59E-10	2.40E-09	6.75E-07	5.71E-09	2.07E-09	0	9.17E-11	0	5.36E-10	6.86E-07
NON PROCESS TRAILERS	3.92E-09	0	0	0	0	0	0	0	0	3.92E-09
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	4.25E-09	1.18E-09	7.42E-06	1.15E-08	1.16E-08	0	2.16E-10	1.38E-08	1.16E-11	7.46E-06
PIPING (2-1/2" TO 4")	3.15E-09	1.93E-09	1.14E-05	2.17E-08	1.12E-08	0	2.35E-10	7.59E-09	0	1.14E-05
PIPING (OVER 4")	2.38E-09	1.36E-09	9.07E-06	1.38E-08	6.08E-09	0	4.74E-10	9.54E-09	1.64E-10	9.11E-06
PIPING INSULATION	6.87E-10	9.62E-10	4.78E-07	2.72E-08	3.24E-08	0	1.67E-10	2.06E-08	3.21E-11	5.60E-07
PROCESS EQUIPMENT	3.90E-09	9.00E-11	3.59E-05	1.35E-07	1.16E-07	0	5.23E-08	2.77E-11	1.14E-11	3.62E-05
PROCESS TRAILERS	1.49E-09	0	0	0	0	0	0	0	0	1.49E-09
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.26E-07	1.59E-07	3.59E-07	8.30E-08	6.66E-10	0	0	0	0	9.27E-07
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	9.30E-09	3.99E-08	4.07E-05	2.32E-07	5.20E-08	0	2.43E-08	5.23E-13	2.98E-10	4.11E-05
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.48E-09	6.45E-08	4.04E-05	2.59E-06	0	0	5.50E-09	0	0	4.30E-05
WINDOWS	3.71E-10	2.65E-10	2.71E-07	1.43E-09	2.00E-12	0	2.53E-12	0	0	2.73E-07
WOOD	5.86E-10	3.60E-09	4.61E-09	4.53E-09	0	0	6.86E-08	3.27E-07	0	4.09E-07
Totals for: Plutonium-239/240	6.67E-06	8.57E-06	8.48E-04	3.02E-05	3.77E-05	3.18E-05	5.28E-07	3.88E-06	1.84E-07	**9.67E-04**

Attachment B. I (Continued)

Plutonium-241

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	3.29E-06	2.47E-10	4.93E-08	1.07E-09	0	0	0	3.34E-06
ASPHALT	0	0	0	0	0	7.80E-07	0	0	0	7.80E-07
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	2.05E-10	1.02E-10	2.90E-09	1.05E-09	1.97E-12	0	0	0	0	4.26E-09
CEILING DEMOLITION	2.58E-10	6.24E-12	9.80E-10	2.64E-10	0	0	0	0	0	1.51E-09
CLAY PIPING	9.32E-11	3.32E-11	2.90E-10	8.60E-11	0	0	4.14E-12	1.88E-08	0	1.93E-08
CONCRETE	8.86E-09	1.19E-08	2.89E-07	1.37E-07	2.30E-08	5.57E-09	6.53E-09	5.38E-07	5.15E-10	1.02E-06
CONCRETE BEAMS	5.90E-08	0	1.23E-07	1.21E-08	7.55E-10	0	0	0	0	1.95E-07
CONCRETE COLUMNS	2.56E-08	0	5.14E-08	1.17E-10	3.24E-10	0	7.16E-10	0	0	7.81E-08
CONCRETE FOUNDATION	6.08E-08	8.91E-07	5.43E-07	1.88E-07	1.29E-07	0	2.01E-08	1.10E-09	6.34E-09	1.84E-06
CONCRETE SLABS	3.90E-07	3.89E-07	1.49E-06	8.37E-07	7.34E-08	2.61E-06	1.30E-08	3.37E-09	1.18E-08	5.81E-06
CONCRETE WALLS	5.13E-08	2.36E-09	1.24E-07	7.49E-08	3.03E-08	0	9.90E-09	1.74E-09	1.42E-08	3.09E-07
CONDUIT/WIRE (2" AND LESS)	5.68E-11	2.10E-11	3.96E-09	5.73E-11	9.89E-11	0	6.47E-12	1.74E-11	1.27E-12	4.22E-09
CONDUIT/WIRE (2-1/2" TO 4")	2.34E-11	1.39E-12	6.77E-10	6.77E-12	1.61E-11	0	2.37E-12	7.77E-12	1.24E-13	7.35E-10
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.19E-11	1.00E-13	1.61E-10	3.79E-12	0	0	1.05E-12	5.60E-12	1.32E-14	1.83E-10
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.83E-10	1.03E-10	3.00E-09	1.14E-10	5.66E-13	0	3.65E-12	0	0	3.41E-09
DRYWALL	1.24E-08	1.54E-10	2.83E-08	2.82E-09	0	0	0	0	0	4.36E-08
DUCTWORK	9.76E-10	1.36E-11	5.32E-08	1.60E-10	4.80E-12	0	2.79E-11	0	0	5.44E-08
DUCTWORK INSULATION	6.77E-11	1.35E-12	1.63E-09	5.79E-11	4.85E-13	0	1.94E-12	0	0	1.76E-09
ELECTRICAL EQUIPMENT	1.44E-10	1.13E-12	4.55E-09	1.07E-10	4.52E-11	0	8.56E-11	1.66E-11	3.60E-12	4.96E-09
ELECTRICAL FIXTURES	1.71E-10	2.62E-11	4.79E-09	1.04E-10	3.75E-11	0	2.89E-12	5.66E-13	2.20E-12	5.13E-09
ELECTRICAL TRANSFORMERS	2.78E-12	5.91E-13	4.90E-11	6.04E-12	2.07E-13	0	1.58E-11	0	2.80E-13	7.47E-11
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.24E-09	0	0	0	0	0	1.24E-09
EXTERIOR METAL WALL PANELS	9.58E-11	5.04E-10	5.77E-09	3.54E-10	4.72E-12	0	6.67E-12	0	0	6.74E-09
EXTERIOR TRANSITE PANELS	2.52E-10	1.45E-09	1.17E-07	3.33E-08	0	0	1.01E-09	0	0	1.53E-07
FABRIC	0	0	1.39E-10	0	0	0	0	0	0	1.39E-10
FABRIC ROOF	0	4.30E-10	0	0	0	0	0	0	0	4.30E-10
FABRIC WALLS	0	1.98E-10	0	0	0	0	0	0	0	1.98E-10
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	9.36E-10	2.31E-08	5.04E-08	0	0	3.65E-10	0	0	7.48E-08
FLOOR TILE	4.07E-09	1.43E-11	8.84E-09	1.93E-09	1.92E-11	0	0	0	0	1.49E-08
HVAC EQUIPMENT	1.50E-10	3.66E-12	4.34E-09	5.12E-11	3.99E-12	0	6.39E-12	0	0	4.56E-09
INTERIOR METAL WALL PANELS	1.83E-11	1.53E-11	3.19E-09	4.58E-11	0	0	0	0	0	3.27E-09
INTERIOR TRANSITE PANELS	2.85E-10	3.92E-10	8.40E-08	2.65E-08	5.03E-11	0	0	0	0	1.11E-07
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	5.21E-12	1.45E-11	2.50E-10	1.63E-11	0	0	2.03E-11	0	0	3.07E-10
MASONRY	9.01E-10	0	1.18E-08	1.89E-09	0	0	0	0	0	1.46E-08
MASONRY WALLS	1.08E-07	2.18E-08	7.96E-08	6.57E-08	3.78E-10	0	0	0	0	2.75E-07
MATERIAL HANDLING EQUIPMENT	3.75E-12	6.47E-13	2.45E-09	5.96E-11	5.93E-12	0	1.10E-12	0	0	2.53E-09
METAL PANEL ROOF	1.20E-10	7.99E-10	4.78E-09	2.80E-10	0	0	1.06E-11	0	0	5.99E-09
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	4.92E-12	5.85E-11	9.84E-10	3.87E-11	2.01E-11	0	2.78E-12	0	1.63E-11	1.13E-09
NON PROCESS TRAILERS	1.43E-10	0	0	0	0	0	0	0	0	1.43E-10
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.52E-10	2.69E-11	8.57E-09	9.25E-11	1.00E-10	0	6.56E-12	4.19E-10	3.53E-13	9.37E-09
PIPING (2-1/2" TO 4")	1.14E-10	4.37E-11	1.75E-08	1.59E-10	8.95E-11	0	7.12E-12	2.30E-10	0	1.82E-08
PIPING (OVER 4")	8.58E-11	3.36E-11	8.93E-09	2.69E-10	5.72E-11	0	1.44E-11	2.89E-10	4.98E-12	9.69E-09
PIPING INSULATION	8.02E-11	3.78E-11	1.94E-09	3.12E-10	7.68E-11	0	6.54E-12	8.07E-10	1.26E-12	3.26E-09
PROCESS EQUIPMENT	1.40E-10	2.27E-12	5.45E-08	8.96E-10	9.88E-10	0	1.58E-09	8.40E-13	3.46E-13	5.81E-08
PROCESS TRAILERS	5.40E-11	0	0	0	0	0	0	0	0	5.40E-11
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.28E-08	6.24E-09	1.41E-08	3.26E-09	2.62E-11	0	0	0	0	3.64E-08
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	3.13E-10	9.08E-10	5.59E-08	2.01E-09	9.60E-10	0	7.37E-10	1.58E-14	9.02E-12	6.08E-08
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	2.56E-10	2.53E-09	1.35E-07	3.88E-08	0	0	2.16E-10	0	0	1.77E-07
WINDOWS	1.33E-11	4.88E-12	4.01E-10	7.40E-12	1.40E-14	0	7.68E-14	0	0	4.26E-10
WOOD	3.68E-12	2.26E-11	2.89E-11	4.24E-11	0	0	4.31E-10	2.05E-09	0	2.58E-09
Totals for: Plutonium-241	7.38E-07	1.33E-06	6.65E-06	1.48E-06	3.09E-07	3.40E-06	5.48E-08	5.66E-07	3.29E-08	**1.46E-05**

Polonium-210

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.31E-07	6.88E-12	2.73E-09	6.88E-12	0	0	0	2.34E-07
ASPHALT	0	0	0	0	0	1.67E-08	0	0	0	1.67E-08
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	7.12E-13	2.90E-13	5.17E-10	1.45E-11	4.92E-15	0	0	0	0	5.32E-10
CEILING DEMOLITION	8.62E-13	1.99E-14	1.06E-11	3.70E-12	0	0	0	0	0	1.51E-11
CLAY PIPING	2.33E-13	8.28E-14	7.24E-13	2.15E-13	0	0	1.04E-14	4.70E-11	0	4.82E-11
CONCRETE	9.58E-11	1.28E-10	2.71E-09	9.45E-10	2.38E-10	8.75E-11	7.03E-11	5.81E-09	5.57E-12	1.01E-08
CONCRETE BEAMS	5.61E-10	0	4.23E-10	9.85E-11	8.17E-12	0	0	0	0	1.09E-09
CONCRETE COLUMNS	2.10E-10	0	1.89E-10	1.10E-12	3.50E-12	0	8.04E-12	0	0	4.11E-10
CONCRETE FOUNDATION	6.57E-10	9.64E-09	5.88E-09	2.04E-09	1.39E-09	0	2.17E-10	1.18E-11	6.85E-11	1.99E-08
CONCRETE SLABS	3.83E-09	3.91E-09	8.42E-09	2.82E-09	8.17E-10	2.71E-08	1.36E-10	4.10E-11	1.23E-10	4.72E-08
CONCRETE WALLS	5.46E-10	2.91E-11	9.89E-10	8.06E-10	3.17E-10	0	1.12E-10	1.89E-11	1.53E-10	2.97E-09
CONDUIT/WIRE (2" AND LESS)	5.92E-13	3.39E-13	1.89E-10	5.87E-11	1.81E-12	0	1.28E-13	3.44E-13	2.52E-14	2.51E-10
CONDUIT/WIRE (2-1/2" TO 4")	2.44E-13	2.68E-14	3.82E-11	9.76E-12	3.13E-13	0	4.70E-14	1.54E-13	2.45E-15	4.88E-11
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.14E-13	2.02E-15	1.17E-11	1.51E-12	0	0	2.09E-14	1.11E-13	2.61E-16	1.35E-11
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.93E-12	1.78E-12	2.14E-10	9.65E-11	1.12E-14	0	7.23E-14	0	0	3.15E-10
DRYWALL	4.00E-11	4.33E-13	3.69E-11	4.52E-11	0	0	0	0	0	1.23E-10
DUCTWORK	9.91E-12	2.71E-13	3.55E-09	1.54E-10	9.51E-14	0	5.54E-13	0	0	3.71E-09
DUCTWORK INSULATION	2.45E-13	3.77E-15	2.98E-10	8.84E-13	1.35E-15	0	4.83E-15	0	0	2.99E-10
ELECTRICAL EQUIPMENT	1.42E-12	1.89E-14	2.53E-10	8.16E-11	6.54E-13	0	1.70E-12	3.29E-13	7.14E-14	3.39E-10
ELECTRICAL FIXTURES	1.77E-12	4.77E-13	3.04E-10	1.01E-10	7.00E-13	0	5.73E-14	1.12E-14	4.36E-14	4.09E-10
ELECTRICAL TRANSFORMERS	3.03E-14	9.93E-15	3.70E-12	4.21E-12	3.78E-15	0	3.14E-13	0	5.55E-15	8.27E-12
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.45E-11	0	0	0	0	0	2.45E-11
EXTERIOR METAL WALL PANELS	5.12E-13	7.53E-12	4.24E-10	2.25E-10	4.50E-14	0	1.32E-13	0	0	6.57E-10
EXTERIOR TRANSITE PANELS	1.03E-12	4.64E-12	2.67E-08	4.94E-10	0	0	2.53E-12	0	0	2.72E-08
FABRIC	0	0	2.95E-11	0	0	0	0	0	0	2.95E-11
FABRIC ROOF	0	1.19E-12	0	0	0	0	0	0	0	1.19E-12
FABRIC WALLS	0	5.54E-13	0	0	0	0	0	0	0	5.54E-13
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.99E-12	5.53E-09	8.26E-10	0	0	9.10E-13	0	0	6.36E-09
FLOOR TILE	1.41E-11	4.57E-14	4.27E-10	2.94E-11	4.79E-14	0	0	0	0	4.71E-10
HVAC EQUIPMENT	1.54E-12	7.26E-14	3.17E-10	7.05E-11	5.73E-14	0	1.27E-13	0	0	3.90E-10
INTERIOR METAL WALL PANELS	3.63E-13	3.03E-13	2.33E-10	2.60E-11	0	0	0	0	0	2.60E-10
INTERIOR TRANSITE PANELS	1.16E-12	1.25E-12	1.97E-08	3.82E-10	1.40E-13	0	0	0	0	2.01E-08
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	5.45E-14	2.44E-13	1.50E-11	1.98E-11	0	0	4.01E-13	0	0	3.55E-11
MASONRY	2.34E-12	0	5.68E-10	3.92E-12	0	0	0	0	0	5.74E-10
MASONRY WALLS	2.76E-10	5.49E-11	8.32E-10	3.34E-10	9.54E-13	0	0	0	0	1.50E-09
MATERIAL HANDLING EQUIPMENT	3.86E-14	1.31E-14	1.54E-10	5.25E-11	8.51E-14	0	2.18E-14	0	0	2.07E-10
METAL PANEL ROOF	5.23E-13	1.03E-11	3.63E-10	1.76E-10	0	0	2.11E-13	0	0	5.51E-10
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.29E-14	9.74E-13	5.91E-11	4.25E-11	3.59E-13	0	5.51E-14	0	3.22E-13	1.03E-10
NON PROCESS TRAILERS	1.47E-12	0	0	0	0	0	0	0	0	1.47E-12
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.54E-12	3.47E-13	5.92E-10	7.99E-11	1.76E-12	0	1.30E-13	8.31E-12	6.99E-15	6.84E-10
PIPING (2-1/2" TO 4")	1.16E-12	6.48E-13	1.30E-09	1.54E-10	1.63E-12	0	1.41E-13	4.56E-12	0	1.46E-09
PIPING (OVER 4")	8.45E-13	4.05E-13	6.21E-10	5.09E-11	7.80E-13	0	2.85E-13	5.73E-12	9.87E-14	6.80E-10
PIPING INSULATION	2.83E-13	1.14E-13	3.04E-10	4.01E-12	2.11E-13	0	1.63E-14	2.02E-12	3.15E-15	3.11E-10
PROCESS EQUIPMENT	1.52E-12	4.52E-14	2.97E-09	9.36E-10	1.64E-11	0	3.14E-11	1.67E-14	6.86E-15	3.96E-09
PROCESS TRAILERS	5.55E-13	0	0	0	0	0	0	0	0	5.55E-13
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.20E-11	1.56E-11	3.52E-11	8.13E-12	6.53E-14	0	0	0	0	9.09E-11
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	3.53E-12	1.59E-11	3.18E-09	1.58E-09	1.79E-11	0	1.46E-11	3.14E-16	1.79E-13	4.81E-09
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.04E-12	8.10E-12	3.21E-08	5.91E-10	0	0	5.39E-13	0	0	3.27E-08
WINDOWS	1.45E-13	9.71E-14	2.45E-11	1.12E-11	2.77E-16	0	1.52E-15	0	0	3.58E-11
WOOD	3.14E-13	1.93E-12	2.47E-12	8.15E-12	0	0	3.68E-11	1.75E-10	0	2.25E-10
Totals for: Polonium-210	6.30E-09	1.38E-08	3.51E-07	1.34E-08	5.55E-09	4.39E-08	6.34E-10	6.13E-09	3.51E-10	**4.41E-07**

001725

Attachment B. I (Continued)

Radium-226

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.92E-04	3.02E-08	2.79E-05	4.77E-08	0	0	0	2.20E-04
ASPHALT	0	0	0	0	0	3.34E-05	0	0	0	3.34E-05
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	3.28E-09	2.31E-09	2.78E-05	2.11E-07	4.56E-11	0	0	0	0	2.80E-05
CEILING DEMOLITION	4.62E-09	1.97E-10	5.41E-07	5.42E-08	0	0	0	0	0	6.00E-07
CLAY PIPING	2.16E-09	7.67E-10	6.71E-09	1.99E-09	0	0	9.59E-11	4.35E-07	0	4.47E-07
CONCRETE	3.44E-07	4.60E-07	1.00E-05	3.49E-06	8.57E-07	2.69E-07	2.54E-07	2.09E-05	2.00E-08	3.66E-05
CONCRETE BEAMS	1.99E-06	0	1.64E-06	3.55E-07	2.93E-08	0	0	0	0	4.01E-06
CONCRETE COLUMNS	7.81E-07	0	1.03E-06	6.51E-09	1.26E-08	0	8.45E-08	0	0	1.92E-06
CONCRETE FOUNDATION	2.36E-06	3.46E-05	2.11E-05	7.31E-06	5.00E-06	0	7.78E-07	4.25E-08	2.46E-07	7.14E-05
CONCRETE SLABS	1.33E-05	1.64E-04	3.37E-05	1.11E-05	3.30E-06	1.05E-04	6.60E-07	1.33E-07	4.54E-07	3.32E-04
CONCRETE WALLS	1.97E-06	7.90E-06	3.72E-06	2.96E-06	1.15E-06	0	3.82E-07	6.60E-08	5.51E-07	1.87E-05
CONDUIT/WIRE (2" AND LESS)	1.53E-09	1.80E-09	6.79E-06	8.34E-08	1.62E-09	0	3.34E-10	8.96E-10	6.55E-11	6.88E-06
CONDUIT/WIRE (2-1/2" TO 4")	6.27E-10	1.61E-10	1.39E-06	1.38E-08	6.96E-10	0	1.22E-10	4.01E-10	6.37E-12	1.41E-06
CONDUIT/WIRE/CABLE TRAY (OVER 4")	3.52E-10	1.70E-11	4.44E-07	2.63E-09	0	0	5.43E-11	2.89E-10	6.79E-13	4.47E-07
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	5.66E-09	8.67E-09	7.99E-06	1.38E-07	9.00E-12	0	1.88E-10	0	0	8.14E-06
DRYWALL	2.20E-07	4.15E-09	1.25E-06	6.68E-07	0	0	0	0	0	2.14E-06
DUCTWORK	2.97E-08	1.00E-09	1.34E-04	2.18E-07	6.47E-11	0	1.44E-09	0	0	1.34E-04
DUCTWORK INSULATION	1.13E-09	3.61E-11	1.61E-05	1.30E-08	6.47E-12	0	4.48E-11	0	0	1.61E-05
ELECTRICAL EQUIPMENT	4.14E-09	1.05E-10	9.22E-06	1.17E-07	7.54E-10	0	4.42E-09	8.55E-10	1.86E-10	9.34E-06
ELECTRICAL FIXTURES	4.83E-09	2.10E-09	1.12E-05	1.44E-07	6.18E-10	0	1.49E-10	2.92E-11	1.14E-10	1.14E-05
ELECTRICAL TRANSFORMERS	7.88E-11	4.51E-11	1.39E-07	6.02E-09	5.08E-12	0	8.16E-10	0	1.44E-11	1.46E-07
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	6.37E-08	0	0	0	0	0	6.37E-08
EXTERIOR METAL WALL PANELS	4.84E-09	3.69E-08	1.60E-05	3.23E-07	7.50E-11	0	3.44E-10	0	0	1.64E-05
EXTERIOR TRANSITE PANELS	5.31E-09	4.58E-08	1.44E-03	7.25E-06	0	0	2.34E-08	0	0	1.45E-03
FABRIC	0	0	1.59E-06	0	0	0	0	0	0	1.59E-06
FABRIC ROOF	0	1.13E-08	0	0	0	0	0	0	0	1.13E-08
FABRIC WALLS	0	5.30E-09	0	0	0	0	0	0	0	5.30E-09
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.70E-08	2.98E-04	1.22E-05	0	0	8.44E-09	0	0	3.10E-04
FLOOR TILE	6.94E-08	2.94E-10	2.28E-05	4.33E-07	4.44E-10	0	0	0	0	2.33E-05
HVAC EQUIPMENT	4.18E-09	2.14E-10	1.19E-05	9.97E-08	6.35E-11	0	3.29E-10	0	0	1.21E-05
INTERIOR METAL WALL PANELS	9.45E-10	7.88E-10	8.89E-06	3.74E-08	0	0	0	0	0	8.93E-06
INTERIOR TRANSITE PANELS	5.99E-09	1.24E-08	1.06E-03	5.60E-06	6.71E-10	0	0	0	0	1.07E-03
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.39E-10	9.34E-10	5.46E-07	2.80E-08	0	0	1.05E-09	0	0	5.76E-07
MASONRY	2.07E-08	0	2.96E-05	3.25E-08	0	0	0	0	0	2.97E-05
MASONRY WALLS	2.43E-06	5.01E-07	3.68E-05	4.20E-06	8.42E-09	0	0	0	0	4.40E-05
MATERIAL HANDLING EQUIPMENT	9.80E-11	1.10E-10	5.67E-06	7.47E-08	9.44E-11	0	5.66E-11	0	0	5.74E-06
METAL PANEL ROOF	6.10E-09	5.20E-08	1.38E-05	2.53E-07	0	0	5.48E-10	0	0	1.41E-05
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.37E-10	4.34E-09	2.07E-06	6.02E-08	5.69E-10	0	1.43E-10	0	8.38E-10	2.13E-06
NON PROCESS TRAILERS	3.72E-09	0	0	0	0	0	0	0	0	3.72E-09
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	4.29E-09	2.30E-09	2.19E-05	1.14E-07	2.31E-09	0	3.38E-10	2.16E-08	1.82E-11	2.20E-05
PIPING (2-1/2" TO 4")	3.07E-09	3.46E-09	4.83E-05	2.19E-07	1.90E-09	0	3.67E-10	1.19E-08	0	4.85E-05
PIPING (OVER 4")	2.35E-09	2.48E-09	2.25E-05	7.75E-08	1.54E-09	0	7.41E-10	1.49E-08	2.57E-10	2.26E-05
PIPING INSULATION	1.17E-09	1.04E-09	1.63E-05	5.83E-08	1.14E-09	0	1.51E-10	1.87E-08	2.92E-11	1.64E-05
PROCESS EQUIPMENT	3.88E-09	1.57E-10	1.09E-04	1.33E-06	2.34E-08	0	8.17E-08	4.34E-11	1.79E-11	1.11E-04
PROCESS TRAILERS	1.41E-09	0	0	0	0	0	0	0	0	1.41E-09
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	2.96E-07	1.44E-07	3.26E-07	7.54E-08	6.05E-10	0	0	0	0	8.43E-07
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.14E-08	7.42E-08	1.13E-04	2.25E-06	4.13E-08	0	3.80E-08	8.17E-13	4.65E-10	1.15E-04
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	5.38E-09	8.00E-08	1.73E-03	8.69E-06	0	0	5.00E-09	0	0	1.74E-03
WINDOWS	3.69E-10	5.30E-10	8.55E-07	1.57E-08	2.22E-13	0	3.96E-12	0	0	8.72E-07
WOOD	6.05E-11	3.71E-10	4.76E-10	8.99E-09	0	0	7.09E-09	3.38E-08	0	5.08E-08
Totals for: Radium-226	2.39E-05	2.08E-04	5.49E-03	7.05E-05	3.83E-05	1.39E-04	2.33E-06	2.16E-05	1.27E-06	5.99E-03

Radium-228

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.92E-06	3.52E-10	6.19E-09	8.31E-11	0	0	0	2.92E-06
ASPHALT	0	0	0	0	0	9.90E-08	0	0	0	9.90E-08
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	6.11E-12	4.12E-12	3.05E-09	3.13E-11	1.38E-13	0	0	0	0	3.09E-09
CEILING DEMOLITION	7.78E-12	2.43E-13	7.51E-11	7.84E-12	0	0	0	0	0	9.09E-11
CLAY PIPING	6.53E-12	2.32E-12	2.03E-11	6.02E-12	0	0	2.90E-13	1.32E-09	0	1.35E-09
CONCRETE	4.76E-10	6.38E-10	1.44E-07	4.80E-09	1.19E-09	2.00E-08	3.51E-10	2.89E-08	2.77E-11	2.00E-07
CONCRETE BEAMS	2.96E-09	0	3.98E-09	6.80E-10	4.06E-11	0	0	0	0	7.66E-09
CONCRETE COLUMNS	1.16E-09	0	1.01E-07	6.26E-12	1.74E-11	0	3.00E-10	0	0	1.02E-07
CONCRETE FOUNDATION	3.26E-09	4.79E-08	2.92E-08	1.01E-08	6.92E-09	0	1.08E-09	5.88E-11	3.40E-10	9.89E-08
CONCRETE SLABS	1.97E-08	4.59E-06	4.11E-07	2.99E-08	1.28E-08	2.19E-07	1.31E-09	1.84E-10	6.30E-10	5.29E-06
CONCRETE WALLS	2.74E-09	1.73E-08	6.72E-09	4.03E-09	1.59E-09	0	5.44E-10	9.37E-11	7.60E-10	3.37E-08
CONDUIT/WIRE (2" AND LESS)	2.05E-12	4.41E-12	1.20E-08	7.21E-11	6.06E-12	0	8.42E-13	2.26E-12	1.65E-13	1.21E-08
CONDUIT/WIRE (2-1/2" TO 4")	8.34E-13	4.06E-13	2.45E-09	1.18E-11	1.82E-12	0	3.08E-13	1.01E-12	1.61E-14	2.46E-09
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.52E-13	4.28E-14	6.58E-10	2.23E-12	0	0	1.37E-13	7.29E-13	1.71E-15	6.61E-10
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	9.38E-12	2.15E-11	1.26E-08	1.21E-10	2.67E-14	0	4.75E-13	0	0	1.27E-08
DRYWALL	3.84E-10	8.66E-12	3.72E-10	8.90E-11	0	0	0	0	0	8.54E-10
DUCTWORK	4.84E-11	2.53E-12	2.08E-07	1.88E-10	2.26E-13	0	3.64E-12	0	0	2.08E-07
DUCTWORK INSULATION	1.94E-12	7.64E-14	1.71E-09	1.88E-12	1.66E-14	0	1.36E-13	0	0	1.71E-09
ELECTRICAL EQUIPMENT	6.18E-12	2.61E-13	1.70E-08	1.04E-10	4.16E-12	0	1.11E-11	2.16E-12	4.69E-13	1.71E-08
ELECTRICAL FIXTURES	7.05E-12	5.20E-12	1.76E-08	1.25E-10	2.20E-12	0	3.77E-13	7.37E-14	2.87E-13	1.77E-08
ELECTRICAL TRANSFORMERS	1.15E-13	1.13E-13	2.03E-10	5.42E-12	1.65E-14	0	2.06E-12	0	3.64E-14	2.11E-10
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.61E-10	0	0	0	0	0	1.61E-10
EXTERIOR METAL WALL PANELS	1.21E-11	9.08E-11	2.33E-08	2.94E-10	6.14E-13	0	8.68E-13	0	0	2.37E-08
EXTERIOR TRANSITE PANELS	6.43E-12	5.65E-11	1.56E-07	9.71E-10	0	0	7.09E-11	0	0	1.58E-07
FABRIC	0	0	1.68E-10	0	0	0	0	0	0	1.68E-10
FABRIC ROOF	0	2.51E-11	0	0	0	0	0	0	0	2.51E-11
FABRIC WALLS	0	1.13E-11	0	0	0	0	0	0	0	1.13E-11
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.48E-11	3.13E-08	1.54E-09	0	0	2.55E-11	0	0	3.28E-08
FLOOR TILE	1.23E-10	4.54E-13	2.50E-09	5.61E-11	1.34E-12	0	0	0	0	2.68E-09
HVAC EQUIPMENT	6.00E-12	5.41E-13	1.94E-08	8.55E-11	3.65E-13	0	8.32E-13	0	0	1.95E-08
INTERIOR METAL WALL PANELS	2.38E-12	1.99E-12	1.29E-08	3.45E-11	0	0	0	0	0	1.29E-08
INTERIOR TRANSITE PANELS	7.25E-12	1.52E-11	1.13E-07	7.54E-10	1.73E-12	0	0	0	0	1.14E-07
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.82E-13	2.32E-12	1.08E-09	2.41E-11	0	0	2.64E-12	0	0	1.11E-09
MASONRY	6.06E-11	0	3.71E-09	9.67E-11	0	0	0	0	0	3.86E-09
MASONRY WALLS	7.25E-09	1.49E-09	9.31E-09	3.95E-09	2.53E-11	0	0	0	0	2.20E-08
MATERIAL HANDLING EQUIPMENT	1.24E-13	2.77E-13	1.02E-08	6.60E-11	5.42E-13	0	1.43E-13	0	0	1.03E-08
METAL PANEL ROOF	1.53E-11	1.27E-10	2.01E-08	2.31E-10	0	0	1.38E-12	0	0	2.04E-08
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	5.78E-13	1.08E-11	3.77E-09	5.17E-11	1.85E-12	0	3.62E-13	0	2.12E-12	3.84E-09
NON PROCESS TRAILERS	4.72E-12	0	0	0	0	0	0	0	0	4.72E-12
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.27E-12	5.35E-12	3.50E-08	1.00E-10	8.34E-12	0	8.53E-13	5.46E-11	4.59E-14	3.51E-08
PIPING (2-1/2" TO 4")	4.11E-12	8.94E-12	7.34E-08	1.93E-10	6.53E-12	0	9.27E-13	2.99E-11	0	7.36E-08
PIPING (OVER 4")	3.26E-12	5.96E-12	3.88E-08	8.67E-11	7.03E-12	0	1.87E-12	3.76E-11	6.48E-13	3.89E-08
PIPING INSULATION	2.09E-12	1.67E-12	1.90E-09	1.08E-11	3.07E-12	0	4.58E-13	5.65E-11	8.84E-14	1.98E-09
PROCESS EQUIPMENT	5.47E-12	3.97E-13	1.87E-07	1.16E-09	9.04E-11	0	2.06E-10	1.09E-13	4.50E-14	1.89E-07
PROCESS TRAILERS	1.79E-12	0	0	0	0	0	0	0	0	1.79E-12
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	8.97E-10	4.37E-10	9.87E-10	2.28E-10	1.83E-12	0	0	0	0	2.55E-09
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.27E-11	1.85E-10	2.01E-07	1.99E-09	1.16E-10	0	9.60E-11	2.06E-15	1.17E-12	2.04E-07
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	6.51E-12	9.87E-11	1.82E-07	1.13E-09	0	0	1.51E-11	0	0	1.83E-07
WINDOWS	5.21E-13	1.34E-12	1.45E-09	1.34E-11	6.57E-16	0	9.99E-15	0	0	1.47E-09
WOOD	7.68E-13	4.71E-12	6.03E-12	1.08E-10	0	0	8.99E-11	4.29E-10	0	6.38E-10
Totals for: Radium-228	3.92E-08	4.66E-06	5.02E-06	6.40E-08	2.90E-08	3.38E-07	4.12E-09	3.11E-08	1.76E-09	**1.02E-05**

001727

Attachment B. I (Continued)

Technetium-99

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	4.98E-03	4.80E-07	2.57E-03	1.03E-05	0	0	0	7.56E-03
ASPHALT	0	0	0	0	0	5.04E-03	0	0	0	5.04E-03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.13E-07	5.49E-08	5.05E-05	3.55E-07	1.09E-09	0	0	0	0	5.10E-05
CEILING DEMOLITION	1.42E-07	3.82E-09	1.77E-06	9.62E-08	0	0	0	0	0	2.02E-06
CLAY PIPING	5.13E-08	1.82E-08	1.60E-07	4.73E-08	0	0	2.28E-09	1.03E-05	0	1.06E-05
CONCRETE	5.85E-06	7.84E-06	7.76E-04	5.89E-05	1.49E-05	6.15E-05	4.36E-06	3.55E-04	3.40E-07	1.28E-03
CONCRETE BEAMS	4.41E-05	0	9.69E-05	6.36E-06	4.99E-07	0	0	0	0	1.48E-04
CONCRETE COLUMNS	1.95E-05	0	2.52E-04	1.36E-07	2.14E-07	0	9.66E-07	0	0	2.73E-04
CONCRETE FOUNDATION	4.01E-05	5.88E-04	3.59E-04	1.24E-04	8.50E-05	0	1.32E-05	7.23E-07	4.18E-06	1.21E-03
CONCRETE SLABS	3.20E-04	6.49E-03	6.91E-02	2.28E-04	4.57E-04	1.68E-02	1.08E-05	2.76E-06	1.50E-05	9.34E-02
CONCRETE WALLS	3.71E-05	2.47E-06	4.83E-04	5.09E-05	1.97E-05	0	6.69E-06	1.15E-06	1.03E-05	6.11E-04
CONDUIT/WIRE (2" AND LESS)	1.64E-06	2.12E-08	1.60E-04	1.34E-06	9.47E-08	0	6.19E-09	1.66E-08	1.22E-09	1.63E-04
CONDUIT/WIRE (2-1/2" TO 4")	6.80E-07	1.65E-09	2.96E-05	2.23E-07	1.54E-08	0	2.27E-09	7.44E-09	1.18E-10	3.05E-05
CONDUIT/WIRE/CABLE TRAY (OVER 4")	3.07E-07	1.37E-10	4.88E-06	7.85E-08	0	0	1.01E-09	5.36E-09	1.26E-11	5.27E-06
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	4.47E-06	1.06E-07	9.98E-05	2.26E-06	5.42E-10	0	3.49E-09	0	0	1.07E-04
DRYWALL	6.80E-06	8.91E-08	2.23E-05	1.08E-06	0	0	0	0	0	3.03E-05
DUCTWORK	2.42E-05	1.41E-08	1.69E-03	3.47E-06	4.59E-09	0	2.67E-08	0	0	1.72E-03
DUCTWORK INSULATION	3.72E-08	7.78E-10	2.55E-05	2.14E-08	7.11E-10	0	1.07E-09	0	0	2.55E-05
ELECTRICAL EQUIPMENT	3.88E-06	1.20E-09	2.18E-04	1.90E-06	4.32E-08	0	8.20E-08	1.59E-08	3.45E-09	2.24E-04
ELECTRICAL FIXTURES	4.68E-06	2.66E-08	1.61E-04	2.29E-06	3.60E-08	0	2.77E-09	5.42E-10	2.11E-09	1.68E-04
ELECTRICAL TRANSFORMERS	7.59E-08	6.00E-10	1.33E-06	9.61E-08	1.98E-10	0	1.51E-08	0	2.68E-10	1.52E-06
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.18E-06	0	0	0	0	0	1.18E-06
EXTERIOR METAL WALL PANELS	2.03E-07	4.89E-07	1.51E-04	5.17E-06	4.52E-09	0	6.38E-09	0	0	1.57E-04
EXTERIOR TRANSITE PANELS	1.39E-07	8.88E-07	2.37E-03	1.20E-05	0	0	5.57E-07	0	0	2.38E-03
FABRIC	0	0	2.35E-06	0	0	0	0	0	0	2.35E-06
FABRIC ROOF	0	2.47E-07	0	0	0	0	0	0	0	2.47E-07
FABRIC WALLS	0	1.14E-07	0	0	0	0	0	0	0	1.14E-07
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	5.52E-07	4.18E-04	2.03E-05	0	0	2.01E-07	0	0	4.39E-04
FLOOR TILE	2.24E-06	7.45E-09	4.60E-05	6.75E-07	1.06E-08	0	0	0	0	4.89E-05
HVAC EQUIPMENT	4.13E-06	3.59E-09	1.62E-04	1.59E-06	3.82E-09	0	6.12E-09	0	0	1.68E-04
INTERIOR METAL WALL PANELS	1.75E-08	1.46E-08	8.08E-05	5.99E-07	0	0	0	0	0	8.15E-05
INTERIOR TRANSITE PANELS	1.57E-07	2.39E-07	1.78E-03	8.77E-06	7.38E-08	0	0	0	0	1.79E-03
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.52E-07	1.40E-08	1.29E-05	4.46E-07	0	0	1.94E-08	0	0	1.36E-05
MASONRY	4.96E-07	0	4.84E-05	7.77E-07	0	0	0	0	0	4.97E-05
MASONRY WALLS	5.93E-05	1.20E-05	1.22E-04	3.29E-05	2.39E-07	0	0	0	0	2.26E-04
MATERIAL HANDLING EQUIPMENT	1.11E-07	8.85E-10	1.21E-04	1.20E-06	5.68E-09	0	1.05E-09	0	0	1.22E-04
METAL PANEL ROOF	2.38E-07	7.39E-07	1.31E-04	4.05E-06	0	0	1.02E-08	0	0	1.36E-04
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.32E-08	5.83E-08	4.45E-05	9.65E-07	1.92E-08	0	2.66E-09	0	1.56E-08	4.56E-05
NON PROCESS TRAILERS	4.24E-06	0	0	0	0	0	0	0	0	4.24E-06
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	4.15E-06	2.45E-08	3.37E-04	1.82E-06	9.61E-08	0	6.28E-09	4.01E-07	3.38E-10	3.43E-04
PIPING (2-1/2" TO 4")	3.28E-06	4.59E-08	5.09E-04	3.50E-06	8.57E-08	0	6.82E-09	2.20E-07	0	5.17E-04
PIPING (OVER 4")	2.43E-06	3.08E-08	4.26E-04	1.27E-06	5.47E-08	0	1.38E-08	2.77E-07	4.77E-09	4.31E-04
PIPING INSULATION	4.41E-08	2.19E-08	3.36E-05	1.23E-07	1.02E-07	0	3.60E-09	4.44E-07	6.94E-10	3.43E-05
PROCESS EQUIPMENT	3.92E-06	2.32E-09	2.10E-03	2.18E-05	9.46E-07	0	1.52E-06	8.05E-10	3.31E-10	2.13E-03
PROCESS TRAILERS	1.61E-06	0	0	0	0	0	0	0	0	1.61E-06
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	7.05E-06	3.43E-06	7.75E-06	1.79E-06	1.44E-08	0	0	0	0	2.00E-05
SOIL PILE	0	0	0	0	0	0	0	0	0	2.50E-06
STRUCTURAL AND MISC. STEEL	5.62E-06	9.38E-07	2.51E-03	3.61E-05	9.20E-07	0	7.06E-07	1.52E-11	8.64E-09	2.55E-03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.41E-07	1.55E-06	2.66E-03	1.35E-05	0	0	1.19E-07	0	0	2.67E-03
WINDOWS	3.72E-07	5.64E-09	1.59E-05	2.51E-07	1.34E-11	0	7.35E-11	0	0	1.65E-05
WOOD	1.27E-08	7.77E-08	9.95E-08	1.74E-06	0	0	1.48E-06	7.07E-06	0	1.05E-05
Totals for: Technetium-99	6.13E-04	7.12E-03	9.26E-02	6.55E-04	3.15E-03	2.20E-02	4.09E-05	3.78E-04	2.98E-05	**1.27E-01**

Thorium, Total

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	8.82E+05
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Thorium, Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8.82E+05**

001729

Attachment B. I (Continued)

Thorium-228

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.12E-08	1.21E-10	5.12E-09	8.00E-11	0	0	0	2.65E-08
ASPHALT	0	0	0	0	0	3.22E-08	0	0	0	3.22E-08
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	3.01E-12	2.13E-12	3.18E-10	9.76E-12	4.64E-14	0	0	0	0	3.33E-10
CEILING DEMOLITION	4.28E-12	1.63E-13	8.82E-12	2.33E-12	0	0	0	0	0	1.56E-11
CLAY PIPING	2.19E-12	7.79E-13	6.82E-12	2.02E-12	0	0	9.74E-14	4.42E-10	0	4.54E-10
CONCRETE	2.67E-10	3.58E-10	3.42E-08	2.63E-09	6.71E-10	4.09E-09	1.96E-10	1.62E-08	1.55E-11	5.86E-08
CONCRETE BEAMS	1.58E-09	0	1.71E-09	2.76E-10	2.28E-11	0	0	0	0	3.59E-09
CONCRETE COLUMNS	6.15E-10	0	2.09E-08	2.29E-12	9.77E-12	0	1.30E-10	0	0	2.16E-08
CONCRETE FOUNDATION	1.83E-09	2.69E-08	1.64E-08	5.69E-09	3.89E-09	0	6.05E-10	3.30E-11	1.91E-10	5.55E-08
CONCRETE SLABS	1.06E-08	8.41E-07	1.12E-07	8.11E-09	4.92E-09	9.77E-08	6.31E-10	9.81E-11	3.29E-10	1.08E-06
CONCRETE WALLS	1.54E-09	8.70E-09	8.18E-09	2.23E-09	8.88E-10	0	3.06E-10	5.11E-11	4.26E-10	2.23E-08
CONDUIT/WIRE (2" AND LESS)	5.57E-13	2.02E-12	1.09E-09	2.67E-11	2.13E-12	0	3.88E-13	1.04E-12	7.62E-14	1.12E-09
CONDUIT/WIRE (2-1/2" TO 4")	2.23E-13	1.84E-13	2.15E-10	4.36E-12	8.18E-13	0	1.42E-13	4.66E-13	7.41E-15	2.21E-10
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.82E-13	1.97E-14	3.97E-11	1.66E-12	0	0	6.32E-14	3.36E-13	7.90E-16	4.20E-11
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	3.27E-12	9.83E-12	8.45E-10	4.56E-11	1.32E-14	0	2.19E-13	0	0	9.04E-10
DRYWALL	2.07E-10	3.80E-12	6.16E-11	2.80E-11	0	0	0	0	0	3.01E-10
DUCTWORK	1.66E-11	1.17E-12	1.43E-08	6.88E-11	1.12E-13	0	1.68E-12	0	0	1.43E-08
DUCTWORK INSULATION	1.00E-12	3.32E-14	1.75E-10	5.93E-13	2.96E-14	0	4.55E-14	0	0	1.76E-10
ELECTRICAL EQUIPMENT	1.93E-12	1.17E-13	1.35E-09	3.94E-11	6.92E-13	0	5.13E-12	9.94E-13	2.16E-13	1.40E-09
ELECTRICAL FIXTURES	2.14E-12	2.38E-12	1.28E-09	4.58E-11	8.34E-13	0	1.73E-13	3.39E-14	1.32E-13	1.33E-09
ELECTRICAL TRANSFORMERS	3.53E-14	4.96E-14	1.24E-11	2.02E-12	6.13E-15	0	9.49E-13	0	1.68E-14	1.55E-11
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	7.41E-11	0	0	0	0	0	7.41E-11
EXTERIOR METAL WALL PANELS	5.54E-12	4.00E-11	1.46E-09	1.10E-10	2.98E-14	0	4.00E-13	0	0	1.61E-09
EXTERIOR TRANSITE PANELS	4.01E-12	3.78E-11	1.61E-08	3.01E-10	0	0	2.38E-11	0	0	1.65E-08
FABRIC	0	0	1.75E-11	0	0	0	0	0	0	1.75E-11
FABRIC ROOF	0	1.05E-11	0	0	0	0	0	0	0	1.05E-11
FABRIC WALLS	0	4.87E-12	0	0	0	0	0	0	0	4.87E-12
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	2.44E-11	3.17E-09	4.81E-10	0	0	8.57E-12	0	0	3.68E-09
FLOOR TILE	6.36E-11	3.72E-13	2.63E-10	1.73E-11	4.51E-13	0	0	0	0	3.45E-10
HVAC EQUIPMENT	1.79E-12	2.49E-13	1.30E-09	3.12E-11	5.70E-14	0	3.83E-13	0	0	1.33E-09
INTERIOR METAL WALL PANELS	1.10E-12	9.17E-13	7.82E-10	1.29E-11	0	0	0	0	0	7.97E-10
INTERIOR TRANSITE PANELS	4.52E-12	1.02E-11	1.16E-08	2.33E-10	3.07E-12	0	0	0	0	1.18E-08
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.81E-14	1.03E-12	8.99E-11	8.81E-12	0	0	1.21E-12	0	0	1.01E-10
MASONRY	2.08E-11	0	5.21E-10	3.21E-11	0	0	0	0	0	5.74E-10
MASONRY WALLS	2.46E-09	5.10E-10	2.12E-09	1.31E-09	1.01E-11	0	0	0	0	6.41E-09
MATERIAL HANDLING EQUIPMENT	3.09E-14	1.28E-13	7.51E-10	2.44E-11	8.47E-14	0	6.58E-14	0	0	7.76E-10
METAL PANEL ROOF	7.00E-12	5.33E-11	1.24E-09	8.59E-11	0	0	6.37E-13	0	0	1.39E-09
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	2.62E-13	4.81E-12	3.01E-10	1.90E-11	6.62E-13	0	1.67E-13	0	9.75E-13	3.26E-10
NON PROCESS TRAILERS	1.17E-12	0	0	0	0	0	0	0	0	1.17E-12
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.91E-12	2.70E-12	2.64E-09	3.69E-11	2.74E-12	0	3.93E-13	2.51E-11	2.12E-14	2.71E-09
PIPING (2-1/2" TO 4")	1.12E-12	3.28E-12	4.89E-09	7.05E-11	2.34E-12	0	4.27E-13	1.38E-11	0	4.98E-09
PIPING (OVER 4")	9.27E-13	2.60E-12	3.23E-09	3.45E-11	1.41E-12	0	8.62E-13	1.73E-11	2.99E-13	3.29E-09
PIPING INSULATION	1.11E-12	9.31E-13	2.04E-10	3.41E-12	4.23E-12	0	1.54E-13	1.90E-11	2.97E-14	2.33E-10
PROCESS EQUIPMENT	1.59E-12	1.82E-13	1.51E-08	4.37E-10	2.57E-11	0	9.49E-11	5.04E-14	2.08E-14	1.56E-08
PROCESS TRAILERS	4.45E-13	0	0	0	0	0	0	0	0	4.45E-13
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	3.01E-10	1.47E-10	3.31E-10	7.66E-11	6.15E-13	0	0	0	0	8.56E-10
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	9.17E-12	8.34E-11	1.66E-08	7.39E-10	4.76E-11	0	4.42E-11	9.50E-16	5.41E-13	1.76E-08
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	4.06E-12	6.60E-11	1.85E-08	3.51E-10	0	0	5.07E-12	0	0	1.90E-08
WINDOWS	1.52E-13	6.15E-13	1.18E-10	4.87E-12	3.26E-16	0	4.61E-15	0	0	1.24E-10
WOOD	4.39E-14	2.69E-13	3.45E-13	1.30E-11	0	0	1.71E-11	2.45E-11	0	5.53E-11
Totals for: Thorium-228	1.95E-08	8.78E-07	3.36E-07	2.38E-08	1.56E-08	1.34E-07	2.08E-09	1.70E-08	9.65E-10	**1.43E-06**

Thorium-230

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.00E-03	3.89E-06	9.85E-04	4.09E-06	0	0	0	7.99E-03
ASPHALT	0	0	0	0	0	1.49E-03	0	0	0	1.49E-03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.61E-07	1.06E-07	4.25E-04	7.05E-06	2.40E-09	0	0	0	0	4.33E-04
CEILING DEMOLITION	1.99E-07	6.27E-09	9.22E-06	1.81E-06	0	0	0	0	0	1.12E-05
CLAY PIPING	1.14E-07	4.04E-08	3.53E-07	1.05E-07	0	0	5.05E-09	2.29E-05	0	2.35E-05
CONCRETE	1.87E-05	2.50E-05	1.21E-03	1.88E-04	4.62E-05	5.78E-05	1.39E-05	1.13E-03	1.08E-06	2.69E-03
CONCRETE BEAMS	1.06E-04	0	1.05E-04	1.96E-05	1.59E-06	0	0	0	0	2.33E-04
CONCRETE COLUMNS	3.98E-05	0	4.70E-04	2.22E-07	6.82E-07	0	3.01E-06	0	0	5.14E-04
CONCRETE FOUNDATION	1.28E-04	1.88E-03	1.14E-03	3.97E-04	2.71E-04	0	4.22E-05	2.31E-06	1.33E-05	3.87E-03
CONCRETE SLABS	7.17E-04	3.71E-03	1.45E-02	6.18E-04	9.48E-04	5.59E-03	3.20E-05	1.15E-05	2.38E-05	2.61E-02
CONCRETE WALLS	1.07E-04	3.85E-05	9.39E-04	1.57E-04	6.22E-05	0	2.09E-05	3.72E-06	2.98E-05	1.36E-03
CONDUIT/WIRE (2" AND LESS)	7.12E-07	2.02E-07	4.86E-04	6.62E-06	8.06E-07	0	5.61E-08	1.51E-07	1.10E-08	4.94E-04
CONDUIT/WIRE (2-1/2" TO 4")	2.95E-07	1.79E-08	1.06E-04	1.09E-06	1.38E-07	0	2.06E-08	6.74E-08	1.07E-09	1.07E-04
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.35E-07	1.68E-09	1.93E-05	2.45E-07	0	0	9.14E-09	4.86E-08	1.14E-10	1.97E-05
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	2.08E-06	1.03E-06	3.83E-04	1.11E-05	4.91E-09	0	3.16E-08	0	0	3.97E-04
DRYWALL	9.45E-06	1.73E-07	4.45E-05	2.22E-05	0	0	0	0	0	7.63E-05
DUCTWORK	1.10E-05	1.39E-07	6.46E-03	1.72E-05	4.16E-08	0	2.42E-07	0	0	6.49E-03
DUCTWORK INSULATION	5.42E-08	1.52E-09	2.43E-04	4.34E-07	3.47E-09	0	2.36E-09	0	0	2.44E-04
ELECTRICAL EQUIPMENT	1.69E-06	1.18E-08	5.91E-04	9.46E-06	3.10E-07	0	7.43E-07	1.44E-07	3.12E-08	6.03E-04
ELECTRICAL FIXTURES	2.07E-06	2.61E-07	6.11E-04	1.14E-05	3.11E-07	0	2.51E-08	4.91E-09	1.91E-08	6.25E-04
ELECTRICAL TRANSFORMERS	3.42E-08	5.49E-09	6.14E-06	4.88E-07	1.69E-09	0	1.37E-07	0	2.43E-09	6.81E-06
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.07E-05	0	0	0	0	0	1.07E-05
EXTERIOR METAL WALL PANELS	2.89E-07	4.24E-06	7.35E-04	2.64E-05	2.46E-08	0	5.78E-08	0	0	7.66E-04
EXTERIOR TRANSITE PANELS	2.20E-07	1.46E-06	2.19E-02	2.42E-04	0	0	1.23E-06	0	0	2.22E-02
FABRIC	0	0	2.40E-05	0	0	0	0	0	0	2.40E-05
FABRIC ROOF	0	4.89E-07	0	0	0	0	0	0	0	4.89E-07
FABRIC WALLS	0	2.23E-07	0	0	0	0	0	0	0	2.23E-07
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	9.38E-07	4.49E-03	4.06E-04	0	0	4.44E-07	0	0	4.90E-03
FLOOR TILE	3.25E-06	1.42E-08	3.53E-04	1.44E-05	2.34E-08	0	0	0	0	3.71E-04
HVAC EQUIPMENT	1.82E-06	3.34E-08	6.23E-04	7.85E-06	2.73E-08	0	5.54E-08	0	0	6.33E-04
INTERIOR METAL WALL PANELS	1.59E-07	1.33E-07	3.81E-04	3.07E-06	0	0	0	0	0	3.85E-04
INTERIOR TRANSITE PANELS	2.48E-07	3.93E-07	1.61E-02	1.87E-04	3.60E-07	0	0	0	0	1.63E-02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	6.58E-08	1.23E-07	4.01E-05	2.21E-06	0	0	1.76E-07	0	0	4.26E-05
MASONRY	1.08E-06	0	4.55E-04	1.73E-06	0	0	0	0	0	4.58E-04
MASONRY WALLS	1.28E-04	2.63E-05	6.47E-04	1.62E-04	6.59E-07	0	0	0	0	9.64E-04
MATERIAL HANDLING EQUIPMENT	4.77E-08	1.08E-08	3.40E-04	5.99E-06	4.05E-08	0	9.52E-09	0	0	3.47E-04
METAL PANEL ROOF	3.09E-07	5.84E-06	6.41E-04	2.06E-05	0	0	9.22E-08	0	0	6.68E-04
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	1.29E-08	5.34E-07	1.28E-04	4.76E-06	1.61E-07	0	2.41E-08	0	1.41E-07	1.34E-04
NON PROCESS TRAILERS	1.81E-06	0	0	0	0	0	0	0	0	1.81E-06
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.82E-06	2.29E-07	1.41E-03	9.10E-06	7.93E-07	0	5.69E-08	3.64E-06	3.06E-09	1.42E-03
PIPING (2-1/2" TO 4")	1.42E-06	3.92E-07	2.08E-03	1.75E-05	7.26E-07	0	6.18E-08	1.99E-06	0	2.10E-03
PIPING (OVER 4")	1.04E-06	2.56E-07	1.72E-03	7.20E-06	3.77E-07	0	1.25E-07	2.51E-06	4.32E-08	1.73E-03
PIPING INSULATION	5.89E-08	3.96E-08	2.54E-04	1.96E-06	4.78E-07	0	7.97E-09	9.83E-07	1.54E-09	2.57E-04
PROCESS EQUIPMENT	1.75E-06	2.24E-08	6.36E-03	1.06E-04	7.49E-06	0	1.37E-05	7.29E-09	3.00E-09	6.49E-03
PROCESS TRAILERS	6.87E-07	0	0	0	0	0	0	0	0	6.87E-07
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.56E-05	7.60E-06	1.72E-05	3.97E-06	3.19E-08	0	0	0	0	4.44E-05
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	3.09E-06	9.00E-06	7.67E-03	1.81E-04	7.94E-06	0	6.40E-06	1.37E-10	7.82E-08	7.88E-03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	2.22E-07	2.54E-06	2.61E-02	2.89E-04	0	0	2.63E-07	0	0	2.64E-02
WINDOWS	1.66E-07	6.12E-08	4.89E-05	1.24E-06	1.21E-10	0	6.66E-10	0	0	5.04E-05
WOOD	1.85E-09	1.13E-08	1.45E-08	7.58E-07	0	0	2.16E-07	1.03E-06	0	2.03E-06
Totals for: Thorium-230	1.31E-03	5.71E-03	1.27E-01	3.19E-03	2.34E-03	7.14E-03	1.36E-04	1.18E-03	6.84E-05	**1.48E-01**

001731

Attachment B. I (Continued)

Thorium-232

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	7.17E+01	8.41E-01	1.09E+01	4.02E-01	0	0	0	8.39E+01
ASPHALT	0	0	0	0	0	1.51E+02	0	0	0	1.51E+02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.26E-02	1.38E-02	2.18E+00	6.93E-02	1.78E-04	0	0	0	0	2.28E+00
CEILING DEMOLITION	1.58E-02	1.22E-03	6.82E-02	1.70E-02	0	0	0	0	0	1.02E-01
CLAY PIPING	8.44E-03	3.00E-03	2.62E-02	7.78E-03	0	0	3.75E-04	1.70E+00	0	1.75E+00
CONCRETE	1.56E+00	2.09E+00	2.30E+02	1.54E+01	3.85E+00	2.62E+01	1.14E+00	9.47E+01	9.07E-02	3.75E+02
CONCRETE BEAMS	9.05E+00	0	8.12E+00	1.61E+00	1.33E-01	0	0	0	0	1.89E+01
CONCRETE COLUMNS	3.45E+00	0	1.45E+02	1.26E-02	5.70E-02	0	5.81E-01	0	0	1.49E+02
CONCRETE FOUNDATION	1.07E+01	1.57E+02	9.57E+01	3.32E+01	2.27E+01	0	3.53E+00	1.93E-01	1.12E+00	3.24E+02
CONCRETE SLABS	6.07E+01	4.03E+02	7.10E+02	4.76E+01	1.81E+01	5.44E+02	3.25E+00	5.70E-01	1.87E+00	1.79E+03
CONCRETE WALLS	8.96E+00	1.15E+01	4.15E+01	1.30E+01	5.18E+00	0	1.76E+00	2.99E-01	2.48E+00	8.47E+01
CONDUIT/WIRE (2" AND LESS)	3.60E-03	1.40E-02	5.84E+00	1.37E-01	1.31E-02	0	2.80E-03	7.52E-03	5.50E-04	6.02E+00
CONDUIT/WIRE (2-1/2" TO 4")	1.45E-03	1.33E-03	1.13E+00	2.23E-02	5.82E-03	0	1.03E-03	3.37E-03	5.35E-05	1.17E+00
CONDUIT/WIRE/CABLE TRAY (OVER 4")	7.22E-04	1.43E-04	1.70E-01	1.01E-02	0	0	4.56E-04	2.43E-03	5.71E-06	1.84E-01
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.66E-02	6.89E-02	3.91E+00	2.38E-01	8.15E-05	0	1.58E-03	0	0	4.24E+00
DRYWALL	7.52E-01	2.12E-02	6.81E-01	2.05E-01	0	0	0	0	0	1.66E+00
DUCTWORK	7.77E-02	8.43E-03	6.67E+01	3.52E-01	6.91E-04	0	1.21E-02	0	0	6.71E+01
DUCTWORK INSULATION	4.23E-03	1.83E-04	1.20E+00	4.18E-03	2.06E-05	0	1.75E-04	0	0	1.20E+00
ELECTRICAL EQUIPMENT	8.72E-03	8.29E-04	7.13E+00	2.08E-01	4.02E-03	0	3.71E-02	7.18E-03	1.56E-03	7.39E+00
ELECTRICAL FIXTURES	1.20E-02	1.67E-02	6.17E+00	2.36E-01	5.15E-03	0	1.25E-03	2.45E-04	9.53E-04	6.44E+00
ELECTRICAL TRANSFORMERS	2.31E-04	3.49E-04	5.34E-02	1.07E-02	4.05E-05	0	6.85E-03	0	1.21E-04	7.17E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	5.35E-01	0	0	0	0	0	5.35E-01
EXTERIOR METAL WALL PANELS	9.13E-03	2.75E-01	6.31E+00	5.83E-01	1.21E-04	0	2.89E-03	0	0	7.18E+00
EXTERIOR TRANSITE PANELS	1.68E-02	2.83E-01	1.10E+02	2.25E+00	0	0	9.16E-02	0	0	1.13E+02
FABRIC	0	0	1.17E-01	0	0	0	0	0	0	1.17E-01
FABRIC ROOF	0	5.60E-02	0	0	0	0	0	0	0	5.60E-02
FABRIC WALLS	0	2.68E-02	0	0	0	0	0	0	0	2.68E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.83E-01	2.16E+01	3.65E+00	0	0	3.30E-02	0	0	2.55E+01
FLOOR TILE	2.54E-01	2.79E-03	1.87E+00	1.31E-01	1.74E-03	0	0	0	0	2.26E+00
HVAC EQUIPMENT	1.02E-02	1.79E-03	6.11E+00	1.59E-01	3.24E-04	0	2.77E-03	0	0	6.28E+00
INTERIOR METAL WALL PANELS	7.93E-03	6.62E-03	3.34E+00	6.94E-02	0	0	0	0	0	3.42E+00
INTERIOR TRANSITE PANELS	1.90E-02	7.65E-02	7.92E+01	1.74E+00	2.14E-03	0	0	0	0	8.11E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	3.27E-04	7.23E-03	4.86E-01	4.51E-02	0	0	8.77E-03	0	0	5.48E-01
MASONRY	8.02E-02	0	2.94E+00	1.27E-01	0	0	0	0	0	3.15E+00
MASONRY WALLS	9.52E+00	2.03E+00	9.87E+00	5.51E+00	3.26E-02	0	0	0	0	2.70E+01
MATERIAL HANDLING EQUIPMENT	2.08E-04	9.21E-04	3.78E+00	1.27E-01	4.81E-04	0	4.75E-04	0	0	3.91E+00
METAL PANEL ROOF	8.82E-03	3.54E-01	5.34E+00	4.58E-01	0	0	4.60E-03	0	0	6.17E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	9.28E-05	3.36E-02	1.58E+00	9.73E-02	4.48E-03	0	1.20E-03	0	7.04E-03	1.72E+00
NON PROCESS TRAILERS	7.92E-03	0	0	0	0	0	0	0	0	7.92E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	9.97E-03	1.78E-02	1.29E+01	1.92E-01	1.79E-02	0	2.84E-03	1.82E-01	1.53E-04	1.33E+01
PIPING (2-1/2" TO 4")	6.71E-03	2.30E-02	2.18E+01	3.64E-01	1.51E-02	0	3.08E-03	9.96E-02	0	2.23E+01
PIPING (OVER 4")	4.59E-03	1.70E-02	1.67E+01	2.06E-01	9.37E-03	0	6.22E-03	1.25E-01	2.16E-03	1.70E+01
PIPING INSULATION	4.66E-03	6.25E-03	1.40E+00	2.17E-02	3.84E-03	0	5.92E-04	7.30E-02	1.14E-04	1.51E+00
PROCESS EQUIPMENT	1.10E-02	1.31E-03	7.74E+01	2.27E+00	1.68E-01	0	6.86E-01	3.64E-04	1.50E-04	8.05E+01
PROCESS TRAILERS	3.00E-03	0	0	0	0	0	0	0	0	3.00E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.16E+00	5.65E-01	1.28E+00	2.95E-01	2.37E-03	0	0	0	0	3.30E+00
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	4.48E-02	5.90E-01	8.81E+01	3.86E+00	3.39E-01	0	3.19E-01	6.86E-06	3.91E-03	9.33E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.70E-02	4.95E-01	1.27E+02	2.65E+00	0	0	1.95E-02	0	0	1.30E+02
WINDOWS	1.05E-03	4.44E-03	6.00E-01	2.47E-02	2.01E-06	0	3.33E-05	0	0	6.30E-01
WOOD	1.10E-04	6.73E-04	8.62E-04	7.55E-02	0	0	1.28E-02	6.12E-02	0	1.51E-01
Totals for: Thorium-232	1.07E+02	5.78E+02	2.00E+03	1.39E+02	6.15E+01	7.21E+02	1.15E+01	9.80E+01	5.57E+00	**3.72E+03**

Uranium, Total

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	5.10E+03	2.18E+01	2.35E+02	3.48E+00	0	0	0	5.36E+03
ASPHALT	0	0	0	0	0	2.57E+03	0	0	0	2.57E+03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	6.49E-02	4.94E-02	9.18E+01	4.34E+00	1.90E-05	0	0	0	0	9.62E+01
CEILING DEMOLITION	6.94E-02	4.88E-03	5.18E+00	1.13E+00	0	0	0	0	0	6.39E+00
CLAY PIPING	8.98E-04	3.19E-04	2.79E-03	8.28E-04	0	0	3.99E-05	1.81E-01	0	1.86E-01
CONCRETE	2.06E+00	2.76E+00	7.29E+02	2.22E+01	6.77E+00	1.19E+02	2.62E+00	1.25E+02	1.20E-01	1.01E+03
CONCRETE BEAMS	1.59E+01	0	3.11E+02	3.12E+00	1.76E-01	0	0	0	0	3.30E+02
CONCRETE COLUMNS	6.74E+00	0	2.23E+02	2.01E-02	7.53E-02	0	1.74E+01	0	0	2.48E+02
CONCRETE FOUNDATION	1.41E+01	2.08E+02	1.27E+02	4.39E+01	3.00E+01	0	4.67E+00	2.55E-01	1.48E+00	4.28E+02
CONCRETE SLABS	1.76E+02	2.21E+03	1.99E+04	1.39E+02	1.37E+02	8.94E+03	5.95E+01	3.82E+00	2.56E+00	3.16E+04
CONCRETE WALLS	1.43E+01	7.51E-01	4.62E+02	1.73E+01	6.89E+00	0	2.57E+00	4.27E-01	3.29E+00	5.08E+02
CONDUIT/WIRE (2" AND LESS)	2.57E-01	6.62E-02	1.60E+02	7.85E+00	8.13E-01	0	1.28E-02	3.44E-02	2.52E-03	1.69E+02
CONDUIT/WIRE (2-1/2" TO 4")	1.06E-01	6.11E-03	2.47E+01	1.32E+00	5.65E-02	0	4.69E-03	1.54E-02	2.45E-04	2.62E+01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.01E-02	6.52E-04	4.73E+00	7.39E-01	0	0	2.09E-03	1.11E-02	2.61E-05	5.53E+00
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	7.50E-01	3.24E-01	7.94E+01	1.34E+01	4.84E-03	0	7.22E-03	0	0	9.39E+01
DRYWALL	2.79E+00	5.48E-02	1.00E+02	1.37E+01	0	0	0	0	0	1.17E+02
DUCTWORK	4.03E+00	3.85E-02	1.59E+03	2.01E+01	3.28E-02	0	5.53E-02	0	0	1.61E+03
DUCTWORK INSULATION	2.46E-02	4.62E-04	5.12E+01	2.67E-01	2.94E-02	0	1.87E-05	0	0	5.15E+01
ELECTRICAL EQUIPMENT	6.23E-01	3.87E-03	2.10E+02	1.11E+01	3.80E-01	0	1.69E-01	3.28E-02	7.13E-03	2.22E+02
ELECTRICAL FIXTURES	7.49E-01	8.00E-02	1.47E+02	1.33E+01	3.08E-01	0	5.73E-03	1.12E-03	4.36E-03	1.62E+02
ELECTRICAL TRANSFORMERS	1.22E-02	1.64E-03	1.06E+00	5.46E-01	1.44E-03	0	3.13E-02	0	5.54E-04	1.66E+00
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.45E+00	0	0	0	0	0	2.45E+00
EXTERIOR METAL WALL PANELS	1.70E-01	1.31E+00	1.11E+02	2.93E+01	4.03E-02	0	1.32E-02	0	0	1.42E+02
EXTERIOR TRANSITE PANELS	1.10E-01	1.13E+00	4.52E+03	1.50E+02	0	0	9.75E-03	0	0	4.67E+03
FABRIC	0	0	4.95E+00	0	0	0	0	0	0	4.95E+00
FABRIC ROOF	0	1.30E-01	0	0	0	0	0	0	0	1.30E-01
FABRIC WALLS	0	6.69E-02	0	0	0	0	0	0	0	6.69E-02
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	7.31E-01	8.70E+02	2.52E+02	0	0	3.51E-03	0	0	1.12E+03
FLOOR TILE	1.31E+00	1.12E-02	9.59E+01	8.96E+00	1.85E-04	0	0	0	0	1.06E+02
HVAC EQUIPMENT	6.59E-01	8.22E-03	1.10E+02	9.24E+00	3.41E-02	0	1.26E-02	0	0	1.20E+02
INTERIOR METAL WALL PANELS	3.63E-02	3.03E-02	6.58E+01	3.37E+00	0	0	0	0	0	6.92E+01
INTERIOR TRANSITE PANELS	1.24E-01	3.06E-01	3.30E+03	1.16E+02	3.05E+00	0	0	0	0	3.42E+03
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.37E-02	3.38E-02	9.08E+00	2.58E+00	0	0	4.01E-02	0	0	1.18E+01
MASONRY	3.26E-02	0	9.25E+01	2.22E-02	0	0	0	0	0	9.26E+01
MASONRY WALLS	3.50E+00	8.07E-01	2.01E+02	6.34E+01	2.04E+00	0	0	0	0	2.71E+02
MATERIAL HANDLING EQUIPMENT	1.73E-02	4.21E-03	1.17E+02	6.90E+00	5.07E-02	0	2.17E-03	0	0	1.24E+02
METAL PANEL ROOF	2.09E-01	1.77E+00	9.34E+01	2.29E+01	0	0	2.10E-02	0	0	1.18E+02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	9.69E-03	1.59E-01	4.17E+01	5.64E+00	1.24E-01	0	5.50E-03	0	3.22E-02	4.77E+01
NON PROCESS TRAILERS	6.57E-01	0	0	0	0	0	0	0	0	6.57E-01
OTHER WASTE	0	0	0	0	0	0	0	0	0	1.29E+06
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	6.64E-01	8.36E-02	2.55E+04	3.44E+03	6.89E-01	0	1.30E-02	8.30E-01	6.98E-04	2.89E+04
PIPING (2-1/2" TO 4")	5.15E-01	1.22E-01	4.04E+04	6.42E+03	6.71E-01	0	1.41E-02	4.55E-01	0	4.69E+04
PIPING (OVER 4")	3.83E-01	8.65E-02	4.36E+04	1.16E+04	3.63E-01	0	2.84E-02	5.72E-01	9.86E-03	5.53E+04
PIPING INSULATION	3.04E-02	2.22E-02	5.93E+01	1.18E+00	3.93E+00	0	6.30E-05	7.77E-03	1.22E-05	6.45E+01
PROCESS EQUIPMENT	6.24E-01	6.03E-03	2.74E+05	4.26E+04	6.96E+00	0	3.13E+00	1.66E-03	6.85E-04	3.16E+05
PROCESS TRAILERS	2.49E-01	0	0	0	0	0	0	0	0	2.49E-01
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	6.22E+06
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	1.23E-01	6.01E-02	1.36E-01	3.14E-02	2.52E-04	0	0	0	0	3.51E-01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.09E+00	2.76E+00	2.38E+03	2.08E+02	3.09E+00	0	1.46E+00	3.14E-05	1.79E-02	2.60E+03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.11E-01	1.98E+00	5.29E+03	1.80E+02	0	0	2.08E-03	0	0	5.47E+03
WINDOWS	5.92E-02	2.03E-02	1.48E+01	1.47E+00	1.19E-04	0	1.52E-04	0	0	1.64E+01
WOOD	7.49E-04	4.60E-03	5.89E-03	1.19E+01	0	0	5.61E-02	4.18E-01	0	1.24E+01
Totals for: Uranium, Total	2.49E+02	2.44E+03	4.30E+05	6.55E+04	4.39E+02	1.16E+04	9.18E+01	1.32E+02	7.52E+00	8.02E+06

001733

Attachment B. I (Continued)

Uranium-233/234

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.52E-05	3.10E-07	5.37E-06	4.50E-07	0	0	0	2.13E-05
ASPHALT	0	0	0	0	0	3.29E-04	0	0	0	3.29E-04
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	8.66E-08	4.29E-08	2.97E-07	8.71E-08	8.32E-10	0	0	0	0	5.14E-07
CEILING DEMOLITION	1.09E-07	2.63E-09	8.57E-08	1.91E-08	0	0	0	0	0	2.16E-07
CLAY PIPING	3.93E-08	1.40E-08	1.22E-07	3.63E-08	0	0	1.75E-09	7.93E-06	0	8.15E-06
CONCRETE	1.57E-03	2.10E-03	4.46E-02	1.58E-02	3.92E-03	9.85E-04	1.15E-03	9.50E-02	9.10E-05	1.65E-01
CONCRETE BEAMS	1.04E-02	0	8.17E-03	1.60E-03	1.34E-04	0	0	0	0	2.03E-02
CONCRETE COLUMNS	4.52E-03	0	3.19E-03	2.06E-05	5.72E-05	0	1.24E-04	0	0	7.91E-03
CONCRETE FOUNDATION	1.07E-02	1.58E-01	9.61E-02	3.33E-02	2.28E-02	0	3.54E-03	1.94E-04	1.12E-03	3.25E-01
CONCRETE SLABS	6.90E-02	6.21E-02	1.54E-01	5.19E-02	1.23E-02	4.43E-01	2.29E-03	5.99E-04	2.08E-03	7.98E-01
CONCRETE WALLS	9.07E-03	4.25E-04	1.64E-02	1.32E-02	5.27E-03	0	1.79E-03	3.08E-04	2.51E-03	4.90E-02
CONDUIT/WIRE (2" AND LESS)	5.30E-06	3.28E-06	4.73E-05	6.46E-06	9.22E-06	0	6.04E-07	1.62E-06	1.19E-07	7.39E-05
CONDUIT/WIRE (2-1/2" TO 4")	2.19E-06	2.91E-07	8.36E-06	9.03E-07	1.50E-06	0	2.21E-07	7.25E-07	1.15E-08	1.42E-05
CONDUIT/WIRE/CABLE TRAY (OVER 4")	1.11E-06	3.07E-08	1.41E-06	5.37E-07	0	0	9.83E-08	5.22E-07	1.23E-09	3.71E-06
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.71E-05	1.58E-05	2.59E-05	1.27E-05	5.28E-08	0	3.40E-07	0	0	7.20E-05
DRYWALL	5.22E-06	6.51E-08	2.42E-06	2.11E-07	0	0	0	0	0	7.92E-06
DUCTWORK	9.11E-05	1.82E-06	4.58E-04	1.60E-05	4.47E-07	0	2.61E-06	0	0	5.70E-04
DUCTWORK INSULATION	2.85E-08	5.69E-10	1.43E-07	5.02E-09	1.40E-10	0	8.17E-10	0	0	1.78E-07
ELECTRICAL EQUIPMENT	1.35E-05	1.91E-07	8.32E-05	1.25E-05	4.21E-06	0	7.99E-06	1.55E-06	3.36E-07	1.23E-04
ELECTRICAL FIXTURES	1.60E-05	3.83E-06	4.11E-05	1.15E-05	3.50E-06	0	2.70E-07	5.28E-08	2.05E-07	7.65E-05
ELECTRICAL TRANSFORMERS	2.60E-07	8.24E-08	2.50E-07	6.85E-07	1.93E-08	0	1.48E-06	0	2.61E-08	2.80E-06
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.15E-04	0	0	0	0	0	1.15E-04
EXTERIOR METAL WALL PANELS	8.94E-06	6.78E-05	3.81E-05	3.97E-05	4.40E-07	0	6.22E-07	0	0	1.56E-04
EXTERIOR TRANSITE PANELS	1.06E-07	6.12E-07	1.10E-05	2.32E-06	0	0	4.27E-07	0	0	1.44E-05
FABRIC	0	0	1.70E-08	0	0	0	0	0	0	1.70E-08
FABRIC ROOF	0	1.81E-07	0	0	0	0	0	0	0	1.81E-07
FABRIC WALLS	0	8.36E-08	0	0	0	0	0	0	0	8.36E-08
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	3.95E-07	1.91E-06	3.30E-06	0	0	1.54E-07	0	0	5.76E-06
FLOOR TILE	1.72E-06	6.03E-09	7.67E-07	1.26E-07	8.09E-09	0	0	0	0	2.63E-06
HVAC EQUIPMENT	1.40E-05	3.88E-07	3.96E-05	6.77E-06	3.73E-07	0	5.96E-07	0	0	6.17E-05
INTERIOR METAL WALL PANELS	1.71E-06	1.43E-06	1.58E-05	5.05E-06	0	0	0	0	0	2.40E-05
INTERIOR TRANSITE PANELS	1.20E-07	1.65E-07	7.89E-06	1.82E-06	1.46E-08	0	0	0	0	1.00E-05
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.86E-07	1.71E-06	4.30E-06	2.02E-06	0	0	1.89E-06	0	0	1.04E-05
MASONRY	3.80E-07	0	3.96E-06	5.96E-07	0	0	0	0	0	4.94E-06
MASONRY WALLS	4.54E-05	9.20E-06	2.81E-05	2.23E-05	1.55E-07	0	0	0	0	1.05E-04
MATERIAL HANDLING EQUIPMENT	3.50E-07	1.98E-07	5.15E-05	7.11E-06	5.54E-07	0	1.02E-07	0	0	5.98E-05
METAL PANEL ROOF	1.12E-05	9.67E-05	2.39E-05	3.14E-05	0	0	9.92E-07	0	0	1.64E-04
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	4.59E-07	7.94E-06	1.68E-05	4.29E-06	1.88E-06	0	2.59E-07	0	1.52E-06	3.31E-05
NON PROCESS TRAILERS	1.33E-05	0	0	0	0	0	0	0	0	1.33E-05
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.42E-05	4.21E-06	7.69E-05	1.06E-05	9.37E-06	0	6.12E-07	3.91E-05	3.29E-08	1.55E-04
PIPING (2-1/2" TO 4")	1.06E-05	6.45E-06	1.18E-04	1.92E-05	8.35E-06	0	6.64E-07	2.15E-05	0	1.85E-04
PIPING (OVER 4")	8.01E-06	4.61E-06	9.84E-05	2.64E-05	5.33E-06	0	1.34E-06	2.70E-05	4.65E-07	1.72E-04
PIPING INSULATION	3.38E-08	1.59E-08	2.13E-07	3.71E-08	2.38E-08	0	2.76E-09	3.40E-07	5.32E-10	6.67E-07
PROCESS EQUIPMENT	1.31E-05	2.84E-07	7.12E-04	1.11E-04	9.21E-05	0	1.48E-04	7.84E-08	3.23E-08	1.08E-03
PROCESS TRAILERS	5.04E-06	0	0	0	0	0	0	0	0	5.04E-06
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	5.40E-06	2.63E-06	5.94E-06	1.37E-06	1.10E-08	0	0	0	0	1.54E-05
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.92E-05	1.35E-04	8.63E-04	2.20E-04	8.96E-05	0	6.88E-05	1.48E-09	8.42E-07	1.41E-03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.08E-07	1.07E-06	1.17E-05	2.58E-06	0	0	9.11E-08	0	0	1.56E-05
WINDOWS	1.24E-06	9.59E-07	5.03E-06	9.53E-07	1.30E-09	0	7.16E-09	0	0	8.19E-06
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Uranium-233/234	1.06E-01	2.23E-01	3.25E-01	1.17E-01	4.47E-02	4.45E-01	9.14E-03	9.62E-02	5.81E-03	**1.37E+00**

Uranium-234

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.41E-01	6.70E-04	1.47E-02	2.11E-04	0	0	0	2.57E-01
ASPHALT	0	0	0	0	0	6.00E-02	0	0	0	6.00E-02
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	5.29E-06	4.40E-06	3.60E-03	2.58E-04	8.64E-08	0	0	0	0	3.87E-03
CEILING DEMOLITION	8.10E-06	3.98E-07	1.75E-04	6.70E-05	0	0	0	0	0	2.51E-04
CLAY PIPING	4.08E-06	1.45E-06	1.27E-05	3.77E-06	0	0	1.82E-07	8.24E-04	0	8.46E-04
CONCRETE	2.51E-04	3.37E-04	7.16E-02	2.48E-03	8.25E-04	9.12E-03	2.42E-04	1.53E-02	1.46E-05	1.00E-01
CONCRETE BEAMS	1.46E-03	0	1.94E-02	3.02E-04	2.14E-05	0	0	0	0	2.12E-02
CONCRETE COLUMNS	5.31E-04	0	2.46E-02	2.35E-06	9.18E-06	0	9.71E-04	0	0	2.61E-02
CONCRETE FOUNDATION	1.72E-03	2.53E-02	1.54E-02	5.35E-03	3.65E-03	0	5.69E-04	3.11E-05	1.80E-04	5.22E-02
CONCRETE SLABS	1.30E-02	3.90E-01	1.99E+00	1.07E-02	1.06E-02	7.87E-01	3.66E-03	4.44E-04	3.00E-04	3.21E+00
CONCRETE WALLS	1.43E-03	6.82E-05	5.74E-02	2.10E-03	8.32E-04	0	2.97E-04	5.06E-05	4.00E-04	6.26E-02
CONDUIT/WIRE (2" AND LESS)	4.78E-06	3.25E-06	1.47E-02	2.45E-04	4.01E-05	0	7.54E-07	2.03E-06	1.48E-07	1.50E-02
CONDUIT/WIRE (2-1/2" TO 4")	1.89E-06	3.04E-07	2.83E-03	4.58E-05	3.01E-06	0	2.76E-07	9.07E-07	1.44E-08	2.89E-03
CONDUIT/WIRE/CABLE TRAY (OVER 4")	9.95E-07	3.07E-08	4.64E-04	2.85E-05	0	0	1.23E-07	6.53E-07	1.54E-09	4.95E-04
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	1.61E-05	1.63E-05	9.68E-03	4.30E-04	2.37E-07	0	4.26E-07	0	0	1.01E-02
DRYWALL	3.99E-04	8.13E-06	3.06E-03	8.15E-04	0	0	0	0	0	4.29E-03
DUCTWORK	8.59E-05	2.07E-06	1.62E-01	5.28E-04	1.67E-06	0	3.26E-06	0	0	1.62E-01
DUCTWORK INSULATION	1.70E-06	7.07E-08	1.98E-03	1.59E-05	3.93E-06	0	8.48E-08	0	0	2.00E-03
ELECTRICAL EQUIPMENT	1.21E-05	1.94E-07	1.92E-02	4.04E-04	1.86E-05	0	9.99E-06	1.93E-06	4.20E-07	1.96E-02
ELECTRICAL FIXTURES	1.47E-05	4.05E-06	1.54E-02	4.13E-04	1.52E-05	0	3.37E-07	6.60E-08	2.57E-07	1.58E-02
ELECTRICAL TRANSFORMERS	2.45E-07	8.55E-08	1.33E-04	1.96E-05	7.17E-08	0	1.85E-06	0	3.27E-08	1.55E-04
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.44E-04	0	0	0	0	0	1.44E-04
EXTERIOR METAL WALL PANELS	8.77E-06	6.64E-05	1.55E-02	1.06E-03	1.98E-06	0	7.78E-07	0	0	1.66E-02
EXTERIOR TRANSITE PANELS	5.71E-06	9.25E-05	1.76E-01	8.86E-03	0	0	4.43E-05	0	0	1.85E-01
FABRIC	0	0	1.89E-04	0	0	0	0	0	0	1.89E-04
FABRIC ROOF	0	2.21E-05	0	0	0	0	0	0	0	2.21E-05
FABRIC WALLS	0	1.04E-05	0	0	0	0	0	0	0	1.04E-05
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	5.96E-05	3.37E-02	1.49E-02	0	0	1.60E-05	0	0	4.87E-02
FLOOR TILE	1.14E-04	9.11E-07	3.54E-03	5.29E-04	8.40E-07	0	0	0	0	4.18E-03
HVAC EQUIPMENT	1.29E-05	4.67E-07	1.62E-02	3.24E-04	1.67E-06	0	7.45E-07	0	0	1.65E-02
INTERIOR METAL WALL PANELS	2.14E-06	1.78E-06	8.12E-03	1.23E-04	0	0	0	0	0	8.24E-03
INTERIOR TRANSITE PANELS	6.44E-06	2.49E-05	1.29E-01	6.84E-03	4.07E-04	0	0	0	0	1.36E-01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	4.49E-07	1.82E-06	1.22E-03	8.77E-05	0	0	2.36E-06	0	0	1.31E-03
MASONRY	3.83E-05	0	3.93E-03	5.83E-05	0	0	0	0	0	4.03E-03
MASONRY WALLS	4.59E-03	9.57E-04	1.16E-02	5.92E-03	2.86E-04	0	0	0	0	2.34E-02
MATERIAL HANDLING EQUIPMENT	2.70E-07	1.98E-07	1.11E-02	2.47E-04	2.49E-06	0	1.28E-07	0	0	1.14E-02
METAL PANEL ROOF	1.08E-05	9.13E-05	1.34E-02	8.33E-04	0	0	1.24E-06	0	0	1.43E-02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	3.66E-07	8.27E-06	3.92E-03	1.69E-04	6.23E-06	0	3.24E-07	0	1.90E-06	4.11E-03
NON PROCESS TRAILERS	1.22E-05	0	0	0	0	0	0	0	0	1.22E-05
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	1.31E-05	3.78E-06	3.26E-02	3.53E-04	3.44E-05	0	7.65E-07	4.89E-05	4.11E-08	3.31E-02
PIPING (2-1/2" TO 4")	9.44E-06	6.48E-06	5.00E-02	7.15E-04	3.32E-05	0	8.31E-07	2.68E-05	0	5.08E-02
PIPING (OVER 4")	7.18E-06	4.20E-06	4.11E-02	2.38E-04	1.82E-05	0	1.68E-06	3.37E-05	5.81E-07	4.14E-02
PIPING INSULATION	2.05E-06	2.13E-06	2.32E-03	7.19E-05	5.25E-04	0	2.86E-07	3.53E-05	5.53E-08	2.96E-03
PROCESS EQUIPMENT	7.20E-06	3.29E-07	1.92E-01	4.58E-03	3.46E-04	0	1.85E-04	9.80E-08	4.04E-08	1.97E-01
PROCESS TRAILERS	4.62E-06	0	0	0	0	0	0	0	0	4.62E-06
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	5.61E-04	2.73E-04	6.17E-04	1.43E-04	1.15E-06	0	0	0	0	1.60E-03
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	2.74E-05	1.42E-04	2.20E-01	6.64E-03	1.68E-04	0	8.60E-05	1.85E-09	1.05E-06	2.27E-01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	5.78E-06	1.61E-04	2.05E-01	1.06E-02	0	0	9.46E-06	0	0	2.16E-01
WINDOWS	1.13E-06	1.02E-06	1.42E-03	4.85E-05	5.85E-09	0	8.96E-09	0	0	1.47E-03
WOOD	7.28E-08	4.47E-07	5.72E-07	1.91E-04	0	0	2.27E-06	4.07E-05	0	2.35E-04
Totals for: Uranium-234	2.43E-02	4.18E-01	3.82E+00	8.85E-02	3.26E-02	8.57E-01	6.11E-03	1.68E-02	8.99E-04	5.27E+00

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Attachment B. I (Continued)

Uranium-235/236

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.45E+01	2.58E-02	2.92E+00	2.00E-02	0	0	0	1.75E+01
ASPHALT	0	0	0	0	0	1.31E+01	0	0	0	1.31E+01
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.34E-03	5.25E-04	2.82E-01	1.11E-02	3.92E-05	0	0	0	0	2.95E-01
CEILING DEMOLITION	2.58E-03	1.13E-05	1.88E-02	2.75E-03	0	0	0	0	0	2.41E-02
CLAY PIPING	1.85E-03	6.59E-04	5.76E-03	1.71E-03	0	0	8.23E-05	3.74E-01	0	3.84E-01
CONCRETE	3.41E-02	4.56E-02	5.38E+00	3.40E-01	9.38E-02	1.26E+00	2.88E-02	2.07E+00	1.98E-03	9.25E+00
CONCRETE BEAMS	2.26E-01	0	3.68E+00	3.90E-02	2.90E-03	0	0	0	0	3.95E+00
CONCRETE COLUMNS	9.56E-02	0	1.74E+00	3.12E-04	1.24E-03	0	6.18E-02	0	0	1.90E+00
CONCRETE FOUNDATION	2.34E-01	3.43E+00	2.09E+00	7.25E-01	4.95E-01	0	7.71E-02	4.21E-03	2.44E-02	7.07E+00
CONCRETE SLABS	1.71E+00	3.55E+01	2.08E+02	1.33E+00	1.57E+00	5.59E+01	2.42E-01	2.71E-02	4.50E-02	3.05E+02
CONCRETE WALLS	2.01E-01	9.24E-03	4.34E+00	2.85E-01	1.13E-01	0	3.81E-02	6.62E-03	5.44E-02	5.05E+00
CONDUIT/WIRE (2" AND LESS)	1.58E-03	2.70E-04	1.42E+00	2.24E-02	3.74E-03	0	7.81E-05	2.10E-04	1.54E-05	1.45E+00
CONDUIT/WIRE (2-1/2" TO 4")	6.56E-04	2.45E-05	2.84E-01	4.69E-03	2.96E-04	0	2.86E-05	9.39E-05	1.49E-06	2.89E-01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	3.02E-04	2.28E-06	4.57E-02	3.03E-03	0	0	1.27E-05	6.76E-05	1.59E-07	4.91E-02
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	4.55E-03	1.39E-03	9.64E-01	4.05E-02	2.21E-05	0	4.41E-05	0	0	1.01E+00
DRYWALL	1.38E-01	1.82E-03	3.98E-01	3.32E-02	0	0	0	0	0	5.71E-01
DUCTWORK	2.44E-02	1.92E-04	1.65E+01	3.81E-02	1.57E-04	0	3.37E-04	0	0	1.66E+01
DUCTWORK INSULATION	3.66E-04	1.63E-05	1.52E-01	6.85E-04	2.33E-04	0	3.85E-05	0	0	1.53E-01
ELECTRICAL EQUIPMENT	3.79E-03	1.59E-05	1.84E+00	4.30E-02	1.74E-03	0	1.03E-03	2.00E-04	4.35E-05	1.89E+00
ELECTRICAL FIXTURES	4.58E-03	3.54E-04	1.52E+00	3.79E-02	1.42E-03	0	3.50E-05	6.84E-06	2.66E-05	1.57E+00
ELECTRICAL TRANSFORMERS	7.50E-05	7.43E-06	1.36E-02	2.07E-03	6.75E-06	0	1.91E-04	0	3.38E-06	1.60E-02
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	1.49E-02	0	0	0	0	0	1.49E-02
EXTERIOR METAL WALL PANELS	6.72E-04	5.64E-03	1.69E+00	1.13E-01	1.84E-04	0	8.05E-05	0	0	1.81E+00
EXTERIOR TRANSITE PANELS	7.63E-04	2.63E-03	1.34E+01	3.55E-01	0	0	2.01E-02	0	0	1.38E+01
FABRIC	0	0	1.44E-02	0	0	0	0	0	0	1.44E-02
FABRIC ROOF	0	5.61E-03	0	0	0	0	0	0	0	5.61E-03
FABRIC WALLS	0	2.42E-03	0	0	0	0	0	0	0	2.42E-03
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.70E-03	2.53E+00	5.82E-01	0	0	7.24E-03	0	0	3.13E+00
FLOOR TILE	3.06E-02	2.59E-05	3.10E-01	2.08E-02	3.81E-04	0	0	0	0	3.62E-01
HVAC EQUIPMENT	4.04E-03	4.64E-05	1.63E+00	3.37E-02	1.56E-04	0	7.72E-05	0	0	1.67E+00
INTERIOR METAL WALL PANELS	2.21E-04	1.85E-04	9.24E-01	1.31E-02	0	0	0	0	0	9.38E-01
INTERIOR TRANSITE PANELS	8.61E-04	7.11E-04	9.82E+00	2.74E-01	2.41E-02	0	0	0	0	1.01E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	1.46E-04	1.67E-04	1.26E-01	8.85E-03	0	0	2.45E-04	0	0	1.36E-01
MASONRY	1.70E-02	0	4.46E-01	2.63E-02	0	0	0	0	0	4.90E-01
MASONRY WALLS	2.04E+00	4.16E-01	2.06E+00	1.15E+00	2.29E-02	0	0	0	0	5.69E+00
MATERIAL HANDLING EQUIPMENT	1.07E-04	1.47E-05	1.06E+00	2.60E-02	2.32E-04	0	1.33E-05	0	0	1.09E+00
METAL PANEL ROOF	7.83E-04	7.66E-03	1.38E+00	8.86E-02	0	0	1.28E-04	0	0	1.47E+00
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	3.80E-05	7.22E-04	3.86E-01	1.47E-02	5.90E-04	0	3.36E-05	0	1.96E-04	4.02E-01
NON PROCESS TRAILERS	4.05E-03	0	0	0	0	0	0	0	0	4.05E-03
OTHER WASTE	0	0	0	0	0	0	0	0	0	8.75E+03
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	4.05E-03	2.92E-04	3.30E+00	3.51E-02	3.24E-03	0	7.92E-05	5.06E-03	4.26E-06	3.35E+00
PIPING (2-1/2" TO 4")	3.17E-03	5.32E-04	4.90E+00	7.48E-02	3.11E-03	0	8.60E-05	2.78E-03	0	4.98E+00
PIPING (OVER 4")	2.34E-03	3.31E-04	4.10E+00	2.47E-02	1.72E-03	0	1.74E-04	3.49E-03	6.02E-05	4.13E+00
PIPING INSULATION	4.30E-04	2.14E-04	1.84E-01	3.67E-03	3.13E-02	0	1.30E-04	1.60E-02	2.51E-05	2.36E-01
PROCESS EQUIPMENT	3.84E-03	3.10E-05	1.91E+01	4.76E-01	3.25E-02	0	1.91E-02	1.02E-05	4.18E-06	1.96E+01
PROCESS TRAILERS	1.54E-03	0	0	0	0	0	0	0	0	1.54E-03
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	3.20E+04
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	2.54E-01	1.24E-01	2.80E-01	6.47E-02	5.20E-04	0	0	0	0	7.24E-01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	6.43E-03	1.22E-02	2.16E+01	6.23E-01	1.66E-02	0	8.91E-03	1.91E-07	1.09E-04	2.22E+01
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	7.73E-04	4.60E-03	1.55E+01	4.18E-01	0	0	4.29E-03	0	0	1.59E+01
WINDOWS	3.65E-04	8.39E-05	1.33E-01	4.76E-03	5.46E-07	0	9.28E-07	0	0	1.38E-01
WOOD	4.64E-05	2.85E-04	3.65E-04	9.77E-03	0	0	5.43E-03	2.59E-02	0	4.18E-02
Totals for: Uranium-235/236	5.06E+00	3.96E+01	3.68E+02	7.44E+00	5.34E+00	7.03E+01	5.16E-01	2.53E+00	1.26E-01	**4.12E+04**

Uranium-238

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	5.06E+03	1.30E+01	2.41E+02	3.59E+00	0	0	0	5.32E+03
ASPHALT	0	0	0	0	0	1.47E+03	0	0	0	1.47E+03
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	1.03E-01	8.07E-02	5.18E+01	5.49E+00	1.52E-03	0	0	0	0	5.75E+01
CEILING DEMOLITION	1.53E-01	7.17E-03	3.00E+00	1.42E+00	0	0	0	0	0	4.58E+00
CLAY PIPING	7.18E-02	2.55E-02	2.23E-01	6.62E-02	0	0	3.19E-03	1.45E+01	0	1.49E+01
CONCRETE	7.34E+00	9.84E+00	1.47E+03	7.28E+01	1.97E+01	1.36E+02	6.47E+00	4.45E+02	4.27E-01	2.17E+03
CONCRETE BEAMS	4.64E+01	0	4.07E+02	8.36E+00	6.26E-01	0	0	0	0	4.62E+02
CONCRETE COLUMNS	1.70E+01	0	4.27E+02	6.36E-02	2.68E-01	0	1.64E+01	0	0	4.60E+02
CONCRETE FOUNDATION	5.04E+01	7.39E+02	4.50E+02	1.56E+02	1.07E+02	0	1.66E+01	9.07E-01	5.25E+00	1.52E+03
CONCRETE SLABS	3.80E+02	2.87E+03	3.98E+04	2.72E+02	1.88E+02	1.14E+04	6.77E+01	9.16E+00	8.73E+00	5.50E+04
CONCRETE WALLS	4.46E+01	1.99E+00	7.86E+02	6.13E+01	2.43E+01	0	8.48E+00	1.44E+00	1.17E+01	9.39E+02
CONDUIT/WIRE (2" AND LESS)	2.83E-01	6.56E-02	2.64E+02	4.51E+00	5.51E-01	0	1.38E-02	3.69E-02	2.70E-03	2.69E+02
CONDUIT/WIRE (2-1/2" TO 4")	1.17E-01	6.38E-03	5.17E+01	8.22E-01	4.78E-02	0	5.04E-03	1.65E-02	2.63E-04	5.27E+01
CONDUIT/WIRE/CABLE TRAY (OVER 4")	5.47E-02	6.67E-04	8.15E+00	5.07E-01	0	0	2.24E-03	1.19E-02	2.80E-05	8.73E+00
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	8.20E-01	3.28E-01	1.76E+02	7.88E+00	3.25E-03	0	7.76E-03	0	0	1.85E+02
DRYWALL	7.44E+00	1.45E-01	5.87E+01	1.74E+01	0	0	0	0	0	8.36E+01
DUCTWORK	4.40E+00	4.05E-02	2.92E+03	1.02E+01	2.35E-02	0	5.94E-02	0	0	2.94E+03
DUCTWORK INSULATION	3.38E-02	1.26E-03	2.80E+01	3.39E-01	2.00E-02	0	1.49E-03	0	0	2.84E+01
ELECTRICAL EQUIPMENT	6.82E-01	3.99E-03	3.71E+02	7.19E+00	2.56E-01	0	1.82E-01	3.53E-02	7.66E-03	3.79E+02
ELECTRICAL FIXTURES	8.21E-01	8.03E-02	2.68E+02	7.61E+00	2.09E-01	0	6.15E-03	1.20E-03	4.68E-03	2.77E+02
ELECTRICAL TRANSFORMERS	1.34E-02	1.69E-03	2.25E+00	3.50E-01	1.01E-03	0	3.36E-02	0	5.95E-04	2.65E+00
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	2.63E+00	0	0	0	0	0	2.63E+00
EXTERIOR METAL WALL PANELS	1.70E-01	1.31E+00	2.57E+02	1.90E+01	2.71E-02	0	1.42E-02	0	0	2.78E+02
EXTERIOR TRANSITE PANELS	1.18E-01	1.67E+00	2.49E+03	1.89E+02	0	0	7.79E-01	0	0	2.68E+03
FABRIC	0	0	2.69E+00	0	0	0	0	0	0	2.69E+00
FABRIC ROOF	0	3.93E-01	0	0	0	0	0	0	0	3.93E-01
FABRIC WALLS	0	1.84E-01	0	0	0	0	0	0	0	1.84E-01
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	1.07E+00	4.72E+02	3.18E+02	0	0	2.81E-01	0	0	7.91E+02
FLOOR TILE	2.22E+00	1.64E-02	5.41E+01	1.13E+01	1.48E-02	0	0	0	0	6.76E+01
HVAC EQUIPMENT	7.22E-01	8.74E-03	3.04E+02	5.80E+00	2.29E-02	0	1.36E-02	0	0	3.10E+02
INTERIOR METAL WALL PANELS	3.90E-02	3.25E-02	1.36E+02	2.19E+00	0	0	0	0	0	1.38E+02
INTERIOR TRANSITE PANELS	1.33E-01	4.50E-01	1.82E+03	1.46E+02	2.08E+00	0	0	0	0	1.97E+03
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	2.61E-02	3.48E-02	2.45E+01	1.58E+00	0	0	4.31E-02	0	0	2.62E+01
MASONRY	6.77E-01	0	5.68E+01	1.02E+00	0	0	0	0	0	5.85E+01
MASONRY WALLS	8.11E+01	1.69E+01	1.94E+02	1.18E+02	1.65E+00	0	0	0	0	4.11E+02
MATERIAL HANDLING EQUIPMENT	1.90E-02	4.31E-03	2.22E+02	4.41E+00	3.41E-02	0	2.33E-03	0	0	2.27E+02
METAL PANEL ROOF	2.08E-01	1.79E+00	2.21E+02	1.48E+01	0	0	2.26E-02	0	0	2.38E+02
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	9.74E-03	1.64E-01	7.63E+01	3.14E+00	8.91E-02	0	5.91E-03	0	3.46E-02	7.97E+01
NON PROCESS TRAILERS	7.22E-01	0	0	0	0	0	0	0	0	7.22E-01
OTHER WASTE	0	0	0	0	0	0	0	0	0	1.28E+06
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	7.27E-01	7.69E-02	5.61E+02	6.38E+00	4.85E-01	0	1.39E-02	8.92E-01	7.50E-04	5.69E+02
PIPING (2-1/2" TO 4")	5.65E-01	1.32E-01	8.44E+02	1.28E+01	4.62E-01	0	1.51E-02	4.89E-01	0	8.58E+02
PIPING (OVER 4")	4.20E-01	8.46E-02	7.24E+02	4.28E+00	2.59E-01	0	3.06E-02	6.15E-01	1.06E-02	7.30E+02
PIPING INSULATION	4.08E-02	3.83E-02	3.38E+01	1.52E+00	2.68E+00	0	5.04E-03	6.21E-01	9.71E-04	3.87E+01
PROCESS EQUIPMENT	6.84E-01	6.35E-03	3.53E+03	8.19E+01	4.85E+00	0	3.37E+00	1.79E-03	7.36E-04	3.62E+03
PROCESS TRAILERS	2.73E-01	0	0	0	0	0	0	0	0	2.73E-01
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	6.18E+06
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	9.86E+00	4.80E+00	1.08E+01	2.51E+00	2.01E-02	0	0	0	0	2.80E+01
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	1.18E+00	2.85E+00	4.11E+03	1.22E+02	2.71E+00	0	1.57E+00	3.37E-05	1.92E-02	4.24E+03
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	1.19E-01	2.91E+00	2.88E+03	2.26E+02	0	0	1.66E-01	0	0	3.11E+03
WINDOWS	6.50E-02	2.11E-02	2.53E+01	8.80E-01	8.01E-05	0	1.63E-04	0	0	2.62E+01
WOOD	1.44E-03	8.83E-03	1.13E-02	3.48E+00	0	0	6.32E-02	8.04E-01	0	4.37E+00
Totals for: Uranium-238	6.60E+02	3.65E+03	7.17E+04	1.94E+03	5.97E+02	1.30E+04	1.22E+02	4.75E+02	2.62E+01	**7.56E+06**

001737

Attachment B. I (Continued)

1,4-Dichlorobenzene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	3.49E+01	0	0	0	0	0	0	3.49E+01
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	3.09E+01	0	0	0	0	0	0	3.09E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.83E+01	0	0	0	0	0	0	2.83E+01
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: 1,4-Dichlorobenzene	0	0	9.42E+01	0	0	0	0	0	0	9.42E+01

2,4-Dinitrotoluene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: 2,4-Dinitrotoluene	0	0	0	0	0	0	0	0	0	0.00E+00

001739

Attachment B. I (Continued)

Benzo(a)anthracene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	2.03E+00	0	0	0	2.03E+00
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	1.20E-03	0	0	0	1.20E-03
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	1.57E-01	0	0	0	1.57E-01
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	7.72E-03	0	0	7.72E-03
Totals for: Benzo(a)anthracene	0	0	0	0	0	2.19E+00	7.72E-03	0	0	**2.20E+00**

Benzo(a)pyrene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	2.40E-01	0	0	0	0	0	0	2.40E-01
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	5.96E-03	0	0	5.96E-03
Totals for: Benzo(a)pyrene	0	0	2.40E-01	0	0	0	5.96E-03	0	0	**2.46E-01**

001741

Attachment B. I (Continued)

Benzo(b)fluoranthene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.88E-01	0	0	0	0	0	0	1.88E-01
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	7.02E-03	0	0	7.02E-03
Totals for: Benzo(b)fluoranthene	0	0	1.88E-01	0	0	0	7.02E-03	0	0	1.95E-01

Benzo(k)fluoranthene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	8.42E-03	0	0	8.42E-03
Totals for: Benzo(k)fluoranthene	0	0	0	0	0	0	8.42E-03	0	0	**8.42E-03**

001743

Attachment B. I (Continued)

bis(2-Ethylhexyl)phthalate

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	1.41E+00	0	0	0	0	0	0	1.41E+00
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	8.88E-02	0	0	0	0	0	0	8.88E-02
CONCRETE BEAMS	0	0	2.31E-01	0	0	0	0	0	0	2.31E-01
CONCRETE COLUMNS	0	0	7.32E-02	0	0	0	0	0	0	7.32E-02
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	4.35E+00	0	0	0	0	0	0	4.35E+00
CONCRETE WALLS	0	0	1.52E-01	0	0	0	0	0	0	1.52E-01
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: bis(2-Ethylhexyl)phthalate	0	0	6.31E+00	0	0	0	0	0	0	6.31E+00

Carbazole

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	1.47E-03	0	0	1.47E-03
Totals for: Carbazole	0	0	0	0	0	0	1.47E-03	0	0	1.47E-03

001745

Attachment B. I (Continued)

Chrysene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	3.22E-01	0	0	0	0	0	0	3.22E-01
ASPHALT	0	0	0	0	0	4.39E+00	0	0	0	4.39E+00
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	3.49E-02	0	0	1.92E-03	0	0	0	3.68E-02
CONCRETE BEAMS	0	0	9.06E-02	0	0	0	0	0	0	9.06E-02
CONCRETE COLUMNS	0	0	2.88E-02	0	0	0	0	0	0	2.88E-02
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	1.71E+00	0	0	2.51E-01	0	0	0	1.96E+00
CONCRETE WALLS	0	0	5.96E-02	0	0	0	0	0	0	5.96E-02
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	1.19E-02	0	0	1.19E-02
Totals for: Chrysene	0	0	2.24E+00	0	0	4.64E+00	1.19E-02	0	0	6.90E+00

Dibenzo(a,h)anthracene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Dibenzo(a,h)anthracene	0	0	0	0	0	0	0	0	0	0.00E+00

001747

Attachment B. I (Continued)

Hexachlorobutadiene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	3.02E+01	0	0	0	0	0	0	3.02E+01
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	2.68E+01	0	0	0	0	0	0	2.68E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	2.45E+01	0	0	0	0	0	0	2.45E+01
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Hexachlorobutadiene	0	0	8.16E+01	0	0	0	0	0	0	8.16E+01

Indeno(1,2,3-cd)pyrene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Indeno(1,2,3-cd)pyrene	0	0	0	0	0	0	0	0	0	0.00E+00

Attachment B. I (Continued)

N-Nitroso-di-n-propylamine

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: N-Nitroso-di-n-propylamine	0	0	0	0	0	0	0	0	0	0.00E+00

Nitrobenzene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	5.74E+01	0	0	0	0	0	0	5.74E+01
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	5.09E+01	0	0	0	0	0	0	5.09E+01
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	4.66E+01	0	0	0	0	0	0	4.66E+01
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Nitrobenzene	0	0	1.55E+02	0	0	0	0	0	0	1.55E+02

001750

Attachment B. I (Continued)

Pentachlorophenol

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Pentachlorophenol	0	0	0	0	0	0	0	0	0	0.00E+00

Benzene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	0	0	0	0	0	0	0	0
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Benzene	0	0	0	0	0	0	0	0	0	0.00E+00

001752

Attachment B. I (Continued)

Styrene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	3.54E-02	0	0	0	0	0	0	3.54E-02
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	0	0	0	0	0	0	0	0
CONCRETE BEAMS	0	0	0	0	0	0	0	0	0	0
CONCRETE COLUMNS	0	0	0	0	0	0	0	0	0	0
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	0	0	0	0	0	0	0	0
CONCRETE WALLS	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	0	0	0	0	0	0	0	0
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	0	0	0	0	0	0	0	0
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Styrene	0	0	3.54E-02	0	0	0	0	0	0	3.54E-02

Tetrachloroethene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
ACID BRICK	0	0	3.01E-03	0	0	0	0	0	0	3.01E-03
ASPHALT	0	0	0	0	0	0	0	0	0	0
BASIN LINERS	0	0	0	0	0	0	0	0	0	0
BUILDING INSULATION	0	0	0	0	0	0	0	0	0	0
CEILING DEMOLITION	0	0	0	0	0	0	0	0	0	0
CLAY PIPING	0	0	0	0	0	0	0	0	0	0
CONCRETE	0	0	1.17E-03	0	0	0	0	0	0	1.17E-03
CONCRETE BEAMS	0	0	3.79E-03	0	0	0	0	0	0	3.79E-03
CONCRETE COLUMNS	0	0	1.50E-03	0	0	0	0	0	0	1.50E-03
CONCRETE FOUNDATION	0	0	0	0	0	0	0	0	0	0
CONCRETE SLABS	0	0	5.49E-02	0	0	0	0	0	0	5.49E-02
CONCRETE WALLS	0	0	2.49E-03	0	0	0	0	0	0	2.49E-03
CONDUIT/WIRE (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
CONDUIT/WIRE/CABLE TRAY (OVER 4")	0	0	0	0	0	0	0	0	0	0
COPPER PILE	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
DRYWALL	0	0	0	0	0	0	0	0	0	0
DUCTWORK	0	0	0	0	0	0	0	0	0	0
DUCTWORK INSULATION	0	0	0	0	0	0	0	0	0	0
ELECTRICAL EQUIPMENT	0	0	0	0	0	0	0	0	0	0
ELECTRICAL FIXTURES	0	0	0	0	0	0	0	0	0	0
ELECTRICAL TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
ELECTRICAL WIRING	0	0	0	0	0	0	0	0	0	0
EQUIPMENT AND MISCELLANEOUS	0	0	0	0	0	0	0	0	0	0
EXTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
EXTERIOR TRANSITE PANELS	0	0	1.78E+02	0	0	0	0	0	0	1.78E+02
FABRIC	0	0	0	0	0	0	0	0	0	0
FABRIC ROOF	0	0	0	0	0	0	0	0	0	0
FABRIC WALLS	0	0	0	0	0	0	0	0	0	0
FEEDER CABLE	0	0	0	0	0	0	0	0	0	0
FIRE BRICK	0	0	0	0	0	0	0	0	0	0
FLOOR TILE	0	0	0	0	0	0	0	0	0	0
HVAC EQUIPMENT	0	0	0	0	0	0	0	0	0	0
INTERIOR METAL WALL PANELS	0	0	0	0	0	0	0	0	0	0
INTERIOR TRANSITE PANELS	0	0	1.03E+02	0	0	0	0	0	0	1.03E+02
LEAD FLASHING	0	0	0	0	0	0	0	0	0	0
LOUVERS	0	0	0	0	0	0	0	0	0	0
MASONRY	0	0	0	0	0	0	0	0	0	0
MASONRY WALLS	0	0	0	0	0	0	0	0	0	0
MATERIAL HANDLING EQUIPMENT	0	0	0	0	0	0	0	0	0	0
METAL PANEL ROOF	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS DEBRIS	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS ELECTRICAL ITEMS	0	0	0	0	0	0	0	0	0	0
NON PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
OTHER WASTE	0	0	0	0	0	0	0	0	0	0
PERSONAL PROTECTIVE EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PIPING (2" AND LESS)	0	0	0	0	0	0	0	0	0	0
PIPING (2-1/2" TO 4")	0	0	0	0	0	0	0	0	0	0
PIPING (OVER 4")	0	0	0	0	0	0	0	0	0	0
PIPING INSULATION	0	0	0	0	0	0	0	0	0	0
PROCESS EQUIPMENT	0	0	0	0	0	0	0	0	0	0
PROCESS TRAILERS	0	0	0	0	0	0	0	0	0	0
PRODUCT WASTE	0	0	0	0	0	0	0	0	0	0
PVC CONDUIT	0	0	0	0	0	0	0	0	0	0
PVC PIPING	0	0	0	0	0	0	0	0	0	0
ROOFING (BUILT UP)	0	0	0	0	0	0	0	0	0	0
SOIL PILE	0	0	0	0	0	0	0	0	0	0
STRUCTURAL AND MISC. STEEL	0	0	0	0	0	0	0	0	0	0
THORIUM WASTE	0	0	0	0	0	0	0	0	0	0
TRANSITE ROOF	0	0	7.04E+01	0	0	0	0	0	0	7.04E+01
WINDOWS	0	0	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0	0	0
Totals for: Tetrachloroethene	0	0	3.51E+02	0	0	0	0	0	0	**3.51E+02**

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Attachment B. I (Continued)

Tetrachloroethene

Material Description	Component Categories: 1	2	3	4	5	8	9	10	11	Total of All Component Categories
Totals:	7.73E+04	8.65E+04	4.70E+06	8.54E+05	5.50E+04	9.77E+04	3.30E+04	1.25E+05	1.85E+03	2.19E+07

ATTACHMENT B.II

SOURCE TERM ESTIMATES FOR SELECTED COCs

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ATTACHMENT B.II

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B.II Source Term Estimates for Selected COCs B.II-1

LIST OF TABLES

Table	Title
B.II	Source Term Estimates for Selected COCs

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B.II SOURCE TERM ESTIMATES FOR SELECTED COCs

This attachment provides detailed information for the following COCs: technetium-99, total uranium, neptunium-237, chromium, and tetrachloroethene. Two components, 10A and 39A were chosen as representative components.

A source term for each material description may be calculated from the information provided in this attachment. The analytical result, the weight and the calculated contaminated weight are provided. By converting the result to ppm and multiplying by the contaminated weight the source term for that material, cw type, grade level and depth can be calculated.

The type of result and the location of the result provides information identifying a result as either an analytical or a baseline value. The location identifies the place within the logic flow (Figures B-2 and B-3) the result was located.

NOTES:

- Dash (-) — Weights and volumes not available for materials by process area within a component.
- CW type — Defines additional coating or layer estimated for metal materials, "other" represents all other materials including metals. See Section B.2 for details.
- SS metal — stainless steel comprising process piping and equipment
- UNH — holdup present in process piping and equipment consists of UNH material at 10 percent of interior volume
- CRUD — corrosion/rust/undefined debris present in piping and process equipment consists of 10 percent and 0.1 percent interior layer, respectively
- dust — radiologically contaminated dust layer present on surface of process piping and equipment and other metal materials. Ductwork contains 10 percent dust on interior
- paint — paint coating on surface of metal materials
- Depth — A = 0 - 0.5 inch
  B = 0.5 - 1 inch
  C = 1 - 4 inch
  D = >4 inch
- Type result applied indicates where a baseline result (B) or a database result (D) is applied.
- Location result applied indicates where the result come from based on logic flow detailed in Figures B.2 and B.3.
  - MXCR = maximum result from concrete core

- MXCT = maximum result from component category
- MXNO = no result available at any level, baseline result applied
- NORs = no result available at any level. No baseline result available for this material.

Detailed discussion in Section B.4

- Weight in tons as estimated in SWIFTS

- Calculated contaminated weight - details of calculation in Section B.2 and Attachment B.1

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Attachment B.II
Source Term By Component And Parameter

Component: 08A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	306	mg/kg	D		24.3	2206	0.6752
13	CONCRETE	OTHER	ABOVE	A	10.5	mg/kg	D		6.328	5746	0.06033
13	CONCRETE	OTHER	ABOVE	B	9	mg/kg	D		6.328	5746	0.05171
13	CONCRETE	OTHER	ABOVE	C	11.5	mg/kg	D		37.97	34480	0.3965
13	CONCRETE	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	50.63	45970	0.4817
-	CONCRETE	OTHER	BELOW	A	10.48	mg/kg	B		12.81	11630	0.1219
-	CONCRETE	OTHER	BELOW	B	10.48	mg/kg	B		12.81	11630	0.1219
-	CONCRETE	OTHER	BELOW	C	10.48	mg/kg	B		76.84	69770	0.7312
-	CONCRETE	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	102.5	93030	0.975
-	CONCRETE FOUNDATION	OTHER	BELOW	A	10.48	mg/kg	B		112.9	102500	1.075
-	CONCRETE FOUNDATION	OTHER	BELOW	B	10.48	mg/kg	B		112.9	102500	1.075
-	CONCRETE FOUNDATION	OTHER	BELOW	C	10.48	mg/kg	B		677.6	615200	6.448
-	CONCRETE FOUNDATION	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	903.4	820300	8.597
2	CONCRETE SLABS	OTHER	ABOVE	A	24.2	mg/kg	D		1.076	976.8	0.02364
13	CONCRETE SLABS	OTHER	ABOVE	A	10.5	mg/kg	D		17.14	15560	0.1634
9	CONCRETE SLABS	OTHER	ABOVE	A	28.8	mg/kg	D		0.9619	873.4	0.02515
4	CONCRETE SLABS	OTHER	ABOVE	A	93.8	mg/kg	D		2.038	1850	0.1735
7	CONCRETE SLABS	OTHER	ABOVE	A	10.48	mg/kg	D		3.961	3597	0.0377
10	CONCRETE SLABS	OTHER	ABOVE	A	8.2	mg/kg	D		1.797	1632	0.01338
9	CONCRETE SLABS	OTHER	ABOVE	B	28.8	mg/kg	D	MXCR	0.9619	873.4	0.02515
13	CONCRETE SLABS	OTHER	ABOVE	B	9	mg/kg	D		17.14	15560	0.14
7	CONCRETE SLABS	OTHER	ABOVE	B	10.48	mg/kg	D	MXCR	3.961	3597	0.0377
10	CONCRETE SLABS	OTHER	ABOVE	B	8.2	mg/kg	D	MXCR	1.797	1632	0.01338
2	CONCRETE SLABS	OTHER	ABOVE	B	24.2	mg/kg	D	MXCR	1.076	976.8	0.02364
4	CONCRETE SLABS	OTHER	ABOVE	B	93.8	mg/kg	D	MXCR	2.038	1850	0.1735
2	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	6.455	5861	0.06142
9	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	5.771	5240	0.05492
10	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	10.78	9791	0.1026
4	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	12.23	11100	0.1163
7	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	23.77	21580	0.2262
13	CONCRETE SLABS	OTHER	ABOVE	C	11.5	mg/kg	D		102.8	93360	1.074
2	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	8.606	7814	0.0819
13	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	137.1	124500	1.305
4	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	16.3	14800	0.1551
9	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	7.695	6987	0.07322
10	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	14.38	13050	0.1368
7	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	31.69	28780	0.3016
12	CONCRETE SLABS	OTHER	AT GRAD	A	9.4	mg/kg	D		0.3225	292.8	0.002752
11	CONCRETE SLABS	OTHER	AT GRAD	A	8.1	mg/kg	D		1.29	1171	0.009487
6	CONCRETE SLABS	OTHER	AT GRAD	A	7.8	mg/kg	D		0.5375	488	0.003807
4	CONCRETE SLABS	OTHER	AT GRAD	A	93.8	mg/kg	D		3.317	3012	0.2825
14	CONCRETE SLABS	OTHER	AT GRAD	A	18.6	mg/kg	D		0.7525	683.2	0.01271
1	CONCRETE SLABS	OTHER	AT GRAD	A	10	mg/kg	D		4.929	4476	0.04476

Attachment B. II (Continued)

Component: 08A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
8	CONCRETE SLABS	OTHER	AT GRAD	A	169	mg/kg	D		1.075	976.1	0.165
7	CONCRETE SLABS	OTHER	AT GRAD	A	10.48	mg/kg	D		3.424	3109	0.03259
2	CONCRETE SLABS	OTHER	AT GRAD	A	24.2	mg/kg	D		2.257	2050	0.0496
10	CONCRETE SLABS	OTHER	AT GRAD	A	8.2	mg/kg	D		1.29	1171	0.009604
5	CONCRETE SLABS	OTHER	AT GRAD	A	23.8	mg/kg	D		0.7525	683.2	0.01626
13	CONCRETE SLABS	OTHER	AT GRAD	A	10.5	mg/kg	D		30.42	27620	0.29
9	CONCRETE SLABS	OTHER	AT GRAD	A	28.8	mg/kg	D		3.209	2914	0.08393
9	CONCRETE SLABS	OTHER	AT GRAD	B	28.8	mg/kg	D	MXCR	3.209	2914	0.08393
8	CONCRETE SLABS	OTHER	AT GRAD	B	169	mg/kg	D	MXCR	1.075	976.1	0.165
7	CONCRETE SLABS	OTHER	AT GRAD	B	10.48	mg/kg	D	MXCR	3.424	3109	0.03259
5	CONCRETE SLABS	OTHER	AT GRAD	B	23.8	mg/kg	D	MXCR	0.7525	683.2	0.01626
6	CONCRETE SLABS	OTHER	AT GRAD	B	7.8	mg/kg	D	MXCR	0.5375	488	0.003807
12	CONCRETE SLABS	OTHER	AT GRAD	B	7.9	mg/kg	D		0.3225	292.8	0.002313
4	CONCRETE SLABS	OTHER	AT GRAD	B	93.8	mg/kg	D	MXCR	3.317	3012	0.2825
1	CONCRETE SLABS	OTHER	AT GRAD	B	10	mg/kg	D	MXCR	4.929	4476	0.04476
2	CONCRETE SLABS	OTHER	AT GRAD	B	24.2	mg/kg	D	MXCR	2.257	2050	0.0496
14	CONCRETE SLABS	OTHER	AT GRAD	B	18.6	mg/kg	D	MXCR	0.7525	683.2	0.01271
10	CONCRETE SLABS	OTHER	AT GRAD	B	8.2	mg/kg	D	MXCR	1.29	1171	0.009604
13	CONCRETE SLABS	OTHER	AT GRAD	B	9	mg/kg	D		30.42	27620	0.2486
11	CONCRETE SLABS	OTHER	AT GRAD	B	8.1	mg/kg	D	MXCR	1.29	1171	0.009487
9	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	19.26	17490	0.1832
1	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	29.58	26860	0.2814
10	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	7.74	7028	0.07365
8	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	6.45	5856	0.06137
14	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	4.515	4099	0.04296
12	CONCRETE SLABS	OTHER	AT GRAD	C	6.6	mg/kg	D		1.935	1757	0.0116
4	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	19.9	18070	0.1894
7	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	20.55	18660	0.1955
13	CONCRETE SLABS	OTHER	AT GRAD	C	11.5	mg/kg	D		182.5	165700	1.906
6	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	3.225	2928	0.03069
2	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	13.54	12300	0.1289
5	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	4.515	4099	0.04296
11	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	7.74	7028	0.07365
4	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	26.54	24090	0.2525
1	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	39.44	35810	0.3753
8	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	8.6	7808	0.08183
9	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	25.68	23310	0.2443
5	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	6.02	5466	0.05728
2	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	18.06	16400	0.1718
14	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	6.02	5466	0.05728
13	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	243.4	221000	2.316
6	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	4.3	3904	0.04092
12	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	2.58	2343	0.02455

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Attachment B. II (Continued)

Component: 08A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
11	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	10.32	9370	0.0982
10	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	10.32	9370	0.0982
7	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	27.4	24880	0.2607
-	CONCRETE SLABS	OTHER	BELOW	A	10.48	mg/kg	B		2.117	1922	0.02014
-	CONCRETE SLABS	OTHER	BELOW	B	10.48	mg/kg	B		2.117	1922	0.02014
-	CONCRETE SLABS	OTHER	BELOW	C	10.48	mg/kg	B		12.7	11530	0.1209
-	CONCRETE SLABS	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	16.93	15380	0.1611
-	CONCRETE WALLS	OTHER	BELOW	A	10.48	mg/kg	B		0.4902	445.1	0.004665
-	CONCRETE WALLS	OTHER	BELOW	B	10.48	mg/kg	B		0.4902	445.1	0.004665
-	CONCRETE WALLS	OTHER	BELOW	C	10.48	mg/kg	B		2.941	2671	0.02799
-	CONCRETE WALLS	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	3.922	3561	0.03732
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.6041	548.5	6.527
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		mg/kg	D	NORS	65.15	59160	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.1559	141.5	1.684
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		mg/kg	D	NORS	48.91	44410	0
-	DOORS	METAL	ABOVE	A		mg/kg	D	NORS	4.677	4246	0
-	DOORS	PAINT	ABOVE	A	11900	mg/kg	D		0.2186	198.5	2.362
-	DUCTWORK	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.7339	666.3	7.93
-	DUCTWORK	METAL	ABOVE	A		mg/kg	D	NORS	28.78	26130	0
-	DUCTWORK	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.08154	74.04	0.8811
-	DUCTWORK	PAINT	ABOVE	A	11900	mg/kg	D		1.631	1481	17.62
-	DUCTWORK INSULATION	OTHER	ABOVE	A	306	mg/kg	D		0.3924	356.3	0.109
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	2.35	2134	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	21.15	19200	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.551	500.3	5.954
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.06123	55.59	0.6616
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	11900	mg/kg	D		0.4293	389.8	4.639
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		mg/kg	D	NORS	6.888	6254	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	11900	mg/kg	D		0.0008104	0.7358	0.008756
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		mg/kg	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	11900	mg/kg	D		0.2045	185.6	2.209
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		mg/kg	D	NORS	1.443	1310	0
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A	120	mg/kg	D		79.95	72590	8.711
-	FLOOR TILE	OTHER	AT GRAD	A	306	mg/kg	D		1.96	1780	0.5446
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	2.19	1989	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.3679	334.1	3.975
-	HVAC EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.04088	37.12	0.4417
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	19.71	17900	0
-	INTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A	120	mg/kg	D		68.43	62130	7.456
-	LEAD FLASHING	LEAD	ABOVE	A	0	mg/kg	D	NORS	1.35	0	0
-	LOUVERS	PAINT	ABOVE	A	11900	mg/kg	D		0.05704	51.79	0.6163
-	LOUVERS	METAL	ABOVE	A		mg/kg	D	NORS	1.22	1108	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.03023	27.45	0.3266

Attachment B. II (Continued)

Component: 08A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	3.03	2751	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	11900	mg/kg	D		0.2721	247	2.94
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	27.27	24760	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	11900	mg/kg	D		0.2182	198.1	2.357
-	METAL PANEL ROOF	METAL	ABOVE	A		mg/kg	D	NORS	1.54	1398	0
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A	0	mg/kg	D	NORS	50.55	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	11900	mg/kg	D		0.1298	117.9	1.403
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		mg/kg	D	NORS	12.25	11120	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	0.2432	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	1.277	0	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	1.104	1002	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	14.22	12910	2582
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.5309	482	5.736
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	9.936	9022	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.4671	424.2	5.048
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.118	107.1	1.275
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	128	116200	23240
-	PIPING (2" AND LESS)	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.05839	53.02	0.6309
-	PIPING (2" AND LESS)	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.002423	2.2	0.02618
-	PIPING (2" AND LESS)	UNH	BELOW	A	0	mg/kg	D	NORS	0.02165	19.66	0
-	PIPING (2" AND LESS)	UNH	BELOW	A	0	mg/kg	D	NORS	0.00504	4.576	0
-	PIPING (2" AND LESS)	UNH	BELOW	A	0	mg/kg	D	NORS	0.04536	41.18	0
-	PIPING (2" AND LESS)	SS METAL	BELOW	A	200000	mg/kg	D	NORS	0.649	589.3	117.9
-	PIPING (2" AND LESS)	UNH	BELOW	A	0	mg/kg	D	NORS	0.002405	2.184	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.0005385	0.489	0.005819
-	PIPING (2" AND LESS)	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.000257	0.2334	0.002777
-	PIPING (2" AND LESS)	SS METAL	BELOW	A	200000	mg/kg	D	NORS	0.3098	281.3	56.25
-	PIPING (2" AND LESS)	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.001157	1.05	0.0125
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	77.4	70280	14060
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	8.6	7809	1562
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	9.456	8586	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.421	382.3	4.549
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.5052	458.7	5.459
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	1.051	954	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.05262	47.78	0.5686
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.1123	101.9	1.213
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A	0	mg/kg	D	NORS	0.002291	2.08	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.0002448	0.2223	0.002645
-	PIPING (2-1/2" TO 4")	SS METAL	BELOW	A	200000	mg/kg	D	NORS	0.1875	170.3	34.05
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A	0	mg/kg	D	NORS	0.02062	18.72	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.001102	1	0.0119
-	PIPING (OVER 4")	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.02994	27.18	0.3235
-	PIPING (OVER 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	22.45	20390	0

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Attachment B. II (Continued)

Component: 08A

Parameter: Chromium

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (OVER 4")	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.2395	217.5	2.588
-	PIPING (OVER 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	113.3	102900	20580
-	PIPING (OVER 4")	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	1.2	1089	12.96
-	PIPING (OVER 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	2.495	2265	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	12.59	11430	2287
-	PIPING (OVER 4")	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.2666	242.1	2.881
-	PIPING (OVER 4")	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.01195	10.85	0.1291
-	PIPING (OVER 4")	SS METAL	BELOW	A	200000	mg/kg	D	NORS	5.643	5123	1025
-	PIPING (OVER 4")	CRUD	BELOW	A	11900	mg/kg	D	MXCR	0.05375	48.81	0.5808
-	PIPING (OVER 4")	UNH	BELOW	A	0	mg/kg	D	NORS	0.1118	101.5	0
-	PIPING (OVER 4")	UNH	BELOW	A	0	mg/kg	D	NORS	1.006	913.5	0
-	PIPING INSULATION	OTHER	ABOVE	A	306	mg/kg	D		2.415	2193	0.671
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	4.419	4013	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	2.125	1930	22.96
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	11900	mg/kg	D	MXCR	0.4722	428.8	5.103
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	39.77	36120	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A	11900	mg/kg	D	MXCR	0.129	117	1.393
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	402.9	365900	73170
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	44.77	40650	8130
-	PROCESS EQUIPMENT	DUST	ABOVE	A	11900	mg/kg	D	MXCR	1.032	936.2	11.14
-	ROOFING (BUILT UP)	OTHER	ABOVE	A	12.8	mg/kg	D	NORS	15.9	14440	0.1848
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		mg/kg	D	NORS	575.4	522500	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	11900	mg/kg	D		8.491	7710	91.74
-	TRANSITE ROOF	XITE-NRA	ABOVE	A	120	mg/kg	D		42.03	38160	4.579
-	WINDOWS	PAINT	ABOVE	A	11900	mg/kg	D		0.06902	62.67	0.7458
-	WINDOWS	OTHER	ABOVE	A	0	mg/kg	D	NORS	26.6	24160	0

Attachment B. II (Continued)

Component: 08A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	0.73	pCi/g	D		24.3	2206	0.000002288
13	CONCRETE	OTHER	ABOVE	A	0.12	pCi/g	D		6.328	5746	9.791E-07
13	CONCRETE	OTHER	ABOVE	B	0.12	pCi/g	D		6.328	5746	9.791E-07
13	CONCRETE	OTHER	ABOVE	C	0.12	pCi/g	D		37.97	34480	0.000005875
13	CONCRETE	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	50.63	45970	0.000007833
-	CONCRETE	OTHER	BELOW	A	0.12	pCi/g	B		12.81	11630	0.000001982
-	CONCRETE	OTHER	BELOW	B	0.12	pCi/g	B		12.81	11630	0.000001982
-	CONCRETE	OTHER	BELOW	C	0.12	pCi/g	B		76.84	69770	0.00001189
-	CONCRETE	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	102.5	93030	0.00001585
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.12	pCi/g	B		112.9	102500	0.00001747
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.12	pCi/g	B		112.9	102500	0.00001747
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.12	pCi/g	B		677.6	615200	0.0001048
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	903.4	820300	0.0001398
2	CONCRETE SLABS	OTHER	ABOVE	A	1.9	pCi/g	D		1.076	976.8	0.000002635
10	CONCRETE SLABS	OTHER	ABOVE	A	0.12	pCi/g	D		1.797	1632	2.781E-07
13	CONCRETE SLABS	OTHER	ABOVE	A	0.12	pCi/g	D		17.14	15560	0.000002651
7	CONCRETE SLABS	OTHER	ABOVE	A	3.1	pCi/g	D		3.961	3597	0.00001583
9	CONCRETE SLABS	OTHER	ABOVE	A	0.12	pCi/g	D		0.9619	873.4	1.488E-07
4	CONCRETE SLABS	OTHER	ABOVE	A	0.23	pCi/g	D		2.038	1850	6.043E-07
10	CONCRETE SLABS	OTHER	ABOVE	B	0.12	pCi/g	D	MXCR	1.797	1632	2.781E-07
2	CONCRETE SLABS	OTHER	ABOVE	B	1.9	pCi/g	D	MXCR	1.076	976.8	0.000002635
13	CONCRETE SLABS	OTHER	ABOVE	B	0.12	pCi/g	D		17.14	15560	0.000002651
9	CONCRETE SLABS	OTHER	ABOVE	B	0.12	pCi/g	D	MXCR	0.9619	873.4	1.488E-07
4	CONCRETE SLABS	OTHER	ABOVE	B	0.23	pCi/g	D	MXCR	2.038	1850	6.043E-07
7	CONCRETE SLABS	OTHER	ABOVE	B	3.1	pCi/g	D	MXCR	3.961	3597	0.00001583
2	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	6.455	5861	9.987E-07
13	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D		102.8	93360	0.00001591
10	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	10.78	9791	0.000001668
7	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	23.77	21580	0.000003678
9	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	5.771	5240	8.929E-07
4	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	12.23	11100	0.000001892
13	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	137.1	124500	0.00002121
10	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	14.38	13050	0.000002225
2	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	8.606	7814	0.000001332
9	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	7.695	6987	0.000001191
7	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	31.69	28780	0.000004903
4	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	16.3	14800	0.000002522
13	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		30.42	27620	0.000004707
12	CONCRETE SLABS	OTHER	AT GRAD	A	1.2	pCi/g	D		0.3225	292.8	0.000000499
14	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		0.7525	683.2	1.164E-07
10	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		1.29	1171	1.996E-07
2	CONCRETE SLABS	OTHER	AT GRAD	A	1.9	pCi/g	D		2.257	2050	0.00000553
11	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		1.29	1171	1.996E-07

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Attachment B. II (Continued)

Component: 08A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
1	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		4.929	4476	7.627E-07
5	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		0.7525	683.2	1.164E-07
4	CONCRETE SLABS	OTHER	AT GRAD	A	0.23	pCi/g	D		3.317	3012	9.837E-07
8	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		1.075	976.1	1.663E-07
6	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		0.5375	488	8.316E-08
9	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		3.209	2914	4.966E-07
7	CONCRETE SLABS	OTHER	AT GRAD	A	3.1	pCi/g	D		3.424	3109	0.00001369
11	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	1.29	1171	1.996E-07
14	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	0.7525	683.2	1.164E-07
13	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D		30.42	27620	0.000004707
1	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	4.929	4476	7.627E-07
10	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	1.29	1171	1.996E-07
12	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D		0.3225	292.8	4.99E-08
2	CONCRETE SLABS	OTHER	AT GRAD	B	1.9	pCi/g	D	MXCR	2.257	2050	0.00000553
8	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	1.075	976.1	1.663E-07
9	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	3.209	2914	4.966E-07
7	CONCRETE SLABS	OTHER	AT GRAD	B	3.1	pCi/g	D	MXCR	3.424	3109	0.00001369
6	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	0.5375	488	8.316E-08
5	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	0.7525	683.2	1.164E-07
4	CONCRETE SLABS	OTHER	AT GRAD	B	0.23	pCi/g	D	MXCR	3.317	3012	9.837E-07
14	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	4.515	4099	6.985E-07
13	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D		182.5	165700	0.00002824
2	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	13.54	12300	0.000002096
12	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D		1.935	1757	2.994E-07
11	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	7.74	7028	0.000001198
1	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	29.58	26860	0.000004576
10	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	7.74	7028	0.000001198
6	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	3.225	2928	0.000000499
7	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	20.55	18660	0.000003179
4	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	19.9	18070	0.000003079
9	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	19.26	17490	0.000002979
5	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	4.515	4099	6.985E-07
8	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	6.45	5856	9.979E-07
14	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	6.02	5466	9.314E-07
11	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	10.32	9370	0.000001597
1	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	39.44	35810	0.000006102
10	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	10.32	9370	0.000001597
13	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	243.4	221000	0.00003765
12	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	2.58	2343	3.992E-07
9	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	25.68	23310	0.000003973
7	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	27.4	24880	0.000004239
6	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	4.3	3904	6.653E-07
5	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	6.02	5466	9.314E-07

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Attachment B. II (Continued)

Component: 08A

Parameter: Neptunium-237

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
4	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	26.54	24090	0.000004106
2	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	18.06	16400	0.000002794
8	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	8.6	7808	0.000001331
-	CONCRETE SLABS	OTHER	BELOW	A	0.12	pCi/g	B		2.117	1922	3.275E-07
-	CONCRETE SLABS	OTHER	BELOW	B	0.12	pCi/g	B		2.117	1922	3.275E-07
-	CONCRETE SLABS	OTHER	BELOW	C	0.12	pCi/g	B		12.7	11530	0.000001965
-	CONCRETE SLABS	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	16.93	15380	0.00000262
-	CONCRETE WALLS	OTHER	BELOW	A	0.12	pCi/g	B		0.4902	445.1	7.585E-08
-	CONCRETE WALLS	OTHER	BELOW	B	0.12	pCi/g	B		0.4902	445.1	7.585E-08
-	CONCRETE WALLS	OTHER	BELOW	C	0.12	pCi/g	B		2.941	2671	4.551E-07
-	CONCRETE WALLS	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	3.922	3561	6.068E-07
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	65.15	59160	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.6041	548.5	0.00003816
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	48.91	44410	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.1559	141.5	0.000009848
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	4.677	4246	0
-	DOORS	PAINT	ABOVE	A	49	pCi/g	D		0.2186	198.5	0.00001381
-	DUCTWORK	METAL	ABOVE	A		pCi/g	D	NORS	28.78	26130	0
-	DUCTWORK	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.7339	666.3	0.00004636
-	DUCTWORK	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.08154	74.04	0.000005152
-	DUCTWORK	PAINT	ABOVE	A	49	pCi/g	D		1.631	1481	0.000103
-	DUCTWORK INSULATION	OTHER	ABOVE	A	0.73	pCi/g	D		0.3924	356.3	3.695E-07
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.35	2134	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.06123	55.59	0.000003868
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	21.15	19200	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.551	500.3	0.00003481
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	49	pCi/g	D		0.4293	389.8	0.00002712
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	6.888	6254	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	49	pCi/g	D		0.0008104	0.7358	5.12E-08
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	49	pCi/g	D		0.2045	185.6	0.00001292
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		pCi/g	D	NORS	1.443	1310	0
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	0.73	pCi/g	D		79.95	72590	0.00007528
-	FLOOR TILE	OTHER	AT GRAD	A	0.73	pCi/g	D		1.96	1780	0.000001846
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.19	1989	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.04088	37.12	0.000002583
-	HVAC EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.3679	334.1	0.00002324
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	19.71	17900	0
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	0.73	pCi/g	D		68.43	62130	0.00006443
-	LEAD FLASHING	LEAD	ABOVE	A		pCi/g	D	NORS	1.35	0	0
-	LOUVERS	METAL	ABOVE	A		pCi/g	D	NORS	1.22	1108	0
-	LOUVERS	PAINT	ABOVE	A	49	pCi/g	D		0.05704	51.79	0.000003603
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	27.27	24760	0

Attachment B. II (Continued)

Component: 08A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	3.03	2751	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.2721	247	0.00001719
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	49	pCi/g	D		0.03023	27.45	0.00000191
-	METAL PANEL ROOF	METAL	ABOVE	A		pCi/g	D	NORS	1.54	1398	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	49	pCi/g	D		0.2182	198.1	0.00001378
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		pCi/g	D	NORS	50.55	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	12.25	11120	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	49	pCi/g	D		0.1298	117.9	0.000008201
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.2432	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	1.277	0	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.4671	424.2	0.00002951
-	PIPING (2" AND LESS)	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.05839	53.02	0.000003689
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.5309	482	0.00003354
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	14.22	12910	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.118	107.1	0.000007453
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	1.104	1002	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	9.936	9022	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	128	116200	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.0005385	0.489	3.402E-08
-	PIPING (2" AND LESS)	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.000257	0.2334	1.624E-08
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.002405	2.184	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.00504	4.576	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.02165	19.66	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.04536	41.18	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.001157	1.05	7.307E-08
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		pCi/g	D	NORS	0.649	589.3	0
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		pCi/g	D	NORS	0.3098	281.3	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.002423	2.2	1.531E-07
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	77.4	70280	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	1.051	954	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	9.456	8586	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	8.6	7809	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.1123	101.9	0.000007093
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.421	382.3	0.0000266
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.5052	458.7	0.00003192
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.05262	47.78	0.000003325
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		pCi/g	D	NORS	0.002291	2.08	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.001102	1	6.959E-08
-	PIPING (2-1/2" TO 4")	SS METAL	BELOW	A		pCi/g	D	NORS	0.1875	170.3	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		pCi/g	D	NORS	0.02062	18.72	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.0002448	0.2223	1.547E-08
-	PIPING (OVER 4")	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.2395	217.5	0.00001513
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	113.3	102900	0

Attachment B. II (Continued)

Component: 08A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (OVER 4")	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.02994	27.18	0.000001891
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	2.495	2265	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.2666	242.1	0.00001684
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	12.59	11430	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	49	pCi/g	D	MXCR	1.2	1089	0.00007579
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	22.45	20390	0
-	PIPING (OVER 4")	UNH	BELOW	A		pCi/g	D	NORS	1.006	913.5	0
-	PIPING (OVER 4")	UNH	BELOW	A		pCi/g	D	NORS	0.1118	101.5	0
-	PIPING (OVER 4")	SS METAL	BELOW	A		pCi/g	D	NORS	5.643	5123	0
-	PIPING (OVER 4")	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.01195	10.85	7.547E-07
-	PIPING (OVER 4")	CRUD	BELOW	A	49	pCi/g	D	MXCR	0.05375	48.81	0.000003396
-	PIPING INSULATION	OTHER	ABOVE	A	0.73	pCi/g	D		2.415	2193	0.000002274
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	44.77	40650	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	39.77	36120	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	4.419	4013	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	402.9	365900	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	49	pCi/g	D	MXCR	0.4722	428.8	0.00002984
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	49	pCi/g	D	MXCR	2.125	1930	0.0001343
-	PROCESS EQUIPMENT	DUST	ABOVE	A	49	pCi/g	D	MXCR	0.129	117	0.000008143
-	PROCESS EQUIPMENT	DUST	ABOVE	A	49	pCi/g	D	MXCR	1.032	936.2	0.00006514
-	ROOFING (BUILT UP)	OTHER	ABOVE	A	0.12	pCi/g	D	NORS	15.9	14440	0.00000246
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	575.4	522500	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	49	pCi/g	D		8.491	7710	0.0005364
-	TRANSITE ROOF	OTHER	ABOVE	A	0.73	pCi/g	D		42.03	38160	0.00003957
-	WINDOWS	OTHER	ABOVE	A		pCi/g	D	NORS	26.6	24160	0
-	WINDOWS	PAINT	ABOVE	A	49	pCi/g	D		0.06902	62.67	0.00000436

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Attachment B. II (Continued)

Component: 08A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A		ug/kg	D	MXCT	24.3	2206	0
13	CONCRETE	OTHER	ABOVE	A		ug/kg	D	MXCT	6.328	5746	0
13	CONCRETE	OTHER	ABOVE	B		ug/kg	D	MXCT	6.328	5746	0
13	CONCRETE	OTHER	ABOVE	C		ug/kg	D	MXNO	37.97	34480	0
13	CONCRETE	OTHER	ABOVE	D		ug/kg	B	MXCT	50.63	45970	0
-	CONCRETE	OTHER	BELOW	A		ug/kg	B	MXCT	12.81	11630	0
-	CONCRETE	OTHER	BELOW	B		ug/kg	B	MXCT	12.81	11630	0
-	CONCRETE	OTHER	BELOW	C		ug/kg	B	MXNO	76.84	69770	0
-	CONCRETE	OTHER	BELOW	D		ug/kg	B	MXCT	102.5	93030	0
-	CONCRETE FOUNDATION	OTHER	BELOW	A		ug/kg	B	MXCT	112.9	102500	0
-	CONCRETE FOUNDATION	OTHER	BELOW	B		ug/kg	B	MXCT	112.9	102500	0
-	CONCRETE FOUNDATION	OTHER	BELOW	C		ug/kg	B	MXNO	677.6	615200	0
-	CONCRETE FOUNDATION	OTHER	BELOW	D		ug/kg	B	MXCT	903.4	820300	0
13	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	17.14	15560	0
9	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	0.9619	873.4	0
4	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	2.038	1850	0
7	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	3.961	3597	0
10	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	1.797	1632	0
2	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	MXCT	1.076	976.8	0
4	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	2.038	1850	0
13	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	17.14	15560	0
7	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	3.961	3597	0
2	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	1.076	976.8	0
9	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	0.9619	873.4	0
10	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	MXCT	1.797	1632	0
2	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	6.455	5861	0
13	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	102.8	93360	0
4	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	12.23	11100	0
7	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	23.77	21580	0
10	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	10.78	9791	0
9	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	MXNO	5.771	5240	0
2	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	8.606	7814	0
4	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	16.3	14800	0
9	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	7.695	6987	0
7	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	31.69	28780	0
10	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	14.38	13050	0
13	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	MXCT	137.1	124500	0
13	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	30.42	27620	0
12	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	0.3225	292.8	0
11	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.29	1171	0
7	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	3.424	3109	0
8	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.075	976.1	0
4	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	3.317	3012	0

Attachment B. II (Continued)

Component: 08A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
5	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	0.7525	683.2	0
10	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.29	1171	0
2	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	2.257	2050	0
9	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	3.209	2914	0
1	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	4.929	4476	0
14	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	0.7525	683.2	0
6	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	0.5375	488	0
6	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	0.5375	488	0
11	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	1.29	1171	0
10	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	1.29	1171	0
8	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	1.075	976.1	0
1	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	4.929	4476	0
7	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	3.424	3109	0
2	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	2.257	2050	0
9	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	3.209	2914	0
14	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	0.7525	683.2	0
4	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	3.317	3012	0
12	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	0.3225	292.8	0
13	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	30.42	27620	0
5	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	0.7525	683.2	0
14	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	4.515	4099	0
1	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	29.58	26860	0
13	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	182.5	165700	0
8	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	6.45	5856	0
5	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	4.515	4099	0
12	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	1.935	1757	0
7	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	20.55	18660	0
10	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	7.74	7028	0
11	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	7.74	7028	0
4	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	19.9	18070	0
6	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	3.225	2928	0
2	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	13.54	12300	0
9	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	19.26	17490	0
2	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	18.06	16400	0
9	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	25.68	23310	0
1	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	39.44	35810	0
8	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	8.6	7808	0
12	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	2.58	2343	0
11	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	10.32	9370	0
7	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	27.4	24880	0
13	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	243.4	221000	0
14	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	6.02	5466	0
10	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	10.32	9370	0

Attachment B. II (Continued)

Component: 08A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
4	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	26.54	24090	0
5	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	6.02	5466	0
6	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	4.3	3904	0
-	CONCRETE SLABS	OTHER	BELOW	A		ug/kg	B	MXCT	2.117	1922	0
-	CONCRETE SLABS	OTHER	BELOW	B		ug/kg	B	MXCT	2.117	1922	0
-	CONCRETE SLABS	OTHER	BELOW	C		ug/kg	B	MXNO	12.7	11530	0
-	CONCRETE SLABS	OTHER	BELOW	D		ug/kg	B	MXCT	16.93	15380	0
-	CONCRETE WALLS	OTHER	BELOW	A		ug/kg	B	MXCT	0.4902	445.1	0
-	CONCRETE WALLS	OTHER	BELOW	B		ug/kg	B	MXCT	0.4902	445.1	0
-	CONCRETE WALLS	OTHER	BELOW	C		ug/kg	B	MXNO	2.941	2671	0
-	CONCRETE WALLS	OTHER	BELOW	D		ug/kg	B	MXCT	3.922	3561	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.6041	548.5	0
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/kg	D	NORS	65.15	59160	0
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/kg	D	NORS	48.91	44410	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.1559	141.5	0
-	DOORS	PAINT	ABOVE	A		ug/kg	D	NORS	0.2186	198.5	0
-	DOORS	METAL	ABOVE	A		ug/kg	D	NORS	4.677	4246	0
-	DUCTWORK	DUST	ABOVE	A		ug/kg	D	NORS	0.7339	666.3	0
-	DUCTWORK	DUST	ABOVE	A		ug/kg	D	NORS	0.08154	74.04	0
-	DUCTWORK	METAL	ABOVE	A		ug/kg	D	NORS	28.78	26130	0
-	DUCTWORK	PAINT	ABOVE	A		ug/kg	D	NORS	1.631	1481	0
-	DUCTWORK INSULATION	OTHER	ABOVE	A		ug/kg	D	MXCT	0.3924	356.3	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.551	500.3	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	21.15	19200	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.06123	55.59	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	2.35	2134	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A		ug/kg	D	NORS	0.4293	389.8	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/kg	D	NORS	6.888	6254	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A		ug/kg	D	NORS	0.0008104	0.7358	0
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/kg	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A		ug/kg	D	NORS	0.2045	185.6	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		ug/kg	D	NORS	1.443	1310	0
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		mg/kg	D		79.95	72590	0
-	FLOOR TILE	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.96	1780	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.04088	37.12	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	19.71	17900	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.3679	334.1	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	2.19	1989	0
-	INTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		mg/kg	D		68.43	62130	0
-	LEAD FLASHING	LEAD	ABOVE	A		ug/kg	D	NORS	1.35	0	0
-	LOUVERS	PAINT	ABOVE	A		ug/kg	D	NORS	0.05704	51.79	0
-	LOUVERS	METAL	ABOVE	A		ug/kg	D	NORS	1.22	1108	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.2721	247	0

Attachment B. II (Continued)

Component: 08A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	3.03	2751	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	27.27	24760	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.03023	27.45	0
-	METAL PANEL ROOF	PAINT	ABOVE	A		ug/kg	D	NORS	0.2182	198.1	0
-	METAL PANEL ROOF	METAL	ABOVE	A		ug/kg	D	NORS	1.54	1398	0
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		ug/kg	D	NORS	50.55	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A		ug/kg	D	NORS	0.1298	117.9	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/kg	D	NORS	12.25	11120	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	1.277	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	0.2432	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.5309	482	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	14.22	12910	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	128	116200	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	9.936	9022	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.118	107.1	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	1.104	1002	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.05839	53.02	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.4671	424.2	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		ug/kg	D	NORS	0.02165	19.66	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		ug/kg	D	NORS	0.04536	41.18	0
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		ug/kg	D	NORS	0.649	589.3	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		ug/kg	D	NORS	0.00504	4.576	0
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		ug/kg	D	NORS	0.3098	281.3	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		ug/kg	D	NORS	0.002405	2.184	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A		ug/kg	D	NORS	0.0005385	0.489	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A		ug/kg	D	NORS	0.001157	1.05	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A		ug/kg	D	NORS	0.002423	2.2	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A		ug/kg	D	NORS	0.000257	0.2334	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	9.456	8586	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.421	382.3	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	77.4	70280	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	1.051	954	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.1123	101.9	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.05262	47.78	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	8.6	7809	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.5052	458.7	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		ug/kg	D	NORS	0.02062	18.72	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		ug/kg	D	NORS	0.002291	2.08	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A		ug/kg	D	NORS	0.001102	1	0
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A		ug/kg	D	NORS	0.0002448	0.2223	0
-	PIPING (2-1/2" TO 4")	SS METAL	BELOW	A		ug/kg	D	NORS	0.1875	170.3	0
-	PIPING (OVER 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.02994	27.18	0
-	PIPING (OVER 4")	CRUD	ABOVE	A		ug/kg	D	NORS	1.2	1089	0

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Attachment B. II (Continued)

Component: 08A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (OVER 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.2395	217.5	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	113.3	102900	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	12.59	11430	0
-	PIPING (OVER 4")	UNH	ABOVE	A		ug/kg	D	NORS	2.495	2265	0
-	PIPING (OVER 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.2666	242.1	0
-	PIPING (OVER 4")	UNH	ABOVE	A		ug/kg	D	NORS	22.45	20390	0
-	PIPING (OVER 4")	UNH	BELOW	A		ug/kg	D	NORS	1.006	913.5	0
-	PIPING (OVER 4")	SS METAL	BELOW	A		ug/kg	D	NORS	5.643	5123	0
-	PIPING (OVER 4")	CRUD	BELOW	A		ug/kg	D	NORS	0.05375	48.81	0
-	PIPING (OVER 4")	UNH	BELOW	A		ug/kg	D	NORS	0.1118	101.5	0
-	PIPING (OVER 4")	CRUD	BELOW	A		ug/kg	D	NORS	0.01195	10.85	0
-	PIPING INSULATION	OTHER	ABOVE	A		ug/kg	D	MXCT	2.415	2193	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	0.4722	428.8	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	44.77	40650	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	0.129	117	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	402.9	365900	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	1.032	936.2	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	2.125	1930	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	39.77	36120	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	4.419	4013	0
-	ROOFING (BUILT UP)	OTHER	ABOVE	A		ug/kg	D	NORS	15.9	14440	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A		ug/kg	D	NORS	8.491	7710	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/kg	D	NORS	575.4	522500	0
-	TRANSITE ROOF	XITE-NRA	ABOVE	A		mg/kg	D		42.03	38160	0
-	WINDOWS	PAINT	ABOVE	A		ug/kg	D	NORS	0.06902	62.67	0
-	WINDOWS	OTHER	ABOVE	A		ug/kg	D	NORS	26.6	24160	0

Attachment B. II (Continued)

Component: 08A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	63	pCi/g	D		24.3	2206	0.000008159
13	CONCRETE	OTHER	ABOVE	A	190	pCi/g	D		6.328	5746	0.00006407
13	CONCRETE	OTHER	ABOVE	B	40	pCi/g	D		6.328	5746	0.00001349
13	CONCRETE	OTHER	ABOVE	C	89	pCi/g	D		37.97	34480	0.0001801
13	CONCRETE	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	50.63	45970	8.904E-07
-	CONCRETE	OTHER	BELOW	A	0.33	pCi/g	B		12.81	11630	2.253E-07
-	CONCRETE	OTHER	BELOW	B	0.33	pCi/g	B		12.81	11630	2.253E-07
-	CONCRETE	OTHER	BELOW	C	0.33	pCi/g	B		76.84	69770	0.000001352
-	CONCRETE	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	102.5	93030	0.000001802
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.33	pCi/g	B		112.9	102500	0.000001986
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.33	pCi/g	B		112.9	102500	0.000001986
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.33	pCi/g	B		677.6	615200	0.00001192
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	903.4	820300	0.00001589
2	CONCRETE SLABS	OTHER	ABOVE	A	640	pCi/g	D		1.076	976.8	0.0000367
4	CONCRETE SLABS	OTHER	ABOVE	A	2900	pCi/g	D		2.038	1850	0.0003149
9	CONCRETE SLABS	OTHER	ABOVE	A	200	pCi/g	D		0.9619	873.4	0.00001025
7	CONCRETE SLABS	OTHER	ABOVE	A	600	pCi/g	D		3.961	3597	0.0001267
13	CONCRETE SLABS	OTHER	ABOVE	A	190	pCi/g	D		17.14	15560	0.0001735
10	CONCRETE SLABS	OTHER	ABOVE	A	88	pCi/g	D		1.797	1632	0.00000843
2	CONCRETE SLABS	OTHER	ABOVE	B	640	pCi/g	D	MXCR	1.076	976.8	0.0000367
4	CONCRETE SLABS	OTHER	ABOVE	B	2900	pCi/g	D	MXCR	2.038	1850	0.0003149
10	CONCRETE SLABS	OTHER	ABOVE	B	88	pCi/g	D	MXCR	1.797	1632	0.00000843
7	CONCRETE SLABS	OTHER	ABOVE	B	600	pCi/g	D	MXCR	3.961	3597	0.0001267
9	CONCRETE SLABS	OTHER	ABOVE	B	200	pCi/g	D	MXCR	0.9619	873.4	0.00001025
13	CONCRETE SLABS	OTHER	ABOVE	B	40	pCi/g	D		17.14	15560	0.00003653
2	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	6.455	5861	1.135E-07
4	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	12.23	11100	0.000000215
10	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	10.78	9791	1.897E-07
9	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	5.771	5240	1.015E-07
13	CONCRETE SLABS	OTHER	ABOVE	C	89	pCi/g	D		102.8	93360	0.0004877
7	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	23.77	21580	0.000000418
13	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	137.1	124500	0.000002411
2	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	8.606	7814	1.514E-07
10	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	14.38	13050	2.529E-07
7	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	31.69	28780	5.574E-07
9	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	7.695	6987	1.353E-07
4	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	16.3	14800	2.867E-07
2	CONCRETE SLABS	OTHER	AT GRAD	A	640	pCi/g	D		2.257	2050	0.00007701
7	CONCRETE SLABS	OTHER	AT GRAD	A	600	pCi/g	D		3.424	3109	0.0001095
14	CONCRETE SLABS	OTHER	AT GRAD	A	7.6	pCi/g	D		0.7525	683.2	3.048E-07
6	CONCRETE SLABS	OTHER	AT GRAD	A	160	pCi/g	D		0.5375	488	0.000004584
5	CONCRETE SLABS	OTHER	AT GRAD	A	200	pCi/g	D		0.7525	683.2	0.000008021
9	CONCRETE SLABS	OTHER	AT GRAD	A	200	pCi/g	D		3.209	2914	0.00003421

Attachment B. II (Continued)

Component: 08A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
8	CONCRETE SLABS	OTHER	AT GRAD	A	73	pCi/g	D		1.075	976.1	0.000004182
4	CONCRETE SLABS	OTHER	AT GRAD	A	2900	pCi/g	D		3.317	3012	0.0005126
13	CONCRETE SLABS	OTHER	AT GRAD	A	190	pCi/g	D		30.42	27620	0.000308
10	CONCRETE SLABS	OTHER	AT GRAD	A	88	pCi/g	D		1.29	1171	0.000006051
12	CONCRETE SLABS	OTHER	AT GRAD	A	43	pCi/g	D		0.3225	292.8	7.391E-07
1	CONCRETE SLABS	OTHER	AT GRAD	A	160	pCi/g	D		4.929	4476	0.00004204
11	CONCRETE SLABS	OTHER	AT GRAD	A	37	pCi/g	D		1.29	1171	0.000002544
7	CONCRETE SLABS	OTHER	AT GRAD	B	600	pCi/g	D	MXCR	3.424	3109	0.0001095
6	CONCRETE SLABS	OTHER	AT GRAD	B	160	pCi/g	D	MXCR	0.5375	488	0.000004584
1	CONCRETE SLABS	OTHER	AT GRAD	B	160	pCi/g	D	MXCR	4.929	4476	0.00004204
13	CONCRETE SLABS	OTHER	AT GRAD	B	40	pCi/g	D		30.42	27620	0.00006486
5	CONCRETE SLABS	OTHER	AT GRAD	B	200	pCi/g	D	MXCR	0.7525	683.2	0.000008021
9	CONCRETE SLABS	OTHER	AT GRAD	B	200	pCi/g	D	MXCR	3.209	2914	0.00003421
4	CONCRETE SLABS	OTHER	AT GRAD	B	2900	pCi/g	D	MXCR	3.317	3012	0.0005126
10	CONCRETE SLABS	OTHER	AT GRAD	B	88	pCi/g	D	MXCR	1.29	1171	0.000006051
11	CONCRETE SLABS	OTHER	AT GRAD	B	37	pCi/g	D	MXCR	1.29	1171	0.000002544
14	CONCRETE SLABS	OTHER	AT GRAD	B	7.6	pCi/g	D	MXCR	0.7525	683.2	3.048E-07
2	CONCRETE SLABS	OTHER	AT GRAD	B	640	pCi/g	D	MXCR	2.257	2050	0.00007701
12	CONCRETE SLABS	OTHER	AT GRAD	B	5.3	pCi/g	D		0.3225	292.8	9.11E-08
8	CONCRETE SLABS	OTHER	AT GRAD	B	73	pCi/g	D	MXCR	1.075	976.1	0.000004182
8	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	6.45	5856	1.134E-07
13	CONCRETE SLABS	OTHER	AT GRAD	C	89	pCi/g	D		182.5	165700	0.0008658
6	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	3.225	2928	5.672E-08
14	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	4.515	4099	7.941E-08
9	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	19.26	17490	3.387E-07
11	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	7.74	7028	1.361E-07
1	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	29.58	26860	5.202E-07
2	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	13.54	12300	2.382E-07
7	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	20.55	18660	3.614E-07
10	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	7.74	7028	1.361E-07
5	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	4.515	4099	7.941E-08
12	CONCRETE SLABS	OTHER	AT GRAD	C	1	pCi/g	D		1.935	1757	1.031E-07
4	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	19.9	18070	0.00000035
5	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	6.02	5466	1.059E-07
9	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	25.68	23310	4.516E-07
4	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	26.54	24090	4.667E-07
8	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	8.6	7808	1.512E-07
7	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	27.4	24880	4.818E-07
12	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	2.58	2343	4.537E-08
2	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	18.06	16400	3.176E-07
13	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	243.4	221000	0.00000428
6	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	4.3	3904	7.562E-08
10	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	10.32	9370	1.815E-07

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Attachment B. II (Continued)

Component: 08A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
11	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	10.32	9370	1.815E-07
14	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	6.02	5466	1.059E-07
1	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	39.44	35810	6.936E-07
-	CONCRETE SLABS	OTHER	BELOW	A	0.33	pCi/g	B		2.117	1922	3.723E-08
-	CONCRETE SLABS	OTHER	BELOW	B	0.33	pCi/g	B		2.117	1922	3.723E-08
-	CONCRETE SLABS	OTHER	BELOW	C	0.33	pCi/g	B		12.7	11530	2.234E-07
-	CONCRETE SLABS	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	16.93	15380	2.978E-07
-	CONCRETE WALLS	OTHER	BELOW	A	0.33	pCi/g	B		0.4902	445.1	8.622E-09
-	CONCRETE WALLS	OTHER	BELOW	B	0.33	pCi/g	B		0.4902	445.1	8.622E-09
-	CONCRETE WALLS	OTHER	BELOW	C	0.33	pCi/g	B		2.941	2671	5.173E-08
-	CONCRETE WALLS	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	3.922	3561	6.898E-08
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.6041	548.5	0.0000322
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	65.15	59160	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.1559	141.5	0.000008309
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	48.91	44410	0
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	4.677	4246	0
-	DOORS	PAINT	ABOVE	A	1000	pCi/g	D		0.2186	198.5	0.00001165
-	DUCTWORK	METAL	ABOVE	A		pCi/g	D	NORS	28.78	26130	0
-	DUCTWORK	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.7339	666.3	0.00003911
-	DUCTWORK	PAINT	ABOVE	A	1000	pCi/g	D		1.631	1481	0.00008692
-	DUCTWORK	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.08154	74.04	0.000004346
-	DUCTWORK INSULATION	OTHER	ABOVE	A	63	pCi/g	D		0.3924	356.3	0.000001318
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	21.15	19200	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.551	500.3	0.00002937
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.35	2134	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.06123	55.59	0.000003263
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	6.888	6254	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	1000	pCi/g	D		0.4293	389.8	0.00002288
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	1000	pCi/g	D		0.0008104	0.7358	4.319E-08
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		pCi/g	D	NORS	1.443	1310	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	1000	pCi/g	D		0.2045	185.6	0.0000109
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	63	pCi/g	D		79.95	72590	0.0002685
-	FLOOR TILE	OTHER	AT GRAD	A	63	pCi/g	D		1.96	1780	0.000006581
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	19.71	17900	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.3679	334.1	0.00001961
-	HVAC EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.04088	37.12	0.000002179
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.19	1989	0
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	63	pCi/g	D		68.43	62130	0.0002298
-	LEAD FLASHING	LEAD	ABOVE	A		pCi/g	D	NORS	1.35	0	0
-	LOUVERS	PAINT	ABOVE	A	1000	pCi/g	D		0.05704	51.79	0.00000304
-	LOUVERS	METAL	ABOVE	A		pCi/g	D	NORS	1.22	1108	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	27.27	24760	0

Attachment B. II (Continued)

Component: 08A- **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.2721	247	0.0000145
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	1000	pCi/g	D		0.03023	27.45	0.000001611
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	3.03	2751	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	1000	pCi/g	D		0.2182	198.1	0.00001163
-	METAL PANEL ROOF	METAL	ABOVE	A		pCi/g	D	NORS	1.54	1398	0
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		pCi/g	D	NORS	50.55	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	1000	pCi/g	D		0.1298	117.9	0.000006919
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	12.25	11120	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.2432	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	1.277	0	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	9.936	- 9022	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	14.22	12910	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	128	116200	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	1.104	1002	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.5309	482	0.0000283
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.118	107.1	0.000006288
-	PIPING (2" AND LESS)	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.4671	424.2	0.0000249
-	PIPING (2" AND LESS)	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.05839	53.02	0.000003112
-	PIPING (2" AND LESS)	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.000257	0.2334	1.37E-08
-	PIPING (2" AND LESS)	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.001157	1.05	6.165E-08
-	PIPING (2" AND LESS)	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.002423	2.2	1.292E-07
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		pCi/g	D	NORS	0.649	589.3	0
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		pCi/g	D	NORS	0.3098	281.3	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.0005385	0.489	2.87E-08
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.002405	2.184	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.00504	4.576	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.04536	41.18	0
-	PIPING (2" AND LESS)	UNH	BELOW	A		pCi/g	D	NORS	0.02165	19.66	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.05262	47.78	0.000002805
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	77.4	70280	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	1.051	954	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.421	382.3	0.00002244
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	9.456	8586	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	8.6	7809	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.5052	458.7	0.00002693
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.1123	101.9	0.000005984
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.001102	1	5.871E-08
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.0002448	0.2223	1.305E-08
-	PIPING (2-1/2" TO 4")	SS METAL	BELOW	A		pCi/g	D	NORS	0.1875	170.3	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		pCi/g	D	NORS	0.02062	18.72	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A		pCi/g	D	NORS	0.002291	2.08	0
-	PIPING (OVER 4")	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.02994	27.18	0.000001596
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	12.59	11430	0

Attachment B. II (Continued)

Component: 08A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (OVER 4")	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.2666	242.1	0.00001421
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	2.495	2265	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	113.3	102900	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	1.2	1089	0.00006394
-	PIPING (OVER 4")	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.2395	217.5	0.00001277
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	22.45	20390	0
-	PIPING (OVER 4")	SS METAL	BELOW	A		pCi/g	D	NORS	5.643	5123	0
-	PIPING (OVER 4")	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.05375	48.81	0.000002865
-	PIPING (OVER 4")	CRUD	BELOW	A	1000	pCi/g	D	MXCR	0.01195	10.85	6.367E-07
-	PIPING (OVER 4")	UNH	BELOW	A		pCi/g	D	NORS	0.1118	101.5	0
-	PIPING (OVER 4")	UNH	BELOW	A		pCi/g	D	NORS	1.006	913.5	0
-	PIPING INSULATION	OTHER	ABOVE	A	63	pCi/g	D		2.415	2193	0.000008109
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	4.419	4013	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A	1000	pCi/g	D	MXCR	0.129	117	0.000006869
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	402.9	365900	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	44.77	40650	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A	1000	pCi/g	D	MXCR	1.032	936.2	0.00005495
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	2.125	1930	0.0001133
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	1000	pCi/g	D	MXCR	0.4722	428.8	0.00002517
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	39.77	36120	0
-	ROOFING (BUILT UP)	OTHER	ABOVE	A	0.36	pCi/g	D	NORS	15.9	14440	3.051E-07
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	1000	pCi/g	D		8.491	7710	0.0004526
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	575.4	522500	0
-	TRANSITE ROOF	OTHER	ABOVE	A	63	pCi/g	D		42.03	38160	0.0001411
-	WINDOWS	OTHER	ABOVE	A		pCi/g	D	NORS	26.6	24160	0
-	WINDOWS	PAINT	ABOVE	A	1000	pCi/g	D		0.06902	62.67	0.000003679

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Attachment B. II (Continued)

Component: 08A

Parameter: Total Uranium

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	1200	ug/g	D		24.3	2206	2.648
13	CONCRETE	OTHER	ABOVE	A	4700	ug/g	D		6.328	5746	27.01
13	CONCRETE	OTHER	ABOVE	B	63	ug/g	D		6.328	5746	0.362
13	CONCRETE	OTHER	ABOVE	C	5700	ug/g	D		37.97	34480	196.5
13	CONCRETE	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	50.63	45970	0.314
-	CONCRETE	OTHER	BELOW	A	6.83	ug/g	B		12.81	11630	0.07942
-	CONCRETE	OTHER	BELOW	B	6.83	ug/g	B		12.81	11630	0.07942
-	CONCRETE	OTHER	BELOW	C	6.83	ug/g	B		76.84	69770	0.4765
-	CONCRETE	OTHER	BELOW	D	6.83	ug/g	B	MXCR	102.5	93030	0.6354
-	CONCRETE FOUNDATION	OTHER	BELOW	A	6.83	ug/g	B		112.9	102500	0.7003
-	CONCRETE FOUNDATION	OTHER	BELOW	B	6.83	ug/g	B		112.9	102500	0.7003
-	CONCRETE FOUNDATION	OTHER	BELOW	C	6.83	ug/g	B		677.6	615200	4.202
-	CONCRETE FOUNDATION	OTHER	BELOW	D	6.83	ug/g	B	MXCR	903.4	820300	5.603
10	CONCRETE SLABS	OTHER	ABOVE	A	810	ug/g	D		1.797	1632	1.322
4	CONCRETE SLABS	OTHER	ABOVE	A	5600	ug/g	D		2.038	1850	10.36
13	CONCRETE SLABS	OTHER	ABOVE	A	4700	ug/g	D		17.14	15560	73.13
7	CONCRETE SLABS	OTHER	ABOVE	A	7000	ug/g	D		3.961	3597	25.18
2	CONCRETE SLABS	OTHER	ABOVE	A	7500	ug/g	D		1.076	976.8	7.326
9	CONCRETE SLABS	OTHER	ABOVE	A	8000	ug/g	D		0.9619	873.4	6.987
13	CONCRETE SLABS	OTHER	ABOVE	B	63	ug/g	D		17.14	15560	0.9803
10	CONCRETE SLABS	OTHER	ABOVE	B	810	ug/g	D	MXCR	1.797	1632	1.322
7	CONCRETE SLABS	OTHER	ABOVE	B	7000	ug/g	D	MXCR	3.961	3597	25.18
2	CONCRETE SLABS	OTHER	ABOVE	B	7500	ug/g	D	MXCR	1.076	976.8	7.326
9	CONCRETE SLABS	OTHER	ABOVE	B	8000	ug/g	D	MXCR	0.9619	873.4	6.987
4	CONCRETE SLABS	OTHER	ABOVE	B	5600	ug/g	D	MXCR	2.038	1850	10.36
7	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	23.77	21580	0.1474
10	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	10.78	9791	0.06687
9	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	5.771	5240	0.03579
4	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	12.23	11100	0.07582
2	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	6.455	5861	0.04003
13	CONCRETE SLABS	OTHER	ABOVE	C	5700	ug/g	D		102.8	93360	532.2
13	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	137.1	124500	0.8502
9	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	7.695	6987	0.04772
2	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	8.606	7814	0.05337
7	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	31.69	28780	0.1965
10	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	14.38	13050	0.08916
4	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	16.3	14800	0.1011
10	CONCRETE SLABS	OTHER	AT GRAD	A	810	ug/g	D		1.29	1171	0.9487
1	CONCRETE SLABS	OTHER	AT GRAD	A	6400	ug/g	D		4.929	4476	28.65
4	CONCRETE SLABS	OTHER	AT GRAD	A	5600	ug/g	D		3.317	3012	16.87
9	CONCRETE SLABS	OTHER	AT GRAD	A	8000	ug/g	D		3.209	2914	23.31
8	CONCRETE SLABS	OTHER	AT GRAD	A	3700	ug/g	D		1.075	976.1	3.611
7	CONCRETE SLABS	OTHER	AT GRAD	A	7000	ug/g	D		3.424	3109	21.77

Attachment B. II (Continued)

Component: 08A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
6	CONCRETE SLABS	OTHER	AT GRAD	A	1500	ug/g	D		0.5375	488	0.732
5	CONCRETE SLABS	OTHER	AT GRAD	A	1500	ug/g	D		0.7525	683.2	1.025
11	CONCRETE SLABS	OTHER	AT GRAD	A	410	ug/g	D		1.29	1171	0.4802
2	CONCRETE SLABS	OTHER	AT GRAD	A	7500	ug/g	D		2.257	2050	15.37
14	CONCRETE SLABS	OTHER	AT GRAD	A	260	ug/g	D		0.7525	683.2	0.1776
13	CONCRETE SLABS	OTHER	AT GRAD	A	4700	ug/g	D		30.42	27620	129.8
12	CONCRETE SLABS	OTHER	AT GRAD	A	2000	ug/g	D		0.3225	292.8	0.5856
12	CONCRETE SLABS	OTHER	AT GRAD	B	99	ug/g	D		0.3225	292.8	0.02899
9	CONCRETE SLABS	OTHER	AT GRAD	B	8000	ug/g	D	MXCR	3.209	2914	23.31
11	CONCRETE SLABS	OTHER	AT GRAD	B	410	ug/g	D	MXCR	1.29	1171	0.4802
8	CONCRETE SLABS	OTHER	AT GRAD	B	3700	ug/g	D	MXCR	1.075	976.1	3.611
4	CONCRETE SLABS	OTHER	AT GRAD	B	5600	ug/g	D	MXCR	3.317	3012	16.87
6	CONCRETE SLABS	OTHER	AT GRAD	B	1500	ug/g	D	MXCR	0.5375	488	0.732
14	CONCRETE SLABS	OTHER	AT GRAD	B	260	ug/g	D	MXCR	0.7525	683.2	0.1776
5	CONCRETE SLABS	OTHER	AT GRAD	B	1500	ug/g	D	MXCR	0.7525	683.2	1.025
7	CONCRETE SLABS	OTHER	AT GRAD	B	7000	ug/g	D	MXCR	3.424	3109	21.77
13	CONCRETE SLABS	OTHER	AT GRAD	B	63	ug/g	D		30.42	27620	1.74
2	CONCRETE SLABS	OTHER	AT GRAD	B	7500	ug/g	D	MXCR	2.257	2050	15.37
1	CONCRETE SLABS	OTHER	AT GRAD	B	6400	ug/g	D	MXCR	4.929	4476	28.65
10	CONCRETE SLABS	OTHER	AT GRAD	B	810	ug/g	D	MXCR	1.29	1171	0.9487
13	CONCRETE SLABS	OTHER	AT GRAD	C	5700	ug/g	D		182.5	165700	944.7
1	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	29.58	26860	0.1834
5	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	4.515	4099	0.028
2	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	13.54	12300	0.084
6	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	3.225	2928	0.02
9	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	19.26	17490	0.1194
7	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	20.55	18660	0.1274
4	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	19.9	18070	0.1234
12	CONCRETE SLABS	OTHER	AT GRAD	C	36	ug/g	D		1.935	1757	0.06325
11	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	7.74	7028	0.048
8	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	6.45	5856	0.04
10	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	7.74	7028	0.048
14	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	4.515	4099	0.028
8	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	8.6	7808	0.05333
14	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	6.02	5466	0.03733
5	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	6.02	5466	0.03733
7	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	27.4	24880	0.1699
6	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	4.3	3904	0.02667
2	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	18.06	16400	0.112
9	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	25.68	23310	0.1592
13	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	243.4	221000	1.509
12	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	2.58	2343	0.016
11	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	10.32	9370	0.064

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Attachment B. II (Continued)

Component: 08A

Parameter: Total Uranium

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
10	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	10.32	9370	0.064
1	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	39.44	35810	0.2446
4	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	26.54	24090	0.1646
-	CONCRETE SLABS	OTHER	BELOW	A	6.83	ug/g	B		2.117	1922	0.01313
-	CONCRETE SLABS	OTHER	BELOW	B	6.83	ug/g	B		2.117	1922	0.01313
-	CONCRETE SLABS	OTHER	BELOW	C	6.83	ug/g	B		12.7	11530	0.07877
-	CONCRETE SLABS	OTHER	BELOW	D	6.83	ug/g	B	MXCR	16.93	15380	0.105
-	CONCRETE WALLS	OTHER	BELOW	A	6.83	ug/g	B		0.4902	445.1	0.00304
-	CONCRETE WALLS	OTHER	BELOW	B	6.83	ug/g	B		0.4902	445.1	0.00304
-	CONCRETE WALLS	OTHER	BELOW	C	6.83	ug/g	B		2.941	2671	0.01824
-	CONCRETE WALLS	OTHER	BELOW	D	6.83	ug/g	B	MXCR	3.922	3561	0.02432
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.6041	548.5	3.565
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/g	D	NORS	65.15	59160	0
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/g	D	NORS	48.91	44410	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.1559	141.5	0.92
-	DOORS	METAL	ABOVE	A		ug/g	D	NORS	4.677	4246	0
-	DOORS	PAINT	ABOVE	A	6500	ug/g	D		0.2186	198.5	1.29
-	DUCTWORK	METAL	ABOVE	A		ug/g	D	NORS	28.78	26130	0
-	DUCTWORK	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.08154	74.04	0.4813
-	DUCTWORK	PAINT	ABOVE	A	6500	ug/g	D		1.631	1481	9.625
-	DUCTWORK	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.7339	666.3	4.331
-	DUCTWORK INSULATION	OTHER	ABOVE	A	1200	ug/g	D		0.3924	356.3	0.4276
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	21.15	19200	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	2.35	2134	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.06123	55.59	0.3614
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.551	500.3	3.252
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/g	D	NORS	6.888	6254	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	6500	ug/g	D		0.4293	389.8	2.534
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	6500	ug/g	D		0.0008104	0.7358	0.004783
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/g	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		ug/g	D	NORS	1.443	1310	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	6500	ug/g	D		0.2045	185.6	1.207
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	1200	ug/g	D		79.95	72590	87.11
-	FLOOR TILE	OTHER	AT GRAD	A	1200	ug/g	D		1.96	1780	2.136
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	19.71	17900	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	2.19	1989	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.3679	334.1	2.171
-	HVAC EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.04088	37.12	0.2413
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	1200	ug/g	D		68.43	62130	74.56
-	LEAD FLASHING	LEAD	ABOVE	A		ug/g	D	NORS	1.35	0	0
-	LOUVERS	METAL	ABOVE	A		ug/g	D	NORS	1.22	1108	0
-	LOUVERS	PAINT	ABOVE	A	6500	ug/g	D		0.05704	51.79	0.3366
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	3.03	2751	0

Attachment B. II (Continued)

Component: 08A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.03023	27.45	0.1784
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	27.27	24760	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	6500	ug/g	D		0.2721	247	1.606
-	METAL PANEL ROOF	METAL	ABOVE	A		ug/g	D	NORS	1.54	1398	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	6500	ug/g	D		0.2182	198.1	1.288
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		ug/g	D	NORS	50.55	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	6500	ug/g	D		0.1298	117.9	0.7661
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/g	D	NORS	12.25	11120	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	1.277	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	0.2432	0	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.05839	53.02	0.3446
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.5309	482	3.133
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	1.104	1002	431.1
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	128	116200	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.118	107.1	0.6963
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	14.22	12910	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.4671	424.2	2.757
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	9.936	9022	3879
-	PIPING (2" AND LESS)	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.002423	2.2	0.0143
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		ug/g	D	NORS	0.3098	281.3	0
-	PIPING (2" AND LESS)	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.000257	0.2334	0.001517
-	PIPING (2" AND LESS)	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.0005385	0.489	0.003178
-	PIPING (2" AND LESS)	UNH	BELOW	A	430000	ug/g	D	NORS	0.002405	2.184	0.9391
-	PIPING (2" AND LESS)	UNH	BELOW	A	430000	ug/g	D	NORS	0.04536	41.18	17.71
-	PIPING (2" AND LESS)	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.001157	1.05	0.006826
-	PIPING (2" AND LESS)	UNH	BELOW	A	430000	ug/g	D	NORS	0.00504	4.576	1.968
-	PIPING (2" AND LESS)	SS METAL	BELOW	A		ug/g	D	NORS	0.649	589.3	0
-	PIPING (2" AND LESS)	UNH	BELOW	A	430000	ug/g	D	NORS	0.02165	19.66	8.452
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	8.6	7809	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	77.4	70280	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.1123	101.9	0.6626
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.5052	458.7	2.982
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	1.051	954	410.2
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.05262	47.78	0.3106
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	9.456	8586	3692
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.421	382.3	2.485
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.0002448	0.2223	0.001445
-	PIPING (2-1/2" TO 4")	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.001102	1	0.006501
-	PIPING (2-1/2" TO 4")	SS METAL	BELOW	A		ug/g	D	NORS	0.1875	170.3	0
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A	430000	ug/g	D	NORS	0.002291	2.08	0.8944
-	PIPING (2-1/2" TO 4")	UNH	BELOW	A	430000	ug/g	D	NORS	0.02062	18.72	8.05
-	PIPING (OVER 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	2.495	2265	974.1
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/g	D	NORS	113.3	102900	0

Attachment B. II (Continued)

Component: 08A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (OVER 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	22.45	20390	8767
-	PIPING (OVER 4")	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.02994	27.18	0.1767
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/g	D	NORS	12.59	11430	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.2666	242.1	1.573
-	PIPING (OVER 4")	CRUD	ABOVE	A	6500	ug/g	D	MXCR	1.2	1089	7.08
-	PIPING (OVER 4")	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.2395	217.5	1.414
-	PIPING (OVER 4")	UNH	BELOW	A	430000	ug/g	D	NORS	0.1118	101.5	43.65
-	PIPING (OVER 4")	UNH	BELOW	A	430000	ug/g	D	NORS	1.006	913.5	392.8
-	PIPING (OVER 4")	SS METAL	BELOW	A		ug/g	D	NORS	5.643	5123	0
-	PIPING (OVER 4")	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.01195	10.85	0.0705
-	PIPING (OVER 4")	CRUD	BELOW	A	6500	ug/g	D	MXCR	0.05375	48.81	0.3173
-	PIPING INSULATION	OTHER	ABOVE	A	1200	ug/g	D		2.415	2193	2.631
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	39.77	36120	15530
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	44.77	40650	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	4.419	4013	1725
-	PROCESS EQUIPMENT	DUST	ABOVE	A	6500	ug/g	D	MXCR	1.032	936.2	6.085
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	6500	ug/g	D	MXCR	2.125	1930	12.54
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	6500	ug/g	D	MXCR	0.4722	428.8	2.787
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	402.9	365900	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A	6500	ug/g	D	MXCR	0.129	117	0.7607
-	ROOFING (BUILT UP)	OTHER	ABOVE	A	0.37	ug/g	D	NORS	15.9	14440	0.005342
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	6500	ug/g	D		8.491	7710	50.11
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/g	D	NORS	575.4	522500	0
-	TRANSITE ROOF	OTHER	ABOVE	A	1200	ug/g	D		42.03	38160	45.79
-	WINDOWS	PAINT	ABOVE	A	6500	ug/g	D		0.06902	62.67	0.4073
-	WINDOWS	OTHER	ABOVE	A		ug/g	D	NORS	26.6	24160	0

Attachment B. II (Continued)

Component: 10A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	CEILING DEMOLITION	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	0.375	34.05	0.001648
-	CONCRETE	OTHER	ABOVE	A	640	mg/kg	D		2.784	2528	1.618
-	CONCRETE	OTHER	ABOVE	B	640	mg/kg	D	MXCR	2.784	2528	1.618
-	CONCRETE	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	16.71	15170	0.159
-	CONCRETE	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	22.28	20230	0.212
-	CONCRETE	OTHER	BELOW	A	10.48	mg/kg	B		28.24	25640	0.2687
-	CONCRETE	OTHER	BELOW	B	10.48	mg/kg	B	MXCR	28.24	25640	0.2687
-	CONCRETE	OTHER	BELOW	C	10.48	mg/kg	B	MXNO	169.4	153800	1.612
-	CONCRETE	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	225.9	205100	2.15
-	CONCRETE BEAMS	OTHER	BELOW	A	10.48	mg/kg	B		20.63	18740	0.1964
-	CONCRETE BEAMS	OTHER	BELOW	B	10.48	mg/kg	B	MXCR	20.63	18740	0.1964
-	CONCRETE BEAMS	OTHER	BELOW	C	10.48	mg/kg	B	MXNO	123.8	112400	1.178
-	CONCRETE BEAMS	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	165.1	149900	1.571
-	CONCRETE FOUNDATION	OTHER	BELOW	A	10.48	mg/kg	B		98.28	89240	0.9352
-	CONCRETE FOUNDATION	OTHER	BELOW	B	10.48	mg/kg	B	MXCR	98.28	89240	0.9352
-	CONCRETE FOUNDATION	OTHER	BELOW	C	10.48	mg/kg	B	MXNO	589.7	535400	5.611
-	CONCRETE FOUNDATION	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	786.2	713900	7.482
-	CONCRETE SLABS	OTHER	ABOVE	A	640	mg/kg	D		11.97	10860	6.954
-	CONCRETE SLABS	OTHER	ABOVE	B	640	mg/kg	D	MXCR	11.97	10860	6.954
-	CONCRETE SLABS	OTHER	ABOVE	C	10.48	mg/kg	D	MXNO	71.79	65190	0.6832
-	CONCRETE SLABS	OTHER	ABOVE	D	10.48	mg/kg	B	MXCR	95.73	86920	0.9109
-	CONCRETE SLABS	OTHER	AT GRAD	A	640	mg/kg	D		19.22	17450	11.17
-	CONCRETE SLABS	OTHER	AT GRAD	B	640	mg/kg	D	MXCR	19.22	17450	11.17
-	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	115.3	104700	1.097
-	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	153.8	139600	1.463
-	CONCRETE SLABS	OTHER	BELOW	A	10.48	mg/kg	B		22.21	20160	0.2113
-	CONCRETE SLABS	OTHER	BELOW	B	10.48	mg/kg	B	MXCR	22.21	20160	0.2113
-	CONCRETE SLABS	OTHER	BELOW	C	10.48	mg/kg	B	MXNO	133.2	121000	1.268
-	CONCRETE SLABS	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	177.7	161300	1.691
-	CONCRETE WALLS	OTHER	BELOW	A	10.48	mg/kg	B		118.7	107700	1.129
-	CONCRETE WALLS	OTHER	BELOW	B	10.48	mg/kg	B	MXCR	118.7	107700	1.129
-	CONCRETE WALLS	OTHER	BELOW	C	10.48	mg/kg	B	MXNO	712	646500	6.775
-	CONCRETE WALLS	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	949.3	861900	9.033
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		mg/kg	D	NORS	19.31	17530	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.179	162.6	1.999
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		mg/kg	D	NORS	13.64	12380	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.04346	39.46	0.4854
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.005913	5.369	0.06603
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	ABOVE	A		mg/kg	D	NORS	1.971	1790	0
-	DOORS	METAL	ABOVE	A		mg/kg	D	NORS	2.267	2058	0
-	DOORS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.106	96.22	1.183
-	DRYWALL	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	3.96	3596	0.174
-	DUCTWORK	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.01004	9.112	0.1121

Attachment B. II (Continued)

Component: 10A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	DUCTWORK	METAL	ABOVE	A		mg/kg	D	NORS	3.542	3216	0
-	DUCTWORK	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.09032	82.01	1.009
-	DUCTWORK	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.2007	182.2	2.242
-	DUCTWORK INSULATION	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	0.0483	43.86	0.002123
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.464	421.3	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	4.176	3792	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.1327	120.5	1.482
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.01474	13.39	0.1646
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		mg/kg	D	NORS	5.838	5300	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.3639	330.4	4.064
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		mg/kg	D	NORS	1.5	1362	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.0008104	0.7358	0.00905
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		mg/kg	D	NORS	3.85	3496	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.5454	495.2	6.091
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		mg/kg	D	NORS	52.48	47650	0
-	FIRE BRICK	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	224	203400	9.844
-	FLOOR TILE	OTHER	AT GRAD	A	48.4	mg/kg	D	MXCT	0.45	408.6	0.01978
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	19.3	17520	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	2.144	1947	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.5216	473.6	5.825
-	HVAC EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.05796	52.62	0.6473
-	LEAD FLASHING	LEAD	ABOVE	A	0	mg/kg	D	NORS	0.75	0	0
-	LOUVERS	METAL	ABOVE	A		mg/kg	D	NORS	1.667	1513	0
-	LOUVERS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.07792	70.75	0.8702
-	MASONRY WALLS	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	4.01	3641	0.1762
-	MASONRY WALLS	OTHER	ABOVE	B	12.8	mg/kg	D	MXNO	4.01	3641	0.04661
-	MASONRY WALLS	OTHER	ABOVE	C	12.8	mg/kg	B	MXNO	56.15	50980	0.6525
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	2.968	2695	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	26.71	24250	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.02686	24.39	0.3
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.2417	219.5	2.7
-	METAL PANEL ROOF	METAL	ABOVE	A		mg/kg	D	NORS	0.66	599.3	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.0935	84.9	1.044
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A	0	mg/kg	D	NORS	18.75	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		mg/kg	D	NORS	10.25	9307	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.1086	98.62	1.213
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	0.1377	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	0.7228	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	0.02417	21.95	0.27
-	PIPING (2" AND LESS)	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.09572	86.91	1.069
-	PIPING (2" AND LESS)	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.01196	10.86	0.1336
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	0.1088	98.77	1.215
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	2.036	1849	0

Attachment B. II (Continued)

Component: 10A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	0.2262	205.4	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	2.913	2645	529
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	26.22	23810	4761
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	0.0708	64.29	0.7907
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	0.3186	289.3	3.558
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.03319	30.13	0.3706
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.2655	241.1	2.965
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	5.963	5415	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	0.6626	601.6	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	48.81	44320	8864
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	5.423	4924	984.9
-	PIPING INSULATION	OTHER	ABOVE	A	48.4	mg/kg	D	MXCT	0.5964	541.5	0.02621
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	2.069	1878	23.1
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	12300	mg/kg	D	MXCT	0.4597	417.4	5.134
-	PROCESS EQUIPMENT	DUST	ABOVE	A	12300	mg/kg	D	MXCT	1.004	911.4	11.21
-	PROCESS EQUIPMENT	DUST	ABOVE	A	12300	mg/kg	D	MXCT	0.1256	113.9	1.401
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	713.4	647700	129500
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	79.26	71970	14390
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	4.302	3906	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	38.72	35160	0
-	PVC CONDUIT	OTHER	BELOW	A	0	mg/kg	D	NORS	0.1436	0	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		mg/kg	D	NORS	441	400400	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	6.507	5909	72.68
-	TRANSITE ROOF	XITE-NRA	ABOVE	A		mg/kg	D	NORS	25.17	22850	0
-	WINDOWS	OTHER	ABOVE	A	0	mg/kg	D	NORS	21.45	19480	0
-	WINDOWS	PAINT	ABOVE	A	12300	mg/kg	D	MXCT	0.05565	50.53	0.6215

Attachment B. II (Continued)

Component: 10A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	CEILING DEMOLITION	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	0.375	34.05	6.864E-09
-	CONCRETE	OTHER	ABOVE	A	0.12	pCi/g	D		2.784	2528	4.308E-07
-	CONCRETE	OTHER	ABOVE	B	0.12	pCi/g	D	MXCR	2.784	2528	4.308E-07
-	CONCRETE	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	16.71	15170	0.000002585
-	CONCRETE	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	22.28	20230	0.000003446
-	CONCRETE	OTHER	BELOW	A	0.12	pCi/g	B		28.24	25640	0.000004369
-	CONCRETE	OTHER	BELOW	B	0.12	pCi/g	B	MXCR	28.24	25640	0.000004369
-	CONCRETE	OTHER	BELOW	C	0.12	pCi/g	B	MXNO	169.4	153800	0.00002621
-	CONCRETE	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	225.9	205100	0.00003495
-	CONCRETE BEAMS	OTHER	BELOW	A	0.12	pCi/g	B		20.63	18740	0.000003193
-	CONCRETE BEAMS	OTHER	BELOW	B	0.12	pCi/g	B	MXCR	20.63	18740	0.000003193
-	CONCRETE BEAMS	OTHER	BELOW	C	0.12	pCi/g	B	MXNO	123.8	112400	0.00001916
-	CONCRETE BEAMS	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	165.1	149900	0.00002554
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.12	pCi/g	B		98.28	89240	0.00001521
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.12	pCi/g	B	MXCR	98.28	89240	0.00001521
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.12	pCi/g	B	MXNO	589.7	535400	0.00009124
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	786.2	713900	0.0001216
-	CONCRETE SLABS	OTHER	ABOVE	A	0.12	pCi/g	D		11.97	10860	0.000001851
-	CONCRETE SLABS	OTHER	ABOVE	B	0.12	pCi/g	D	MXCR	11.97	10860	0.000001851
-	CONCRETE SLABS	OTHER	ABOVE	C	0.12	pCi/g	D	MXNO	71.79	65190	0.00001111
-	CONCRETE SLABS	OTHER	ABOVE	D	0.12	pCi/g	B	MXCR	95.73	86920	0.00001481
-	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		19.22	17450	0.000002974
-	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	19.22	17450	0.000002974
-	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	115.3	104700	0.00001784
-	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	153.8	139600	0.00002379
-	CONCRETE SLABS	OTHER	BELOW	A	0.12	pCi/g	B		22.21	20160	0.000003436
-	CONCRETE SLABS	OTHER	BELOW	B	0.12	pCi/g	B	MXCR	22.21	20160	0.000003436
-	CONCRETE SLABS	OTHER	BELOW	C	0.12	pCi/g	B	MXNO	133.2	121000	0.00002062
-	CONCRETE SLABS	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	177.7	161300	0.00002749
-	CONCRETE WALLS	OTHER	BELOW	A	0.12	pCi/g	B		118.7	107700	0.00001836
-	CONCRETE WALLS	OTHER	BELOW	B	0.12	pCi/g	B	MXCR	118.7	107700	0.00001836
-	CONCRETE WALLS	OTHER	BELOW	C	0.12	pCi/g	B	MXNO	712	646500	0.0001102
-	CONCRETE WALLS	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	949.3	861900	0.0001469
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	19.31	17530	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.179	162.6	7.178E-08
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.04346	39.46	1.743E-08
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	13.64	12380	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.005913	5.369	2.371E-09
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	ABOVE	A		pCi/g	D	NORS	1.971	1790	0
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	2.267	2058	0
-	DOORS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.106	96.22	4.249E-08
-	DRYWALL	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	3.96	3596	7.249E-07
-	DUCTWORK	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.09032	82.01	3.622E-08

Attachment B. II (Continued)

Component: 10A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	DUCTWORK	METAL	ABOVE	A		pCi/g	D	NORS	3.542	3216	0
-	DUCTWORK	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.2007	182.2	8.048E-08
-	DUCTWORK	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.01004	9.112	4.024E-09
-	DUCTWORK INSULATION	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	0.0483	43.86	8.841E-09
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.1327	120.5	5.32E-08
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.01474	13.39	5.911E-09
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	4.176	3792	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.464	421.3	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	5.838	5300	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.3639	330.4	1.459E-07
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.0008104	0.7358	3.249E-10
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		pCi/g	D	NORS	3.85	3496	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.5454	495.2	2.187E-07
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	52.48	47650	0.000009607
-	FIRE BRICK	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	224	203400	0.000041
-	FLOOR TILE	OTHER	AT GRAD	A	0.142	pCi/g	D	MXCT	0.45	408.6	8.237E-08
-	HVAC EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.05796	52.62	2.324E-08
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	19.3	17520	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.144	1947	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.5216	473.6	2.091E-07
-	LEAD FLASHING	LEAD	ABOVE	A		pCi/g	D	NORS	0.75	0	0
-	LOUVERS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.07792	70.75	3.124E-08
-	LOUVERS	METAL	ABOVE	A		pCi/g	D	NORS	1.667	1513	0
-	MASONRY WALLS	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	4.01	3641	7.341E-07
-	MASONRY WALLS	OTHER	ABOVE	B	0.12	pCi/g	D	MXNO	4.01	3641	6.205E-07
-	MASONRY WALLS	OTHER	ABOVE	C	0.12	pCi/g	B	MXNO	56.15	50980	0.000008687
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	26.71	24250	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.02686	24.39	1.077E-08
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.968	2695	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.2417	219.5	9.692E-08
-	METAL PANEL ROOF	METAL	ABOVE	A		pCi/g	D	NORS	0.66	599.3	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.0935	84.9	3.749E-08
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		pCi/g	D	NORS	18.75	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.1086	98.62	4.355E-08
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	10.25	9307	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.7228	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.1377	0	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.09572	86.91	3.838E-08
-	PIPING (2" AND LESS)	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.01196	10.86	4.797E-09
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	2.036	1849	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	0.1088	98.77	4.362E-08
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	0.02417	21.95	9.692E-09

Attachment B. II (Continued)

Component: 10A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.2262	205.4	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	26.22	23810	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	2.913	2645	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	48.81	44320	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	5.963	5415	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	0.0708	64.29	2.839E-08
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	0.3186	289.3	1.278E-07
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	5.423	4924	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.2655	241.1	1.065E-07
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.6626	601.6	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.03319	30.13	1.331E-08
-	PIPING INSULATION	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	0.5964	541.5	1.092E-07
-	PROCESS EQUIPMENT	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	1.004	911.4	4.025E-07
-	PROCESS EQUIPMENT	DUST	ABOVE	A	0.311	pCi/g	D	MXCT	0.1256	113.9	5.031E-08
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	0.4597	417.4	1.843E-07
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	4.302	3906	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	38.72	35160	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	0.311	pCi/g	D	MXCT	2.069	1878	8.295E-07
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	79.26	71970	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	713.4	647700	0
-	PVC CONDUIT	OTHER	BELOW	A		pCi/g	D	NORS	0.1436	0	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	441	400400	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	6.507	5909	0.000002609
-	TRANSITE ROOF	OTHER	ABOVE	A	0.142	pCi/g	D	MXCT	25.17	22850	0.000004607
-	WINDOWS	OTHER	ABOVE	A		pCi/g	D	NORS	21.45	19480	0
-	WINDOWS	PAINT	ABOVE	A	0.311	pCi/g	D	MXCT	0.05565	50.53	2.231E-08

Attachment B. II (Continued)

Component: 10A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	CEILING DEMOLITION	OTHER	ABOVE	A		ug/kg	D	NORS	0.375	34.05	0
-	CONCRETE	OTHER	ABOVE	A		ug/kg	D	NORS	2.784	2528	0
-	CONCRETE	OTHER	ABOVE	B		ug/kg	D	NORS	2.784	2528	0
-	CONCRETE	OTHER	ABOVE	C		ug/kg	D	NORS	16.71	15170	0
-	CONCRETE	OTHER	ABOVE	D		ug/kg	B	NORS	22.28	20230	0
-	CONCRETE	OTHER	BELOW	A		ug/kg	B	NORS	28.24	25640	0
-	CONCRETE	OTHER	BELOW	B		ug/kg	B	NORS	28.24	25640	0
-	CONCRETE	OTHER	BELOW	C		ug/kg	B	NORS	169.4	153800	0
-	CONCRETE	OTHER	BELOW	D		ug/kg	B	NORS	225.9	205100	0
-	CONCRETE BEAMS	OTHER	BELOW	A		ug/kg	B	NORS	20.63	18740	0
-	CONCRETE BEAMS	OTHER	BELOW	B		ug/kg	B	NORS	20.63	18740	0
-	CONCRETE BEAMS	OTHER	BELOW	C		ug/kg	B	NORS	123.8	112400	0
-	CONCRETE BEAMS	OTHER	BELOW	D		ug/kg	B	NORS	165.1	149900	0
-	CONCRETE FOUNDATION	OTHER	BELOW	A		ug/kg	B	NORS	98.28	89240	0
-	CONCRETE FOUNDATION	OTHER	BELOW	B		ug/kg	B	NORS	98.28	89240	0
-	CONCRETE FOUNDATION	OTHER	BELOW	C		ug/kg	B	NORS	589.7	535400	0
-	CONCRETE FOUNDATION	OTHER	BELOW	D		ug/kg	B	NORS	786.2	713900	0
-	CONCRETE SLABS	OTHER	ABOVE	A		ug/kg	D	NORS	11.97	10860	0
-	CONCRETE SLABS	OTHER	ABOVE	B		ug/kg	D	NORS	11.97	10860	0
-	CONCRETE SLABS	OTHER	ABOVE	C		ug/kg	D	NORS	71.79	65190	0
-	CONCRETE SLABS	OTHER	ABOVE	D		ug/kg	B	NORS	95.73	86920	0
-	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	NORS	19.22	17450	0
-	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	NORS	19.22	17450	0
-	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	NORS	115.3	104700	0
-	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	NORS	153.8	139600	0
-	CONCRETE SLABS	OTHER	BELOW	A		ug/kg	B	NORS	22.21	20160	0
-	CONCRETE SLABS	OTHER	BELOW	B		ug/kg	B	NORS	22.21	20160	0
-	CONCRETE SLABS	OTHER	BELOW	C		ug/kg	B	NORS	133.2	121000	0
-	CONCRETE SLABS	OTHER	BELOW	D		ug/kg	B	NORS	177.7	161300	0
-	CONCRETE WALLS	OTHER	BELOW	A		ug/kg	B	NORS	118.7	107700	0
-	CONCRETE WALLS	OTHER	BELOW	B		ug/kg	B	NORS	118.7	107700	0
-	CONCRETE WALLS	OTHER	BELOW	C		ug/kg	B	NORS	712	646500	0
-	CONCRETE WALLS	OTHER	BELOW	D		ug/kg	B	NORS	949.3	861900	0
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/kg	D	NORS	19.31	17530	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.179	162.6	0
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/kg	D	NORS	13.64	12380	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.04346	39.46	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	ABOVE	A		ug/kg	D	NORS	1.971	1790	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.005913	5.369	0
-	DOORS	METAL	ABOVE	A		ug/kg	D	NORS	2.267	2058	0
-	DOORS	PAINT	ABOVE	A		ug/kg	D	NORS	0.106	96.22	0
-	DRYWALL	OTHER	ABOVE	A		ug/kg	D	NORS	3.96	3596	0
-	DUCTWORK	PAINT	ABOVE	A		ug/kg	D	NORS	0.2007	182.2	0

Attachment B. II (Continued)

Component: 10A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	DUCTWORK	METAL	ABOVE	A		ug/kg	D	NORS	3.542	3216	0
-	DUCTWORK	DUST	ABOVE	A		ug/kg	D	NORS	0.01004	9.112	0
-	DUCTWORK	DUST	ABOVE	A		ug/kg	D	NORS	0.09032	82.01	0
-	DUCTWORK INSULATION	OTHER	ABOVE	A		ug/kg	D	NORS	0.0483	43.86	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.464	421.3	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.1327	120.5	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	4.176	3792	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.01474	13.39	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/kg	D	NORS	5.838	5300	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A		ug/kg	D	NORS	0.3639	330.4	0
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/kg	D	NORS	1.5	1362	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A		ug/kg	D	NORS	0.0008104	0.7358	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A		ug/kg	D	NORS	0.5454	495.2	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		ug/kg	D	NORS	3.85	3496	0
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		ug/kg	D	NORS	52.48	47650	0
-	FIRE BRICK	OTHER	ABOVE	A		ug/kg	D	NORS	224	203400	0
-	FLOOR TILE	OTHER	AT GRAD	A		ug/kg	D	NORS	0.45	408.6	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	19.3	17520	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	2.144	1947	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.05796	52.62	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.5216	473.6	0
-	LEAD FLASHING	LEAD	ABOVE	A		ug/kg	D	NORS	0.75	0	0
-	LOUVERS	METAL	ABOVE	A		ug/kg	D	NORS	1.667	1513	0
-	LOUVERS	PAINT	ABOVE	A		ug/kg	D	NORS	0.07792	70.75	0
-	MASONRY WALLS	OTHER	ABOVE	A		ug/kg	D	NORS	4.01	3641	0
-	MASONRY WALLS	OTHER	ABOVE	B		ug/kg	D	NORS	4.01	3641	0
-	MASONRY WALLS	OTHER	ABOVE	C		ug/kg	B	NORS	56.15	50980	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.02686	24.39	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.2417	219.5	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	26.71	24250	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	2.968	2695	0
-	METAL PANEL ROOF	PAINT	ABOVE	A		ug/kg	D	NORS	0.0935	84.9	0
-	METAL PANEL ROOF	METAL	ABOVE	A		ug/kg	D	NORS	0.66	599.3	0
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		ug/kg	D	NORS	18.75	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/kg	D	NORS	10.25	9307	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A		ug/kg	D	NORS	0.1086	98.62	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	0.1377	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	0.7228	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.02417	21.95	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	2.036	1849	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.1088	98.77	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.01196	10.86	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.09572	86.91	0

Attachment B. II (Continued)

Component: 10A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	0.2262	205.4	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	2.913	2645	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	26.22	23810	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	5.963	5415	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	48.81	44320	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	5.423	4924	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	0.6626	601.6	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.0708	64.29	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.3186	289.3	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.2655	241.1	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.03319	30.13	0
-	PIPING INSULATION	OTHER	ABOVE	A		ug/kg	D	NORS	0.5964	541.5	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	4.302	3906	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	713.4	647700	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	0.4597	417.4	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	2.069	1878	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	0.1256	113.9	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	1.004	911.4	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	38.72	35160	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	79.26	71970	0
-	PVC CONDUIT	OTHER	BELOW	A		ug/kg	D	NORS	0.1436	0	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A		ug/kg	D	NORS	6.507	5909	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/kg	D	NORS	441	400400	0
-	TRANSITE ROOF	XITE-NRA	ABOVE	A		ug/kg	D	NORS	25.17	22850	0
-	WINDOWS	PAINT	ABOVE	A		ug/kg	D	NORS	0.05565	50.53	0
-	WINDOWS	OTHER	ABOVE	A		ug/kg	D	NORS	21.45	19480	0

001295

Attachment B. II (Continued)

Component: 10A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	CEILING DEMOLITION	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	0.375	34.05	3.398E-09
-	CONCRETE	OTHER	ABOVE	A	0.33	pCi/g	D		2.784	2528	4.897E-08
-	CONCRETE	OTHER	ABOVE	B	0.33	pCi/g	D	MXCR	2.784	2528	4.897E-08
-	CONCRETE	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	16.71	15170	2.938E-07
-	CONCRETE	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	22.28	20230	3.918E-07
-	CONCRETE	OTHER	BELOW	A	0.33	pCi/g	B		28.24	25640	4.966E-07
-	CONCRETE	OTHER	BELOW	B	0.33	pCi/g	B	MXCR	28.24	25640	4.966E-07
-	CONCRETE	OTHER	BELOW	C	0.33	pCi/g	B	MXNO	169.4	153800	0.00000298
-	CONCRETE	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	225.9	205100	0.000003973
-	CONCRETE BEAMS	OTHER	BELOW	A	0.33	pCi/g	B		20.63	18740	3.629E-07
-	CONCRETE BEAMS	OTHER	BELOW	B	0.33	pCi/g	B	MXCR	20.63	18740	3.629E-07
-	CONCRETE BEAMS	OTHER	BELOW	C	0.33	pCi/g	B	MXNO	123.8	112400	0.000002177
-	CONCRETE BEAMS	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	165.1	149900	0.000002903
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.33	pCi/g	B		98.28	89240	0.000001729
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.33	pCi/g	B	MXCR	98.28	89240	0.000001729
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.33	pCi/g	B	MXNO	589.7	535400	0.00001037
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	786.2	713900	0.00001383
-	CONCRETE SLABS	OTHER	ABOVE	A	0.33	pCi/g	D		11.97	10860	2.105E-07
-	CONCRETE SLABS	OTHER	ABOVE	B	0.33	pCi/g	D	MXCR	11.97	10860	2.105E-07
-	CONCRETE SLABS	OTHER	ABOVE	C	0.33	pCi/g	D	MXNO	71.79	65190	0.000001263
-	CONCRETE SLABS	OTHER	ABOVE	D	0.33	pCi/g	B	MXCR	95.73	86920	0.000001684
-	CONCRETE SLABS	OTHER	AT GRAD	A	0.33	pCi/g	D		19.22	17450	3.381E-07
-	CONCRETE SLABS	OTHER	AT GRAD	B	0.33	pCi/g	D	MXCR	19.22	17450	3.381E-07
-	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	115.3	104700	0.000002028
-	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	153.8	139600	0.000002705
-	CONCRETE SLABS	OTHER	BELOW	A	0.33	pCi/g	B		22.21	20160	3.906E-07
-	CONCRETE SLABS	OTHER	BELOW	B	0.33	pCi/g	B	MXCR	22.21	20160	3.906E-07
-	CONCRETE SLABS	OTHER	BELOW	C	0.33	pCi/g	B	MXNO	133.2	121000	0.000002344
-	CONCRETE SLABS	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	177.7	161300	0.000003125
-	CONCRETE WALLS	OTHER	BELOW	A	0.33	pCi/g	B		118.7	107700	0.000002087
-	CONCRETE WALLS	OTHER	BELOW	B	0.33	pCi/g	B	MXCR	118.7	107700	0.000002087
-	CONCRETE WALLS	OTHER	BELOW	C	0.33	pCi/g	B	MXNO	712	646500	0.00001252
-	CONCRETE WALLS	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	949.3	861900	0.0000167
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	19.31	17530	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.179	162.6	4.065E-07
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.04346	39.46	9.87E-08
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	13.64	12380	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	ABOVE	A		pCi/g	D	NORS	1.971	1790	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.005913	5.369	1.343E-08
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	2.267	2058	0
-	DOORS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.106	96.22	2.406E-07
-	DRYWALL	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	3.96	3596	3.588E-07
-	DUCTWORK	METAL	ABOVE	A		pCi/g	D	NORS	3.542	3216	0

Attachment B. II (Continued)

Component: 10A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	DUCTWORK	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.09032	82.01	2.051E-07
-	DUCTWORK	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.01004	9.112	2.279E-08
-	DUCTWORK	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.2007	182.2	4.558E-07
-	DUCTWORK INSULATION	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	0.0483	43.86	4.376E-09
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.464	421.3	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	4.176	3792	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.01474	13.39	3.348E-08
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.1327	120.5	3.013E-07
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	5.838	5300	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.3639	330.4	8.263E-07
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	1.5	1362	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.0008104	0.7358	1.84E-09
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		pCi/g	D	NORS	3.85	3496	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.5454	495.2	0.000001239
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	52.48	47650	0.000004755
-	FIRE BRICK	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	224	203400	0.0000203
-	FLOOR TILE	OTHER	AT GRAD	A	1.7	pCi/g	D	MXCT	0.45	408.6	4.077E-08
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	19.3	17520	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.144	1947	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.05796	52.62	1.316E-07
-	HVAC EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.5216	473.6	0.000001185
-	LEAD FLASHING	LEAD	ABOVE	A		pCi/g	D	NORS	0.75	0	0
-	LOUVERS	METAL	ABOVE	A		pCi/g	D	NORS	1.667	1513	0
-	LOUVERS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.07792	70.75	1.769E-07
-	MASONRY WALLS	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	4.01	3641	3.634E-07
-	MASONRY WALLS	OTHER	ABOVE	B	0.36	pCi/g	D	MXNO	4.01	3641	7.694E-08
-	MASONRY WALLS	OTHER	ABOVE	C	0.36	pCi/g	B	MXNO	56.15	50980	0.000001077
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	2.968	2695	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	26.71	24250	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.02686	24.39	6.099E-08
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.2417	219.5	5.489E-07
-	METAL PANEL ROOF	METAL	ABOVE	A		pCi/g	D	NORS	0.66	599.3	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.0935	84.9	2.123E-07
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		pCi/g	D	NORS	18.75	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	10.25	9307	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.1086	98.62	2.467E-07
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.1377	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.7228	0	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.09572	86.91	2.174E-07
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	0.02417	21.95	5.489E-08
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	0.1088	98.77	0.000000247
-	PIPING (2" AND LESS)	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.01196	10.86	2.717E-08
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.2262	205.4	0

Attachment B. II (Continued)

Component: 10A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	2.913	2645	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	26.22	23810	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	2.036	1849	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.2655	241.1	6.029E-07
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	0.0708	64.29	1.608E-07
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	0.3186	289.3	7.235E-07
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.03319	30.13	7.536E-08
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	5.963	5415	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	5.423	4924	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	48.81	44320	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.6626	601.6	0
-	PIPING INSULATION	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	0.5964	541.5	5.404E-08
-	PROCESS EQUIPMENT	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	1.004	911.4	0.000002279
-	PROCESS EQUIPMENT	DUST	ABOVE	A	42.6	pCi/g	D	MXCT	0.1256	113.9	2.849E-07
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	2.069	1878	0.000004698
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	42.6	pCi/g	D	MXCT	0.4597	417.4	0.000001044
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	4.302	3906	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	79.26	71970	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	38.72	35160	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	713.4	647700	0
-	PVC CONDUIT	OTHER	BELOW	A		pCi/g	D	NORS	0.1436	0	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	441	400400	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	6.507	5909	0.00001478
-	TRANSITE ROOF	OTHER	ABOVE	A	1.7	pCi/g	D	MXCT	25.17	22850	0.00000228
-	WINDOWS	OTHER	ABOVE	A		pCi/g	D	NORS	21.45	19480	0
-	WINDOWS	PAINT	ABOVE	A	42.6	pCi/g	D	MXCT	0.05565	50.53	1.264E-07

Attachment B. II (Continued)

Component: 10A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	CEILING DEMOLITION	OTHER	ABOVE	A	1240	ug/g	D	MXCT	0.375	34.05	0.04222
-	CONCRETE	OTHER	ABOVE	A	1.59	ug/g	D		2.784	2528	0.00402
-	CONCRETE	OTHER	ABOVE	B	1.59	ug/g	D	MXCR	2.784	2528	0.00402
-	CONCRETE	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	16.71	15170	0.1036
-	CONCRETE	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	22.28	20230	0.1381
-	CONCRETE	OTHER	BELOW	A	6.83	ug/g	B		28.24	25640	0.1751
-	CONCRETE	OTHER	BELOW	B	6.83	ug/g	B	MXCR	28.24	25640	0.1751
-	CONCRETE	OTHER	BELOW	C	6.83	ug/g	B	MXNO	169.4	153800	1.051
-	CONCRETE	OTHER	BELOW	D	6.83	ug/g	B	MXCR	225.9	205100	1.401
-	CONCRETE BEAMS	OTHER	BELOW	A	6.83	ug/g	B		20.63	18740	0.128
-	CONCRETE BEAMS	OTHER	BELOW	B	6.83	ug/g	B	MXCR	20.63	18740	0.128
-	CONCRETE BEAMS	OTHER	BELOW	C	6.83	ug/g	B	MXNO	123.8	112400	0.7678
-	CONCRETE BEAMS	OTHER	BELOW	D	6.83	ug/g	B	MXCR	165.1	149900	1.024
-	CONCRETE FOUNDATION	OTHER	BELOW	A	6.83	ug/g	B		98.28	89240	0.6095
-	CONCRETE FOUNDATION	OTHER	BELOW	B	6.83	ug/g	B	MXCR	98.28	89240	0.6095
-	CONCRETE FOUNDATION	OTHER	BELOW	C	6.83	ug/g	B	MXNO	589.7	535400	3.657
-	CONCRETE FOUNDATION	OTHER	BELOW	D	6.83	ug/g	B	MXCR	786.2	713900	4.876
-	CONCRETE SLABS	OTHER	ABOVE	A	1.59	ug/g	D		11.97	10860	0.01728
-	CONCRETE SLABS	OTHER	ABOVE	B	1.59	ug/g	D	MXCR	11.97	10860	0.01728
-	CONCRETE SLABS	OTHER	ABOVE	C	6.83	ug/g	D	MXNO	71.79	65190	0.4452
-	CONCRETE SLABS	OTHER	ABOVE	D	6.83	ug/g	B	MXCR	95.73	86920	0.5937
-	CONCRETE SLABS	OTHER	AT GRAD	A	1.59	ug/g	D		19.22	17450	0.02775
-	CONCRETE SLABS	OTHER	AT GRAD	B	1.59	ug/g	D	MXCR	19.22	17450	0.02775
-	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	115.3	104700	0.7152
-	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	153.8	139600	0.9536
-	CONCRETE SLABS	OTHER	BELOW	A	6.83	ug/g	B		22.21	20160	0.1377
-	CONCRETE SLABS	OTHER	BELOW	B	6.83	ug/g	B	MXCR	22.21	20160	0.1377
-	CONCRETE SLABS	OTHER	BELOW	C	6.83	ug/g	B	MXNO	133.2	121000	0.8263
-	CONCRETE SLABS	OTHER	BELOW	D	6.83	ug/g	B	MXCR	177.7	161300	1.102
-	CONCRETE WALLS	OTHER	BELOW	A	6.83	ug/g	B		118.7	107700	0.7359
-	CONCRETE WALLS	OTHER	BELOW	B	6.83	ug/g	B	MXCR	118.7	107700	0.7359
-	CONCRETE WALLS	OTHER	BELOW	C	6.83	ug/g	B	MXNO	712	646500	4.415
-	CONCRETE WALLS	OTHER	BELOW	D	6.83	ug/g	B	MXCR	949.3	861900	5.887
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/g	D	NORS	19.31	17530	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.179	162.6	2.373
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/g	D	NORS	13.64	12380	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.04346	39.46	0.5762
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	METAL	ABOVE	A		ug/g	D	NORS	1.971	1790	0
-	CONDUIT/WIRE/CABLE TRAY (OVER 4")	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.005913	5.369	0.07838
-	DOORS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.106	96.22	1.405
-	DOORS	METAL	ABOVE	A		ug/g	D	NORS	2.267	2058	0
-	DRYWALL	OTHER	ABOVE	A	1240	ug/g	D	MXCT	3.96	3596	4.459
-	DUCTWORK	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.2007	182.2	2.661

001259

Attachment B. II (Continued)

Component: 10A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	DUCTWORK	METAL	ABOVE	A		ug/g	D	NORS	3.542	3216	0
-	DUCTWORK	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.09032	82.01	1.197
-	DUCTWORK	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.01004	9.112	0.133
-	DUCTWORK INSULATION	OTHER	ABOVE	A	1240	ug/g	D	MXCT	0.0483	43.86	0.05438
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	4.176	3792	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.1327	120.5	1.759
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.464	421.3	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.01474	13.39	0.1954
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/g	D	NORS	5.838	5300	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.3639	330.4	4.824
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.0008104	0.7358	0.01074
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/g	D	NORS	1.5	1362	0
-	EXTERIOR METAL WALL PANELS	METAL	ABOVE	A		ug/g	D	NORS	3.85	3496	0
-	EXTERIOR METAL WALL PANELS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.5454	495.2	7.23
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	1240	ug/g	D	MXCT	52.48	47650	59.09
-	FIRE BRICK	OTHER	ABOVE	A	1240	ug/g	D	MXCT	224	203400	252.2
-	FLOOR TILE	OTHER	AT GRAD	A	1240	ug/g	D	MXCT	0.45	408.6	0.5067
-	HVAC EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.5216	473.6	6.915
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	19.3	17520	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	2.144	1947	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.05796	52.62	0.7683
-	LEAD FLASHING	LEAD	ABOVE	A		ug/g	D	NORS	0.75	0	0
-	LOUVERS	METAL	ABOVE	A		ug/g	D	NORS	1.667	1513	0
-	LOUVERS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.07792	70.75	1.033
-	MASONRY WALLS	OTHER	ABOVE	A	1240	ug/g	D	MXCT	4.01	3641	4.515
-	MASONRY WALLS	OTHER	ABOVE	B	0.37	ug/g	D	MXNO	4.01	3641	0.001347
-	MASONRY WALLS	OTHER	ABOVE	C	0.37	ug/g	B	MXNO	56.15	50980	0.01886
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.02686	24.39	0.356
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	26.71	24250	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	2.968	2695	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.2417	219.5	3.204
-	METAL PANEL ROOF	METAL	ABOVE	A		ug/g	D	NORS	0.66	599.3	0
-	METAL PANEL ROOF	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.0935	84.9	1.24
-	MISCELLANEOUS DEBRIS	OTHER	ABOVE	A		ug/g	D	NORS	18.75	0	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.1086	98.62	1.44
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/g	D	NORS	10.25	9307	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	0.1377	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	0.7228	0	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	26.22	23810	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	14600	ug/g	D	MXCT	0.1088	98.77	1.442
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	2.913	2645	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	2.036	1849	794.9
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	0.2262	205.4	88.32

Attachment B. II (Continued)

Component: 10A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	PIPING (2" AND LESS)	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.09572	86.91	1.269
-	PIPING (2" AND LESS)	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.01196	10.86	0.1586
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	14600	ug/g	D	MXCT	0.02417	21.95	0.3204
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	5.963	5415	2328
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.2655	241.1	3.519
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.03319	30.13	0.4399
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	48.81	44320	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	14600	ug/g	D	MXCT	0.3186	289.3	4.224
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	0.6626	601.6	258.7
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	5.423	4924	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	14600	ug/g	D	MXCT	0.0708	64.29	0.9386
-	PIPING INSULATION	OTHER	ABOVE	A	1240	ug/g	D	MXCT	0.5964	541.5	0.6715
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	14600	ug/g	D	MXCT	0.4597	417.4	6.094
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	14600	ug/g	D	MXCT	2.069	1878	27.42
-	PROCESS EQUIPMENT	DUST	ABOVE	A	14600	ug/g	D	MXCT	1.004	911.4	13.31
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	38.72	35160	15120
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	79.26	71970	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	713.4	647700	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	4.302	3906	1680
-	PROCESS EQUIPMENT	DUST	ABOVE	A	14600	ug/g	D	MXCT	0.1256	113.9	1.663
-	PVC CONDUIT	OTHER	BELOW	A		ug/g	D	NORS	0.1436	0	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	14600	ug/g	D	MXCT	6.507	5909	86.27
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/g	D	NORS	441	400400	0
-	TRANSITE ROOF	OTHER	ABOVE	A	1240	ug/g	D	MXCT	25.17	22850	28.33
-	WINDOWS	OTHER	ABOVE	A		ug/g	D	NORS	21.45	19480	0
-	WINDOWS	PAINT	ABOVE	A	14600	ug/g	D	MXCT	0.05565	50.53	0.7377

001601

Attachment B. II (Continued)

Component: 39A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	5.9	mg/kg	D		1.125	102.2	0.0006027
-	CONCRETE FOUNDATION	OTHER	BELOW	A	10.48	mg/kg	B		5.544	5034	0.05275
-	CONCRETE FOUNDATION	OTHER	BELOW	B	10.48	mg/kg	B		5.544	5034	0.05275
-	CONCRETE FOUNDATION	OTHER	BELOW	C	10.48	mg/kg	B		33.26	30200	0.3165
-	CONCRETE FOUNDATION	OTHER	BELOW	D	10.48	mg/kg	B	MXCR	44.35	40270	0.422
4	CONCRETE SLABS	OTHER	AT GRAD	A	14.1	mg/kg	D		1.152	1046	0.01475
3	CONCRETE SLABS	OTHER	AT GRAD	A	18.7	mg/kg	D		1.468	1333	0.02493
1	CONCRETE SLABS	OTHER	AT GRAD	A	10.48	mg/kg	D		0.5316	482.7	0.005058
2	CONCRETE SLABS	OTHER	AT GRAD	A	12.1	mg/kg	D		2.936	2666	0.03226
1	CONCRETE SLABS	OTHER	AT GRAD	B	10.48	mg/kg	D		0.5316	482.7	0.005058
4	CONCRETE SLABS	OTHER	AT GRAD	B	14.1	mg/kg	D	MXCR	1.152	1046	0.01475
2	CONCRETE SLABS	OTHER	AT GRAD	B	12.1	mg/kg	D	MXCR	2.936	2666	0.03226
3	CONCRETE SLABS	OTHER	AT GRAD	B	13.8	mg/kg	D		1.468	1333	0.0184
2	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	17.62	16000	0.1676
4	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D	MXNO	6.91	6275	0.06576
1	CONCRETE SLABS	OTHER	AT GRAD	C	10.48	mg/kg	D		3.189	2896	0.03035
3	CONCRETE SLABS	OTHER	AT GRAD	C	10.6	mg/kg	D		8.809	7998	0.08478
1	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	4.253	3861	0.04047
2	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	23.49	21330	0.2235
3	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	11.75	10660	0.1118
4	CONCRETE SLABS	OTHER	AT GRAD	D	10.48	mg/kg	B	MXCR	9.214	8366	0.08768
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		mg/kg	D	NORS	1.227	1114	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.01138	10.33	0.03264
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		mg/kg	D	NORS	0.35	317.8	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.001116	1.013	0.003201
-	DOORS	PAINT	ABOVE	A	3160	mg/kg	D		0.01558	14.15	0.04471
-	DOORS	METAL	ABOVE	A		mg/kg	D	NORS	0.3333	302.7	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.000561	0.5094	0.00161
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.014	12.71	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.00006233	0.0566	0.0001789
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.126	114.4	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		mg/kg	D	NORS	0.45	408.6	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	3160	mg/kg	D		0.02805	25.47	0.08048
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	3160	mg/kg	D		0.0003896	0.3537	0.001118
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		mg/kg	D	NORS	0.5	454	0
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A	246	mg/kg	D		17.43	15820	3.892
-	FIRE BRICK	OTHER	ABOVE	A	5.9	mg/kg	D		6.067	5509	0.0325
-	HVAC EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.00006872	0.0624	0.0001972
-	HVAC EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.0006185	0.5616	0.001775
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.002	1.816	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.018	16.34	0
-	INTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A	246	mg/kg	D		3.45	3133	0.7706
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.0001872	0.17	0.0005372

Attachment B. II (Continued)

Component: 39A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	3160	mg/kg	D		0.0000208	0.01889	0.00005969
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.027	24.52	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		mg/kg	D	NORS	0.003	2.724	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		mg/kg	D	NORS	2	1816	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	3160	mg/kg	D		0.02119	19.24	0.06081
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	0.4939	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A	0	mg/kg	D	NORS	0.09408	0	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	1.858	1687	337.3
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.001713	1.555	0.004914
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	0.1442	131	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.007707	6.998	0.02211
-	PIPING (2" AND LESS)	UNH	ABOVE	A	0	mg/kg	D	NORS	0.01603	14.55	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	0.2064	187.4	37.48
-	PIPING (2" AND LESS)	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.0008477	0.7697	0.002432
-	PIPING (2" AND LESS)	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.006782	6.158	0.01946
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	0.6794	616.9	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	0.07549	68.55	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	5.561	5049	1010
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	0.6179	561.1	112.2
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.03025	27.46	0.08679
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.008067	7.325	0.02315
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.003781	3.433	0.01085
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.0363	32.96	0.1042
-	PIPING (OVER 4")	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.02643	24	0.07583
-	PIPING (OVER 4")	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.005276	4.791	0.01514
-	PIPING (OVER 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	0.4946	449.1	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.005873	5.332	0.01685
-	PIPING (OVER 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	0.2774	251.9	50.38
-	PIPING (OVER 4")	UNH	ABOVE	A	0	mg/kg	D	NORS	0.05496	49.9	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	2.497	2267	453.4
-	PIPING (OVER 4")	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.0006595	0.5988	0.001892
-	PIPING INSULATION	OTHER	ABOVE	A	5.9	mg/kg	D		0.07229	65.64	0.0003873
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.0000374	0.03396	0.0001073
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	0.00315	2.86	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	3160	mg/kg	D	MXCR	0.0001683	0.1528	0.0004829
-	PROCESS EQUIPMENT	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.00008172	0.07414	0.0002343
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	0.004	3.632	0.7264
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A	200000	mg/kg	D	NORS	0.036	32.69	6.538
-	PROCESS EQUIPMENT	DUST	ABOVE	A	3160	mg/kg	D	MXCR	0.00001021	0.009268	0.00002929
-	PROCESS EQUIPMENT	UNH	ABOVE	A	0	mg/kg	D	NORS	0.00035	0.3178	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	3160	mg/kg	D		0.6723	610.5	1.929
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		mg/kg	D	NORS	45.56	41370	0
-	TRANSITE ROOF	XITE-NRA	ABOVE	A	246	mg/kg	D		6.15	5584	1.374

001303

Attachment B. II (Continued)

Component: 39A **Parameter: Chromium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
- WINDOWS		PAINT	ABOVE	A	3160	mg/kg	D		0.00934	8.48	0.0268
- WINDOWS		OTHER	ABOVE	A	0	mg/kg	D	NORS	3.6	3269	0

Attachment B. II (Continued)

Component: 39A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	4.2	pCi/g	D		1.125	102.2	6.092E-07
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.12	pCi/g	B		5.544	5034	8.577E-07
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.12	pCi/g	B		5.544	5034	8.577E-07
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.12	pCi/g	B		33.26	30200	0.000005146
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.12	pCi/g	B	MXCR	44.35	40270	0.000006862
2	CONCRETE SLABS	OTHER	AT GRAD	A	0.12	pCi/g	D		2.936	2666	4.543E-07
4	CONCRETE SLABS	OTHER	AT GRAD	A	0.66	pCi/g	D		1.152	1046	9.801E-07
3	CONCRETE SLABS	OTHER	AT GRAD	A	0.052	pCi/g	D		1.468	1333	9.843E-08
1	CONCRETE SLABS	OTHER	AT GRAD	A	0.047	pCi/g	D		0.5316	482.7	3.221E-08
1	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D		0.5316	482.7	8.225E-08
4	CONCRETE SLABS	OTHER	AT GRAD	B	0.66	pCi/g	D	MXCR	1.152	1046	9.801E-07
3	CONCRETE SLABS	OTHER	AT GRAD	B	0.078	pCi/g	D		1.468	1333	1.477E-07
2	CONCRETE SLABS	OTHER	AT GRAD	B	0.12	pCi/g	D	MXCR	2.936	2666	4.543E-07
1	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D		3.189	2896	4.935E-07
2	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	17.62	16000	0.000002726
4	CONCRETE SLABS	OTHER	AT GRAD	C	0.12	pCi/g	D	MXNO	6.91	6275	0.000001069
3	CONCRETE SLABS	OTHER	AT GRAD	C	0.037	pCi/g	D		8.809	7998	4.202E-07
1	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	4.253	3861	0.000000658
2	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	23.49	21330	0.000003634
4	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	9.214	8366	0.000001426
3	CONCRETE SLABS	OTHER	AT GRAD	D	0.12	pCi/g	B	MXCR	11.75	10660	0.000001817
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.01138	10.33	1.261E-08
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	1.227	1114	0
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	0.35	317.8	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.001116	1.013	1.237E-09
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	0.3333	302.7	0
-	DOORS	PAINT	ABOVE	A	0.86	pCi/g	D		0.01558	14.15	1.728E-08
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.000561	0.5094	6.22E-10
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.126	114.4	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.014	12.71	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.00006233	0.0566	6.911E-11
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	0.45	408.6	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	0.86	pCi/g	D		0.02805	25.47	3.11E-08
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	0.86	pCi/g	D		0.0003896	0.3537	4.319E-10
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	0.5	454	0
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	4.2	pCi/g	D		17.43	15820	0.00009436
-	FIRE BRICK	OTHER	ABOVE	A	4.2	pCi/g	D		6.067	5509	0.00003285
-	HVAC EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.00006872	0.0624	7.619E-11
-	HVAC EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.0006185	0.5616	6.857E-10
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.018	16.34	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.002	1.816	0
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	4.2	pCi/g	D		3.45	3133	0.00001868
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.003	2.724	0

Attachment B. II (Continued)

Component: 39A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.027	24.52	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.0000208	0.01889	2.306E-11
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	0.86	pCi/g	D		0.0001872	0.17	2.076E-10
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	0.86	pCi/g	D		0.02119	19.24	2.35E-08
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	2	1816	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.09408	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.4939	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.007707	6.998	8.544E-09
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.001713	1.555	1.899E-09
-	PIPING (2" AND LESS)	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.006782	6.158	7.519E-09
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.01603	14.55	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.0008477	0.7697	9.398E-10
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	0.2064	187.4	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.1442	131	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	1.858	1687	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.008067	7.325	8.943E-09
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.003781	3.433	4.192E-09
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.6794	616.9	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.07549	68.55	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.0363	32.96	4.024E-08
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	0.6179	561.1	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.03025	27.46	3.353E-08
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	5.561	5049	0
-	PIPING (OVER 4")	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.005276	4.791	5.85E-09
-	PIPING (OVER 4")	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.02643	24	2.93E-08
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	2.497	2267	0
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.05496	49.9	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	0.2774	251.9	0
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.4946	449.1	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.005873	5.332	6.511E-09
-	PIPING (OVER 4")	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.0006595	0.5988	7.312E-10
-	PIPING INSULATION	OTHER	ABOVE	A	4.2	pCi/g	D		0.07229	65.64	3.915E-07
-	PROCESS EQUIPMENT	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.00001021	0.009268	1.132E-11
-	PROCESS EQUIPMENT	DUST	ABOVE	A	0.86	pCi/g	D	MXCR	0.00008172	0.07414	9.053E-11
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	0.004	3.632	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	0.036	32.69	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.0000374	0.03396	4.146E-11
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	0.00315	2.86	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	0.00035	0.3178	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	0.86	pCi/g	D	MXCR	0.0001683	0.1528	1.866E-10
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	0.86	pCi/g	D		0.6723	610.5	7.454E-07
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	45.56	41370	0
-	TRANSITE ROOF	OTHER	ABOVE	A	4.2	pCi/g	D		6.15	5584	0.0000333

Attachment B. II (Continued)

Component: 39A **Parameter: Neptunium-237**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
- WINDOWS		PAINT	ABOVE	A	0.86	pCi/g	D		0.00934	8.48	1.035E-08
- WINDOWS		OTHER	ABOVE	A		pCi/g	D	NORS	3.6	3269	0

061302

Attachment B. II (Continued)

Component: 39A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A		ug/kg	D	MXCT	1.125	102.2	0
-	CONCRETE FOUNDATION	OTHER	BELOW	A		ug/kg	B	MXCT	5.544	5034	0
-	CONCRETE FOUNDATION	OTHER	BELOW	B		ug/kg	B	MXCT	5.544	5034	0
-	CONCRETE FOUNDATION	OTHER	BELOW	C		ug/kg	B	MXNO	33.26	30200	0
-	CONCRETE FOUNDATION	OTHER	BELOW	D		ug/kg	B	MXCT	44.35	40270	0
1	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	0.5316	482.7	0
3	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.468	1333	0
4	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	1.152	1046	0
2	CONCRETE SLABS	OTHER	AT GRAD	A		ug/kg	D	MXCT	2.936	2666	0
3	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	1.468	1333	0
4	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	1.152	1046	0
2	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	2.936	2666	0
1	CONCRETE SLABS	OTHER	AT GRAD	B		ug/kg	D	MXCT	0.5316	482.7	0
3	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	8.809	7998	0
1	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	3.189	2896	0
2	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	17.62	16000	0
4	CONCRETE SLABS	OTHER	AT GRAD	C		ug/kg	D	MXNO	6.91	6275	0
4	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	9.214	8366	0
1	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	4.253	3861	0
3	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	11.75	10660	0
2	CONCRETE SLABS	OTHER	AT GRAD	D		ug/kg	B	MXCT	23.49	21330	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.01138	10.33	0
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/kg	D	NORS	1.227	1114	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.001116	1.013	0
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/kg	D	NORS	0.35	317.8	0
-	DOORS	METAL	ABOVE	A		ug/kg	D	NORS	0.3333	302.7	0
-	DOORS	PAINT	ABOVE	A		ug/kg	D	NORS	0.01558	14.15	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.126	114.4	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.00006233	0.0566	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.014	12.71	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.000561	0.5094	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/kg	D	NORS	0.45	408.6	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A		ug/kg	D	NORS	0.02805	25.47	0
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/kg	D	NORS	0.5	454	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A		ug/kg	D	NORS	0.0003896	0.3537	0
-	EXTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		mg/kg	D		17.43	15820	0
-	FIRE BRICK	OTHER	ABOVE	A		ug/kg	D	MXCT	6.067	5509	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.018	16.34	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.002	1.816	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.00006872	0.0624	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.0006185	0.5616	0
-	INTERIOR TRANSITE PANELS	XITE-NRA	ABOVE	A		mg/kg	D		3.45	3133	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.003	2.724	0

Attachment B. II (Continued)

Component: 39A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.0000208	0.01889	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/kg	D	NORS	0.027	24.52	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A		ug/kg	D	NORS	0.0001872	0.17	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A		ug/kg	D	NORS	0.02119	19.24	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/kg	D	NORS	2	1816	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	0.09408	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/kg	D	NORS	0.4939	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.007707	6.998	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.0008477	0.7697	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A		ug/kg	D	NORS	0.001713	1.555	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	1.858	1687	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/kg	D	NORS	0.2064	187.4	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	0.01603	14.55	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A		ug/kg	D	NORS	0.006782	6.158	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		ug/kg	D	NORS	0.1442	131	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.0363	32.96	0
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.008067	7.325	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	0.6794	616.9	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.003781	3.433	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		ug/kg	D	NORS	0.07549	68.55	0
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.03025	27.46	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	5.561	5049	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	0.6179	561.1	0
-	PIPING (OVER 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.005873	5.332	0
-	PIPING (OVER 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.0006595	0.5988	0
-	PIPING (OVER 4")	CRUD	ABOVE	A		ug/kg	D	NORS	0.02643	24	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	0.2774	251.9	0
-	PIPING (OVER 4")	DUST	ABOVE	A		ug/kg	D	NORS	0.005276	4.791	0
-	PIPING (OVER 4")	UNH	ABOVE	A		ug/kg	D	NORS	0.4946	449.1	0
-	PIPING (OVER 4")	UNH	ABOVE	A		ug/kg	D	NORS	0.05496	49.9	0
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/kg	D	NORS	2.497	2267	0
-	PIPING INSULATION	OTHER	ABOVE	A		ug/kg	D	MXCT	0.07229	65.64	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	0.0001683	0.1528	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	0.00001021	0.009268	0
-	PROCESS EQUIPMENT	DUST	ABOVE	A		ug/kg	D	NORS	0.00008172	0.07414	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A		ug/kg	D	NORS	0.0000374	0.03396	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	0.036	32.69	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	0.00035	0.3178	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		ug/kg	D	NORS	0.00315	2.86	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/kg	D	NORS	0.004	3.632	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A		ug/kg	D	NORS	0.6723	610.5	0
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/kg	D	NORS	45.56	41370	0
-	TRANSITE ROOF	XITE-NRA	ABOVE	A		mg/kg	D		6.15	5584	0

001300

Attachment B. II (Continued)

Component: 39A **Parameter: Nitrobenzene**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
- WINDOWS		PAINT	ABOVE	A		ug/kg	D	NORS	0.00934	8.48	0
- WINDOWS		OTHER	ABOVE	A		ug/kg	D	NORS	3.6	3269	0

Attachment B. II (Continued)

Component: 39A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	4.5	pCi/g	D		1.125	102.2	2.699E-08
-	CONCRETE FOUNDATION	OTHER	BELOW	A	0.33	pCi/g	B		5.544	5034	9.75E-08
-	CONCRETE FOUNDATION	OTHER	BELOW	B	0.33	pCi/g	B		5.544	5034	9.75E-08
-	CONCRETE FOUNDATION	OTHER	BELOW	C	0.33	pCi/g	B		33.26	30200	0.000000585
-	CONCRETE FOUNDATION	OTHER	BELOW	D	0.33	pCi/g	B	MXCR	44.35	40270	0.00000078
3	CONCRETE SLABS	OTHER	AT GRAD	A	26	pCi/g	D		1.468	1333	0.000002034
1	CONCRETE SLABS	OTHER	AT GRAD	A	1	pCi/g	D		0.5316	482.7	2.833E-08
2	CONCRETE SLABS	OTHER	AT GRAD	A	8.2	pCi/g	D		2.936	2666	0.000001283
4	CONCRETE SLABS	OTHER	AT GRAD	A	30	pCi/g	D		1.152	1046	0.000001842
1	CONCRETE SLABS	OTHER	AT GRAD	B	0.85	pCi/g	D		0.5316	482.7	2.408E-08
2	CONCRETE SLABS	OTHER	AT GRAD	B	8.2	pCi/g	D	MXCR	2.936	2666	0.000001283
3	CONCRETE SLABS	OTHER	AT GRAD	B	3.6	pCi/g	D		1.468	1333	2.817E-07
4	CONCRETE SLABS	OTHER	AT GRAD	B	30	pCi/g	D	MXCR	1.152	1046	0.000001842
1	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D		3.189	2896	5.609E-08
4	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	6.91	6275	1.215E-07
3	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D		8.809	7998	1.549E-07
2	CONCRETE SLABS	OTHER	AT GRAD	C	0.33	pCi/g	D	MXNO	17.62	16000	3.099E-07
1	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	4.253	3861	7.479E-08
4	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	9.214	8366	1.621E-07
2	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	23.49	21330	4.131E-07
3	CONCRETE SLABS	OTHER	AT GRAD	D	0.33	pCi/g	B	MXCR	11.75	10660	2.066E-07
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		pCi/g	D	NORS	1.227	1114	0
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.01138	10.33	1.092E-08
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.001116	1.013	1.071E-09
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		pCi/g	D	NORS	0.35	317.8	0
-	DOORS	METAL	ABOVE	A		pCi/g	D	NORS	0.3333	302.7	0
-	DOORS	PAINT	ABOVE	A	18	pCi/g	D		0.01558	14.15	1.496E-08
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.000561	0.5094	5.384E-10
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.014	12.71	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.126	114.4	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.00006233	0.0566	5.982E-11
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	18	pCi/g	D		0.02805	25.47	2.692E-08
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		pCi/g	D	NORS	0.45	408.6	0
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		pCi/g	D	NORS	0.5	454	0
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	18	pCi/g	D		0.0003896	0.3537	3.739E-10
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	4.5	pCi/g	D		17.43	15820	0.00000418
-	FIRE BRICK	OTHER	ABOVE	A	4.5	pCi/g	D		6.067	5509	0.000001455
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.002	1.816	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.00006872	0.0624	6.596E-11
-	HVAC EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.018	16.34	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.0006185	0.5616	5.936E-10
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	4.5	pCi/g	D		3.45	3133	8.276E-07
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.027	24.52	0

061541

Attachment B. II (Continued)

Component: 39A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.0000208	0.01889	1.997E-11
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		pCi/g	D	NORS	0.003	2.724	0
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	18	pCi/g	D		0.0001872	0.17	1.797E-10
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		pCi/g	D	NORS	2	1816	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	18	pCi/g	D		0.02119	19.24	2.034E-08
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.09408	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		pCi/g	D	NORS	0.4939	0	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.001713	1.555	1.644E-09
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	0.2064	187.4	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.1442	131	0
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.007707	6.998	7.397E-09
-	PIPING (2" AND LESS)	UNH	ABOVE	A		pCi/g	D	NORS	0.01603	14.55	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		pCi/g	D	NORS	1.858	1687	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.006782	6.158	6.509E-09
-	PIPING (2" AND LESS)	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.0008477	0.7697	8.136E-10
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.003781	3.433	3.629E-09
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.03025	27.46	2.903E-08
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.008067	7.325	7.742E-09
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.0363	32.96	3.484E-08
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	5.561	5049	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	0.6179	561.1	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.6794	616.9	0
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.07549	68.55	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.005873	5.332	5.636E-09
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	2.497	2267	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.02643	24	2.536E-08
-	PIPING (OVER 4")	SS METAL	ABOVE	A		pCi/g	D	NORS	0.2774	251.9	0
-	PIPING (OVER 4")	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.0006595	0.5988	6.33E-10
-	PIPING (OVER 4")	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.005276	4.791	5.064E-09
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.05496	49.9	0
-	PIPING (OVER 4")	UNH	ABOVE	A		pCi/g	D	NORS	0.4946	449.1	0
-	PIPING INSULATION	OTHER	ABOVE	A	4.5	pCi/g	D		0.07229	65.64	1.734E-08
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	0.004	3.632	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.0000374	0.03396	3.589E-11
-	PROCESS EQUIPMENT	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.00001021	0.009268	9.796E-12
-	PROCESS EQUIPMENT	DUST	ABOVE	A	18	pCi/g	D	MXCR	0.00008172	0.07414	7.837E-11
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		pCi/g	D	NORS	0.036	32.69	0
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	18	pCi/g	D	MXCR	0.0001683	0.1528	1.615E-10
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	0.00315	2.86	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A		pCi/g	D	NORS	0.00035	0.3178	0
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	18	pCi/g	D		0.6723	610.5	6.453E-07
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		pCi/g	D	NORS	45.56	41370	0
-	TRANSITE ROOF	OTHER	ABOVE	A	4.5	pCi/g	D		6.15	5584	0.000001475

001513

Attachment B. II (Continued)

Component: 39A **Parameter: Technetium-99**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
- WINDOWS		OTHER	ABOVE	A		pCi/g	D	NORS	3.6	3269	0
- WINDOWS		PAINT	ABOVE	A	18	pCi/g	D		0.00934	8.48	8.964E-09

Attachment B. II (Continued)

Component: 39A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	BUILDING INSULATION	OTHER	ABOVE	A	190	ug/g	D		1.125	102.2	0.01941
-	CONCRETE FOUNDATION	OTHER	BELOW	A	6.83	ug/g	B		5.544	5034	0.03438
-	CONCRETE FOUNDATION	OTHER	BELOW	B	6.83	ug/g	B		5.544	5034	0.03438
-	CONCRETE FOUNDATION	OTHER	BELOW	C	6.83	ug/g	B		33.26	30200	0.2063
-	CONCRETE FOUNDATION	OTHER	BELOW	D	6.83	ug/g	B	MXCR	44.35	40270	0.275
4	CONCRETE SLABS	OTHER	AT GRAD	A	720	ug/g	D		1.152	1046	0.7529
1	CONCRETE SLABS	OTHER	AT GRAD	A	88	ug/g	D		0.5316	482.7	0.04247
3	CONCRETE SLABS	OTHER	AT GRAD	A	390	ug/g	D		1.468	1333	0.5199
2	CONCRETE SLABS	OTHER	AT GRAD	A	390	ug/g	D		2.936	2666	1.04
1	CONCRETE SLABS	OTHER	AT GRAD	B	18	ug/g	D		0.5316	482.7	0.008688
3	CONCRETE SLABS	OTHER	AT GRAD	B	87	ug/g	D		1.468	1333	0.116
4	CONCRETE SLABS	OTHER	AT GRAD	B	720	ug/g	D	MXCR	1.152	1046	0.7529
2	CONCRETE SLABS	OTHER	AT GRAD	B	390	ug/g	D	MXCR	2.936	2666	1.04
1	CONCRETE SLABS	OTHER	AT GRAD	C	5.3	ug/g	D		3.189	2896	0.01535
4	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	6.91	6275	0.04286
2	CONCRETE SLABS	OTHER	AT GRAD	C	6.83	ug/g	D	MXNO	17.62	16000	0.1093
3	CONCRETE SLABS	OTHER	AT GRAD	C	13	ug/g	D		8.809	7998	0.104
3	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	11.75	10660	0.07284
2	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	23.49	21330	0.1457
4	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	9.214	8366	0.05714
1	CONCRETE SLABS	OTHER	AT GRAD	D	6.83	ug/g	B	MXCR	4.253	3861	0.02637
-	CONDUIT/WIRE (2" AND LESS)	DUST	ABOVE	A	640	ug/g	D	MXCR	0.01138	10.33	0.006611
-	CONDUIT/WIRE (2" AND LESS)	METAL	ABOVE	A		ug/g	D	NORS	1.227	1114	0
-	CONDUIT/WIRE (2-1/2" TO 4")	DUST	ABOVE	A	640	ug/g	D	MXCR	0.001116	1.013	0.0006483
-	CONDUIT/WIRE (2-1/2" TO 4")	METAL	ABOVE	A		ug/g	D	NORS	0.35	317.8	0
-	DOORS	PAINT	ABOVE	A	640	ug/g	D		0.01558	14.15	0.009056
-	DOORS	METAL	ABOVE	A		ug/g	D	NORS	0.3333	302.7	0
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.014	12.71	0
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.000561	0.5094	0.000326
-	ELECTRICAL EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.00006233	0.0566	0.00003622
-	ELECTRICAL EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.126	114.4	0
-	ELECTRICAL FIXTURES	METAL	ABOVE	A		ug/g	D	NORS	0.45	408.6	0
-	ELECTRICAL FIXTURES	PAINT	ABOVE	A	640	ug/g	D		0.02805	25.47	0.0163
-	ELECTRICAL TRANSFORMERS	PAINT	ABOVE	A	640	ug/g	D		0.0003896	0.3537	0.0002264
-	ELECTRICAL TRANSFORMERS	METAL	ABOVE	A		ug/g	D	NORS	0.5	454	0
-	EXTERIOR TRANSITE PANELS	OTHER	ABOVE	A	190	ug/g	D		17.43	15820	3.006
-	FIRE BRICK	OTHER	ABOVE	A	190	ug/g	D		6.067	5509	1.047
-	HVAC EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.00006872	0.0624	0.00003994
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.018	16.34	0
-	HVAC EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.002	1.816	0
-	HVAC EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.0006185	0.5616	0.0003594
-	INTERIOR TRANSITE PANELS	OTHER	ABOVE	A	190	ug/g	D		3.45	3133	0.5952
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.0001872	0.17	0.0001088

OC1614

Attachment B. II (Continued)

Component: 39A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
-	MATERIAL HANDLING EQUIPMENT	PAINT	ABOVE	A	640	ug/g	D		0.0000208	0.01889	0.00001209
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.003	2.724	0
-	MATERIAL HANDLING EQUIPMENT	METAL	ABOVE	A		ug/g	D	NORS	0.027	24.52	0
-	MISCELLANEOUS ELECTRICAL ITEMS	METAL	ABOVE	A		ug/g	D	NORS	2	1816	0
-	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	ABOVE	A	640	ug/g	D		0.02119	19.24	0.01232
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	0.4939	0	0
-	PERSONAL PROTECTIVE EQUIPMENT	OTHER	ABOVE	A		ug/g	D	NORS	0.09408	0	0
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	1.858	1687	0
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	0.1442	131	56.32
-	PIPING (2" AND LESS)	SS METAL	ABOVE	A		ug/g	D	NORS	0.2064	187.4	0
-	PIPING (2" AND LESS)	DUST	ABOVE	A	640	ug/g	D	MXCR	0.006782	6.158	0.003941
-	PIPING (2" AND LESS)	DUST	ABOVE	A	640	ug/g	D	MXCR	0.0008477	0.7697	0.0004926
-	PIPING (2" AND LESS)	UNH	ABOVE	A	430000	ug/g	D	NORS	0.01603	14.55	6.258
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.007707	6.998	0.004479
-	PIPING (2" AND LESS)	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.001713	1.555	0.0009953
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	0.07549	68.55	29.47
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.0363	32.96	0.02109
-	PIPING (2-1/2" TO 4")	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.008067	7.325	0.004688
-	PIPING (2-1/2" TO 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	0.6794	616.9	265.3
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	640	ug/g	D	MXCR	0.03025	27.46	0.01758
-	PIPING (2-1/2" TO 4")	DUST	ABOVE	A	640	ug/g	D	MXCR	0.003781	3.433	0.002197
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	5.561	5049	0
-	PIPING (2-1/2" TO 4")	SS METAL	ABOVE	A		ug/g	D	NORS	0.6179	561.1	0
-	PIPING (OVER 4")	DUST	ABOVE	A	640	ug/g	D	MXCR	0.0006595	0.5988	0.0003833
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/g	D	NORS	2.497	2267	0
-	PIPING (OVER 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	0.4946	449.1	193.1
-	PIPING (OVER 4")	SS METAL	ABOVE	A		ug/g	D	NORS	0.2774	251.9	0
-	PIPING (OVER 4")	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.005873	5.332	0.003413
-	PIPING (OVER 4")	DUST	ABOVE	A	640	ug/g	D	MXCR	0.005276	4.791	0.003066
-	PIPING (OVER 4")	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.02643	24	0.01536
-	PIPING (OVER 4")	UNH	ABOVE	A	430000	ug/g	D	NORS	0.05496	49.9	21.46
-	PIPING INSULATION	OTHER	ABOVE	A	190	ug/g	D		0.07229	65.64	0.01247
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.0000374	0.03396	0.00002173
-	PROCESS EQUIPMENT	CRUD	ABOVE	A	640	ug/g	D	MXCR	0.0001683	0.1528	0.0000978
-	PROCESS EQUIPMENT	DUST	ABOVE	A	640	ug/g	D	MXCR	0.00008172	0.07414	0.00004745
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	0.00035	0.3178	0.1367
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	0.004	3.632	0
-	PROCESS EQUIPMENT	SS METAL	ABOVE	A		ug/g	D	NORS	0.036	32.69	0
-	PROCESS EQUIPMENT	UNH	ABOVE	A	430000	ug/g	D	NORS	0.00315	2.86	1.23
-	PROCESS EQUIPMENT	DUST	ABOVE	A	640	ug/g	D	MXCR	0.00001021	0.009268	0.000005932
-	STRUCTURAL AND MISC. STEEL	PAINT	ABOVE	A	640	ug/g	D		0.6723	610.5	0.3907
-	STRUCTURAL AND MISC. STEEL	METAL	ABOVE	A		ug/g	D	NORS	45.56	41370	0
-	TRANSITE ROOF	OTHER	ABOVE	A	190	ug/g	D		6.15	5584	1.061

Attachment B. II (Continued)

Component: 39A **Parameter: Total Uranium**

Process Area	Material Description	CW Type	Grade Level	Depth	Result	Units	Type Result Applied	Location Result Applied	Weight (Tons)	Calculated Contaminated Weight (kg)	Source Term (kg)
- WINDOWS		PAINT	ABOVE	A	640	ug/g	D		0.00934	8.48	0.005427
- WINDOWS		OTHER	ABOVE	A		ug/g	D	NORS	3.6	3269	0

001016

B.III

ATTACHMENT B.III

SEGREGATION OF MATERIALS BY COMPONENT

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ATTACHMENT B.III

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B.III Segregation of Materials by Component B.III-1

LIST OF TABLES

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B.III	Segregation of Materials by Component

001320

B.III SEGREGATION OF MATERIALS BY COMPONENT

This attachment provides weights and volumes as categorized by segregation criteria for each component.

The criteria are as follows:

- Hazardous — Any result greater than or equal to 20 times TLCP for any RCRA constituent
- Low Level — Any result greater than a baseline value for any radiological constituent
- Mixed — Any material with a result greater than or equal to 20 times TCLP and any single result above baseline for a radiological constituent
- Below Baseline — Any radiological constituent at or below baseline.
- TSCA Waste (PCB Waste)

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001822

Attachment B. III
Component Weights and Volumes by Segregation Category

Component ID 01B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	30	0
			0	0	0	120	0
		PAINT	0	0	0	0.45	0
			0	0	0	4.81	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00795	0
			0	0	0	0.085	0
		METAL	0	0	0	0.742	0
			0	0	0	29.9	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00931	0
			0	0	0	0.199	0
		METAL	0	0	0	0.995	0
			0	0	0	5.78	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00305	0
			0	0	0	0.0652	0
		METAL	0	0	0	0.953	0
			0	0	0	8.73	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.141	0
			0	0	0	23.9	0
		PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
D	METAL PANEL ROOF	PAINT	0	0	0	1.05	0
			0	0	0	11.2	0
		METAL	0	0	0	6.37	0
			0	0	0	18.8	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.449	0
			0	0	0	1.32	0
		PAINT	0	0	0	0.074	0
			0	0	0	0.792	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	501
			0	0	0	0	6680
	CONCRETE SLABS	OTHER	0	0	0	0	482
			0	0	0	0	6420
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0608	0
			0	0	0	40.2	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.87
			0	0	0	0	125
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.319	0
			0	0	0	211	0
	Totals by Segregation Category:		**0**	**0**	**0**	**41.6**	**985**
			0	**0**	**0**	**477**	**13200**

Component ID 02B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.408	0
			0	0	0	4.36	0
		METAL	0	0	0	27.2	0
			0	0	0	108	0
B	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.804	0
			0	0	0	88.1	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00385	0
			0	0	0	0.0412	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00795	0
			0	0	0	0.085	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00612	0
			0	0	0	0.0654	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00412	0
			0	0	0	0.0441	0
		METAL	0	0	0	0.626	0
			0	0	0	36	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000424	0
			0	0	0	0.00907	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.742	0
			0	0	0	29.9	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.929	0
			0	0	0	8.24	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000881	0
			0	0	0	0.00943	0
		DUST	0	0	0	0.0000918	0
			0	0	0	0.00196	0
		SS METAL	0	0	0	0.135	0
			0	0	0	1.89	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.276	0
			0	0	0	2.95	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0109	0
			0	0	0	0.117	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	38.4	0
			0	0	0	5900	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00406	0
			0	0	0	0.0868	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0168	0
			0	0	0	0.358	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0155	0
			0	0	0	0.332	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0454	0
			0	0	0	0.486	0
		METAL	0	0	0	2.83	0
			0	0	0	291	0
	DOORS	PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
		METAL	0	0	0	0.445	0
			0	0	0	23.1	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	2.71	0
			0	0	0	32.5	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	1.27	0
			0	0	0	11.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.66	0
			0	0	0	9.62	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.164	0
			0	0	0	27.9	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00816	0
			0	0	0	0.174	0

001324

Attachment B. III (Continued)

Component ID 02B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	DUST	0	0	0	0.000424	0
			0	0	0	0.00907	0
		SS METAL	0	0	0	0.103	0
			0	0	0	0.916	0
		UNH	0	0	0	0.00801	0
			0	0	0	0.0916	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000918	0
			0	0	0	0.00196	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.574	0
			0	0	0	6.56	0
		SS METAL	0	0	0	4.27	0
			0	0	0	656	0
		DUST	0	0	0	0.0168	0
			0	0	0	0.358	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00183	0
			0	0	0	0.0209	0
		CRUD	0	0	0	0.000196	0
			0	0	0	0.00209	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000856	0
			0	0	0	0.00916	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0613	0
			0	0	0	0.656	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0893	0
			0	0	0	9.79	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000458	0
			0	0	0	0.0049	0
		METAL	0	0	0	0.0695	0
			0	0	0	4	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00505	0
			0	0	0	0.054	0
		METAL	0	0	0	0.315	0
			0	0	0	32.4	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.015	0
			0	0	0	0.209	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00068	0
			0	0	0	0.00727	0
D	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.133	0
			0	0	0	1.42	0
	LEAD FLASHING	LEAD	0	0	0.1	0	0
			0	0	0.282	0	0
	METAL PANEL ROOF	METAL	0	0	0	0.212	0
			0	0	0	0.627	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	0.802	0
			0	0	0	2.37	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.133	0
			0	0	0	1.42	0
		METAL	0	0	0	0.802	0
			0	0	0	2.37	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0351	0
			0	0	0	0.375	0
E	CONCRETE SLABS	OTHER	0	0	0	0	35.5
			0	0	0	0	474
	CONCRETE	OTHER	0	0	0	0	8.9
			0	0	0	0	119
	CONCRETE SLABS	OTHER	0	0	0	5.07	0
			0	0	0	67.6	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	89.9
			0	0	0	0	1200

Component ID 02B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
F	ACID BRICK	OTHER	0	0	0	16.4	0
			0	0	0	235	0
G	INTERIOR TRANSITE PANELS	OTHER	0	0	0	3.45	0
			0	0	0	62.5	0
	FLOOR TILE	OTHER	0	0	0.418	0	0
			0	0	8.71	0	0
	TRANSITE ROOF	OTHER	0	0	0	1.54	0
			0	0	0	27.3	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	4.61	0
			0	0	0	82	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.11	0
			0	0	0	72.8	0
	PIPING INSULATION	OTHER	0	0	0.00904	0	0
			0	0	4.02	0	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	2.25
			0	0	0	0	150
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.578	0
			0	0	0	382	0
	BUILDING INSULATION	OTHER	0	0	1.76	0	0
			0	0	783	0	0
J	PIPING (2" AND LESS)	DUST	0	0	0.00339	0	0
			0	0	0.0725	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.000881	0	0
			0	0	0.00943	0	0
		DUST	0	0	0.000734	0	0
			0	0	0.0157	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.276	0	0
			0	0	2.95	0	0
		UNH	0	0	0	5.16	0
			0	0	0	59	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0165	0
			0	0	0	0.189	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0721	0
			0	0	0	0.824	0
	PROCESS EQUIPMENT	DUST	0	0	0.134	0	0
			0	0	2.86	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00385	0	0
			0	0	0.0412	0	0
	Totals by Segregation Category:		**0**	**0**	**2.71**	**123**	**137**
			0	**0**	**802**	**8290**	**1940**

001326

Attachment B. III (Continued)

Component ID 04B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	42.4	0
			0	0	0	169	0
		PAINT	0	0	0	0.599	0
			0	0	0	6.41	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.469	0
			0	0	0	79.7	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	3.46	0
			0	0	0	140	0
		PAINT	0	0	0	0.0371	0
			0	0	0	0.397	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.0443	0
			0	0	0	0.391	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	10.7	0
			0	0	0	150	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.133	0
			0	0	0	1.42	0
	PIPING (OVER 4")	METAL	0	0	0	0.183	0
			0	0	0	4.17	0
		PAINT	0	0	0	0.00176	0
			0	0	0	0.0188	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0798	0
			0	0	0	2	0
		PAINT	0	0	0	0.000204	0
			0	0	0	0.00218	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.000739	0
			0	0	0	0.00791	0
	DOORS	PAINT	0	0	0	0.0449	0
			0	0	0	0.48	0
		METAL	0	0	0	0.915	0
			0	0	0	47.5	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.68	0
			0	0	0	9.78	0
		DUST	0	0	0	0.0158	0
			0	0	0	0.337	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0697	0
			0	0	0	2	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.873	0
			0	0	0	9.33	0
		METAL	0	0	0	5.29	0
			0	0	0	15.6	0
	LOUVERS	PAINT	0	0	0	0.0224	0
			0	0	0	0.24	0
		METAL	0	0	0	0.458	0
			0	0	0	23.8	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	3.54	0
			0	0	0	10.5	0
		PAINT	0	0	0	0.584	0
			0	0	0	6.25	0
E	CONCRETE SLABS	OTHER	0	0	0	0	909
			0	0	0	0	12100

Component ID 04B

Material Category	Material Description	CW Type	Segregation Category: PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	243
			0	0	0	0	3240
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0861	0
			0	0	0	56.9	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0723
			0	0	0	0	32.1
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.87
			0	0	0	0	125
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.452	0
			0	0	0	299	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**72.2**	**1150**
			20	**0**	**0**	**1040**	**15500**

001623

Component ID 05B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.212	0
			0	0	0	2.27	0
		METAL	0	0	0	14.2	0
			0	0	0	56.5	0
B	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0383	0
			0	0	0	0.41	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	20.1	0
			0	0	0	1610	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00177	0
			0	0	0	0.0378	0
		SS METAL	0	0	0	3.87	0
			0	0	0	34.4	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00396	0
			0	0	0	0.0424	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	3.11	0
			0	0	0	552	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.607	0
			0	0	0	8.47	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00529	0
			0	0	0	0.0566	0
		DUST	0	0	0	0.000132	0
			0	0	0	0.00282	0
		SS METAL	0	0	0	0.5	0
			0	0	0	11.3	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0752	0
			0	0	0	0.804	0
		DUST	0	0	0	0.00456	0
			0	0	0	0.0975	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000412	0
			0	0	0	0.00882	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.342	0
			0	0	0	1.98	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0161	0
			0	0	0	0.172	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00557	0
			0	0	0	0.0595	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0032	0
			0	0	0	0.0684	0
	DOORS	METAL	0	0	0	0.985	0
			0	0	0	51.1	0
		PAINT	0	0	0	0.0483	0
			0	0	0	0.517	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.82	0
			0	0	0	228	0
		PAINT	0	0	0	0.0356	0
			0	0	0	0.381	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.187	0
			0	0	0	31.9	0
		PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
	HVAC EQUIPMENT	METAL	0	0	0	0.264	0
			0	0	0	48.5	0
C	PIPING (2" AND LESS)	UNH	0	0	0	0.0334	0
			0	0	0	0.382	0

Component ID 05B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (OVER 4")	UNH	0	0	0	0.011	0
			0	0	0	0.126	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.156	0
			0	0	0	1.79	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000412	0
			0	0	0	0.00882	0
		SS METAL	0	0	0	0.0674	0
			0	0	0	0.941	0
		UNH	0	0	0	0.00823	0
			0	0	0	0.0941	0
		CRUD	0	0	0	0.00088	0
			0	0	0	0.00941	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00118	0
			0	0	0	0.0126	0
		DUST	0	0	0	0.000132	0
			0	0	0	0.00282	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	2.23	0
			0	0	0	179	0
		CRUD	0	0	0	0.0167	0
			0	0	0	0.179	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.0555	0
			0	0	0	1.26	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.431	0
			0	0	0	3.82	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00456	0
			0	0	0	0.0975	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00357	0
			0	0	0	0.0382	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00426	0
			0	0	0	0.0455	0
		METAL	0	0	0	0.346	0
			0	0	0	61.4	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000619	0
			0	0	0	0.00662	0
		METAL	0	0	0	0.0294	0
			0	0	0	5.39	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.536	0
			0	0	0	25.4	0
		PAINT	0	0	0	0.00396	0
			0	0	0	0.0423	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00177	0
			0	0	0	0.0378	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.991	0
			0	0	0	2.93	0
	METAL PANEL ROOF	PAINT	0	0	0	0.144	0
			0	0	0	1.54	0
		METAL	0	0	0	0.873	0
			0	0	0	2.58	0
	LOUVERS	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
		METAL	0	0	0	0.0636	0
			0	0	0	3.3	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.164	0
			0	0	0	1.75	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	15.8
			0	0	0	0	211
	CONCRETE SLABS	OTHER	0	0	0	0	70.3
			0	0	0	0	937

Attachment B. III (Continued)

Component ID 05B — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE WALLS	OTHER	0	0	0	0	94.1
			0	0	0	0	1250
	CONCRETE SLABS	OTHER	0	0	0	7.43	0
			0	0	0	99.1	0
	CONCRETE	OTHER	0	0	0	0	55.6
			0	0	0	0	742
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0688	0
			0	0	0	45.5	0
	PIPING INSULATION	OTHER	0	0	0.0429	0	0
			0	0	19.1	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.361	0
			0	0	0	239	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0.00396	0	0
			0	0	0.0424	0	0
		DUST	0	0	0.0033	0	0
			0	0	0.0706	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0365	0	0
			0	0	0.78	0	0
		CRUD	0	0	0.0752	0	0
			0	0	0.804	0	0
	PIPING (OVER 4")	CRUD	0	0	0.00529	0	0
			0	0	0.0566	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.0161	0	0
			0	0	0.172	0	0
		UNH	0	0	0	0.301	0
			0	0	0	3.44	0
	PROCESS EQUIPMENT	UNH	0	0	0	1.41	0
			0	0	0	16.1	0
	PIPING (2" AND LESS)	DUST	0	0	0.0142	0	0
			0	0	0.303	0	0
	PIPING (OVER 4")	UNH	0	0	0	0.099	0
			0	0	0	1.13	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0741	0
			0	0	0	0.847	0
	PIPING (OVER 4")	DUST	0	0	0.00106	0	0
			0	0	0.0226	0	0
	Totals by Segregation Category:		**0**	**0**	**0.199**	**65.9**	**236**
			0	**0**	**21.4**	**3360**	**3140**

Component ID 05C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.97	0
			0	0	0	7.85	0
		PAINT	0	0	0	0.0295	0
			0	0	0	0.316	0
B	PROCESS EQUIPMENT	DUST	0	0	0	0.00117	0
			0	0	0	0.025	0
		CRUD	0	0	0	0.0193	0
			0	0	0	0.206	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	4.55	0
			0	0	0	63.5	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	5.13	0
			0	0	0	412	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00144	0
			0	0	0	0.0154	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0297	0
			0	0	0	0.318	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	1.58	0
			0	0	0	14	0
		DUST	0	0	0	0.000721	0
			0	0	0	0.0154	0
		CRUD	0	0	0	0.00655	0
			0	0	0	0.0701	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
		METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00986	0
			0	0	0	0.106	0
		METAL	0	0	0	0.8	0
			0	0	0	142	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00309	0
			0	0	0	0.0662	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000779	0
			0	0	0	0.0167	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00912	0
			0	0	0	0.0975	0
		METAL	0	0	0	1.25	0
			0	0	0	58.4	0
	DOORS	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
		METAL	0	0	0	0.636	0
			0	0	0	33	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	1.08	0
			0	0	0	13	0
		DUST	0	0	0	0.00326	0
			0	0	0	0.0698	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0832	0
			0	0	0	0.483	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0886	0
			0	0	0	12.6	0
C	PIPING (2" AND LESS)	DUST	0	0	0	0.000721	0
			0	0	0	0.0154	0
		SS METAL	0	0	0	0.176	0
			0	0	0	1.56	0

Component ID 05C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0066	0
			0	0	0	0.0706	0
		SS METAL	0	0	0	0.506	0
			0	0	0	7.06	0
		UNH	0	0	0	0.0618	0
			0	0	0	0.706	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0401	0
			0	0	0	0.458	0
		SS METAL	0	0	0	0.57	0
			0	0	0	45.8	0
		CRUD	0	0	0	0.00428	0
			0	0	0	0.0458	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00146	0
			0	0	0	0.0156	0
		UNH	0	0	0	0.0136	0
			0	0	0	0.156	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00117	0
			0	0	0	0.025	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0889	0
			0	0	0	15.8	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00016	0
			0	0	0	0.00172	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0011	0
			0	0	0	0.0117	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00984	0
			0	0	0	1.4	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00309	0
			0	0	0	0.0662	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00101	0
			0	0	0	0.0108	0
		METAL	0	0	0	0.139	0
			0	0	0	6.49	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.354	0
			0	0	0	1.05	0
	METAL PANEL ROOF	PAINT	0	0	0	0.039	0
			0	0	0	0.417	0
		METAL	0	0	0	0.236	0
			0	0	0	0.697	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0584	0
			0	0	0	0.625	0
E	CONCRETE SLABS	OTHER	0	0	0	6.75	0
			0	0	0	90	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	15.4
			0	0	0	0	205
	CONCRETE SLABS	OTHER	0	0	0	0	47.2
			0	0	0	0	630
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0401	0
			0	0	0	26.6	0
	PIPING INSULATION	OTHER	0	0	0.0474	0	0
			0	0	21.1	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.211	0
			0	0	0	139	0
	WINDOWS	OTHER	0	0	0	0	0.216
			0	0	0	0	10.8
		PAINT	0	0	0	0.000562	0
			0	0	0	0.00601	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.0248	0	0
			0	0	0.529	0	0

Component ID 05C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PIPING (2" AND LESS)	DUST	0	0	0.00577	0	0
			0	0	0.123	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.0193	0	0
			0	0	0.206	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.0297	0	0
			0	0	0.318	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.361	0
			0	0	0	4.12	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.556	0
			0	0	0	6.35	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.123	0
			0	0	0	1.4	0
		CRUD	0	0	0.00655	0	0
			0	0	0.0701	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.00936	0	0
			0	0	0.2	0	0
	Totals by Segregation Category:		**0**	**0**	**0.143**	**28**	**62.8**
			0	**0**	**22.5**	**1130**	**846**

001334

Attachment B. III (Continued)

Component ID 05D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	5.62	0
			0	0	0	60.1	0
		METAL	0	0	0	375	0
			0	0	0	1490	0
B	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	27.7	0
			0	0	0	4840	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0543	0
			0	0	0	0.581	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0487	0
			0	0	0	0.52	0
		METAL	0	0	0	2.2	0
			0	0	0	424	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	4.7	0
			0	0	0	189	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.336	0
			0	0	0	3.6	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.076	0
			0	0	0	0.813	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.107	0
			0	0	0	1.15	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	18.3	0
			0	0	0	163	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00566	0
			0	0	0	0.121	0
		SS METAL	0	0	0	8.32	0
			0	0	0	116	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0176	0
			0	0	0	0.189	0
		DUST	0	0	0	0.00044	0
			0	0	0	0.00941	0
		SS METAL	0	0	0	1.67	0
			0	0	0	37.7	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.659	0
			0	0	0	7.05	0
		DUST	0	0	0	0.04	0
			0	0	0	0.855	0
		SS METAL	0	0	0	176	0
			0	0	0	14100	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.62	0
			0	0	0	275	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00836	0
			0	0	0	0.179	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.312	0
			0	0	0	3.34	0
		METAL	0	0	0	42.4	0
			0	0	0	2000	0
	DOORS	PAINT	0	0	0	0.0904	0
			0	0	0	0.967	0
		METAL	0	0	0	1.84	0
			0	0	0	95.7	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	11	0
			0	0	0	63.7	0
		DUST	0	0	0	0.103	0
			0	0	0	2.2	0

Component ID 05D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0503	0
			0	0	0	0.538	0
C	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.925	0
			0	0	0	12.9	0
		DUST	0	0	0	0.00566	0
			0	0	0	0.121	0
		CRUD	0	0	0	0.0121	0
			0	0	0	0.129	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.158	0
			0	0	0	1.81	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.113	0
			0	0	0	1.29	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00836	0
			0	0	0	0.179	0
	PIPING (OVER 4")	UNH	0	0	0	0.0367	0
			0	0	0	0.419	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0169	0
			0	0	0	0.181	0
		SS METAL	0	0	0	2.04	0
			0	0	0	18.1	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00392	0
			0	0	0	0.0419	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	3.07	0
			0	0	0	538	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.185	0
			0	0	0	4.19	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00541	0
			0	0	0	0.0578	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.146	0
			0	0	0	1.57	0
		DUST	0	0	0	0.04	0
			0	0	0	0.855	0
		SS METAL	0	0	0	19.5	0
			0	0	0	1570	0
		UNH	0	0	0	1.37	0
			0	0	0	15.7	0
	PIPING (OVER 4")	DUST	0	0	0	0.00044	0
			0	0	0	0.00941	0
	HVAC EQUIPMENT	METAL	0	0	0	0.245	0
			0	0	0	47.1	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0347	0
			0	0	0	0.371	0
		METAL	0	0	0	4.71	0
			0	0	0	222	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0374	0
			0	0	0	0.4	0
D	LOUVERS	METAL	0	0	0	0.381	0
			0	0	0	19.8	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	6.7	0
			0	0	0	19.8	0
	DUCTWORK	PAINT	0	0	0	0.119	0
			0	0	0	1.27	0
		METAL	0	0	0	1.92	0
			0	0	0	5.07	0
		DUST	0	0	0	0.00595	0
			0	0	0	0.127	0
	METAL PANEL ROOF	PAINT	0	0	0	0.818	0
			0	0	0	8.75	0

Attachment B. III (Continued)

Component ID 05D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	LOUVERS	PAINT	0	0	0	0.0187	0
			0	0	0	0.2	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	1.11	0
			0	0	0	11.8	0
	METAL PANEL ROOF	METAL	0	0	0	4.96	0
			0	0	0	14.6	0
E	CONCRETE	OTHER	0	0	0	0	64.5
			0	0	0	0	860
	CONCRETE SLABS	OTHER	0	0	0	0	400
			0	0	0	0	5340
	CONCRETE FOUNDATION	OTHER	0	0	0	0	377
			0	0	0	0	5030
H	PIPING INSULATION	OTHER	0	0	0	0	0.239
			0	0	0	0	106
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.224	0
			0	0	0	148	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.0286
			0	0	0	0	12.7
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.18	0
			0	0	0	777	0
J	PIPING (2" AND LESS)	UNH	0	0	0	1.42	0
			0	0	0	16.3	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	1.02	0
			0	0	0	11.6	0
	PIPING (OVER 4")	UNH	0	0	0	0.33	0
			0	0	0	3.77	0
	PROCESS EQUIPMENT	UNH	0	0	0	12.3	0
			0	0	0	141	0
	DUCTWORK	DUST	0	0	0	0.0536	0
			0	0	0	1.15	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.32	0
			0	0	0	6.84	0
		CRUD	0	0	0	0.659	0
			0	0	0	7.05	0
	PIPING (OVER 4")	DUST	0	0	0	0.00352	0
			0	0	0	0.0753	0
		CRUD	0	0	0	0.0176	0
			0	0	0	0.189	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0453	0
			0	0	0	0.969	0
		CRUD	0	0	0	0.0543	0
			0	0	0	0.581	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0669	0
			0	0	0	1.43	0
		CRUD	0	0	0	0.076	0
			0	0	0	0.813	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**745**	**842**
			20	**0**	**0**	**27500**	**11300**

Component ID 05E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	9.18	0
			0	0	0	36.6	0
		PAINT	0	0	0	0.138	0
			0	0	0	1.47	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.989	0
			0	0	0	39.9	0
	DOORS	METAL	0	0	0	0.508	0
			0	0	0	26.4	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0106	0
			0	0	0	0.113	0
	DOORS	PAINT	0	0	0	0.0249	0
			0	0	0	0.267	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0104	0
			0	0	0	0.222	0
		METAL	0	0	0	1.11	0
			0	0	0	6.42	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.41	0
			0	0	0	7.11	0
		PAINT	0	0	0	0.397	0
			0	0	0	4.25	0
	METAL PANEL ROOF	METAL	0	0	0	1.84	0
			0	0	0	5.44	0
		PAINT	0	0	0	0.304	0
			0	0	0	3.25	0
E	CONCRETE SLABS	OTHER	0	0	0	21.8	0
			0	0	0	290	0
		OTHER	0	0	0	0	152
			0	0	0	0	2030
	CONCRETE FOUNDATION	OTHER	0	0	0	0	113
			0	0	0	0	1500
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0401	0
			0	0	0	26.6	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.87
			0	0	0	0	125
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.211	0
			0	0	0	139	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**39**	**267**
			20	**0**	**0**	**587**	**3660**

001338

Attachment B. III (Continued)

Component ID 05F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	34.6	0
			0	0	0	138	0
		PAINT	0	0	0	0.518	0
			0	0	0	5.54	0
B	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00706	0
			0	0	0	0.151	0
		METAL	0	0	0	0.754	0
			0	0	0	4.38	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0344	0
			0	0	0	0.368	0
		METAL	0	0	0	3.22	0
			0	0	0	130	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0249	0
			0	0	0	0.267	0
		METAL	0	0	0	0.375	0
			0	0	0	63.7	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.958	0
			0	0	0	10.2	0
		METAL	0	0	0	5.81	0
			0	0	0	17.2	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	76
			0	0	0	0	1010
	CONCRETE SLABS	OTHER	0	0	0	0	561
			0	0	0	0	7490
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0447	0
			0	0	0	29.6	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.87
			0	0	0	0	125
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.235	0
			0	0	0	155	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**46.6**	**639**
			20	**0**	**0**	**554**	**8630**

Component ID 05G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0922	0
			0	0	0	0.986	0
		METAL	0	0	0	6.16	0
			0	0	0	24.5	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00207	0
			0	0	0	0.0442	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
		PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
		PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.221	0
			0	0	0	1.28	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.236	0
			0	0	0	0.697	0
	METAL PANEL ROOF	PAINT	0	0	0	0.195	0
			0	0	0	2.08	0
		METAL	0	0	0	1.18	0
			0	0	0	3.48	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.039	0
			0	0	0	0.417	0
E	CONCRETE SLABS	OTHER	0	0	0	0	79.6
			0	0	0	0	1060
	CONCRETE FOUNDATION	OTHER	0	0	0	0	10.9
			0	0	0	0	145
	CONCRETE SLABS	OTHER	0	0	0	11.4	0
			0	0	0	152	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0126	0
			0	0	0	8.35	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.375
			0	0	0	0	25
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0663	0
			0	0	0	43.8	0
	Totals by Segregation Category:		**0**	**0**	**0**	**20.2**	**90.9**
			0	**0**	**0**	**270**	**1230**

001340

Attachment B. III (Continued)

Component ID 06B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	10.6	0
			0	0	0	42.4	0
		PAINT	0	0	0	0.159	0
			0	0	0	1.7	0
B	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.814	0
			0	0	0	11.4	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.013	0
			0	0	0	0.139	0
		METAL	0	0	0	0.778	0
			0	0	0	6.88	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0101	0
			0	0	0	0.108	0
D	DUCTWORK	PAINT	0	0	0	0.0693	0
			0	0	0	0.741	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0118	0
			0	0	0	0.126	0
		METAL	0	0	0	0.0716	0
			0	0	0	0.211	0
	METAL PANEL ROOF	METAL	0	0	0	0.878	0
			0	0	0	2.59	0
	DUCTWORK	METAL	0	0	0	1.12	0
			0	0	0	2.95	0
	METAL PANEL ROOF	PAINT	0	0	0	0.145	0
			0	0	0	1.55	0
	DUCTWORK	DUST	0	0	0	0.00346	0
			0	0	0	0.0741	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	10.8
			0	0	0	0	144
	CONCRETE SLABS	OTHER	0	0	0	0	55.1
			0	0	0	0	735
		OTHER	0	0	0	7.87	0
			0	0	0	105	0
H	PIPING INSULATION	OTHER	0	0	0	0.0113	0
			0	0	0	5.02	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.0167	0
			0	0	0	7.41	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0298	0
			0	0	0	19.7	0
I		OTHER	0	0	0	0.157	0
			0	0	0	104	0
J	DUCTWORK	DUST	0	0.0312	0	0	0
			0	0.667	0	0	0
	Totals by Segregation Category:		**0**	**0.0312**	**0**	**22.8**	**65.9**
			0	**0.667**	**0**	**312**	**879**

Component ID 06C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.96	0
			0	0	0	11.8	0
		PAINT	0	0	0	0.0443	0
			0	0	0	0.474	0
B	PIPING (2" AND LESS)	CRUD	0	0	0	0.00363	0
			0	0	0	0.0389	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00176	0
			0	0	0	0.0189	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0033	0
			0	0	0	0.0353	0
		SS METAL	0	0	0	0.506	0
			0	0	0	7.06	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0004	0
			0	0	0	0.00855	0
	PIPING (OVER 4")	DUST	0	0	0	0.000044	0
			0	0	0	0.000941	0
		SS METAL	0	0	0	0.166	0
			0	0	0	3.77	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000023	0
			0	0	0	0.000491	0
		SS METAL	0	0	0	0.351	0
			0	0	0	8.1	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.876	0
			0	0	0	7.77	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000379	0
			0	0	0	0.00405	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00362	0
			0	0	0	0.0774	0
	HVAC EQUIPMENT	METAL	0	0	0	0.764	0
			0	0	0	13.5	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
		METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000281	0
			0	0	0	0.003	0
		METAL	0	0	0	0.0627	0
			0	0	0	1.8	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00155	0
			0	0	0	0.0165	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.254	0
			0	0	0	2.33	0
		DUST	0	0	0	0.000813	0
			0	0	0	0.0174	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.386	0
			0	0	0	2.24	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000344	0
			0	0	0	0.00736	0
C		DUST	0	0	0	0.000344	0
			0	0	0	0.00736	0
		UNH	0	0	0	0.00687	0
			0	0	0	0.0785	0
	PIPING (OVER 4")	DUST	0	0	0	0.000044	0
			0	0	0	0.000941	0

001842

Attachment B. III (Continued)

Component ID 06C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (OVER 4")	SS METAL	0	0	0	0.0185	0
			0	0	0	0.419	0
		UNH	0	0	0	0.00366	0
			0	0	0	0.0419	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000734	0
			0	0	0	0.00785	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000023	0
			0	0	0	0.000491	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0562	0
			0	0	0	0.785	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.039	0
			0	0	0	0.9	0
		UNH	0	0	0	0.000788	0
			0	0	0	0.009	0
		CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0973	0
			0	0	0	0.864	0
		DUST	0	0	0	0.0004	0
			0	0	0	0.00855	0
		CRUD	0	0	0	0.000807	0
			0	0	0	0.00864	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000172	0
			0	0	0	0.00184	0
		METAL	0	0	0	0.0848	0
			0	0	0	1.5	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000312	0
			0	0	0	0.000333	0
		METAL	0	0	0	0.00697	0
			0	0	0	0.2	0
	PIPING (OVER 4")	CRUD	0	0	0	0.000392	0
			0	0	0	0.00419	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00756	0
			0	0	0	0.0863	0
D	DUCTWORK	METAL	0	0	0	2.01	0
			0	0	0	5.31	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0467	0
			0	0	0	0.5	0
		METAL	0	0	0	0.283	0
			0	0	0	0.837	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.109	0
			0	0	0	1.17	0
	DUCTWORK	PAINT	0	0	0	0.125	0
			0	0	0	1.33	0
		DUST	0	0	0	0.00623	0
			0	0	0	0.133	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.661	0
			0	0	0	1.95	0
E	CONCRETE SLABS	OTHER	0	0	0	0	16.8
			0	0	0	0	224
	CONCRETE	OTHER	0	0	0	0	12
			0	0	0	0	160
	CONCRETE SLABS	OTHER	0	0	2.4	0	0
			0	0	32	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0447	0
			0	0	0	29.6	0
	DUCTWORK INSULATION	OTHER	0	0	0.03	0	0
			0	0	13.3	0	0

Component ID 06C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
H	PIPING INSULATION	OTHER	0	0	0.0135	0	0
			0	0	6.02	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.235	0
			0	0	0	155	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0.0033	0	0
			0	0	0.0353	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.0032	0	0
			0	0	0.0684	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.000184	0	0
			0	0	0.00393	0	0
		CRUD	0	0	0.000379	0	0
			0	0	0.00405	0	0
	PIPING (OVER 4")	DUST	0	0	0.000352	0	0
			0	0	0.00753	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00275	0	0
			0	0	0.0588	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.068	0
			0	0	0	0.777	0
	DUCTWORK	DUST	0	0	0.0561	0	0
			0	0	1.2	0	0
	PIPING (OVER 4")	CRUD	0	0	0.00176	0	0
			0	0	0.0189	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00709	0
			0	0	0	0.081	0
	PIPING (OVER 4")	UNH	0	0	0	0.033	0
			0	0	0	0.377	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0618	0
			0	0	0	0.706	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00363	0	0
			0	0	0.0389	0	0
	Totals by Segregation Category:		**0**	**0**	**2.52**	**10.7**	**28.8**
			0	**0**	**52.8**	**282**	**384**

061344

Attachment B. III (Continued)

Component ID 06E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.96	0
			0	0	0	11.8	0
		PAINT	0	0	0	0.0443	0
			0	0	0	0.474	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00456	0
			0	0	0	0.0487	0
		METAL	0	0	0	0.175	0
			0	0	0	65.7	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	HVAC EQUIPMENT	METAL	0	0	0	0.175	0
			0	0	0	45.8	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0033	0
			0	0	0	0.0353	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00526	0
			0	0	0	0.0562	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0033	0
			0	0	0	0.0353	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00701	0
			0	0	0	0.075	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.797	0
			0	0	0	7.07	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0174	0
			0	0	0	0.186	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000344	0
			0	0	0	0.00736	0
		SS METAL	0	0	0	0.506	0
			0	0	0	7.06	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00176	0
			0	0	0	0.0189	0
		DUST	0	0	0	0.000044	0
			0	0	0	0.000941	0
		SS METAL	0	0	0	0.166	0
			0	0	0	3.77	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00106	0
			0	0	0	0.0225	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000363	0
			0	0	0	0.00777	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	5.49	0
			0	0	0	372	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.353	0
			0	0	0	44.9	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00207	0
			0	0	0	0.0442	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0628	0
			0	0	0	0.576	0
		DUST	0	0	0	0.000201	0
			0	0	0	0.0043	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.221	0
			0	0	0	1.28	0
C	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0195	0
			0	0	0	7.29	0

Component ID 06E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000506	0
			0	0	0	0.00541	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000734	0
			0	0	0	0.00785	0
		DUST	0	0	0	0.000363	0
			0	0	0	0.00777	0
		SS METAL	0	0	0	0.0885	0
			0	0	0	0.785	0
		UNH	0	0	0	0.00687	0
			0	0	0	0.0785	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000734	0
			0	0	0	0.00785	0
		UNH	0	0	0	0.00687	0
			0	0	0	0.0785	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000584	0
			0	0	0	0.00625	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0562	0
			0	0	0	0.785	0
	PIPING (OVER 4")	DUST	0	0	0	0.000044	0
			0	0	0	0.000941	0
		SS METAL	0	0	0	0.0185	0
			0	0	0	0.419	0
		UNH	0	0	0	0.00366	0
			0	0	0	0.0419	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00386	0
			0	0	0	0.0413	0
		DUST	0	0	0	0.00106	0
			0	0	0	0.0225	0
		SS METAL	0	0	0	0.61	0
			0	0	0	41.3	0
		UNH	0	0	0	0.0361	0
			0	0	0	0.413	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000344	0
			0	0	0	0.00736	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
		METAL	0	0	0	0.0392	0
			0	0	0	4.99	0
	PIPING (OVER 4")	CRUD	0	0	0	0.000392	0
			0	0	0	0.00419	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0194	0
			0	0	0	5.09	0
D	DUCTWORK	PAINT	0	0	0	0.125	0
			0	0	0	1.33	0
	METAL PANEL ROOF	PAINT	0	0	0	0.039	0
			0	0	0	0.417	0
		METAL	0	0	0	0.236	0
			0	0	0	0.697	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.608	0
			0	0	0	1.8	0
	DUCTWORK	METAL	0	0	0	2.01	0
			0	0	0	5.31	0
		DUST	0	0	0	0.00623	0
			0	0	0	0.133	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.1	0
			0	0	0	1.07	0
E	CONCRETE	OTHER	0	0	0	0	18
			0	0	0	0	240

001346

Component ID 06E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	26.9
			0	0	0	0	358
H	DUCTWORK INSULATION	OTHER	0	0	0	0	0.03
			0	0	0	0	13.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0447	0
			0	0	0	29.6	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0113
			0	0	0	0	5.02
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.235	0
			0	0	0	155	0
J	PIPING (2" AND LESS)	UNH	0	0	0	0.0619	0
			0	0	0	0.707	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.325	0
			0	0	0	3.72	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0618	0
			0	0	0	0.706	0
	DUCTWORK	DUST	0	0	0	0.0561	0
			0	0	0	1.2	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0033	0
			0	0	0	0.0353	0
	PIPING (OVER 4")	UNH	0	0	0	0.033	0
			0	0	0	0.377	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00844	0
			0	0	0	0.18	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00291	0
			0	0	0	0.0622	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0033	0
			0	0	0	0.0353	0
		DUST	0	0	0	0.00275	0
			0	0	0	0.0588	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00176	0
			0	0	0	0.0189	0
		DUST	0	0	0	0.000352	0
			0	0	0	0.00753	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0174	0
			0	0	0	0.186	0
	Totals by Segregation Category:		**0**	**0**	**0**	**16.2**	**44.9**
			0	**0**	**0**	**845**	**616**

Component ID 06F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	7.94	0
			0	0	0	31.6	0
		PAINT	0	0	0	0.0738	0
			0	0	0	0.789	0
B	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.528	0
			0	0	0	167	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0443	0
			0	0	0	0.473	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	14	0
			0	0	0	947	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0116	0
			0	0	0	0.124	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	59.7	0
			0	0	0	834	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00269	0
			0	0	0	0.0574	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0133	0
			0	0	0	0.142	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0406	0
			0	0	0	0.869	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0177	0
			0	0	0	0.189	0
		METAL	0	0	0	0.972	0
			0	0	0	113	0
	DOORS	PAINT	0	0	0	0.0195	0
			0	0	0	0.208	0
		METAL	0	0	0	0.397	0
			0	0	0	20.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.497	0
			0	0	0	2.89	0
		DUST	0	0	0	0.00466	0
			0	0	0	0.0996	0
	HVAC EQUIPMENT	METAL	0	0	0	0.347	0
			0	0	0	116	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.39	0
			0	0	0	4.17	0
C	PROCESS EQUIPMENT	UNH	0	0	0	0.0921	0
			0	0	0	1.05	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0866	0
			0	0	0	0.927	0
		DUST	0	0	0	0.0406	0
			0	0	0	0.869	0
		UNH	0	0	0	0.811	0
			0	0	0	9.27	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00129	0
			0	0	0	0.0138	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.55	0
			0	0	0	105	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	6.64	0
			0	0	0	92.7	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00269	0
			0	0	0	0.0574	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00148	0
			0	0	0	0.0158	0

001348

Attachment B. III (Continued)

Component ID 06F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	HVAC EQUIPMENT	METAL	0	0	0	0.0385	0
			0	0	0	12.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00196	0
			0	0	0	0.021	0
		METAL	0	0	0	0.108	0
			0	0	0	12.6	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00984	0
			0	0	0	0.105	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0587	0
			0	0	0	18.6	0
D	DUCTWORK	PAINT	0	0	0	0.0577	0
			0	0	0	0.618	0
	METAL PANEL ROOF	PAINT	0	0	0	0.105	0
			0	0	0	1.12	0
		METAL	0	0	0	0.636	0
			0	0	0	1.88	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.02	0
			0	0	0	3.01	0
	DUCTWORK	METAL	0	0	0	0.932	0
			0	0	0	2.46	0
		DUST	0	0	0	0.00289	0
			0	0	0	0.0618	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.168	0
			0	0	0	1.8	0
E	CONCRETE SLABS	OTHER	0	0	0	0	25.8
			0	0	0	0	344
	CONCRETE	OTHER	0	0	0	0	31.8
			0	0	0	0	424
	CONCRETE SLABS	OTHER	0	0	6.46	0	0
			0	0	86.1	0	0
		OTHER	0	0	0	19.4	0
			0	0	0	258	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.078	0
			0	0	0	51.6	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.0139	0
			0	0	0	6.18	0
	PIPING INSULATION	OTHER	0	0	0	0.434	0
			0	0	0	193	0
I	FABRIC	OTHER	0	0	0	0.103	0
			0	0	0	3.18	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.41	0
			0	0	0	271	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.325	0	0
			0	0	6.95	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0215	0	0
			0	0	0.459	0	0
		CRUD	0	0	0.0443	0	0
			0	0	0.473	0	0
	DUCTWORK	DUST	0	0	0.026	0	0
			0	0	0.556	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.829	0
			0	0	0	9.47	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	7.3	0
			0	0	0	83.4	0
		CRUD	0	0	0.39	0	0
			0	0	4.17	0	0

Component ID 06F

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0	0	7.27	126	57.6
			0	0	98.7	3390	768

001850

Attachment B. III (Continued)

Component ID 06G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	89	0
			0	0	0	355	0
		PAINT	0	0	0	1.33	0
			0	0	0	14.3	0
B	DOORS	PAINT	0	0	0	0.0256	0
			0	0	0	0.273	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0711	0
			0	0	0	0.76	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0544	0
			0	0	0	1.16	0
		METAL	0	0	0	5.82	0
			0	0	0	33.8	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00284	0
			0	0	0	0.0608	0
	DOORS	METAL	0	0	0	0.521	0
			0	0	0	27.1	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0238	0
			0	0	0	0.255	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	6.19	0
			0	0	0	695	0
		PAINT	0	0	0	0.109	0
			0	0	0	1.16	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.504	0
			0	0	0	85.6	0
		PAINT	0	0	0	0.0335	0
			0	0	0	0.358	0
	HVAC EQUIPMENT	METAL	0	0	0	2.08	0
			0	0	0	710	0
		PAINT	0	0	0	0.0814	0
			0	0	0	0.871	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.889	0
			0	0	0	8.15	0
	PIPING (OVER 4")	CRUD	0	0	0	0.214	0
			0	0	0	2.29	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	85.1	0
			0	0	0	5800	0
		DUST	0	0	0	0.0164	0
			0	0	0	0.352	0
		CRUD	0	0	0	0.271	0
			0	0	0	2.9	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (OVER 4")	DUST	0	0	0	0.00534	0
			0	0	0	0.114	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.23	0
			0	0	0	89.7	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	18.9	0
			0	0	0	264	0
		DUST	0	0	0	0.0129	0
			0	0	0	0.276	0
		CRUD	0	0	0	0.124	0
			0	0	0	1.32	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	14.1	0
			0	0	0	125	0
		DUST	0	0	0	0.00642	0
			0	0	0	0.137	0

Component ID 06G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PIPING (2" AND LESS)	CRUD	0	0	0	0.0583	0
			0	0	0	0.624	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	3.26	0
			0	0	0	1020	0
	PIPING (OVER 4")	SS METAL	0	0	0	20.2	0
			0	0	0	458	0
C	PROCESS EQUIPMENT	SS METAL	0	0	0	9.46	0
			0	0	0	644	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0476	0
			0	0	0	0.509	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.564	0
			0	0	0	6.44	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.362	0
			0	0	0	114	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0164	0
			0	0	0	0.352	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00905	0
			0	0	0	0.0968	0
	PIPING (OVER 4")	UNH	0	0	0	0.445	0
			0	0	0	5.09	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0602	0
			0	0	0	0.644	0
	PIPING (OVER 4")	DUST	0	0	0	0.00534	0
			0	0	0	0.114	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0079	0
			0	0	0	0.0845	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.257	0
			0	0	0	2.94	0
		SS METAL	0	0	0	2.1	0
			0	0	0	29.4	0
		DUST	0	0	0	0.0129	0
			0	0	0	0.276	0
		CRUD	0	0	0	0.0275	0
			0	0	0	0.294	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.121	0
			0	0	0	1.39	0
		SS METAL	0	0	0	1.56	0
			0	0	0	13.9	0
		DUST	0	0	0	0.00642	0
			0	0	0	0.137	0
	PIPING (OVER 4")	SS METAL	0	0	0	2.25	0
			0	0	0	50.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0121	0
			0	0	0	0.129	0
		METAL	0	0	0	0.688	0
			0	0	0	77.3	0
	HVAC EQUIPMENT	METAL	0	0	0	0.231	0
			0	0	0	78.9	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.013	0
			0	0	0	0.139	0
D	METAL PANEL ROOF	METAL	0	0	0	1.89	0
			0	0	0	5.58	0
	LOUVERS	METAL	0	0	0	0.4	0
			0	0	0	20.8	0
		PAINT	0	0	0	0.0196	0
			0	0	0	0.21	0
	METAL PANEL ROOF	PAINT	0	0	0	0.312	0
			0	0	0	3.33	0

001352

Component ID 06G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.58	0
			0	0	0	7.62	0
		PAINT	0	0	0	0.426	0
			0	0	0	4.55	0
E	CONCRETE SLABS	OTHER	0	0	0	0	192
			0	0	0	0	2570
	CONCRETE	OTHER	0	0	0	0	315
			0	0	0	0	4200
	CONCRETE FOUNDATION	OTHER	0	0	0	0	471
			0	0	0	0	6280
G	CEILING DEMOLITION	OTHER	0	0	0	0	0.395
			0	0	0	0	32.9
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0	1.35
			0	0	0	0	24.4
H	PIPING INSULATION	OTHER	0	0	0	0	0.386
			0	0	0	0	172
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0711	0
			0	0	0	47	0
I		OTHER	0	0	0	0.373	0
			0	0	0	247	0
	FABRIC	OTHER	0	0	0	0	0.356
			0	0	0	0	11.1
	BUILDING INSULATION	OTHER	0	0	0	0	3.7
			0	0	0	0	1640
J	PIPING (2" AND LESS)	UNH	0	0	0	1.09	0
			0	0	0	12.5	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	2.31	0
			0	0	0	26.4	0
	PROCESS EQUIPMENT	UNH	0	0	0	5.07	0
			0	0	0	58	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0513	0
			0	0	0	1.1	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.124	0
			0	0	0	1.32	0
		DUST	0	0	0	0.103	0
			0	0	0	2.2	0
	PIPING (OVER 4")	CRUD	0	0	0	0.214	0
			0	0	0	2.29	0
		DUST	0	0	0	0.0427	0
			0	0	0	0.914	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.271	0
			0	0	0	2.9	0
		DUST	0	0	0	0.132	0
			0	0	0	2.81	0
	PIPING (OVER 4")	UNH	0	0	0	4.01	0
			0	0	0	45.8	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0583	0
			0	0	0	0.624	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**289**	**984**
			20	**0**	**0**	**11200**	**14900**

Component ID 08A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	567	0
			0	0	0	2260	0
		PAINT	0	0	0	8.49	0
			0	0	0	90.8	0
B	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	27	0
			0	0	0	3920	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0584	0
			0	0	0	1.25	0
		CRUD	0	0	0	0.534	0
			0	0	0	5.72	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.13	0
			0	0	0	1.39	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.272	0
			0	0	0	2.91	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0526	0
			0	0	0	1.13	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.368	0
			0	0	0	3.94	0
		METAL	0	0	0	19.3	0
			0	0	0	3210	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	12.1	0
			0	0	0	489	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.506	0
			0	0	0	5.42	0
		SS METAL	0	0	0	77.6	0
			0	0	0	1080	0
	PIPING (OVER 4")	CRUD	0	0	0	1.25	0
			0	0	0	13.4	0
		DUST	0	0	0	0.0299	0
			0	0	0	0.64	0
		SS METAL	0	0	0	119	0
			0	0	0	2690	0
	PROCESS EQUIPMENT	CRUD	0	0	0	2.12	0
			0	0	0	22.7	0
		DUST	0	0	0	0.129	0
			0	0	0	2.76	0
		SS METAL	0	0	0	403	0
			0	0	0	45500	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.551	0
			0	0	0	5.89	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	128	0
			0	0	0	1140	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.429	0
			0	0	0	4.59	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	20.6	0
			0	0	0	3530	0
	DOORS	PAINT	0	0	0	0.219	0
			0	0	0	2.34	0
		METAL	0	0	0	4.46	0
			0	0	0	231	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	48.7	0
			0	0	0	447	0
		DUST	0	0	0	0.156	0
			0	0	0	3.33	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	64.5	0
			0	0	0	375	0
		DUST	0	0	0	0.604	0
			0	0	0	12.9	0

001354

Component ID 08A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL FIXTURES	METAL	0	0	0	6.46	0
			0	0	0	1100	0
	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
		PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
C	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	8.6	0
			0	0	0	120	0
		DUST	0	0	0	0.0526	0
			0	0	0	1.13	0
		CRUD	0	0	0	0.113	0
			0	0	0	1.2	0
		UNH	0	0	0	1.05	0
			0	0	0	12	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	14.9	0
			0	0	0	132	0
	PIPING (OVER 4")	UNH	0	0	0	2.61	0
			0	0	0	29.8	0
	PIPING (2" AND LESS)	UNH	0	0	0	1.11	0
			0	0	0	12.7	0
	PIPING (OVER 4")	CRUD	0	0	0	0.279	0
			0	0	0	2.98	0
		SS METAL	0	0	0	12.6	0
			0	0	0	285	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0302	0
			0	0	0	0.323	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.472	0
			0	0	0	5.05	0
		DUST	0	0	0	0.129	0
			0	0	0	2.76	0
		SS METAL	0	0	0	44.8	0
			0	0	0	5050	0
		UNH	0	0	0	4.42	0
			0	0	0	50.5	0
	PIPING (OVER 4")	DUST	0	0	0	0.0299	0
			0	0	0	0.64	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.119	0
			0	0	0	1.27	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	3	0
			0	0	0	436	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0409	0
			0	0	0	0.437	0
		METAL	0	0	0	2.15	0
			0	0	0	356	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0612	0
			0	0	0	0.655	0
		METAL	0	0	0	2.29	0
			0	0	0	392	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0584	0
			0	0	0	1.25	0
D	LOUVERS	PAINT	0	0	0	0.057	0
			0	0	0	0.61	0
	DUCTWORK	METAL	0	0	0	26.3	0
			0	0	0	69.4	0
		DUST	0	0	0	0.0815	0
			0	0	0	1.74	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.24	0
			0	0	0	3.66	0

Component ID 08A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.204	0
			0	0	0	2.19	0
	DUCTWORK	PAINT	0	0	0	1.63	0
			0	0	0	17.4	0
	LOUVERS	METAL	0	0	0	1.16	0
			0	0	0	60.4	0
	LEAD FLASHING	LEAD	0	0	1.35	0	0
			0	0	3.8	0	0
	METAL PANEL ROOF	PAINT	0	0	0	0.218	0
			0	0	0	2.33	0
		METAL	0	0	0	1.32	0
			0	0	0	3.9	0
E	CONCRETE SLABS	OTHER	0	0	0	0	874
			0	0	0	0	11700
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1810
			0	0	0	0	24100
	CONCRETE	OTHER	0	0	0	0	256
			0	0	0	0	3410
	CONCRETE WALLS	OTHER	0	0	0	0	7.84
			0	0	0	0	105
	CONCRETE SLABS	OTHER	0	0	161	0	0
			0	0	2150	0	0
	CONCRETE	OTHER	0	0	12.7	0	0
			0	0	169	0	0
	CONCRETE SLABS	OTHER	0	0	0	287	0
			0	0	0	3830	0
	CONCRETE	OTHER	0	0	0	38	0
			0	0	0	506	0
G	TRANSITE ROOF	OTHER	0	0	0	42	0
			0	0	0	747	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	68.4	0
			0	0	0	1240	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	80	0
			0	0	0	1420	0
	FLOOR TILE	OTHER	0	0	1.96	0	0
			0	0	40.8	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.243	0
			0	0	0	161	0
	DUCTWORK INSULATION	OTHER	0	0	0.392	0	0
			0	0	174	0	0
	PIPING INSULATION	OTHER	0	0	2.42	0	0
			0	0	1070	0	0
I	WINDOWS	OTHER	0	0	0	0	26.5
			0	0	0	0	1330
	ROOFING (BUILT UP)	OTHER	0	0	0	0	15.9
			0	0	0	0	442
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	50.6
			0	0	0	0	3370
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.28	0
			0	0	0	844	0
	WINDOWS	PAINT	0	0	0	0.069	0
			0	0	0	0.738	0
	BUILDING INSULATION	OTHER	0	0	24.3	0	0
			0	0	10800	0	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0.506	0	0
			0	0	5.42	0	0
		DUST	0	0	0.421	0	0
			0	0	9.01	0	0

001356

Attachment B. III (Continued)

Component ID 08A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PROCESS EQUIPMENT	CRUD	0	0	2.12	0	0
			0	0	22.7	0	0
	PIPING (OVER 4")	DUST	0	0	0.239	0	0
			0	0	5.12	0	0
	PROCESS EQUIPMENT	DUST	0	0	1.03	0	0
			0	0	22.1	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	10	0
			0	0	0	114	0
		DUST	0	0	0.467	0	0
			0	0	9.99	0	0
		CRUD	0	0	0.534	0	0
			0	0	5.72	0	0
	DUCTWORK	DUST	0	0	0.734	0	0
			0	0	15.7	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	39.8	0
			0	0	0	455	0
	PIPING (OVER 4")	UNH	0	0	0	23.5	0
			0	0	0	268	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	9.48	0
			0	0	0	108	0
	PIPING (OVER 4")	CRUD	0	0	1.25	0	0
			0	0	13.4	0	0
	Totals by Segregation Category:		**1.5**	**0**	**211**	**2240**	**3040**
			60	**0**	**14500**	**82900**	**44500**

Component ID 08C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	376	0
			0	0	0	1500	0
		PAINT	0	0	0	5.63	0
			0	0	0	60.2	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	7.17	0
			0	0	0	289	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.164	0
			0	0	0	1.75	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.222	0
			0	0	0	2.37	0
	PROCESS EQUIPMENT	CRUD	0	0	0	1.28	0
			0	0	0	13.7	0
	HVAC EQUIPMENT	METAL	0	0	0	11.7	0
			0	0	0	1930	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	16.3	0
			0	0	0	2360	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0768	0
			0	0	0	0.822	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0131	0
			0	0	0	0.14	0
		SS METAL	0	0	0	3.15	0
			0	0	0	27.9	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0777	0
			0	0	0	1.66	0
		SS METAL	0	0	0	243	0
			0	0	0	27400	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0709	0
			0	0	0	0.758	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00144	0
			0	0	0	0.0308	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.332	0
			0	0	0	3.55	0
		METAL	0	0	0	12.5	0
			0	0	0	2130	0
	DOORS	PAINT	0	0	0	0.0686	0
			0	0	0	0.733	0
		METAL	0	0	0	1.4	0
			0	0	0	72.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	7.78	0
			0	0	0	45.1	0
		DUST	0	0	0	0.0728	0
			0	0	0	1.56	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.07	0
			0	0	0	181	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
		METAL	1	0	0	0	0
			40	0	0	0	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.284	0
			0	0	0	3.04	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0029	0
			0	0	0	0.0311	0
		DUST	0	0	0	0.00144	0
			0	0	0	0.0308	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0182	0
			0	0	0	0.195	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0272	0
			0	0	0	0.311	0

001358

Component ID 08C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0369	0
			0	0	0	0.394	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0777	0
			0	0	0	1.66	0
		SS METAL	0	0	0	.27	0
			0	0	0	3040	0
		UNH	0	0	0	2.66	0
			0	0	0	30.4	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.35	0
			0	0	0	3.11	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	1.81	0
			0	0	0	262	0
	HVAC EQUIPMENT	METAL	0	0	0	1.29	0
			0	0	0	215	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	1.38	0
			0	0	0	236	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0246	0
			0	0	0	0.263	0
D	METAL PANEL ROOF	PAINT	0	0	0	1.15	0
			0	0	0	12.3	0
		METAL	0	0	0	6.99	0
			0	0	0	20.6	0
	LOUVERS	PAINT	0	0	0	0.0499	0
			0	0	0	0.533	0
		METAL	0	0	0	1.02	0
			0	0	0	52.8	0
	DUCTWORK	METAL	0	0	0	8.23	0
			0	0	0	21.7	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	1.23	0
			0	0	0	13.2	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	1.23	0
			0	0	0	13.2	0
		METAL	0	0	0	7.46	0
			0	0	0	22	0
	DUCTWORK	PAINT	0	0	0	0.51	0
			0	0	0	5.46	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	7.46	0
			0	0	0	22	0
	DUCTWORK	DUST	0	0	0	0.0255	0
			0	0	0	0.546	0
E	CONCRETE SLABS	OTHER	0	0	0	0	920
			0	0	0	0	12300
	CONCRETE	OTHER	0	0	0	0	460
			0	0	0	0	6130
	CONCRETE FOUNDATION	OTHER	0	0	0	0	683
			0	0	0	0	9100
	CONCRETE SLABS	OTHER	0	0	131	0	0
			0	0	1750	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0975	0
			0	0	0	64.5	0
	DUCTWORK INSULATION	OTHER	0	0	0.123	0	0
			0	0	54.6	0	0
	PIPING INSULATION	OTHER	0	0	0.0294	0	0
			0	0	13.1	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.512	0
			0	0	0	339	0
	WINDOWS	PAINT	0	0	0	0.00406	0
			0	0	0	0.0435	0

Component ID 08C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	WINDOWS	OTHER	0	0	0	0	1.56
			0	0	0	0	78.3
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	27
			0	0	0	0	1800
	BUILDING INSULATION	OTHER	0	0	10.3	0	0
			0	0	4600	0	0
J	PROCESS EQUIPMENT	DUST	0	0	0.622	0	0
			0	0	13.3	0	0
		CRUD	0	0	1.28	0	0
			0	0	13.7	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.0115	0	0
			0	0	0.246	0	0
		CRUD	0	0	0.0131	0	0
			0	0	0.14	0	0
	DUCTWORK	DUST	0	0	0.23	0	0
			0	0	4.91	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	24	0
			0	0	0	274	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.245	0
			0	0	0	2.79	0
	Totals by Segregation Category:		**1**	**0**	**144**	**783**	**2090**
			40	**0**	**6450**	**40700**	**29400**

001360

Component ID 08D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	79.4	0
			0	0	0	316	0
		PAINT	0	0	0	0.0148	0
			0	0	0	0.158	0
B	PROCESS EQUIPMENT	CRUD	0	0	0	0.000253	0
			0	0	0	0.0027	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000752	0
			0	0	0	0.00161	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.162	0
			0	0	0	5.4	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	HVAC EQUIPMENT	METAL	0	0	0	0.116	0
			0	0	0	7.19	0
		PAINT	0	0	0	0.000825	0
			0	0	0	0.00882	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000683	0
			0	0	0	0.00731	0
		SS METAL	0	0	0	0.165	0
			0	0	0	1.46	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00519	0
			0	0	0	0.0555	0
		DUST	0	0	0	0.000541	0
			0	0	0	0.0116	0
		SS METAL	0	0	0	0.796	0
			0	0	0	11.1	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0044	0
			0	0	0	0.0471	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0000153	0
			0	0	0	0.000328	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.416	0
			0	0	0	9.42	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00014	0
			0	0	0	0.0015	0
	PIPING (OVER 4")	DUST	0	0	0	0.00011	0
			0	0	0	0.00235	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
		METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000621	0
			0	0	0	0.0133	0
		METAL	0	0	0	0.0664	0
			0	0	0	0.385	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0359	0
			0	0	0	0.899	0
C	PIPING (2" AND LESS)	DUST	0	0	0	0.0000752	0
			0	0	0	0.00161	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.00398	0
			0	0	0	0.0998	0
		PAINT	0	0	0	0.0000156	0
			0	0	0	0.000167	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0129	0
			0	0	0	0.799	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0884	0
			0	0	0	1.23	0

Component ID 08D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.000152	0
			0	0	0	0.00162	0
		SS METAL	0	0	0	0.0183	0
			0	0	0	0.162	0
		UNH	0	0	0	0.00142	0
			0	0	0	0.0162	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00115	0
			0	0	0	0.0123	0
		DUST	0	0	0	0.000541	0
			0	0	0	0.0116	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000916	0
			0	0	0	0.00098	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0108	0
			0	0	0	0.123	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.000525	0
			0	0	0	0.006	0
		SS METAL	0	0	0	0.018	0
			0	0	0	0.6	0
		DUST	0	0	0	0.0000153	0
			0	0	0	0.000328	0
		CRUD	0	0	0	0.0000561	0
			0	0	0	0.0006	0
	PIPING (OVER 4")	UNH	0	0	0	0.00915	0
			0	0	0	0.105	0
		SS METAL	0	0	0	0.0462	0
			0	0	0	1.05	0
		DUST	0	0	0	0.00011	0
			0	0	0	0.00235	0
		CRUD	0	0	0	0.000978	0
			0	0	0	0.0105	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
		METAL	0	0	0	0.17	0
			0	0	0	0.502	0
	METAL PANEL ROOF	METAL	0	0	0	0.0472	0
			0	0	0	0.139	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	154
			0	0	0	0	2050
	CONCRETE SLABS	OTHER	0	0	0	0	414
			0	0	0	0	5530
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0138	0
			0	0	0	9.11	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00904
			0	0	0	0	4.02
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0723	0
			0	0	0	47.8	0
J	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0972	0
			0	0	0	1.11	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000123	0
			0	0	0	0.00262	0
	PIPING (OVER 4")	UNH	0	0	0	0.0824	0
			0	0	0	0.942	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0128	0
			0	0	0	0.146	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000253	0
			0	0	0	0.0027	0

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Attachment B. III (Continued)

Component ID 08D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PIPING (2" AND LESS)	DUST	0	0	0	0.000601	0
			0	0	0	0.0129	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00519	0
			0	0	0	0.0555	0
		DUST	0	0	0	0.00433	0
			0	0	0	0.0926	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0044	0
			0	0	0	0.0471	0
		DUST	0	0	0	0.000879	0
			0	0	0	0.0188	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000683	0
			0	0	0	0.00731	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00473	0
			0	0	0	0.054	0
	Totals by Segregation Category:		**0**	**0**	**0**	**82.1**	**568**
			0	**0**	**0**	**426**	**7580**

Component ID 08E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	5.76	0
			0	0	0	22.9	0
		PAINT	0	0	0	0.0863	0
			0	0	0	0.923	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.47	0
			0	0	0	2.73	0
		DUST	0	0	0	0.0044	0
			0	0	0	0.094	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
D	METAL PANEL ROOF	METAL	0	0	0	0.642	0
			0	0	0	1.9	0
		PAINT	0	0	0	0.106	0
			0	0	0	1.13	0
E	CONCRETE SLABS	OTHER	0	0	0	0	15
			0	0	0	0	200
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0138	0
			0	0	0	9.11	0
I		OTHER	0	0	0	0.0723	0
			0	0	0	47.8	0
	Totals by Segregation Category:		**0**	**0**	**0**	**7.69**	**15**
			0	**0**	**0**	**113**	**200**

Component ID 09A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	7.27	0
			0	0	0	77.7	0
		METAL	0	0	0	485	0
			0	0	0	1930	0
B	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	24.3	0
			0	0	0	339	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.218	0
			0	0	0	2.33	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	15	0
			0	0	0	2700	0
		PAINT	0	0	0	0.187	0
			0	0	0	2.01	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	14.8	0
			0	0	0	598	0
		PAINT	0	0	0	0.159	0
			0	0	0	1.7	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0905	0
			0	0	0	0.968	0
		DUST	0	0	0	0.00979	0
			0	0	0	0.209	0
		SS METAL	0	0	0	21.5	0
			0	0	0	191	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0133	0
			0	0	0	0.285	0
	PIPING (OVER 4")	CRUD	0	0	0	0.292	0
			0	0	0	3.13	0
		DUST	0	0	0	0.00439	0
			0	0	0	0.094	0
		SS METAL	0	0	0	25.6	0
			0	0	0	580	0
	PROCESS EQUIPMENT	CRUD	0	0	0	2.53	0
			0	0	0	27.1	0
		DUST	0	0	0	0.154	0
			0	0	0	3.29	0
		SS METAL	0	0	0	939	0
			0	0	0	54200	0
	ELECTRICAL TRANSFORMERS	METAL	2	0	0	0	0
			80	0	0	0	0
		PAINT	0.000982	0	0	0	0
			0.0105	0	0	0	0
	DOORS	PAINT	0	0	0	0.235	0
			0	0	0	2.51	0
	HVAC EQUIPMENT	METAL	0	0	0	10.8	0
			0	0	0	1900	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.172	0
			0	0	0	1.84	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	50.7	0
			0	0	0	294	0
		DUST	0	0	0	0.474	0
			0	0	0	10.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.135	0
			0	0	0	2.89	0
		METAL	0	0	0	42.2	0
			0	0	0	387	0
	DOORS	METAL	0	0	0	4.78	0
			0	0	0	248	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.266	0
			0	0	0	2.85	0

Component ID 09A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	21.9	0
			0	0	0	1710	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.395	0
			0	0	0	4.22	0
		METAL	0	0	0	5.94	0
			0	0	0	1010	0
C	PIPING (OVER 4")	UNH	0	0	0	0.608	0
			0	0	0	6.95	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	5.03	0
			0	0	0	70.2	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	2.72	0
			0	0	0	24.2	0
		UNH	0	0	0	0.188	0
			0	0	0	2.15	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0383	0
			0	0	0	0.409	0
		DUST	0	0	0	0.0133	0
			0	0	0	0.285	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00979	0
			0	0	0	0.209	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.358	0
			0	0	0	4.09	0
	PIPING (OVER 4")	CRUD	0	0	0	0.065	0
			0	0	0	0.695	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0201	0
			0	0	0	0.215	0
	PIPING (OVER 4")	SS METAL	0	0	0	5.09	0
			0	0	0	115	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0296	0
			0	0	0	0.317	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.563	0
			0	0	0	6.02	0
		DUST	0	0	0	0.154	0
			0	0	0	3.29	0
	PIPING (OVER 4")	DUST	0	0	0	0.00439	0
			0	0	0	0.094	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	1.67	0
			0	0	0	300	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	104	0
			0	0	0	6020	0
	HVAC EQUIPMENT	METAL	0	0	0	1.21	0
			0	0	0	211	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	2.43	0
			0	0	0	190	0
	PROCESS EQUIPMENT	UNH	0	0	0	5.27	0
			0	0	0	60.2	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0208	0
			0	0	0	0.223	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0243	0
			0	0	0	0.259	0
D	DUCTWORK	METAL	0	0	0	92.5	0
			0	0	0	244	0
	LEAD FLASHING	LEAD	0	0	1	0	0
			0	0	2.82	0	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
		METAL	0	0	0	0.189	0
			0	0	0	0.558	0

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Component ID 09A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
D	LOUVERS	METAL	0	0	0	1.33	0
			0	0	0	69.1	0
	DUCTWORK	PAINT	0	0	0	5.73	0
			0	0	0	61.2	0
		DUST	0	0	0	0.286	0
			0	0	0	6.12	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0467	0
			0	0	0	0.5	0
		METAL	0	0	0	0.283	0
			0	0	0	0.837	0
	LOUVERS	PAINT	0	0	0	0.0653	0
			0	0	0	0.698	0
E	CONCRETE SLABS	OTHER	0	0	0	956	0
			0	0	0	12800	0
	MASONRY WALLS	OTHER	0	0	0	0	6.02
			0	0	0	0	219
		OTHER	0	0	0.401	0	0
			0	0	14.6	0	0
	CLAY PIPING	OTHER	0	0	0	0	0.178
			0	0	0	0	2.55
	CONCRETE	OTHER	0	0	0	0	108
			0	0	0	0	1440
	CONCRETE FOUNDATION	OTHER	0	0	0	0	953.
			0	0	0	0	12700
	CONCRETE SLABS	OTHER	0	0	0	0	1950
			0	0	0	0	25900
F	ACID BRICK	OTHER	0	0	101	0	0
			0	0	1440	0	0
		OTHER	0	0	0	14.9	0
			0	0	0	213	0
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	42	0
			0	0	0	747	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	80.2	0
			0	0	0	1450	0
	TRANSITE ROOF	OTHER	0	0	0	78.7	0
			0	0	0	1400	0
	FLOOR TILE	OTHER	0	0	0.712	0	0
			0	0	14.8	0	0
H	PIPING INSULATION	OTHER	0	0	0.438	0	0
			0	0	195	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.307	0
			0	0	0	203	0
	DUCTWORK INSULATION	OTHER	0	0	1.38	0	0
			0	0	612	0	0
I	WOOD	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	BUILDING INSULATION	OTHER	0	0	23	0	0
			0	0	10200	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.61	0
			0	0	0	1070	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	8.25
			0	0	0	0	550
	WINDOWS	PAINT	0	0	0	0.0221	0
			0	0	0	0.236	0
		OTHER	0	0	0	0	8.48
			0	0	0	0	425
	ROOFING (BUILT UP)	OTHER	0	0	0	0	36.7
			0	0	0	0	1020

Component ID 09A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	PVC CONDUIT	OTHER	0	0	0	0	0.489
			0	0	0	0	15.1
J	DUCTWORK	DUST	0	0	2.58	0	0
			0	0	55.1	0	0
	PROCESS EQUIPMENT	DUST	0	0	1.23	0	0
			0	0	26.3	0	0
		UNH	0	0	0	47.4	0
			0	0	0	542	0
		CRUD	0	0	2.53	0	0
			0	0	27.1	0	0
	PIPING (OVER 4")	DUST	0	0	0.0352	0	0
			0	0	0.752	0	0
		CRUD	0	0	0.292	0	0
			0	0	3.13	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.172	0	0
			0	0	1.84	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.0783	0	0
			0	0	1.68	0	0
		CRUD	0	0	0.0905	0	0
			0	0	0.968	0	0
	PIPING (OVER 4")	UNH	0	0	0	5.47	0
			0	0	0	62.5	0
	PIPING (2" AND LESS)	UNH	0	0	0	1.69	0
			0	0	0	19.4	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	3.22	0
			0	0	0	36.8	0
		DUST	0	0	0.107	0	0
			0	0	2.28	0	0
	Totals by Segregation Category:		**2**	**0**	**135**	**3140**	**3070**
			80	**0**	**12600**	**92200**	**42400**

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Component ID 09F

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.985	0
			0	0	0	3.92	0
		PAINT	0	0	0	0.0148	0
			0	0	0	0.158	0
B	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.944	0
			0	0	0	13.2	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000547	0
			0	0	0	0.00585	0
		DUST	0	0	0	0.0000332	0
			0	0	0	0.00071	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000279	0
			0	0	0	0.00596	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.171	0
			0	0	0	11.7	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.61	0
			0	0	0	5.42	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00253	0
			0	0	0	0.0271	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
		METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000642	0
			0	0	0	0.0137	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
	DOORS	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
		METAL	0	0	0	0.0953	0
			0	0	0	4.95	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.794	0
			0	0	0	7.27	0
		DUST	0	0	0	0.00254	0
			0	0	0	0.0543	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.138	0
			0	0	0	0.8	0
		DUST	0	0	0	0.00129	0
			0	0	0	0.0276	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00616	0
			0	0	0	0.0659	0
C		SS METAL	0	0	0	0.105	0
			0	0	0	1.47	0
		UNH	0	0	0	0.0128	0
			0	0	0	0.147	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000122	0
			0	0	0	0.0013	0
		DUST	0	0	0	0.0000332	0
			0	0	0	0.00071	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00137	0
			0	0	0	0.0147	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00114	0
			0	0	0	0.013	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00526	0
			0	0	0	0.0602	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.019	0
			0	0	0	1.3	0

Component ID 09F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0678	0
			0	0	0	0.602	0
		DUST	0	0	0	0.000279	0
			0	0	0	0.00596	0
		CRUD	0	0	0	0.000563	0
			0	0	0	0.00602	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000642	0
			0	0	0	0.0137	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.548	0
			0	0	0	1.62	0
		PAINT	0	0	0	0.0904	0
			0	0	0	0.967	0
	METAL PANEL ROOF	METAL	0	0	0	0.179	0
			0	0	0	0.53	0
		PAINT	0	0	0	0.0296	0
			0	0	0	0.317	0
E	CONCRETE SLABS	OTHER	0	0	4.37	0	0
			0	0	58.3	0	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	2.06
			0	0	0	0	27.5
	CONCRETE SLABS	OTHER	0	0	0	0	17.5
			0	0	0	0	233
		OTHER	0	0	0	13.1	0
			0	0	0	175	0
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0.492	0
			0	0	0	8.75	0
	TRANSITE ROOF	OTHER	0	0	0	0.205	0
			0	0	0	3.65	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0138	0
			0	0	0	9.11	0
	PIPING INSULATION	OTHER	0	0	0.0135	0	0
			0	0	6.02	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0723	0
			0	0	0	47.8	0
J	PROCESS EQUIPMENT	CRUD	0	0	0.000547	0	0
			0	0	0.00585	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0474	0
			0	0	0	0.541	0
	PROCESS EQUIPMENT	DUST	0	0	0.000266	0	0
			0	0	0.00568	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00514	0	0
			0	0	0.11	0	0
		CRUD	0	0	0.00616	0	0
			0	0	0.0659	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00223	0	0
			0	0	0.0476	0	0
		CRUD	0	0	0.00253	0	0
			0	0	0.0271	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0102	0
			0	0	0	0.117	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.115	0
			0	0	0	1.32	0
	Totals by Segregation Category:		**0**	**0**	**4.4**	**19.2**	**19.6**
			0	**0**	**64.6**	**323**	**260**

061370

Component ID 10A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	6.51	0
			0	0	0	69.6	0
		METAL	0	0	0	434	0
			0	0	0	1730	0
B	ELECTRICAL TRANSFORMERS	PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.109	0
			0	0	0	1.16	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.109	0
			0	0	0	1.16	0
		DUST	0	0	0	0.012	0
			0	0	0	0.256	0
		SS METAL	0	0	0	26.2	0
			0	0	0	233	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	10.1	0
			0	0	0	409	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.319	0
			0	0	0	3.41	0
		DUST	0	0	0	0.0332	0
			0	0	0	0.71	0
		SS METAL	0	0	0	48.8	0
			0	0	0	681	0
	PROCESS EQUIPMENT	CRUD	0	0	0	2.07	0
			0	0	0	22.1	0
		SS METAL	0	0	0	713	0
			0	0	0	44300	0
	DOORS	METAL	0	0	0	2.16	0
			0	0	0	112	0
	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.242	0
			0	0	0	2.58	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.126	0
			0	0	0	2.68	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00591	0
			0	0	0	0.127	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.04	0
			0	0	0	850	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	26.5	0
			0	0	0	3480	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.179	0
			0	0	0	3.83	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	13.6	0
			0	0	0	125	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	19.1	0
			0	0	0	111	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	1.97	0
			0	0	0	23.6	0
	DOORS	PAINT	0	0	0	0.106	0
			0	0	0	1.13	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.133	0
			0	0	0	1.42	0
	ELECTRICAL FIXTURES	METAL	0	0	0	5.47	0
			0	0	0	930	0
		PAINT	0	0	0	0.364	0
			0	0	0	3.89	0
	HVAC EQUIPMENT	METAL	0	0	0	18.8	0
			0	0	0	4550	0

Component ID 10A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	HVAC EQUIPMENT	PAINT	0	0	0	0.522	0
			0	0	0	5.58	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0435	0
			0	0	0	0.93	0
C	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0332	0
			0	0	0	0.71	0
		SS METAL	0	0	0	5.42	0
			0	0	0	75.7	0
		UNH	0	0	0	0.663	0
			0	0	0	7.57	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.46	0
			0	0	0	4.92	0
		DUST	0	0	0	0.126	0
			0	0	0	2.68	0
		UNH	0	0	0	4.3	0
			0	0	0	49.2	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	2.91	0
			0	0	0	25.9	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	79.3	0
			0	0	0	4920	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.449	0
			0	0	0	94.4	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.012	0
			0	0	0	0.256	0
		CRUD	0	0	0	0.0242	0
			0	0	0	0.259	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0269	0
			0	0	0	0.287	0
		METAL	0	0	0	2.94	0
			0	0	0	387	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.058	0
			0	0	0	0.62	0
		METAL	0	0	0	2.09	0
			0	0	0	505	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0147	0
			0	0	0	0.158	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.226	0
			0	0	0	2.58	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0708	0
			0	0	0	0.757	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.0935	0
			0	0	0	1	0
	LOUVERS	PAINT	0	0	0	0.0779	0
			0	0	0	0.833	0
	LEAD FLASHING	LEAD	0	0	0.75	0	0
			0	0	2.11	0	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.545	0
			0	0	0	5.83	0
		METAL	0	0	0	3.31	0
			0	0	0	9.76	0
	DUCTWORK	PAINT	0	0	0	0.201	0
			0	0	0	2.15	0
		DUST	0	0	0	0.01	0
			0	0	0	0.215	0
	METAL PANEL ROOF	METAL	0	0	0	0.567	0
			0	0	0	1.67	0
	DUCTWORK	METAL	0	0	0	3.24	0
			0	0	0	8.54	0

001372

Component ID 10A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	LOUVERS	METAL	0	0	0	1.59	0
			0	0	0	82.5	0
E	CONCRETE	OTHER	0	5.57	0	0	0
			0	74.3	0	0	0
	MASONRY WALLS	OTHER	0	0	0	0	60.2
			0	0	0	0	2190
	CONCRETE WALLS	OTHER	0	0	0	0	1900
			0	0	0	0	25300
	CONCRETE SLABS	OTHER	0	0	0	0	792
			0	0	0	0	10600
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1570
			0	0	0	0	21000
	CONCRETE BEAMS	OTHER	0	0	0	0	330
			0	0	0	0	4400
	CONCRETE SLABS	OTHER	0	62.4	0	0	0
			0	832	0	0	0
	MASONRY WALLS	OTHER	0	0	4.01	0	0
			0	0	146	0	0
	CONCRETE	OTHER	0	0	0	0	491
			0	0	0	0	6540
G	CEILING DEMOLITION	OTHER	0	0	0.375	0	0
			0	0	31.2	0	0
	FLOOR TILE	OTHER	0	0	0.45	0	0
			0	0	9.37	0	0
	TRANSITE ROOF	OTHER	0	0	0	25.2	0
			0	0	0	448	0
	FIRE BRICK	OTHER	0	0	224	0	0
			0	0	3200	0	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	52.5	0
			0	0	0	933	0
H	DUCTWORK INSULATION	OTHER	0	0	0.0483	0	0
			0	0	21.5	0	0
	PIPING INSULATION	OTHER	0	0	0.596	0	0
			0	0	265	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.138	0
			0	0	0	91	0
I	WINDOWS	PAINT	0	0	0	0.0557	0
			0	0	0	0.595	0
	PVC CONDUIT	OTHER	0	0	0	0	0.144
			0	0	0	0	4.42
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.723	0
			0	0	0	478	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	18.7
			0	0	0	0	1250
	DRYWALL	OTHER	0	0	3.96	0	0
			0	0	150	0	0
	WINDOWS	OTHER	0	0	0	0	21.4
			0	0	0	0	1070
J	PIPING (2" AND LESS)	UNH	0	0	0	2.04	0
			0	0	0	23.3	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	5.96	0
			0	0	0	68.2	0
	PIPING (2" AND LESS)	CRUD	0	0	0.109	0	0
			0	0	1.16	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	38.7	0
			0	0	0	442	0
	DUCTWORK	DUST	0	0	0.0903	0	0
			0	0	1.93	0	0

Component ID 10A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PIPING (2" AND LESS)	DUST	0	0	0.0957	0	0
			0	0	2.05	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.319	0	0
			0	0	3.41	0	0
		DUST	0	0	0.266	0	0
			0	0	5.68	0	0
	PROCESS EQUIPMENT	CRUD	0	0	2.07	0	0
			0	0	22.1	0	0
		DUST	0	0	1	0	0
			0	0	21.5	0	0
	Totals by Segregation Category:		**1.5**	**68**	**238**	**1570**	**5180**
			60	**906**	**3880**	**66300**	**72400**

061374

Attachment B. III (Continued)

Component ID 10B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	9.93	0
			0	0	0	39.6	0
		PAINT	0	0	0	0.149	0
			0	0	0	1.59	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00795	0
			0	0	0	0.085	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	1.59	0
			0	0	0	14.1	0
		DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0
		CRUD	0	0	0	0.00661	0
			0	0	0	0.0707	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.27	0
			0	0	0	1.8	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0627	0
			0	0	0	1.8	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0145	0
			0	0	0	0.31	0
		METAL	0	0	0	1.55	0
			0	0	0	8.98	0
	DOORS	PAINT	0	0	0	0.0327	0
			0	0	0	0.35	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.742	0
			0	0	0	29.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000281	0
			0	0	0	0.003	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.399	0
			0	0	0	67.7	0
		PAINT	0	0	0	0.0265	0
			0	0	0	0.283	0
	HVAC EQUIPMENT	METAL	0	0	0	0.458	0
			0	0	0	11.7	0
		PAINT	0	0	0	0.00134	0
			0	0	0	0.0143	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.135	0
			0	0	0	2.7	0
		PAINT	0	0	0	0.000187	0
			0	0	0	0.002	0
	DOORS	METAL	0	0	0	0.667	0
			0	0	0	34.6	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000187	0
			0	0	0	0.0002	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0137	0
			0	0	0	0.157	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.000175	0
			0	0	0	0.002	0
		SS METAL	0	0	0	0.141	0
			0	0	0	0.2	0
		DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.177	0
			0	0	0	1.57	0
		DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0

Component ID 10B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.00147	0
			0	0	0	0.0157	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0000208	0
			0	0	0	0.000223	0
		METAL	0	0	0	0.015	0
			0	0	0	0.3	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000149	0
			0	0	0	0.00159	0
		METAL	0	0	0	0.0508	0
			0	0	0	1.3	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000312	0
			0	0	0	0.000333	0
		METAL	0	0	0	0.00697	0
			0	0	0	0.2	0
D	LOUVERS	METAL	0	0	0	0.159	0
			0	0	0	8.25	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.253	0
			0	0	0	2.7	0
		METAL	0	0	0	1.53	0
			0	0	0	4.52	0
	LOUVERS	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	METAL PANEL ROOF	PAINT	0	0	0	0.192	0
			0	0	0	2.06	0
		METAL	0	0	0	1.17	0
			0	0	0	3.44	0
E	CONCRETE SLABS	OTHER	0	0	0	46.7	0
			0	0	0	623	0
	MASONRY WALLS	OTHER	0	0	0	0	15
			0	0	0	0	544
	CONCRETE SLABS	OTHER	0	0	0	0	46.7
			0	0	0	0	622
	CONCRETE FOUNDATION	OTHER	0	0	0	0	85.2
			0	0	0	0	1140
	MASONRY WALLS	OTHER	0	0	0.997	0	0
			0	0	36.2	0	0
	CONCRETE	OTHER	0	0	0	0	0.788
			0	0	0	0	10.5
G	FLOOR TILE	OTHER	0	0	0.32	0	0
			0	0	6.67	0	0
	CEILING DEMOLITION	OTHER	0	0	0.45	0	0
			0	0	37.5	0	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0.322	0
			0	0	0	5.83	0
H	PIPING INSULATION	OTHER	0	0	0.0158	0	0
			0	0	7.03	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0206	0
			0	0	0	13.7	0
I	WINDOWS	PAINT	0	0	0	0.000865	0
			0	0	0	0.00925	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.108	0
			0	0	0	71.7	0
	WINDOWS	OTHER	0	0	0	0	0.333
			0	0	0	0	16.7
J	PIPING (2" AND LESS)	DUST	0	0	0.00582	0	0
			0	0	0.124	0	0

061376

Component ID 10B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PROCESS EQUIPMENT	CRUD	0	0	0.0000842	0	0
			0	0	0.0009	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00661	0	0
			0	0	0.0707	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00158	0
			0	0	0	0.018	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.124	0
			0	0	0	1.41	0
	PROCESS EQUIPMENT	DUST	0	0	0.0000409	0	0
			0	0	0.000873	0	0
	Totals by Segregation Category:		**0**	**0**	**1.8**	**68**	**149**
			0	**0**	**87.6**	**956**	**2380**

Component ID 10C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.73	0
			0	0	0	6.89	0
		PAINT	0	0	0	0.0259	0
			0	0	0	0.277	0
B	PROCESS EQUIPMENT	SS METAL	0	0	0	0.243	0
			0	0	0	14.4	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000816	0
			0	0	0	0.0175	0
		METAL	0	0	0	0.0872	0
			0	0	0	0.506	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.00175	0
			0	0	0	0.305	0
		PAINT	0	0	0	0.0000477	0
			0	0	0	0.00051	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00198	0
			0	0	0	0.0212	0
		DUST	0	0	0	0.000206	0
			0	0	0	0.00442	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000673	0
			0	0	0	0.0072	0
		DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.304	0
			0	0	0	4.24	0
C		UNH	0	0	0	0.00412	0
			0	0	0	0.0471	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.000195	0
			0	0	0	0.0339	0
		PAINT	0	0	0	0.0000053	0
			0	0	0	0.0000567	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000441	0
			0	0	0	0.00471	0
		SS METAL	0	0	0	0.0338	0
			0	0	0	0.471	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00015	0
			0	0	0	0.0016	0
		DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
		SS METAL	0	0	0	0.027	0
			0	0	0	1.6	0
		UNH	0	0	0	0.0014	0
			0	0	0	0.016	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000206	0
			0	0	0	0.00442	0
E	CONCRETE SLABS	OTHER	0	0	0	0	218
			0	0	0	0	2900
	CONCRETE	OTHER	0	0	0	0	3.62
			0	0	0	0	48.3
	CONCRETE WALLS	OTHER	0	0	0	0	44.9
			0	0	0	0	599
	CONCRETE FOUNDATION	OTHER	0	0	0	0	148
			0	0	0	0	1970
H	PIPING INSULATION	OTHER	0	0	0	0	0.00221
			0	0	0	0	0.982
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0356	0
			0	0	0	23.5	0
I		OTHER	0	0	0	0.187	0
			0	0	0	123	0

001378

Component ID 10C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PROCESS EQUIPMENT	DUST	0	0	0	0.000327	0
			0	0	0	0.00699	0
		CRUD	0	0	0	0.000673	0
			0	0	0	0.0072	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00165	0
			0	0	0	0.0353	0
		CRUD	0	0	0	0.00198	0
			0	0	0	0.0212	0
		UNH	0	0	0	0.0371	0
			0	0	0	0.424	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0126	0
			0	0	0	0.144	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2.74**	**415**
			0	**0**	**0**	**176**	**5520**

Component ID 10D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	69.3	0
			0	0	0	924	0
	CONCRETE	OTHER	0	0	0	0	5.7
			0	0	0	0	76
	CONCRETE SLABS	OTHER	0	0	0	0	70.7
			0	0	0	0	942
	Totals by Segregation Category:		**0**	**0**	**0**	**69.3**	**76.4**
			0	**0**	**0**	**924**	**1020**

Attachment B. III (Continued)

Component ID 10E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0443	0
			0	0	0	0.474	0
		METAL	0	0	0	2.96	0
			0	0	0	11.8	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00701	0
			0	0	0	0.075	0
	DOORS	PAINT	0	0	0	0.0577	0
			0	0	0	0.617	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0359	0
			0	0	0	0.899	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.106	0
			0	0	0	17.9	0
	HVAC EQUIPMENT	METAL	0	0	0	0.117	0
			0	0	0	1.8	0
		PAINT	0	0	0	0.000206	0
			0	0	0	0.0022	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
		PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	DOORS	METAL	0	0	0	1.18	0
			0	0	0	61.1	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0022	0
			0	0	0	0.0236	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00014	0
			0	0	0	0.0015	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00279	0
			0	0	0	0.0597	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.531	0
			0	0	0	4.71	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.298	0
			0	0	0	1.73	0
C	PIPING (2" AND LESS)	UNH	0	0	0	0.00458	0
			0	0	0	0.0524	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000156	0
			0	0	0	0.000167	0
		METAL	0	0	0	0.00398	0
			0	0	0	0.0998	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000229	0
			0	0	0	0.000245	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00049	0
			0	0	0	0.00524	0
	HVAC EQUIPMENT	METAL	0	0	0	0.013	0
			0	0	0	0.2	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.059	0
			0	0	0	0.524	0
		DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
D	LOUVERS	PAINT	0	0	0	0.00187	0
			0	0	0	0.02	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.36	0
			0	0	0	4.01	0
		PAINT	0	0	0	0.224	0
			0	0	0	2.4	0
	LOUVERS	METAL	0	0	0	0.0381	0
			0	0	0	1.98	0

Component ID 10E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	METAL PANEL ROOF	METAL	0	0	0	0.944	0
			0	0	0	2.79	0
		PAINT	0	0	0	0.156	0
			0	0	0	1.67	0
E	CONCRETE	OTHER	0	0	0	0	8.1
			0	0	0	0	108
	CONCRETE FOUNDATION	OTHER	0	0	0	0	75.8
			0	0	0	0	1010
	CONCRETE SLABS	OTHER	0	0	0	0	85.8
			0	0	0	0	1140
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00452
			0	0	0	0	2.01
I	WINDOWS	PAINT	0	0	0	0.000415	0
			0	0	0	0.00444	0
	BUILDING INSULATION	OTHER	0	0	0	0	0.75
			0	0	0	0	333
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
	WINDOWS	OTHER	0	0	0	0	0.16
			0	0	0	0	8
J	PIPING (2" AND LESS)	UNH	0	0	0	0.0412	0
			0	0	0	0.471	0
		DUST	0	0	0	0.00194	0
			0	0	0	0.0415	0
		CRUD	0	0	0	0.0022	0
			0	0	0	0.0236	0
	Totals by Segregation Category:		**0**	**0**	**0**	**8.77**	**171**
			0	**0**	**0**	**183**	**2600**

001332

Attachment B. III (Continued)

Component ID 11

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.592	0
			0	0	0	6.33	0
		METAL	0	0	0	39.6	0
			0	0	0	157	0
B	PIPING (OVER 4")	PAINT	0	0	0	0.84	0
			0	0	0	8.99	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	1.96	0
			0	0	0	563	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.287	0
			0	0	0	3.07	0
	ELECTRICAL FIXTURES	METAL	0	0	0	14.4	0
			0	0	0	2450	0
		PAINT	0	0	0	0.959	0
			0	0	0	10.3	0
	HVAC EQUIPMENT	METAL	0	0	0	32.4	0
			0	0	0	11100	0
	ELECTRICAL TRANSFORMERS	PAINT	0.0121	0	0	0	0
			0.129	0	0	0	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	10.8	0
			0	0	0	1840	0
	DOORS	PAINT	0	0	0	0.582	0
			0	0	0	6.22	0
	PIPING (2" AND LESS)	METAL	0	0	0	47.3	0
			0	0	0	419	0
		PAINT	0	0	0	0.783	0
			0	0	0	8.37	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	80.5	0
			0	0	0	1130	0
	PIPING (OVER 4")	METAL	0	0	0	106	0
			0	0	0	2420	0
	HVAC EQUIPMENT	PAINT	0	0	0	1.27	0
			0	0	0	13.6	0
	PROCESS EQUIPMENT	METAL	0	0	0	48.1	0
			0	0	0	8350	0
		PAINT	0	0	0	0.853	0
			0	0	0	9.13	0
	ELECTRICAL TRANSFORMERS	METAL	8.6	0	0	0	0
			172	0	0	0	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.994	0
			0	0	0	10.6	0
	DOORS	METAL	0	0	0	11.9	0
			0	0	0	616	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.039	0
			0	0	0	0.418	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.339	0
			0	0	0	7.25	0
		METAL	0	0	0	36.2	0
			0	0	0	210	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.132	0
			0	0	0	2.82	0
		METAL	0	0	0	41.2	0
			0	0	0	378	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.0603	0
			0	0	0	1.29	0
		METAL	0	0	0	20	0
			0	0	0	240	0
D	DUCTWORK	METAL	0	0	0	56.3	0
			0	0	0	148	0

Component ID 11

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
D	LOUVERS	PAINT	0	0	0	0.0586	0
			0	0	0	0.627	0
		METAL	0	0	0	1.2	0
			0	0	0	62	0
	DUCTWORK	PAINT	0	0	0	3.49	0
			0	0	0	37.3	0
	LEAD FLASHING	LEAD	0	0	0.15	0	0
			0	0	0.422	0	0
	DUCTWORK	DUST	0	0	0	0.174	0
			0	0	0	3.73	0
E	MASONRY WALLS	OTHER	0	0	0	145	0
			0	0	0	5280	0
	CONCRETE SLABS	OTHER	0	0	0	822	0
			0	0	0	11000	0
		OTHER	0	0	0	0	5850
			0	0	0	0	78000
	CONCRETE BEAMS	OTHER	0	0	0	89.4	0
			0	0	0	1190	0
	CONCRETE COLUMNS	OTHER	0	0	0	72.9	0
			0	0	0	972	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	295
			0	0	0	0	3930
	MASONRY WALLS	OTHER	0	0	0	0	2180
			0	0	0	0	79200
	CONCRETE BEAMS	OTHER	0	0	0	0	645
			0	0	0	0	8600
		OTHER	0	1.01	0	0	0
			0	13.5	0	0	0
	CONCRETE COLUMNS	OTHER	0	1.27	0	0	0
			0	16.9	0	0	0
	CONCRETE SLABS	OTHER	0	6.28	0	0	0
			0	83.7	0	0	0
	CONCRETE COLUMNS	OTHER	0	0	0	0	527
			0	0	0	0	7030
G	CEILING DEMOLITION	OTHER	0	0	0	3.13	0
			0	0	0	261	0
	FLOOR TILE	OTHER	0	0	0	36.5	0
			0	0	0	761	0
H	DUCTWORK INSULATION	OTHER	0	0	0	0.839	0
			0	0	0	373	0
	PIPING INSULATION	OTHER	0	0	0	1.4	0
			0	0	0	621	0
I	WINDOWS	PAINT	0	0	0	0.0324	0
			0	0	0	0.347	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.555
			0	0	0	0	37
	ROOFING (BUILT UP)	OTHER	0	0	0	0	199
			0	0	0	0	5540
	WINDOWS	OTHER	0	0	0	0	12.5
			0	0	0	0	625
	BUILDING INSULATION	OTHER	0	0	0	27.9	0
			0	0	0	12400	0
J	DUCTWORK	DUST	0	0	1.57	0	0
			0	0	33.6	0	0
	Totals by Segregation Category:		**8.61**	**8.56**	**1.72**	**1760**	**9710**
			172	**114**	**34**	**63100**	**183000**

Attachment B. III (Continued)

Component ID 12A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	351	0
			0	0	0	1400	0
		PAINT	0	0	0	5.26	0
			0	0	0	56.2	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.204	0
			0	0	0	2.18	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	11.1	0
			0	0	0	98.7	0
		CRUD	0	0	0	0.0462	0
			0	0	0	0.494	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	19.1	0
			0	0	0	768	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0148	0
			0	0	0	0.158	0
		METAL	0	0	0	15.2	0
			0	0	0	213	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0464	0
			0	0	0	0.496	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00508	0
			0	0	0	0.109	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0025	0
			0	0	0	0.0534	0
		SS METAL	0	0	0	3.67	0
			0	0	0	51.3	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0152	0
			0	0	0	0.162	0
		DUST	0	0	0	0.000378	0
			0	0	0	0.00809	0
		SS METAL	0	0	0	1.43	0
			0	0	0	32.4	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.264	0
			0	0	0	2.83	0
		DUST	0	0	0	0.016	0
			0	0	0	0.343	0
		SS METAL	0	0	0	32.9	0
			0	0	0	5650	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	3.71	0
			0	0	0	34	0
	HVAC EQUIPMENT	METAL	0	0	0	1.53	0
			0	0	0	404	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.024	0
			0	0	0	0.257	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	24.6	0
			0	0	0	143	0
	DOORS	PAINT	0	0	0	0.329	0
			0	0	0	3.52	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00114	0	0	0	0
			0.0122	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.23	0
			0	0	0	4.92	0
	ELECTRICAL TRANSFORMERS	METAL	2.5	0	0	0	0
			100	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0119	0
			0	0	0	0.254	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.386	0
			0	0	0	4.12	0
	DOORS	METAL	0	0	0	6.71	0
			0	0	0	348	0

Component ID 12A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0793	0
			0	0	0	10.8	0
		PAINT	0	0	0	0.00168	0
			0	0	0	0.018	0
	ELECTRICAL FIXTURES	METAL	0	0	0	5.8	0
			0	0	0	986	0
C	PIPING (2" AND LESS)	SS METAL	0	0	0	1.24	0
			0	0	0	11	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0499	0
			0	0	0	0.57	0
		CRUD	0	0	0	0.00533	0
			0	0	0	0.057	0
		DUST	0	0	0	0.0025	0
			0	0	0	0.0534	0
		SS METAL	0	0	0	0.408	0
			0	0	0	5.7	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.096	0
			0	0	0	1.1	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00337	0
			0	0	0	0.036	0
		SS METAL	0	0	0	0.159	0
			0	0	0	3.6	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	1.69	0
			0	0	0	23.7	0
	PIPING (OVER 4")	UNH	0	0	0	0.0315	0
			0	0	0	0.36	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0587	0
			0	0	0	0.628	0
		DUST	0	0	0	0.016	0
			0	0	0	0.343	0
		SS METAL	0	0	0	3.65	0
			0	0	0	628	0
		UNH	0	0	0	0.549	0
			0	0	0	6.28	0
	PIPING (OVER 4")	DUST	0	0	0	0.000378	0
			0	0	0	0.00809	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00164	0
			0	0	0	0.0176	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00515	0
			0	0	0	0.0551	0
		METAL	0	0	0	0.17	0
			0	0	0	44.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000187	0
			0	0	0	0.002	0
		METAL	0	0	0	0.00881	0
			0	0	0	1.2	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00508	0
			0	0	0	0.109	0
		CRUD	0	0	0	0.0103	0
			0	0	0	0.11	0
D	LOUVERS	METAL	0	0	0	0.636	0
			0	0	0	33	0
	DUCTWORK	PAINT	0	0	0	0.767	0
			0	0	0	8.2	0
		METAL	0	0	0	12.4	0
			0	0	0	32.6	0
		DUST	0	0	0	0.0383	0
			0	0	0	0.82	0

001086

Attachment B. III (Continued)

Component ID 12A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	LOUVERS	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
E	CONCRETE SLABS	OTHER	0	0	0	1160	0
			0	0	0	15400	0
	MASONRY WALLS	OTHER	0	0	0	42.4	0
			0	0	0	1540	0
	CONCRETE	OTHER	0	0	0	70.9	0
			0	0	0	945	0
	MASONRY WALLS	OTHER	0	0	0	0	636
			0	0	0	0	23100
	CONCRETE SLABS	OTHER	0	0	0	0	1160
			0	0	0	0	15400
	CONCRETE FOUNDATION	OTHER	0	0	0	0	370
			0	0	0	0	4940
	CONCRETE	OTHER	0	0	0	0	70.9
			0	0	0	0	945
F	ACID BRICK	OTHER	0	0	0	4.67	0
			0	0	0	66.7	0
G	CEILING DEMOLITION	OTHER	0	0	0	8.47	0
			0	0	0	706	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	50.2	0
			0	0	0	893	0
	FLOOR TILE	OTHER	0	0	0	6.43	0
			0	0	0	134	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	91.5	0
			0	0	0	1660	0
	TRANSITE ROOF	OTHER	0	0	0	117	0
			0	0	0	2080	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.23	0
			0	0	0	152	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.184	0
			0	0	0	82	0
	PIPING INSULATION	OTHER	0	0	0	0.138	0
			0	0	0	61.2	0
I	BUILDING INSULATION	OTHER	0	0	0	33.8	0
			0	0	0	15000	0
	WINDOWS	OTHER	0	0	0	0	9.76
			0	0	0	0	489
	WOOD	OTHER	0	0	0	3	0
			0	0	0	200	0
	DRYWALL	OTHER	0	0	0	6.27	0
			0	0	0	237	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	26
			0	0	0	0	1730
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.21	0
			0	0	0	797	0
	PVC CONDUIT	OTHER	0	0	0	0	0.873
			0	0	0	0	26.9
	ROOFING (BUILT UP)	OTHER	0	0	0	0	27
			0	0	0	0	750
	WINDOWS	PAINT	0	0	0	0.0254	0
			0	0	0	0.271	0
J	PIPING (OVER 4")	CRUD	0	0	0.0152	0	0
			0	0	0.162	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.024	0	0
			0	0	0.257	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.128	0	0
			0	0	2.74	0	0

Component ID 12A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PIPING (OVER 4")	DUST	0	0	0.00302	0	0
			0	0	0.0647	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.02	0	0
			0	0	0.427	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.0462	0	0
			0	0	0.494	0	0
	DUCTWORK	DUST	0	0	0.345	0	0
			0	0	7.38	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.264	0	0
			0	0	2.83	0	0
		UNH	0	0	0	4.94	0
			0	0	0	56.5	0
	PIPING (OVER 4")	UNH	0	0	0	0.284	0
			0	0	0	3.24	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.449	0
			0	0	0	5.13	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.864	0
			0	0	0	9.87	0
		DUST	0	0	0.0406	0	0
			0	0	0.869	0	0
	Totals by Segregation Category:		**2.5**	**0**	**0.886**	**2110**	**2300**
			100	**0**	**15.2**	**51000**	**47400**

061388

Attachment B. III (Continued)

Component ID 12B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0465	0
			0	0	0	0.497	0
		METAL	0	0	0	3.1	0
			0	0	0	12.4	0
B	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00207	0
			0	0	0	0.0442	0
	DOORS	METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.221	0
			0	0	0	1.28	0
D	LOUVERS	PAINT	0	0	0	0.0779	0
			0	0	0	0.833	0
		METAL	0	0	0	1.59	0
			0	0	0	82.5	0
E	MASONRY WALLS	OTHER	0	0	0	0	22
			0	0	0	0	800
	CONCRETE SLABS	OTHER	0	0	0	0	76.5
			0	0	0	0	1020
	CONCRETE FOUNDATION	OTHER	0	0	0	0	515
			0	0	0	0	6860
	CONCRETE	OTHER	0	0	0	0	56.7
			0	0	0	0	756
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0436	0
			0	0	0	28.8	0
I	BUILDING INSULATION	OTHER	0	0	0	0	0.556
			0	0	0	0	247
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.3
			0	0	0	0	20
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.229	0
			0	0	0	151	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	4.45
			0	0	0	0	124
	Totals by Segregation Category:		**0**	**0**	**0**	**5.98**	**676**
			0	**0**	**0**	**317**	**9830**

Component ID 12C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0886	0
			0	0	0	0.947	0
		METAL	0	0	0	5.91	0
			0	0	0	23.6	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00311	0
			0	0	0	0.0664	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
		METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.332	0
			0	0	0	1.93	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.171	0
			0	0	0	1.83	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.708	0
			0	0	0	2.09	0
		PAINT	0	0	0	0.117	0
			0	0	0	1.25	0
	LOUVERS	METAL	0	0	0	0.0636	0
			0	0	0	3.3	0
		PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	METAL PANEL ROOF	METAL	0	0	0	1.04	0
			0	0	0	3.07	0
E	CONCRETE SLABS	OTHER	0	0	0	13.5	0
			0	0	0	179	0
		OTHER	0	0	0	0	94.2
			0	0	0	0	1260
	CONCRETE	OTHER	0	0	0	0	61.4
			0	0	0	0	819
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0241	0
			0	0	0	15.9	0
I	WINDOWS	PAINT	0	0	0	0.000623	0
			0	0	0	0.00666	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.127	0
			0	0	0	83.7	0
	WINDOWS	OTHER	0	0	0	0	0.239
			0	0	0	0	12
	Totals by Segregation Category:		**0**	**0**	**0**	**22.6**	**157**
			0	**0**	**0**	**343**	**2190**

001890

Component ID 12D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	12.9	0
			0	0	0	51.4	0
		PAINT	0	0	0	0.193	0
			0	0	0	2.07	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.73	0
			0	0	0	69.8	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.117	0
			0	0	0	19.9	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0185	0
			0	0	0	0.198	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.16	0
			0	0	0	10.3	0
		PAINT	0	0	0	0.0194	0
			0	0	0	0.207	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	3.7	0
			0	0	0	51.8	0
		PAINT	0	0	0	0.0458	0
			0	0	0	0.49	0
	PIPING (OVER 4")	METAL	0	0	0	1.79	0
			0	0	0	40.8	0
		PAINT	0	0	0	0.0172	0
			0	0	0	0.184	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000916	0
			0	0	0	0.0098	0
	DOORS	PAINT	0	0	0	0.0252	0
			0	0	0	0.27	0
		METAL	0	0	0	0.515	0
			0	0	0	26.7	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.995	0
			0	0	0	5.78	0
		DUST	0	0	0	0.00931	0
			0	0	0	0.199	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0697	0
			0	0	0	2	0
	HVAC EQUIPMENT	METAL	0	0	0	0.499	0
			0	0	0	7.99	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
D	LOUVERS	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
		METAL	0	0	0	0.0636	0
			0	0	0	3.3	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.189	0
			0	0	0	2.02	0
		METAL	0	0	0	1.15	0
			0	0	0	3.39	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.399	0
			0	0	0	4.27	0
		METAL	0	0	0	2.42	0
			0	0	0	7.14	0
	METAL PANEL ROOF	METAL	0	0	0	2.83	0
			0	0	0	8.37	0

Component ID 12D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	METAL PANEL ROOF	PAINT	0	0	0	0.468	0
			0	0	0	5	0
E	CONCRETE SLABS	OTHER	0	0	0	0	316
			0	0	0	0	4210
	CONCRETE FOUNDATION	OTHER	0	0	0	0	102
			0	0	0	0	1360
	CONCRETE	OTHER	0	0	0	0	3.62
			0	0	0	0	48.3
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0516	0
			0	0	0	34.1	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0429
			0	0	0	0	19.1
I	BUILDING INSULATION	OTHER	0	0	0	0	3.16
			0	0	0	0	1410
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.271	0
			0	0	0	179	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**31.7**	**426**
			20	**0**	**0**	**537**	**7100**

001302

Component ID 13A — Segregation Category

Material Category	Material Description	CW.Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.614	0
			0	0	0	6.56	0
		METAL	0	0	0	41	0
			0	0	0	163	0
B	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0573	0
			0	0	0	1.23	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00608	0
			0	0	0	0.065	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	2.52	0
			0	0	0	34.2	0
		PAINT	0	0	0	0.00237	0
			0	0	0	0.0254	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	3.22	0
			0	0	0	130	0
		PAINT	0	0	0	0.0344	0
			0	0	0	0.368	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0367	0
			0	0	0	0.392	0
		DUST	0	0	0	0.00145	0
			0	0	0	0.0311	0
	HVAC EQUIPMENT	METAL	0	0	0	0.264	0
			0	0	0	53	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.556	0
			0	0	0	5.95	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	85.3	0
			0	0	0	1190	0
	PIPING (OVER 4")	CRUD	0	0	0	0.141	0
			0	0	0	1.51	0
		DUST	0	0	0	0.00352	0
			0	0	0	0.0753	0
		SS METAL	0	0	0	13.3	0
			0	0	0	301	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.662	0
			0	0	0	7.08	0
		DUST	0	0	0	0.0402	0
			0	0	0	0.859	0
		SS METAL	0	0	0	70.5	0
			0	0	0	14200	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	3.3	0
			0	0	0	29.3	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0623	0
			0	0	0	0.667	0
		METAL	0	0	0	0.938	0
			0	0	0	159	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0825	0
			0	0	0	0.882	0
		METAL	0	0	0	3.43	0
			0	0	0	528	0
	DOORS	PAINT	0	0	0	0.105	0
			0	0	0	1.12	0
		METAL	0	0	0	2.14	0
			0	0	0	111	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	8.62	0
			0	0	0	50	0

Component ID 13A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0806	0
			0	0	0	1.73	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	1.16	0
			0	0	0	13.2	0
		SS METAL	0	0	0	9.37	0
			0	0	0	131	0
		DUST	0	0	0	0.0573	0
			0	0	0	1.23	0
		CRUD	0	0	0	0.124	0
			0	0	0	1.32	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0313	0
			0	0	0	0.335	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	6.52	0
			0	0	0	57.9	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.147	0
			0	0	0	1.57	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0763	0
			0	0	0	0.872	0
	PIPING (OVER 4")	DUST	0	0	0	0.00352	0
			0	0	0	0.0753	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00145	0
			0	0	0	0.0311	0
	PIPING (OVER 4")	UNH	0	0	0	0.293	0
			0	0	0	3.35	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000676	0
			0	0	0	0.00723	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0402	0
			0	0	0	0.859	0
		SS METAL	0	0	0	7.83	0
			0	0	0	1570	0
		UNH	0	0	0	1.38	0
			0	0	0	15.7	0
	PIPING (OVER 4")	SS METAL	0	0	0	1.48	0
			0	0	0	33.5	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.28	0
			0	0	0	3.8	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0293	0
			0	0	0	5.89	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00916	0
			0	0	0	0.098	0
		METAL	0	0	0	0.381	0
			0	0	0	58.7	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00815	0
			0	0	0	0.0872	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000264	0
			0	0	0	0.00282	0
D	LEAD FLASHING	LEAD	0	0	0.25	0	0
			0	0	0.704	0	0
	DUCTWORK	METAL	0	0	0	3.06	0
			0	0	0	8.08	0
		DUST	0	0	0	0.00949	0
			0	0	0	0.203	0
		PAINT	0	0	0	0.19	0
			0	0	0	2.03	0
E	CONCRETE	OTHER	0	0	0	0	263
			0	0	0	0	3510
	CLAY PIPING	OTHER	0	0	0	0	0.416
			0	0	0	0	5.94

001394

Component ID 13A

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	45.7	0	0
			0	0	610	0	0
	CONCRETE COLUMNS	OTHER	0	0	13.3	0	0
			0	0	177	0	0
	CONCRETE SLABS	OTHER	0	0	0	326	0
			0	0	0	4350	0
	CONCRETE	OTHER	0	0	0	124	0
			0	0	0	1650	0
	CONCRETE COLUMNS	OTHER	0	0	0	94.8	0
			0	0	0	1260	0
	CONCRETE	OTHER	0	0	17.3	0	0
			0	0	231	0	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	681
			0	0	0	0	9080
	MASONRY WALLS	OTHER	0	0	0	3.9	0
			0	0	0	142	0
	CONCRETE SLABS	OTHER	0	0	0	0	372
			0	0	0	0	4960
	MASONRY WALLS	OTHER	0	0	0	0	58.4
			0	0	0	0	2130
	CONCRETE WALLS	OTHER	0	0	0	0	8.82
			0	0	0	0	118
	CONCRETE COLUMNS	OTHER	0	0	0	0	108
			0	0	0	0	1440
F	ACID BRICK	OTHER	0	0	0	253	0
			0	0	0	3610	0
G	CEILING DEMOLITION	OTHER	0	0	0	0.375	0
			0	0	0	31.2	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	21.2	0
			0	0	0	376	0
H	DUCTWORK INSULATION	OTHER	0	0	0	0.0457	0
			0	0	0	20.3	0
	PIPING INSULATION	OTHER	0	0	0	0.721	0
			0	0	0	320	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.176	0
			0	0	0	116	0
I	WINDOWS	PAINT	0	0	0	0.0451	0
			0	0	0	0.482	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	3
			0	0	0	0	200
	ROOFING (BUILT UP)	OTHER	0	0	0	0	27.4
			0	0	0	0	760
	BUILDING INSULATION	OTHER	0	0	0	3.42	0
			0	0	0	1520	0
	WINDOWS	OTHER	0	0	0	0	17.3
			0	0	0	0	868
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.922	0
			0	0	0	609	0
J	PROCESS EQUIPMENT	CRUD	0	0	0.662	0	0
			0	0	7.08	0	0
	PIPING (OVER 4")	DUST	0	0	0.0281	0	0
			0	0	0.602	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.556	0	0
			0	0	5.95	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.321	0	0
			0	0	6.87	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.459	0	0
			0	0	9.81	0	0

Component ID 13A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PIPING (2" AND LESS)	CRUD	0	0	0.0367	0	0
			0	0	0.392	0	0
	DUCTWORK	DUST	0	0	0.0854	0	0
			0	0	1.83	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	12.4	0
			0	0	0	142	0
	PIPING (OVER 4")	UNH	0	0	0	2.64	0
			0	0	0	30.2	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	10.4	0
			0	0	0	119	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.686	0
			0	0	0	7.85	0
		DUST	0	0	0.0116	0	0
			0	0	0.249	0	0
	PIPING (OVER 4")	CRUD	0	0	0.141	0	0
			0	0	1.51	0	0
	Totals by Segregation Category:		**0.5**	**0**	**78.9**	**1120**	**1540**
			20	**0**	**1050**	**33200**	**23100**

001396

Component ID 13B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0428	0
			0	0	0	0.457	0
		METAL	0	0	0	2.85	0
			0	0	0	11.4	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	DOORS	PAINT	0	0	0	0.0475	0
			0	0	0	0.508	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.376	0
			0	0	0	10.8	0
	DOORS	METAL	0	0	0	0.969	0
			0	0	0	50.3	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00168	0
			0	0	0	0.018	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.258	0
			0	0	0	43.8	0
		PAINT	0	0	0	0.0171	0
			0	0	0	0.183	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00783	0
			0	0	0	0.0838	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0121	0
			0	0	0	0.13	0
		DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0
		SS METAL	0	0	0	2.92	0
			0	0	0	25.9	0
	HVAC EQUIPMENT	METAL	0	0	0	0.811	0
			0	0	0	68.3	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00406	0
			0	0	0	0.0868	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00765	0
			0	0	0	0.164	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	1.27	0
			0	0	0	11.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.817	0
			0	0	0	4.75	0
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.00269	0
			0	0	0	0.0288	0
		UNH	0	0	0	0.0252	0
			0	0	0	0.288	0
		DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000871	0
			0	0	0	0.00931	0
		METAL	0	0	0	0.0901	0
			0	0	0	7.59	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000187	0
			0	0	0	0.002	0
		METAL	0	0	0	0.0418	0
			0	0	0	1.2	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.324	0
			0	0	0	2.88	0
D	DUCTWORK	PAINT	0	0	0	0.00238	0
			0	0	0	0.0255	0
		METAL	0	0	0	0.0384	0
			0	0	0	0.101	0

Component ID 13B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	DUCTWORK	DUST	0	0	0	0.000119	0
			0	0	0	0.00254	0
E	MASONRY WALLS	OTHER	0	0	0	3	0
			0	0	0	109	0
	CONCRETE	OTHER	0	0	0	60.7	0
			0	0	0	810	0
		OTHER	0	0	0	0	74.4
			0	0	0	0	991
	CONCRETE FOUNDATION	OTHER	0	0	0	0	105
			0	0	0	0	1400
	CONCRETE SLABS	OTHER	0	0	0	34.9	0
			0	0	0	465	0
		OTHER	0	0	0	0	34.9
			0	0	0	0	465
	MASONRY WALLS	OTHER	0	0	0	0	45
			0	0	0	0	1640
G	CEILING DEMOLITION	OTHER	0	0	0	0.186	0
			0	0	0	15.5	0
	FLOOR TILE	OTHER	0	0	0	0.21	0
			0	0	0	4.37	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0218	0
			0	0	0	14.4	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.000573	0
			0	0	0	0.255	0
	PIPING INSULATION	OTHER	0	0	0	0.0271	0
			0	0	0	12.1	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.114	0
			0	0	0	75.7	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	5.58
			0	0	0	0	155
	BUILDING INSULATION	OTHER	0	0	0	0.698	0
			0	0	0	310	0
	WINDOWS	PAINT	0	0	0	0.00212	0
			0	0	0	0.0227	0
		OTHER	0	0	0	0	0.815
			0	0	0	0	40.8
J	DUCTWORK	DUST	0	0	0.00107	0	0
			0	0	0.0229	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.0121	0	0
			0	0	0.13	0	0
		UNH	0	0	0	0.227	0
			0	0	0	2.59	0
		DUST	0	0	0.0107	0	0
			0	0	0.228	0	0
	Totals by Segregation Category:		**0**	**0**	**0.0239**	**112**	**267**
			0	**0**	**0.381**	**2080**	**4790**

001398

Attachment B. III (Continued)

Component ID 13C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.985	0
			0	0	0	3.92	0
		PAINT	0	0	0	0.0148	0
			0	0	0	0.158	0
B	HVAC EQUIPMENT	METAL	0	0	0	0.0089	0
			0	0	0	0.899	0
		PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0449	0
			0	0	0	0.899	0
		PAINT	0	0	0	0.0000624	0
			0	0	0	0.000668	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0
	DOORS	PAINT	0	0	0	0.00748	0
			0	0	0	0.08	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	2.92	0
			0	0	0	25.9	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00974	0
			0	0	0	0.104	0
		DUST	0	0	0	0.00102	0
			0	0	0	0.0217	0
		SS METAL	0	0	0	1.49	0
			0	0	0	20.8	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0112	0
			0	0	0	0.119	0
		DUST	0	0	0	0.000677	0
			0	0	0	0.0145	0
		SS METAL	0	0	0	1.19	0
			0	0	0	238	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0121	0
			0	0	0	0.13	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0616	0
			0	0	0	8.98	0
	DOORS	METAL	0	0	0	0.152	0
			0	0	0	7.92	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.332	0
			0	0	0	1.93	0
		DUST	0	0	0	0.00311	0
			0	0	0	0.0664	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0014	0
			0	0	0	0.015	0
C	PROCESS EQUIPMENT	UNH	0	0	0	0.0232	0
			0	0	0	0.265	0
	HVAC EQUIPMENT	METAL	0	0	0	0.000989	0
			0	0	0	0.0999	0
		PAINT	0	0	0	0.0000115	0
			0	0	0	0.000122	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.00499	0
			0	0	0	0.0999	0
		PAINT	0	0	0	0.00000694	0
			0	0	0	0.0000742	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0252	0
			0	0	0	0.288	0
		CRUD	0	0	0	0.00269	0
			0	0	0	0.0288	0
		DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0

Component ID 13C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.324	0
			0	0	0	2.88	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000156	0
			0	0	0	0.00167	0
		METAL	0	0	0	0.00684	0
			0	0	0	0.998	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00102	0
			0	0	0	0.0217	0
		SS METAL	0	0	0	0.166	0
			0	0	0	2.31	0
		UNH	0	0	0	0.0203	0
			0	0	0	0.232	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00248	0
			0	0	0	0.0265	0
		SS METAL	0	0	0	0.132	0
			0	0	0	26.5	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00217	0
			0	0	0	0.0232	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000677	0
			0	0	0	0.0145	0
D	DUCTWORK	METAL	0	0	0	0.133	0
			0	0	0	0.35	0
		DUST	0	0	0	0.000411	0
			0	0	0	0.00879	0
		PAINT	0	0	0	0.00822	0
			0	0	0	0.0879	0
E	CONCRETE SLABS	OTHER	0	0	0	3.37	0
			0	0	0	45	0
	MASONRY WALLS	OTHER	0	0	0	0.573	0
			0	0	0	20.8	0
	CONCRETE SLABS	OTHER	0	0	1.12	0	0
			0	0	15	0	0
	CONCRETE	OTHER	0	0	0	0	30
			0	0	0	0	400
	CONCRETE FOUNDATION	OTHER	0	0	0	0	90.3
			0	0	0	0	1200
	CONCRETE SLABS	OTHER	0	0	0	0	4.5
			0	0	0	0	60
	MASONRY WALLS	OTHER	0	0	0	0	8.59
			0	0	0	0	313
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0264	0
			0	0	0	17.4	0
	PIPING INSULATION	OTHER	0	0	0	0.0384	0
			0	0	0	17.1	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.00198	0
			0	0	0	0.879	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.139	0
			0	0	0	91.6	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.6
			0	0	0	0	16.7
	WINDOWS	OTHER	0	0	0	0	0.0399
			0	0	0	0	2
		PAINT	0	0	0	0.000104	0
			0	0	0	0.00111	0
	WOOD	OTHER	0	0	0	0	0.375
			0	0	0	0	25
J	PIPING (2" AND LESS)	DUST	0	0	0.0107	0	0
			0	0	0.228	0	0

Component ID 13C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PROCESS EQUIPMENT	DUST	0	0	0.00541	0	0
			0	0	0.116	0	0
		CRUD	0	0	0.0112	0	0
			0	0	0.119	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00812	0	0
			0	0	0.174	0	0
		CRUD	0	0	0.00974	0	0
			0	0	0.104	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.0121	0	0
			0	0	0.13	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.209	0
			0	0	0	2.39	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.182	0
			0	0	0	2.08	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.227	0
			0	0	0	2.59	0
	DUCTWORK	DUST	0	0	0.0037	0	0
			0	0	0.0791	0	0
	Totals by Segregation Category:		**0**	**0**	**1.18**	**12.9**	**134**
			0	**0**	**16**	**544**	**2020**

Component ID 13D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	4.05	0
			0	0	0	56.7	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.977	0
			0	0	0	10.5	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0502	0
			0	0	0	0.537	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0541	0
			0	0	0	0.578	0
		METAL	0	0	0	3.24	0
			0	0	0	28.6	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
		METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	1.27	0
			0	0	0	11.6	0
		DUST	0	0	0	0.00406	0
			0	0	0	0.0868	0
	PROCESS EQUIPMENT	METAL	0	0	0	25.6	0
	9560		0	0	0		0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
E	CONCRETE WALLS	OTHER	0	0	0	0	59.8
			0	0	0	0	797
	CONCRETE SLABS	OTHER	0	0	0	0	60
			0	0	0	0	799
	CONCRETE FOUNDATION	OTHER	0	0	0	0	27.7
			0	0	0	0	370
	CONCRETE SLABS	OTHER	0	0	8.56	0	0
			0	0	114	0	0
	CONCRETE	OTHER	0	0	0	0	92.8
			0	0	0	0	1240
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.062	0
			0	0	0	41	0
	PIPING INSULATION	OTHER	0	0	0	0.0542	0
			0	0	0	24.1	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.325	0
			0	0	0	215	0
	Totals by Segregation Category:		**0**	**0**	**8.56**	**36.2**	**240**
			0	**0**	**114**	**9970**	**3210**

001302

Component ID 14A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	13.1	0
			0	0	0	52.3	0
		PAINT	0	0	0	0.197	0
			0	0	0	2.1	0
B	HVAC EQUIPMENT	METAL	0	0	0	7.29	0
			0	0	0	1870	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.0096	0
			0	0	0	0.103	0
	DOORS	PAINT	0	0	0	0.491	0
			0	0	0	5.25	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	36.5	0
			0	0	0	6230	0
		PAINT	0	0	0	0.973	0
			0	0	0	10.4	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	8.73	0
			0	0	0	105	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.4	0
			0	0	0	4.28	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.0263	0
			0	0	0	0.562	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.215	0
			0	0	0	2.3	0
	PIPING (2" AND LESS)	METAL	0	0	0	22.2	0
			0	0	0	196	0
		PAINT	0	0	0	0.358	0
			0	0	0	3.83	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	14.8	0
			0	0	0	207	0
		PAINT	0	0	0	0.178	0
			0	0	0	1.9	0
	PIPING (OVER 4")	METAL	0	0	0	1.32	0
			0	0	0	30	0
		PAINT	0	0	0	0.00739	0
			0	0	0	0.079	0
	ELECTRICAL FIXTURES	METAL	0	0	0	6.01	0
			0	0	0	1020	0
	ELECTRICAL TRANSFORMERS	METAL	4.55	0	0	0	0
			138	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	17.2	0
			0	0	0	158	0
		DUST	0	0	0	0.055	0
			0	0	0	1.18	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	15.1	0
			0	0	0	87.7	0
		DUST	0	0	0	0.141	0
			0	0	0	3.02	0
	PROCESS EQUIPMENT	METAL	0	0	0	2.59	0
			0	0	0	93.9	0
	ELECTRICAL TRANSFORMERS	PAINT	0.0104	0	0	0	0
			0.112	0	0	0	0
	DOORS	METAL	0	0	0	10	0
			0	0	0	520	0
D	DUCTWORK	PAINT	0	0	0	0.586	0
			0	0	0	6.26	0
		DUST	0	0	0	0.0293	0
			0	0	0	0.626	0
		METAL	0	0	0	9.45	0
			0	0	0	24.9	0

Component ID 14A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	MASONRY WALLS	OTHER	0	0	0	20.6	0
			0	0	0	749	0
	CONCRETE WALLS	OTHER	0	0	0	0	255
			0	0	0	0	3400
	CONCRETE BEAMS	OTHER	0	0	0	53.4	0
			0	0	0	712	0
	CONCRETE COLUMNS	OTHER	0	0	0	24.4	0
			0	0	0	325	0
	CONCRETE SLABS	OTHER	0	0	0	253	0
			0	0	0	3370	0
	CONCRETE WALLS	OTHER	0	0	0	36.5	0
			0	0	0	486	0
	CLAY PIPING	OTHER	0	0	0	0	1.57
			0	0	0	0	22.5
	CONCRETE	OTHER	0	0	0	0	154
			0	0	0	0	2050
	MASONRY WALLS	OTHER	0	0	0	0	309
			0	0	0	0	11200
	CONCRETE SLABS	OTHER	0	0	0	0	1770
			0	0	0	0	23600
	CONCRETE FOUNDATION	OTHER	0	0	0	0	484
			0	0	0	0	6460
	CONCRETE COLUMNS	OTHER	0	0	0	0	171
			0	0	0	0	2280
	CONCRETE BEAMS	OTHER	0	0	0	0	374
			0	0	0	0	4990
G	CEILING DEMOLITION	OTHER	0	0	0	22.3	0
			0	0	0	1860	0
	FLOOR TILE	OTHER	0	0	0	18.1	0
			0	0	0	378	0
H	DUCTWORK INSULATION	OTHER	0	0	0	0.141	0
			0	0	0	62.6	0
	PIPING INSULATION	OTHER	0	0	0	0.281	0
			0	0	0	125	0
I	WINDOWS	OTHER	0	0	0	0	12.5
			0	0	0	0	626
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.06
			0	0	0	0	4
	DRYWALL	OTHER	0	0	0	126	0
			0	0	0	4770	0
	WINDOWS	PAINT	0	0	0	0.0325	0
			0	0	0	0.348	0
	PVC CONDUIT	OTHER	0	0	0	0	0.158
			0	0	0	0	4.85
	ROOFING (BUILT UP)	OTHER	0	0	0	0	55.1
			0	0	0	0	1530
	BUILDING INSULATION	OTHER	0	0	0	6.89	0
			0	0	0	3060	0
J	DUCTWORK	DUST	0	0	0.264	0	0
			0	0	5.63	0	0
	Totals by Segregation Category:		**4.56**	**0**	**0.264**	**730**	**3590**
			138	**0**	**5.63**	**26500**	**56200**

001904

Component ID 14B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0218	0
			0	0	0	0.127	0
	PROCESS EQUIPMENT	METAL	0	0	0	1.69	0
			0	0	0	168	0
		PAINT	0	0	0	0.0172	0
			0	0	0	0.183	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.602	0
			0	0	0	103	0
		PAINT	0	0	0	0.0161	0
			0	0	0	0.172	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
E	CONCRETE SLABS	OTHER	0	0	0	0	4.37
			0	0	0	0	58.3
	CONCRETE	OTHER	0	0	0	0	1.5
			0	0	0	0	20
	CONCRETE SLABS	OTHER	0	0	0	0.625	0
			0	0	0	8.33	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2.97**	**5.87**
			0	**0**	**0**	**280**	**78.3**

Component ID 15A

Material Category *b12W.	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	215	0
			0	0	0	858	0
		PAINT	0	0	0	3.23	0
			0	0	0	34.5	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	1.19	0
			0	0	0	12.7	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0955	0
			0	0	0	1.02	0
		METAL	0	0	0	6.79	0
			0	0	0	1380	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.677	0
			0	0	0	7.24	0
	HVAC EQUIPMENT	METAL	0	0	0	64.7	0
			0	0	0	11700	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.81	0
			0	0	0	8.66	0
	ELECTRICAL FIXTURES	METAL	0	0	0	17.9	0
			0	0	0	3050	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.293	0
			0	0	0	3.14	0
	HVAC EQUIPMENT	PAINT	0	0	0	1.34	0
			0	0	0	14.4	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	11	0
			0	0	0	1880	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	163	0
			0	0	0	1450	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	20.4	0
			0	0	0	245	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0714	0
			0	0	0	1.53	0
		SS METAL	0	0	0	125	0
			0	0	0	1740	0
	PIPING (OVER 4")	CRUD	0	0	0	0.857	0
			0	0	0	9.17	0
		DUST	0	0	0	0.0181	0
			0	0	0	0.387	0
		SS METAL	0	0	0	82.4	0
			0	0	0	1870	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.407	0
			0	0	0	4.35	0
		DUST	0	0	0	0.0247	0
			0	0	0	0.527	0
		SS METAL	0	0	0	38.8	0
			0	0	0	8700	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0739	0
			0	0	0	1.58	0
	ELECTRICAL TRANSFORMERS	PAINT	0.0171	0	0	0	0
			0.183	0	0	0	0
		METAL	12	0	0	0	0
			291	0	0	0	0
	DOORS	PAINT	0	0	0	0.69	0
			0	0	0	7.38	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.0613	0
			0	0	0	1.31	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	41.9	0
			0	0	0	384	0
		DUST	0	0	0	0.134	0
			0	0	0	2.87	0

001906

Attachment B. III (Continued)

Component ID 15A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	36.8	0
			0	0	0	214	0
		DUST	0	0	0	0.345	0
			0	0	0	7.38	0
	DOORS	METAL	0	0	0	14.1	0
			0	0	0	731	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.0904	0
			0	0	0	0.967	0
		DUST	0	0	0	0.0247	0
			0	0	0	0.527	0
		SS METAL	0	0	0	4.32	0
			0	0	0	966	0
	PIPING (OVER 4")	UNH	0	0	0	1.78	0
			0	0	0	20.4	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0739	0
			0	0	0	1.58	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	1.68	0
			0	0	0	19.3	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.15	0
			0	0	0	1.61	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.846	0
			0	0	0	9.67	0
	PIPING (OVER 4")	SS METAL	0	0	0	7.61	0
			0	0	0	172	0
		CRUD	0	0	0	0.191	0
			0	0	0	2.04	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	13.3	0
			0	0	0	186	0
		DUST	0	0	0	0.0714	0
			0	0	0	1.53	0
		CRUD	0	0	0	0.18	0
			0	0	0	1.93	0
	PIPING (2" AND LESS)	UNH	0	0	0	1.41	0
			0	0	0	16.1	0
		SS METAL	0	0	0	18.1	0
			0	0	0	160	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0326	0
			0	0	0	0.348	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0106	0
			0	0	0	0.114	0
	PIPING (OVER 4")	DUST	0	0	0	0.0181	0
			0	0	0	0.387	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.149	0
			0	0	0	1.59	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.754	0
			0	0	0	153	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	1.22	0
			0	0	0	209	0
	HVAC EQUIPMENT	METAL	0	0	0	7.19	0
			0	0	0	1300	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.429	0
			0	0	0	4.58	0
	DUCTWORK	DUST	0	0	0	0.42	0
			0	0	0	8.98	0
	METAL PANEL ROOF	METAL	0	0	0	2.6	0
			0	0	0	7.67	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.435	0
			0	0	0	4.65	0

Component ID 15A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.63	0
			0	0	0	7.78	0
	DUCTWORK	PAINT	0	0	0	8.39	0
			0	0	0	89.8	0
		METAL	0	0	0	135	0
			0	0	0	357	0
E	CONCRETE WALLS	OTHER	0	0	0.481	0	0
			0	0	6.41	0	0
	CONCRETE SLABS	OTHER	0	0	661	0	0
			0	0	8810	0	0
	CONCRETE COLUMNS	OTHER	0	0	18	0	0
			0	0	240	0	0
	CONCRETE BEAMS	OTHER	0	0	151	0	0
			0	0	2020	0	0
	CLAY PIPING	OTHER	0	0	0	0	4.4
			0	0	0	0	62.8
	MASONRY	OTHER	0	0	0	4	0
			0	0	0	146	0
	CONCRETE BEAMS	OTHER	0	0	0	0	1060
			0	0	0	0	14100
	CONCRETE COLUMNS	OTHER	0	0	0	0	126
			0	0	0	0	1680
	CONCRETE FOUNDATION	OTHER	0	0	0	0	2000
			0	0	0	0	26700
	CONCRETE SLABS	OTHER	0	0	0	0	5500
			0	0	0	0	73400
	CONCRETE WALLS	OTHER	0	0	0	0	912
			0	0	0	0	12200
	MASONRY	OTHER	0	0	0	0	60
			0	0	0	0	2180
	MASONRY WALLS	OTHER	0	0	0	0	1010
			0	0	0	0	36600
		OTHER	0	0	0	67	0
			0	0	0	2440	0
	CONCRETE	OTHER	0	0	0	0	85.4
			0	0	0	0	1140
G	FLOOR TILE	OTHER	0	0	0	38.3	0
			0	0	0	797	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0.517	0
			0	0	0	9.37	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	1.82	0
			0	0	0	32.3	0
	CEILING DEMOLITION	OTHER	0	0	0	51.9	0
			0	0	0	4320	0
H	PIPING INSULATION	OTHER	0	0	0	2.67	0
			0	0	0	1180	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.209	0
			0	0	0	138	0
	DUCTWORK INSULATION	OTHER	0	0	0	2.02	0
			0	0	0	897	0
I	BUILDING INSULATION	OTHER	0	0	0	30	0
			0	0	0	13300	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.465
			0	0	0	0	31
	WINDOWS	OTHER	0	0	0	0	20
			0	0	0	0	1000
	ROOFING (BUILT UP)	OTHER	0	0	0	0	216
			0	0	0	0	6000

001908

Attachment B. III (Continued)

Component ID 15A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
I	PVC CONDUIT	OTHER	0	0	0	0	1.51
			0	0	0	0	46.5
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.1	0
			0	0	0	725	0
	DRYWALL	OTHER	0	0	0	157	0
			0	0	0	5960	0
	WINDOWS	PAINT	0	0	0	0.052	0
			0	0	0	0.556	0
J	PROCESS EQUIPMENT	UNH	0	0	0	7.61	0
			0	0	0	87	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.81	0	0
			0	0	8.66	0	0
	PIPING (OVER 4")	UNH	0	0	0	16	0
			0	0	0	183	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	15.2	0
			0	0	0	173	0
	PIPING (2" AND LESS)	UNH	0	0	0	12.7	0
			0	0	0	145	0
	DUCTWORK	DUST	0	0	3.78	0	0
			0	0	80.8	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.677	0	0
			0	0	7.24	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.571	0	0
			0	0	12.2	0	0
	PIPING (OVER 4")	CRUD	0	0	0.857	0	0
			0	0	9.17	0	0
		DUST	0	0	0.145	0	0
			0	0	3.1	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.407	0	0
			0	0	4.35	0	0
		DUST	0	0	0.198	0	0
			0	0	4.22	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.591	0	0
			0	0	12.6	0	0
	Totals by Segregation Category:		**12**	**0**	**839**	**1470**	**11000**
			291	**0**	**11200**	**68600**	**175000**

Component ID 15B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0478	0
			0	0	0	0.511	0
		METAL	0	0	0	3.19	0
			0	0	0	12.7	0
B	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00321	0
			0	0	0	0.0344	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00199	0
			0	0	0	0.0213	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.117	0
			0	0	0	19.9	0
		PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0313	0
			0	0	0	0.335	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.073	0
			0	0	0	12.7	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.259	0
			0	0	0	3.63	0
	HVAC EQUIPMENT	METAL	0	0	0	2.87	0
			0	0	0	273	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.979	0
			0	0	0	208	0
		PAINT	0	0	0	0.0212	0
			0	0	0	0.227	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0131	0
			0	0	0	0.14	0
	DOORS	METAL	0	0	0	0.242	0
			0	0	0	12.5	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.567	0
			0	0	0	3.29	0
		DUST	0	0	0	0.0053	0
			0	0	0	0.113	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.783	0
			0	0	0	6.93	0
	DOORS	PAINT	0	0	0	0.0118	0
			0	0	0	0.127	0
D	DUCTWORK	PAINT	0	0	0	0.0545	0
			0	0	0	0.583	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0891	0
			0	0	0	0.953	0
		METAL	0	0	0	0.54	0
			0	0	0	1.59	0
	LOUVERS	METAL	0	0	0	0.0794	0
			0	0	0	4.12	0
	DUCTWORK	METAL	0	0	0	0.881	0
			0	0	0	2.32	0
		DUST	0	0	0	0.00273	0
			0	0	0	0.0583	0
	LOUVERS	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	21.5
			0	0	0	0	287
	CONCRETE SLABS	OTHER	0	0	0	0	24.7
			0	0	0	0	330
	MASONRY WALLS	OTHER	0	0	0	0	23.9
			0	0	0	0	869
H	DUCTWORK INSULATION	OTHER	0	0	0	0	0.0131
			0	0	0	0	5.83

Attachment B. III (Continued)

Component ID 15B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00115	0
			0	0	0	0.759	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00835
			0	0	0	0	3.71
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00602	0
			0	0	0	3.98	0
J	DUCTWORK	DUST	0	0	0	0.0245	0
			0	0	0	0.525	0
	Totals by Segregation Category:		**0**	**0**	**0**	**10.9**	**70.1**
			0	**0**	**0**	**569**	**1500**

Component ID 16A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.355	0
			0	0	0	3.79	0
		METAL	0	0	0	23.7	0
			0	0	0	94.2	0
B	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00734	0
			0	0	0	0.157	0
		METAL	0	0	0	2.44	0
			0	0	0	29.3	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	26.9	0
			0	0	0	4000	0
		PAINT	0	0	0	0.625	0
			0	0	0	6.69	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.025	0
			0	0	0	0.535	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	7.72	0
			0	0	0	70.7	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.141	0
			0	0	0	23.9	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	2.67	0
			0	0	0	15.5	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0247	0
			0	0	0	0.528	0
E	CONCRETE WALLS	OTHER	0	0	0	17.2	0
			0	0	0	230	0
	CLAY PIPING	OTHER	0	0	0	0	0.119
			0	0	0	0	1.7
	CONCRETE WALLS	OTHER	0	0	0	0	230
			0	0	0	0	3060
	CONCRETE FOUNDATION	OTHER	0	0	0	0	300
			0	0	0	0	4000
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I	WOOD	OTHER	0	0	4.42	0	0
			0	0	294	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.181	0
			0	0	0	119	0
	PVC CONDUIT	OTHER	0	0	0	0	1.47
			0	0	0	0	45.2
	Totals by Segregation Category:		**0**	**0**	**4.42**	**82**	**532**
			0	**0**	**294**	**4620**	**7110**

Attachment B. III (Continued)

Component ID 16B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0105	0
			0	0	0	0.113	0
		METAL	0	0	0	0.704	0
			0	0	0	2.8	0
B	ELECTRICAL TRANSFORMERS	PAINT	0.0358	0	0	0	0
			0.383	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.129	0
			0	0	0	21.9	0
		PAINT	0	0	0	0.00857	0
			0	0	0	0.0917	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.92	0
			0	0	0	841	0
	HVAC EQUIPMENT	METAL	0	0	0	0.222	0
			0	0	0	27	0
	DOORS	METAL	0	0	0	0.134	0
			0	0	0	6.93	0
	ELECTRICAL TRANSFORMERS	METAL	8.97	0	0	0	0
			882	0	0	0	0
	DOORS	PAINT	0	0	0	0.00655	0
			0	0	0	0.07	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00309	0
			0	0	0	0.0331	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.000408	0
			0	0	0	0.00873	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0638	0
			0	0	0	0.585	0
		DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.48	0
			0	0	0	2.78	0
		DUST	0	0	0	0.00449	0
			0	0	0	0.096	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.131	0
			0	0	0	1.4	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.136	0
			0	0	0	1.63	0
C	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.547	0
			0	0	0	93.4	0
		PAINT	0	0	0	0.0146	0
			0	0	0	0.156	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0247	0
			0	0	0	3	0
		PAINT	0	0	0	0.000344	0
			0	0	0	0.00367	0
D	LOUVERS	METAL	0	0	0	0.381	0
			0	0	0	19.8	0
	LEAD FLASHING	LEAD	0	0	0.45	0	0
			0	0	1.27	0	0
	LOUVERS	PAINT	0	0	0	0.0187	0
			0	0	0	0.2	0
E	MASONRY WALLS	OTHER	0	0	0	0	22.8
			0	0	0	0	829
		OTHER	0	0	0	1.52	0
			0	0	0	55.2	0
	CONCRETE SLABS	OTHER	0	0	0	0	36.7
			0	0	0	0	490
	CONCRETE FOUNDATION	OTHER	0	0	0	0	21.9
			0	0	0	0	291

Component ID 16B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	5.25	0
			0	0	0	70	0
I	ROOFING (BUILT UP)	OTHER	0	0	0	0	2.52
			0	0	0	0	70
	BUILDING INSULATION	OTHER	0	0	0	0.315	0
			0	0	0	140	0
	Totals by Segregation Category:		**9.01**	**0**	**0.45**	**15**	**83.9**
			882	**0**	**1.27**	**1290**	**1680**

001014

Attachment B. III (Continued)

Component ID 16C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0638	0
			0	0	0	0.585	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00649	0	0	0	0
			0.0694	0	0	0	0
		METAL	3.4	0	0	0	0
			68	0	0	0	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.155	0
			0	0	0	26.3	0
		PAINT	0	0	0	0.00411	0
			0	0	0	0.044	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.153	0
			0	0	0	0.886	0
		DUST	0	0	0	0.00143	0
			0	0	0	0.0305	0
D	METAL PANEL ROOF	METAL	0	0	0	0.0425	0
			0	0	0	0.126	0
		PAINT	0	0	0	0.00701	0
			0	0	0	0.075	0
E	CONCRETE SLABS	OTHER	0	0	0	0.375	0
			0	0	0	5	0
		OTHER	0	0	0	0	2.62
			0	0	0	0	35
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I		OTHER	0	0	0	0.181	0
			0	0	0	119	0
	WOOD	OTHER	0	0	0.272	0	0
			0	0	18.2	0	0
	Totals by Segregation Category:		**3.41**	**0**	**0.272**	**1.02**	**2.62**
			68.1	**0**	**18.2**	**175**	**35**

Component ID 16D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.00956	0
			0	0	0	0.102	0
		METAL	0	0	0	0.638	0
			0	0	0	2.54	0
B	DOORS	METAL	0	0	0	0.2	0
			0	0	0	10.4	0
		PAINT	0	0	0	0.00982	0
			0	0	0	0.105	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	2.64	0
			0	0	0	432	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	1.21	0
			0	0	0	11.1	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00268	0
			0	0	0	0.0287	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0675	0
			0	0	0	0.722	0
	HVAC EQUIPMENT	METAL	0	0	0	0.177	0
			0	0	0	23.4	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.262	0
			0	0	0	1.52	0
		DUST	0	0	0	0.00245	0
			0	0	0	0.0524	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00388	0
			0	0	0	0.0829	0
C	HVAC EQUIPMENT	PAINT	0	0	0	0.000298	0
			0	0	0	0.00319	0
		METAL	0	0	0	0.0197	0
			0	0	0	2.6	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0075	0
			0	0	0	0.0802	0
		METAL	0	0	0	0.293	0
			0	0	0	48	0
E	CONCRETE SLABS	OTHER	0	0	0	4.28	0
			0	0	0	57	0
	MASONRY WALLS	OTHER	0	0	0	1.29	0
			0	0	0	47	0
	CONCRETE BEAMS	OTHER	0	0	0	0.0532	0
			0	0	0	0.709	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	22.1
			0	0	0	0	294
	CONCRETE SLABS	OTHER	0	0	0	0	29.9
			0	0	0	0	399
	MASONRY WALLS	OTHER	0	0	0	0	19.4
			0	0	0	0	706
	CONCRETE BEAMS	OTHER	0	0	0	0	0.372
			0	0	0	0	4.96
G	TRANSITE ROOF	OTHER	0	0	0	0.922	0
			0	0	0	16.4	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I		OTHER	0	0	0	0.181	0
			0	0	0	119	0

001010

Attachment B. III (Continued)

Component ID 16D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0	0	0	12.4	71.8
			0	0	0	808	1400

Component ID 16E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00122	0
			0	0	0	0.0262	0
	ELECTRICAL TRANSFORMERS	PAINT	0.179	0	0	0	0
			1.91	0	0	0	0
		METAL	220	0	0	0	0
			9830	0	0	0	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.814	0
			0	0	0	9.77	0
		DUST	0	0	0	0.00245	0
			0	0	0	0.0524	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.383	0
			0	0	0	3.51	0
E	CONCRETE SLABS	OTHER	0	0	0	0	21.8
			0	0	0	0	291
		OTHER	0	0	0	3.11	0
			0	0	0	41.5	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	17.4
			0	0	0	0	232
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I		OTHER	0	0	0	0.181	0
			0	0	0	119	0
	Totals by Segregation Category:		**220**	**0**	**0**	**4.53**	**39.2**
			9830	**0**	**0**	**197**	**523**

Component ID 16F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.649	0
			0	0	0	2.59	0
		PAINT	0	0	0	0.00973	0
			0	0	0	0.104	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000102	0
			0	0	0	0.00218	0
		METAL	0	0	0	0.0109	0
			0	0	0	0.0633	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00122	0
			0	0	0	0.0262	0
		METAL	0	0	0	0.407	0
			0	0	0	4.88	0
	DOORS	METAL	0	0	0	0.127	0
			0	0	0	6.6	0
		PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.818	0
			0	0	0	140	0
		PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00533	0	0	0	0
			0.057	0	0	0	0
		METAL	1.29	0	0	0	0
			50.6	0	0	0	0
D	METAL PANEL ROOF	METAL	0	0	0	0.0354	0
			0	0	0	0.105	0
		PAINT	0	0	0	0.00584	0
			0	0	0	0.0625	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
		METAL	0	0	0	0.189	0
			0	0	0	0.558	0
E	CONCRETE SLABS	OTHER	0	0	0	0	5.16
			0	0	0	0	68.8
		OTHER	0	0	0	0.737	0
			0	0	0	9.83	0
	Totals by Segregation Category:		**1.3**	**0**	**0**	**3.06**	**5.16**
			50.7	**0**	**0**	**167**	**68.8**

Component ID 16G

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.6	0
			0	0	0	2.39	0
		PAINT	0	0	0	0.00899	0
			0	0	0	0.0961	0
B	DOORS	METAL	0	0	0	0.127	0
			0	0	0	6.6	0
	ELECTRICAL TRANSFORMERS	METAL	1.29	0	0	0	0
			50.6	0	0	0	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
		METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00533	0	0	0	0
			0.057	0	0	0	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.678	0
			0	0	0	8.14	0
		DUST	0	0	0	0.00204	0
			0	0	0	0.0436	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0218	0
			0	0	0	0.127	0
		DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.818	0
			0	0	0	140	0
	DOORS	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.17	0
			0	0	0	0.502	0
		PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
	METAL PANEL ROOF	METAL	0	0	0	0.0307	0
			0	0	0	0.0906	0
		PAINT	0	0	0	0.00506	0
			0	0	0	0.0542	0
E	CONCRETE SLABS	OTHER	0	0	0	0.737	0
			0	0	0	9.83	0
		OTHER	0	0	0	0	5.16
			0	0	0	0	68.8
	Totals by Segregation Category:		**1.3**	**0**	**0**	**3.27**	**5.16**
			50.7	**0**	**0**	**170**	**68.8**

001020

Attachment B. III (Continued)

Component ID 16H — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.0286	0
			0	0	0	0.114	0
		PAINT	0	0	0	0.000428	0
			0	0	0	0.00458	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.91	0
			0	0	0	839	0
		PAINT	0	0	0	0.131	0
			0	0	0	1.4	0
E	CONCRETE SLABS	OTHER	0	0	0	0	16.3
			0	0	0	0	218
	Totals by Segregation Category:		**0**	**0**	**0**	**5.07**	**16.3**
			0	**0**	**0**	**841**	**218**

Component ID 16J

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.0286	0
			0	0	0	0.114	0
		PAINT	0	0	0	0.000428	0
			0	0	0	0.00458	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.91	0
			0	0	0	839	0
		PAINT	0	0	0	0.131	0
			0	0	0	1.4	0
E	CONCRETE SLABS	OTHER	0	0	0	0	16.3
			0	0	0	0	218
	Totals by Segregation Category:		**0**	**0**	**0**	**5.07**	**16.3**
			0	**0**	**0**	**841**	**218**

001922

Attachment B. III (Continued)

Component ID 18A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.35	0
			0	0	0	5.38	0
		PAINT	0	0	0	0.0202	0
			0	0	0	0.216	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.117	0
			0	0	0	19.9	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000322	0	0	0	0
			0.00344	0	0	0	0
		METAL	0.038	0	0	0	0
			0.75	0	0	0	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0497	0
			0	0	0	0.532	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0184	0
			0	0	0	0.197	0
		METAL	0	0	0	0.69	0
			0	0	0	118	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.0542	0
			0	0	0	0.651	0
		DUST	0	0	0	0.000163	0
			0	0	0	0.00349	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.523	0
			0	0	0	3.04	0
		DUST	0	0	0	0.0049	0
			0	0	0	0.105	0
	PIPING (OVER 4")	METAL	0	0	0	5.18	0
			0	0	0	118	0
E	CONCRETE WALLS	OTHER	0	0	0	4.56	0
			0	0	0	60.8	0
		OTHER	0	0	0	0	31.9
			0	0	0	0	425
H	PIPING INSULATION	OTHER	0	0	0	0	0.0277
			0	0	0	0	12.3
I	BASIN LINERS	OTHER	0	0	0	26.7	0
			0	0	0	827	0
	Totals by Segregation Category:		**0.0383**	**0**	**0**	**39.3**	**31.9**
			0.753	**0**	**0**	**1150**	**437**

Component ID 18B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	15.7	0
			0	0	0	62.4	0
		PAINT	0	0	0	0.235	0
			0	0	0	2.51	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0291	0
			0	0	0	0.312	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.356	0
			0	0	0	3.81	0
		METAL	0	0	0	28.7	0
			0	0	0	402	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.805	0
			0	0	0	17.2	0
	PIPING (2" AND LESS)	METAL	0	0	0	6.57	0
			0	0	0	58.1	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.72	0
			0	0	0	110	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.282	0
			0	0	0	3.02	0
		METAL	0	0	0	4.24	0
			0	0	0	721	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0138	0
			0	0	0	0.295	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	86	0
			0	0	0	499	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.11	0
			0	0	0	1.17	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	4.32	0
			0	0	0	39.6	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
C	PIPING (2" AND LESS)	METAL	0	0	0	0.0725	0
			0	0	0	0.642	0
	PIPING (OVER 4")	METAL	0	0	0	1.37	0
			0	0	0	31.3	0
D	DUCTWORK	DUST	0	0	0	0.00152	0
			0	0	0	0.0325	0
		METAL	0	0	0	0.49	0
			0	0	0	1.29	0
		PAINT	0	0	0	0.0304	0
			0	0	0	0.325	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	164
			0	0	0	0	2190
	CONCRETE SLABS	OTHER	0	0	0	0	72.5
			0	0	0	0	966
		OTHER	0	0	0	72.5	0
			0	0	0	966	0
F	ACID BRICK	OTHER	0	0	0	133	0
			0	0	0	1900	0
H	DUCTWORK INSULATION	OTHER	0	0	0	0.00731	0
			0	0	0	3.25	0
	PIPING INSULATION	OTHER	0	0	0	0.246	0
			0	0	0	109	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.177	0
			0	0	0	117	0
I		OTHER	0	0	0	0.928	0
			0	0	0	613	0

001324

Component ID 18B

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
J	DUCTWORK	DUST	0	0	0.0137	0	0
			0	0	0.292	0	0
	Totals by Segregation Category:		**0.5**	**0**	**0.0137**	**359**	**238**
			20	**0**	**0.292**	**5660**	**3260**

Component ID 18C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	49
			0	0	0	0	653
	CONCRETE SLABS	OTHER	0	0	0	0	20.9
			0	0	0	0	278
	CONCRETE WALLS	OTHER	0	0	0	0	139
			0	0	0	0	1850
	CONCRETE SLABS	OTHER	0	0	0	2.98	0
			0	0	0	39.7	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2.98**	**209**
			0	**0**	**0**	**39.7**	**2780**

001326

Attachment B. III (Continued)

Component ID 18D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	2.01	0
			0	0	0	21.5	0
		METAL	0	0	0	134	0
			0	0	0	536	0
B	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	15.8	0
			0	0	0	145	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.115	0
			0	0	0	1.23	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0944	0
			0	0	0	2.02	0
		METAL	0	0	0	10.1	0
			0	0	0	58.6	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0505	0
			0	0	0	1.08	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0883	0
			0	0	0	0.944	0
	DOORS	METAL	0	0	0	1.89	0
			0	0	0	98.2	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00919	0
			0	0	0	0.197	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.74	0
			0	0	0	295	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	32	0
			0	0	0	5020	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.97	0
			0	0	0	120	0
		PAINT	0	0	0	0.0318	0
			0	0	0	0.34	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0247	0
			0	0	0	0.264	0
		DUST	0	0	0	0.00271	0
			0	0	0	0.058	0
	DOORS	PAINT	0	0	0	0.0927	0
			0	0	0	0.992	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0142	0
			0	0	0	0.304	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	5.95	0
			0	0	0	52.8	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.235	0
			0	0	0	2.51	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	13.5	0
			0	0	0	189	0
C		DUST	0	0	0	0.00919	0
			0	0	0	0.197	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.488	0
			0	0	0	5.58	0
		DUST	0	0	0	0.0142	0
			0	0	0	0.304	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.5	0
			0	0	0	21	0
		CRUD	0	0	0	0.0196	0
			0	0	0	0.21	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0513	0
			0	0	0	0.586	0

Component ID 18D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.661	0
			0	0	0	5.86	0
		DUST	0	0	0	0.00271	0
			0	0	0	0.058	0
		CRUD	0	0	0	0.00548	0
			0	0	0	0.0586	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0522	0
			0	0	0	0.558	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.184	0
			0	0	0	2.1	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	3.56	0
			0	0	0	558	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	1.2	0
			0	0	0	12.9	0
	METAL PANEL ROOF	PAINT	0	0	0	0.343	0
			0	0	0	3.67	0
		METAL	0	0	0	2.08	0
			0	0	0	6.13	0
	LOUVERS	METAL	0	0	0	0.394	0
			0	0	0	20.5	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	7.29	0
			0	0	0	21.5	0
	DUCTWORK	PAINT	0	0	0	0.0753	0
			0	0	0	0.805	0
		METAL	0	0	0	1.22	0
			0	0	0	3.21	0
		DUST	0	0	0	0.00377	0
			0	0	0	0.0805	0
	LOUVERS	PAINT	0	0	0	0.0193	0
			0	0	0	0.207	0
E	CONCRETE	OTHER	0	0	0	0	13.3
			0	0	0	0	178
	CONCRETE SLABS	OTHER	0	0	0	0	295
			0	0	0	0	3940
	CONCRETE FOUNDATION	OTHER	0	0	0	0	49.7
			0	0	0	0	662
G	CEILING DEMOLITION	OTHER	0	0	0	0	1.28
			0	0	0	0	107
H	PIPING INSULATION	OTHER	0	0	0	0	0.154
			0	0	0	0	68.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.174	0
			0	0	0	115	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.0181
			0	0	0	0	8.05
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.915	0
			0	0	0	605	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	7.5
			0	0	0	0	500
	WINDOWS	OTHER	0	0	0	0	0.602
			0	0	0	0	30.2
		PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	BUILDING INSULATION	OTHER	0	0	0	0	6.01
			0	0	0	0	2670
	DRYWALL	OTHER	0.	0	0	0	5.96
			0	0	0	0	226
J	PROCESS EQUIPMENT	CRUD	0	0	0	0.235	0
			0	0	0	2.51	0

001028

Attachment B. III (Continued)

Component ID 18D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PROCESS EQUIPMENT	UNH	0	0	0	4.39	0
			0	0	0	50.2	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.462	0
			0	0	0	5.28	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.114	0
			0	0	0	2.44	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0883	0
			0	0	0	0.944	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0217	0
			0	0	0	0.464	0
		CRUD	0	0	0	0.0247	0
			0	0	0	0.264	0
	DUCTWORK	DUST	0	0	0	0.0339	0
			0	0	0	0.725	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0736	0
			0	0	0	1.57	0
		UNH	0	0	0	1.65	0
			0	0	0	18.9	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**248**	**380**
			20	**0**	**0**	**8010**	**8390**

Component ID 18E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.842	0
			0	0	0	3.35	0
		PAINT	0	0	0	0.0126	0
			0	0	0	0.135	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00806	0
			0	0	0	0.172	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
		METAL	0	0	0	0.187	0
			0	0	0	31.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0256	0
			0	0	0	0.274	0
		METAL	0	0	0	0.96	0
			0	0	0	164	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0957	0
			0	0	0	0.877	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.861	0
			0	0	0	5	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00153	0	0	0	0
			0.0163	0	0	0	0
		METAL	0.48	0	0	0	0
			7.75	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
I	BASIN LINERS	OTHER	0	0	0	31.7	0
			0	0	0	982	0
	Totals by Segregation Category:		**0.482**	**0**	**0**	**34.7**	**0**
			7.77	**0**	**0**	**1190**	**0**

061230

Component ID 18G

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.601	0
			0	0	0	2.39	0
		PAINT	0	0	0	0.009	0
			0	0	0	0.0963	0
B	HVAC EQUIPMENT	PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000385	0
			0	0	0	0.00412	0
		DUST	0	0	0	0.0000424	0
			0	0	0	0.000907	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00245	0
			0	0	0	0.0524	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0929	0
			0	0	0	0.825	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.225	0
			0	0	0	11.7	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000161	0
			0	0	0	0.00344	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0134	0
			0	0	0	0.899	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.236	0
			0	0	0	3.3	0
	PIPING (OVER 4")	CRUD	0	0	0	0.000529	0
			0	0	0	0.00566	0
		DUST	0	0	0	0.0000132	0
			0	0	0	0.000282	0
		SS METAL	0	0	0	0.05	0
			0	0	0	1.13	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000547	0
			0	0	0	0.00585	0
		DUST	0	0	0	0.0000332	0
			0	0	0	0.00071	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00154	0
			0	0	0	0.0165	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00825	0
			0	0	0	0.0882	0
		METAL	0	0	0	1.19	0
			0	0	0	52.9	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.814	0
			0	0	0	9.77	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.638	0
			0	0	0	5.85	0
		DUST	0	0	0	0.00204	0
			0	0	0	0.0436	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.218	0
			0	0	0	1.27	0
		DUST	0	0	0	0.00204	0
			0	0	0	0.0436	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	DOORS	METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	ELECTRICAL TRANSFORMERS	METAL	0.6	0	0	0	0
			12	0	0	0	0

Component ID 18G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL TRANSFORMERS	PAINT	0.00204	0	0	0	0
			0.0218	0	0	0	0
C	PROCESS EQUIPMENT	SS METAL	0	0	0	0.025	0
			0	0	0	1.3	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000161	0
			0	0	0	0.00344	0
		UNH	0	0	0	0.00321	0
			0	0	0	0.0367	0
	PIPING (OVER 4")	DUST	0	0	0	0.0000132	0
			0	0	0	0.000282	0
		SS METAL	0	0	0	0.00555	0
			0	0	0	0.126	0
		UNH	0	0	0	0.0011	0
			0	0	0	0.0126	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000343	0
			0	0	0	0.00366	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0000332	0
			0	0	0	0.00071	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0262	0
			0	0	0	0.366	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00114	0
			0	0	0	0.013	0
		CRUD	0	0	0	0.000122	0
			0	0	0	0.0013	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0103	0
			0	0	0	0.0916	0
		DUST	0	0	0	0.0000424	0
			0	0	0	0.000907	0
		CRUD	0	0	0	0.0000857	0
			0	0	0	0.000916	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000115	0
			0	0	0	0.000122	0
		METAL	0	0	0	0.00149	0
			0	0	0	0.0999	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000917	0
			0	0	0	0.0098	0
		METAL	0	0	0	0.132	0
			0	0	0	5.87	0
	PIPING (OVER 4")	CRUD	0	0	0	0.000117	0
			0	0	0	0.00126	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.000802	0
			0	0	0	0.00916	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	3.55
			0	0	0	0	47.3
	CONCRETE SLABS	OTHER	0	0	0	0	10.6
			0	0	0	0	141
		OTHER	0	0	1.51	0	0
			0	0	20.2	0	0
G	TRANSITE ROOF	OTHER	0	0	0	0.496	0
			0	0	0	8.82	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0.795	0
			0	0	0	14.2	0
H	PIPING INSULATION	OTHER	0	0	0.00287	0	0
			0	0	1.28	0	0
I	WINDOWS	PAINT	0	0	0	0.000554	0
			0	0	0	0.00592	0
	WOOD	OTHER	0	0	0	0	2.76
			0	0	0	0	184

001932

Component ID 18G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
I	WINDOWS	OTHER	0	0	0	0	0.213
			0	0	0	0	10.7
J	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0289	0
			0	0	0	0.33	0
	PIPING (OVER 4")	UNH	0	0	0	0.0099	0
			0	0	0	0.113	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0102	0
			0	0	0	0.117	0
	PIPING (OVER 4")	DUST	0	0	0.000106	0	0
			0	0	0.00226	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.000385	0	0
			0	0	0.00412	0	0
		DUST	0	0	0.000339	0	0
			0	0	0.00726	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.00154	0	0
			0	0	0.0165	0	0
		DUST	0	0	0.00129	0	0
			0	0	0.0275	0	0
	PIPING (OVER 4")	CRUD	0	0	0.000529	0	0
			0	0	0.00566	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00722	0
			0	0	0	0.0825	0
	PROCESS EQUIPMENT	DUST	0	0	0.000266	0	0
			0	0	0.00568	0	0
		CRUD	0	0	0.000547	0	0
			0	0	0.00585	0	0
	Totals by Segregation Category:		**0.602**	**0**	**1.52**	**5.81**	**17.1**
			12	**0**	**21.6**	**138**	**383**

Component ID 18H — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.15	0
			0	0	0	8.55	0
		PAINT	0	0	0	0.0322	0
			0	0	0	0.344	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
		PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00114	0
			0	0	0	0.0121	0
		DUST	0	0	0	0.000125	0
			0	0	0	0.00267	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.014	0
			0	0	0	0.15	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00154	0
			0	0	0	0.0329	0
		CRUD	0	0	0	0.0148	0
			0	0	0	0.158	0
	PROCESS EQUIPMENT	CRUD	0	0	0	1.59	0
			0	0	0	17	0
		DUST	0	0	0	0.0967	0
			0	0	0	2.07	0
		SS METAL	0	0	0	102	0
			0	0	0	34100	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.274	0
			0	0	0	2.43	0
	DOORS	PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
		METAL	0	0	0	0.445	0
			0	0	0	23.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	3.18	0
			0	0	0	29.1	0
		DUST	0	0	0	0.0102	0
			0	0	0	0.217	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	2.27	0
			0	0	0	31.6	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.211	0
			0	0	0	35.9	0
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0304	0
			0	0	0	0.27	0
	PROCESS EQUIPMENT	UNH	0	0	0	3.31	0
			0	0	0	37.9	0
		SS METAL	0	0	0	11.4	0
			0	0	0	3790	0
		DUST	0	0	0	0.0967	0
			0	0	0	2.07	0
		CRUD	0	0	0	0.354	0
			0	0	0	3.79	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0308	0
			0	0	0	0.351	0
		SS METAL	0	0	0	0.252	0
			0	0	0	3.51	0
		DUST	0	0	0	0.00154	0
			0	0	0	0.0329	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00236	0
			0	0	0	0.027	0
		DUST	0	0	0	0.000125	0
			0	0	0	0.00267	0

001934

Component ID 18H — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.000252	0
			0	0	0	0.0027	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00329	0
			0	0	0	0.0351	0
D	METAL PANEL ROOF	METAL	0	0	0	0.708	0
			0	0	0	2.09	0
		PAINT	0	0	0	0.117	0
			0	0	0	1.25	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.11	0
			0	0	0	3.29	0
		PAINT	0	0	0	0.184	0
			0	0	0	1.97	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	1.11	0
			0	0	0	3.29	0
		PAINT	0	0	0	0.184	0
			0	0	0	1.97	0
E	CONCRETE	OTHER	0	0	0	0	6
			0	0	0	0	80
	CONCRETE FOUNDATION	OTHER	0	0	0	0	14.2
			0	0	0	0	189
	CONCRETE SLABS	OTHER	0	0	0	0	71.1
			0	0	0	0	948
		OTHER	0	0	10.2	0	0
			0	0	135	0	0
H	PIPING INSULATION	OTHER	0	0	0.0181	0	0
			0	0	8.03	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0906	0
			0	0	0	59.9	0
I		OTHER	0	0	0	0.476	0
			0	0	0	315	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	BUILDING INSULATION	OTHER	0	0	0.884	0	0
			0	0	393	0	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0.0148	0	0
			0	0	0.158	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	29.8	0
			0	0	0	341	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.0123	0	0
			0	0	0.264	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.774	0	0
			0	0	16.5	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.000999	0	0
			0	0	0.0214	0	0
		CRUD	0	0	0.00114	0	0
			0	0	0.0121	0	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.277	0
			0	0	0	3.16	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0213	0
			0	0	0	0.243	0
	PROCESS EQUIPMENT	CRUD	0	0	1.59	0	0
			0	0	17	0	0
	Totals by Segregation Category:		**0**	**0**	**13.5**	**162**	**92**
			0	**0**	**570**	**38800**	**1270**

Component ID 18J — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0664	0
			0	0	0	0.71	0
		METAL	0	0	0	4.43	0
			0	0	0	17.7	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0126	0
			0	0	0	0.135	0
		METAL	0	0	0	0.754	0
			0	0	0	6.67	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.296	0
			0	0	0	4.15	0
		PAINT	0	0	0	0.00367	0
			0	0	0	0.0393	0
	PIPING (OVER 4")	METAL	0	0	0	0.366	0
			0	0	0	8.34	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.12	0
			0	0	0	4	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000408	0
			0	0	0	0.00437	0
	PIPING (OVER 4")	PAINT	0	0	0	0.00352	0
			0	0	0	0.0376	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0189	0
			0	0	0	0.174	0
		DUST	0	0	0	0.0000606	0
			0	0	0	0.0013	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.121	0
			0	0	0	0.702	0
		DUST	0	0	0	0.00113	0
			0	0	0	0.0242	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
E	CONCRETE WALLS	OTHER	0	0	0	3.04	0
			0	0	0	40.5	0
		OTHER	0	0	0	0	21.3
			0	0	0	0	283
	CONCRETE SLABS	OTHER	0	0	0	0	55.6
			0	0	0	0	741
	CONCRETE FOUNDATION	OTHER	0	0	0	0	33.4
			0	0	0	0	445
	CONCRETE	OTHER	0	0	0	0	4.61
			0	0	0	0	61.5
	CONCRETE SLABS	OTHER	0	0	0	7.94	0
			0	0	0	106	0
H	PIPING INSULATION	OTHER	0	0	0	0.0113	0
			0	0	0	5.02	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00574	0
			0	0	0	3.79	0
I		OTHER	0	0	0	0.0301	0
			0	0	0	19.9	0
	Totals by Segregation Category:		**0**	**0**	**0**	**17.7**	**115**
			0	**0**	**0**	**242**	**1530**

001336

Component ID 18K

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.97	0
			0	0	0	7.85	0
		PAINT	0	0	0	0.0295	0
			0	0	0	0.316	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	9.4	0
			0	0	0	379	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000408	0
			0	0	0	0.00437	0
		METAL	0	0	0	0.12	0
			0	0	0	4	0
	PIPING (OVER 4")	PAINT	0	0	0	0.00246	0
			0	0	0	0.0263	0
		METAL	0	0	0	0.257	0
			0	0	0	5.84	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.00219	0
			0	0	0	0.0234	0
		METAL	0	0	0	0.131	0
			0	0	0	1.16	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.101	0
			0	0	0	1.08	0
	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
		DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.111	0
			0	0	0	0.644	0
		DUST	0	0	0	0.00104	0
			0	0	0	0.0222	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00574	0
			0	0	0	3.79	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00226
			0	0	0	0	1
I	BASIN LINERS	OTHER	0	0	0	5.4	0
			0	0	0	167	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0301	0
			0	0	0	19.9	0
	Totals by Segregation Category:		**1.5**	**0**	**0**	**17.8**	**0.00226**
			60	**0**	**0**	**598**	**1**

Component ID 18L

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0295	0
			0	0	0	0.316	0
		METAL	0	0	0	1.97	0
			0	0	0	7.85	0
B	ELECTRICAL TRANSFORMERS	PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.131	0
			0	0	0	1.16	0
		PAINT	0	0	0	0.00219	0
			0	0	0	0.0234	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.101	0
			0	0	0	1.08	0
	PIPING (OVER 4")	PAINT	0	0	0	0.00246	0
			0	0	0	0.0263	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	9.4	0
			0	0	0	379	0
	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
	PIPING (OVER 4")	METAL	0	0	0	0.257	0
			0	0	0	5.84	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000408	0
			0	0	0	0.00437	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
		DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.111	0
			0	0	0	0.644	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.12	0
			0	0	0	4	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00104	0
			0	0	0	0.0222	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
H	PIPING INSULATION	OTHER	0	0	0	0	0.00226
			0	0	0	0	1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00688	0
			0	0	0	4.55	0
I	BASIN LINERS	OTHER	0	0	0	5.4	0
			0	0	0	167	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0361	0
			0	0	0	23.9	0
	Totals by Segregation Category:		**1.5**	**0**	**0**	**17.8**	**0.00226**
			60	**0**	**0**	**603**	**1**

001938

Component ID 18M

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0664	0
			0	0	0	0.385	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.00726	0
			0	0	0	0.0777	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000408	0
			0	0	0	0.00437	0
		METAL	0	0	0	0.12	0
			0	0	0	4	0
	PIPING (OVER 4")	PAINT	0	0	0	0.00528	0
			0	0	0	0.0565	0
		METAL	0	0	0	0.55	0
			0	0	0	12.5	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
		METAL	0.5	0	0	0	0
			20	0	0	0	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.435	0
			0	0	0	3.85	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.72	0
			0	0	0	110	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000621	0
			0	0	0	0.0133	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0291	0
			0	0	0	0.312	0
E	CONCRETE WALLS	OTHER	0	0	0	0	142
			0	0	0	0	1890
	CONCRETE SLABS	OTHER	0	0	0	0	549
			0	0	0	0	7320
		OTHER	0	0	0	78.4	0
			0	0	0	1050	0
	CONCRETE WALLS	OTHER	0	0	0	20.3	0
			0	0	0	270	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	84
			0	0	0	0	1120
H	PIPING INSULATION	OTHER	0	0	0	0.00678	0
			0	0	0	3.01	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**103**	**775**
			20	**0**	**0**	**1450**	**10300**

Component ID 18P — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.22	0
			0	0	0	8.83	0
		PAINT	0	0	0	0.0332	0
			0	0	0	0.355	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0117	0
			0	0	0	0.125	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	11.2	0
			0	0	0	14200	0
		DUST	0	0	0	0.0404	0
			0	0	0	0.863	0
		CRUD	0	0	0	0.665	0
			0	0	0	7.11	0
	PIPING (OVER 4")	SS METAL	0	0	0	1.75	0
			0	0	0	39.6	0
		CRUD	0	0	0	0.0185	0
			0	0	0	0.198	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.176	0
			0	0	0	29.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0726	0
			0	0	0	0.777	0
		METAL	0	0	0	2.72	0
			0	0	0	465	0
	DOORS	PAINT	0	0	0	0.019	0
			0	0	0	0.203	0
	ELECTRICAL TRANSFORMERS	METAL	3.89	0	0	0	0
			484	0	0	0	0
	PIPING (OVER 4")	DUST	0	0	0	0.000462	0
			0	0	0	0.00988	0
	ELECTRICAL TRANSFORMERS	PAINT	0.024	0	0	0	0
			0.257	0	0	0	0
	DOORS	METAL	0	0	0	0.388	0
			0	0	0	20.1	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.578	0
			0	0	0	3.35	0
		DUST	0	0	0	0.00541	0
			0	0	0	0.116	0
C	PROCESS EQUIPMENT	DUST	0	0	0	0.0404	0
			0	0	0	0.863	0
		CRUD	0	0	0	0.148	0
			0	0	0	1.58	0
	PIPING (OVER 4")	UNH	0	0	0	0.0385	0
			0	0	0	0.44	0
		SS METAL	0	0	0	0.194	0
			0	0	0	4.4	0
		DUST	0	0	0	0.000462	0
			0	0	0	0.00988	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.302	0
			0	0	0	51.7	0
		PAINT	0	0	0	0.00807	0
			0	0	0	0.0863	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.25	0
			0	0	0	1580	0
		UNH	0	0	0	1.38	0
			0	0	0	15.8	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00411	0
			0	0	0	0.044	0
D	LOUVERS	METAL	0	0	0	0.0508	0
			0	0	0	2.64	0

001940

Component ID 18P

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.879	0
			0	0	0	2.6	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0701	0
			0	0	0	0.75	0
		METAL	0	0	0	0.425	0
			0	0	0	1.26	0
	LOUVERS	PAINT	0	0	0	0.00249	0
			0	0	0	0.0267	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.145	0
			0	0	0	1.55	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	15.7
			0	0	0	0	209
	CONCRETE SLABS	OTHER	0	0	0	0	33.8
			0	0	0	0	450
H	PIPING INSULATION	OTHER	0	0	0	0	0.0103
			0	0	0	0	4.58
I	BUILDING INSULATION	OTHER	0	0	0	0	1.04
			0	0	0	0	460
J	PROCESS EQUIPMENT	DUST	0	0	0	0.323	0
			0	0	0	6.9	0
		CRUD	0	0	0	0.665	0
			0	0	0	7.11	0
	PIPING (OVER 4")	DUST	0	0	0	0.0037	0
			0	0	0	0.079	0
		UNH	0	0	0	0.346	0
			0	0	0	3.96	0
	PROCESS EQUIPMENT	UNH	0	0	0	12.4	0
			0	0	0	142	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0185	0
			0	0	0	0.198	0
	Totals by Segregation Category:		**3.91**	**0**	**0**	**38.6**	**50.6**
			484	**0**	**0**	**16600**	**1120**

Component ID 18Q — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	4.73	0
			0	0	0	18.8	0
		PAINT	0	0	0	0.0708	0
			0	0	0	0.758	0
B	PIPING (2" AND LESS)	SS METAL	0	0	0	2.93	0
			0	0	0	26	0
		DUST	0	0	0	0.00134	0
			0	0	0	0.0286	0
		CRUD	0	0	0	0.0121	0
			0	0	0	0.13	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0514	0
			0	0	0	0.55	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.586	0
			0	0	0	99.6	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.167	0
			0	0	0	1.78	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.109	0
			0	0	0	1.17	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.039	0
			0	0	0	0.417	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00536	0
			0	0	0	0.115	0
		SS METAL	0	0	0	7.88	0
			0	0	0	110	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0509	0
			0	0	0	0.544	0
		SS METAL	0	0	0	4.8	0
			0	0	0	109	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0101	0
			0	0	0	0.216	0
		SS METAL	0	0	0	19	0
			0	0	0	3570	0
	ELECTRICAL TRANSFORMERS	METAL	3.87	0	0	0	0
			407	0	0	0	0
		PAINT	0.0214	0	0	0	0
			0.229	0	0	0	0
	DOORS	METAL	0	0	0	0.842	0
			0	0	0	43.7	0
		PAINT	0	0	0	0.0413	0
			0	0	0	0.442	0
	PIPING (OVER 4")	DUST	0	0	0	0.00127	0
			0	0	0	0.0272	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.149	0
			0	0	0	1.79	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.12	0
			0	0	0	698	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.000449	0
			0	0	0	0.0096	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.37	0
			0	0	0	3.39	0
		DUST	0	0	0	0.00118	0
			0	0	0	0.0253	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	3.08	0
			0	0	0	17.9	0
		DUST	0	0	0	0.0288	0
			0	0	0	0.616	0
C	PIPING (OVER 4")	UNH	0	0	0	0.106	0
			0	0	0	1.21	0

Component ID 18Q — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.325	0
			0	0	0	2.89	0
		UNH	0	0	0	0.0252	0
			0	0	0	0.289	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0114	0
			0	0	0	0.122	0
		DUST	0	0	0	0.00536	0
			0	0	0	0.115	0
		SS METAL	0	0	0	0.875	0
			0	0	0	12.2	0
		UNH	0	0	0	0.107	0
			0	0	0	1.22	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0113	0
			0	0	0	0.121	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00134	0
			0	0	0	0.0286	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.534	0
			0	0	0	12.1	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.037	0
			0	0	0	0.396	0
		DUST	0	0	0	0.0101	0
			0	0	0	0.216	0
		UNH	0	0	0	0.347	0
			0	0	0	3.96	0
	PIPING (OVER 4")	DUST	0	0	0	0.00127	0
			0	0	0	0.0272	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0027	0
			0	0	0	0.0289	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0121	0
			0	0	0	0.129	0
		METAL	0	0	0	0.457	0
			0	0	0	77.5	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	2.11	0
			0	0	0	396	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.214	0
			0	0	0	2.29	0
		METAL	0	0	0	1.29	0
			0	0	0	3.82	0
	LOUVERS	METAL	0	0	0	0.0508	0
			0	0	0	2.64	0
	METAL PANEL ROOF	PAINT	0	0	0	0.15	0
			0	0	0	1.6	0
		METAL	0	0	0	0.906	0
			0	0	0	2.68	0
	LOUVERS	PAINT	0	0	0	0.00249	0
			0	0	0	0.0267	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	5.23
			0	0	0	0	69.8
	CONCRETE SLABS	OTHER	0	0	0	0	94.6
			0	0	0	0	1260
	CONCRETE WALLS	OTHER	0	0	0	0	42
			0	0	0	0	560
H	PIPING INSULATION	OTHER	0	0	0	0	0.113
			0	0	0	0	50.1
I	BUILDING INSULATION	OTHER	0	0	0	0	1.75
			0	0	0	0	777
J	PIPING (OVER 4")	UNH	0	0	0	0.952	0
			0	0	0	10.9	0

Component ID 18Q

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.962	0
			0	0	0	11	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.227	0
			0	0	0	2.6	0
		CRUD	0	0	0	0.0121	0
			0	0	0	0.13	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.167	0
			0	0	0	1.78	0
		UNH	0	0	0	3.12	0
			0	0	0	35.6	0
	PIPING (OVER 4")	DUST	0	0	0	0.0102	0
			0	0	0	0.217	0
		CRUD	0	0	0	0.0509	0
			0	0	0	0.544	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0428	0
			0	0	0	0.916	0
		CRUD	0	0	0	0.0514	0
			0	0	0	0.55	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0107	0
			0	0	0	0.229	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0809	0
			0	0	0	1.73	0
	Totals by Segregation Category:		**3.89**	**0**	**0**	**62.4**	**144**
			407	**0**	**0**	**5290**	**2720**

001344

Component ID 19A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.8	0
			0	0	0	8.55	0
		METAL	0	0	0	53.4	0
			0	0	0	213	0
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.152	0
			0	0	0	3.26	0
		METAL	0	0	0	47.6	0
			0	0	0	436	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	PROCESS EQUIPMENT	METAL	0	0	0	50.4	0
			0	0	0	20200	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	7.67	0
			0	0	0	309	0
		PAINT	0	0	0	0.0821	0
			0	0	0	0.878	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.199	0
			0	0	0	2.13	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.138	0
			0	0	0	1.48	0
	PROCESS EQUIPMENT	PAINT	0	0	0	2.06	0
			0	0	0	22	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
		PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	PIPING (2" AND LESS)	METAL	0	0	0	11.9	0
			0	0	0	105	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	11.2	0
			0	0	0	156	0
E	CONCRETE SLABS	OTHER	0	0	0	0	757
			0	0	0	0	10100
	CONCRETE	OTHER	0	0	0	0	574
			0	0	0	0	7650
	CONCRETE WALLS	OTHER	0	0	0	0	182
			0	0	0	0	2430
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1830
			0	0	0	0	24400
G	FLOOR TILE	OTHER	0	0	0	0	0.55
			0	0	0	0	11.5
H	PIPING INSULATION	OTHER	0	0	0	0	0.174
			0	0	0	0	77.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0941	0
			0	0	0	62.2	0
I		OTHER	0	0	0	0.494	0
			0	0	0	327	0
	Totals by Segregation Category:		**1**	**0**	**0**	**186**	**3340**
			40	**0**	**0**	**21900**	**44700**

Component ID 19B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.112	0
			0	0	0	1.2	0
		METAL	0	0	0	7.49	0
			0	0	0	29.8	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
		METAL	0	0	0	0.117	0
			0	0	0	19.9	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0618	0
			0	0	0	0.661	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	PROCESS EQUIPMENT	METAL	0	0	0	35.4	0
			0	0	0	6070	0
		PAINT	0	0	0	0.621	0
			0	0	0	6.64	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00724	0
			0	0	0	0.155	0
		METAL	0	0	0	0.774	0
			0	0	0	4.49	0
	PIPING (2" AND LESS)	METAL	0	0	0	3.7	0
			0	0	0	32.7	0
E	CONCRETE WALLS	OTHER	0	0	0	0	253
			0	0	0	0	3380
	CONCRETE SLABS	OTHER	0	0	0	0	130
			0	0	0	0	1740
	CONCRETE FOUNDATION	OTHER	0	0	0	0	161
			0	0	0	0	2150
	CONCRETE	OTHER	0	0	0	0	23.5
			0	0	0	0	314
H	PIPING INSULATION	OTHER	0	0	0	0	0.0316
			0	0	0	0	14.1
	Totals by Segregation Category:		**0**	**0**	**0**	**48.8**	**568**
			0	**0**	**0**	**6190**	**7600**

001946

Component ID 19C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0442	0
			0	0	0	0.472	0
		METAL	0	0	0	2.95	0
			0	0	0	11.7	0
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.386	0
			0	0	0	2.24	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000408	0
			0	0	0	0.00873	0
		METAL	0	0	0	0.128	0
			0	0	0	1.17	0
	DOORS	METAL	0	0	0	0.4	0
			0	0	0	20.8	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	2.18	0
			0	0	0	262	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0101	0
			0	0	0	0.108	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
		PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	DOORS	PAINT	0	0	0	0.0196	0
			0	0	0	0.21	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.152	0
			0	0	0	25.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.041	0
			0	0	0	0.438	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00362	0
			0	0	0	0.0774	0
C	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.242	0
			0	0	0	29.2	0
		PAINT	0	0	0	0.00455	0
			0	0	0	0.0487	0
D	METAL PANEL ROOF	METAL	0	0	0	0.51	0
			0	0	0	1.51	0
		PAINT	0	0	0	0.0842	0
			0	0	0	0.9	0
E	CONCRETE	OTHER	0	0	0	0	4.05
			0	0	0	0	54
	MASONRY WALLS	OTHER	0	0	0	0	35.7
			0	0	0	0	1300
	CONCRETE SLABS	OTHER	0	0	0	0	47.5
			0	0	0	0	634
	CONCRETE FOUNDATION	OTHER	0	0	0	0	265
			0	0	0	0	3530
G	CEILING DEMOLITION	OTHER	0	0	0	0	0.341
			0	0	0	0	28.4
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0206	0
			0	0	0	13.7	0
I	WINDOWS	OTHER	0	0	0	0	0.186
			0	0	0	0	9.33
	DRYWALL	OTHER	0	0	0	0	2.13
			0	0	0	0	80.7
	BUILDING INSULATION	OTHER	0	0	0	0	0.863
			0	0	0	0	383
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.108	0
			0	0	0	71.7	0
	WINDOWS	PAINT	0	0	0	0.000484	0
			0	0	0	0.00518	0

Component ID 19C

Material Category	Material Description	CW Type	Segregation Category: PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
Totals by Segregation Category:			0	0	0	7.53	356
			0	0	0	452	6020

001318

Component ID 19D

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PROCESS EQUIPMENT	METAL	0	0	0	26.3	0
			0	0	0	12000	0
		PAINT	0	0	0	1.23	0
			0	0	0	13.1	0
E	CONCRETE	OTHER	0	0	0	0	31.9
			0	0	0	0	425
	CONCRETE FOUNDATION	OTHER	0	0	0	0	115
			0	0	0	0	1540
	CONCRETE	OTHER	0	0	0	4.56	0
			0	0	0	60.8	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0895	0
			0	0	0	59.2	0
I		OTHER	0	0	0	0.47	0
			0	0	0	311	0
	Totals by Segregation Category:		**0**	**0**	**0**	**32.6**	**147**
			0	**0**	**0**	**12400**	**1970**

Component ID 19E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	6.67	0
			0	0	0	26.6	0
		PAINT	0	0	0	0.0999	0
			0	0	0	1.07	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00259	0
			0	0	0	0.0553	0
		METAL	0	0	0	0.276	0
			0	0	0	1.6	0
	DOORS	METAL	0	0	0	0.518	0
			0	0	0	26.9	0
		PAINT	0	0	0	0.0254	0
			0	0	0	0.272	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
		PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	2.05	0
			0	0	0	472	0
		PAINT	0	0	0	0.0328	0
			0	0	0	0.35	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000179	0
			0	0	0	0.00382	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00231	0
			0	0	0	0.0247	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.07	0
			0	0	0	63	0
		CRUD	0	0	0	0.00294	0
			0	0	0	0.0315	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.557	0
			0	0	0	4.94	0
		DUST	0	0	0	0.000254	0
			0	0	0	0.00544	0
C	PROCESS EQUIPMENT	DUST	0	0	0	0.000179	0
			0	0	0	0.00382	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.227	0
			0	0	0	52.5	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.119	0
			0	0	0	7	0
		CRUD	0	0	0	0.000654	0
			0	0	0	0.007	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00481	0
			0	0	0	0.0549	0
		SS METAL	0	0	0	0.0619	0
			0	0	0	0.549	0
		DUST	0	0	0	0.000254	0
			0	0	0	0.00544	0
		CRUD	0	0	0	0.000514	0
			0	0	0	0.00549	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00364	0
			0	0	0	0.0389	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00613	0
			0	0	0	0.07	0
D	LOUVERS	METAL	0	0	0	0.0508	0
			0	0	0	2.64	0

001250

Component ID 19E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
D	METAL PANEL ROOF	PAINT	0	0	0	0.0203	0
			0	0	0	0.217	0
	LOUVERS	PAINT	0	0	0	0.00249	0
			0	0	0	0.0267	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.113	0
			0	0	0	1.21	0
		METAL	0	0	0	0.685	0
			0	0	0	2.02	0
	METAL PANEL ROOF	METAL	0	0	0	0.123	0
			0	0	0	0.362	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	10.1
			0	0	0	0	135
	CONCRETE SLABS	OTHER	0	0	0	0	8.25
			0	0	0	0	110
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0298	0
			0	0	0	19.7	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00452
			0	0	0	0	2.01
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.157	0
			0	0	0	104	0
J	PIPING (2" AND LESS)	CRUD	0	0	0	0.00231	0
			0	0	0	0.0247	0
		DUST	0	0	0	0.00203	0
			0	0	0	0.0435	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00294	0
			0	0	0	0.0315	0
		DUST	0	0	0	0.00143	0
			0	0	0	0.0306	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0433	0
			0	0	0	0.494	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0551	0
			0	0	0	0.63	0
	Totals by Segregation Category:		**0**	**0**	**0**	**13.3**	**18.4**
			0	**0**	**0**	**805**	**247**

Component ID 20A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.201	0
			0	0	0	2.15	0
		METAL	0	0	0	13.4	0
			0	0	0	53.5	0
B	PIPING (2" AND LESS)	CRUD	0	0	0	0.00294	0
			0	0	0	0.0315	0
	PIPING (OVER 4")	CRUD	0	0	0	0.228	0
			0	0	0	2.44	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	PIPING (OVER 4")	DUST	0	0	0	0.00569	0
			0	0	0	0.122	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00477	0
			0	0	0	0.102	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.91	0
			0	0	0	26.7	0
		DUST	0	0	0	0.0013	0
			0	0	0	0.0278	0
		CRUD	0	0	0	0.0125	0
			0	0	0	0.134	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.709	0
			0	0	0	6.29	0
		DUST	0	0	0	0.000324	0
			0	0	0	0.00692	0
	DOORS	PAINT	0	0	0	0.0273	0
			0	0	0	0.292	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.509	0
			0	0	0	2.96	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00317	0
			0	0	0	0.0677	0
	PIPING (OVER 4")	SS METAL	0	0	0	21.5	0
			0	0	0	487	0
	DOORS	METAL	0	0	0	0.556	0
			0	0	0	28.9	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.234	0
			0	0	0	39.8	0
		PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.99	0
			0	0	0	9.07	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.026	0
			0	0	0	0.297	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000324	0
			0	0	0	0.00692	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0506	0
			0	0	0	0.541	0
		DUST	0	0	0	0.00569	0
			0	0	0	0.122	0
		SS METAL	0	0	0	2.39	0
			0	0	0	54.1	0
		UNH	0	0	0	0.474	0
			0	0	0	5.42	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.213	0
			0	0	0	2.97	0
		DUST	0	0	0	0.0013	0
			0	0	0	0.0278	0

OC1252

Component ID 20A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00278	0
			0	0	0	0.0297	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0788	0
			0	0	0	0.699	0
		CRUD	0	0	0	0.000654	0
			0	0	0	0.00699	0
		UNH	0	0	0	0.00612	0
			0	0	0	0.0699	0
D	LOUVERS	METAL	0	0	0	0.0763	0
			0	0	0	3.96	0
		PAINT	0	0	0	0.00374	0
			0	0	0	0.04	0
	LEAD FLASHING	LEAD	0	0	0.05	0	0
			0	0	0.141	0	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	83.8
			0	0	0	0	1120
	CONCRETE SLABS	OTHER	0	0	0	0	32.6
			0	0	0	0	435
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0	3.89
			0	0	0	0	69.2
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0	4.7
			0	0	0	0	85.2
	TRANSITE ROOF	OTHER	0	0	0	0	2.69
			0	0	0	0	47.8
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0321	0
			0	0	0	21.2	0
	PIPING INSULATION	OTHER	0	0	0	0	0.147
			0	0	0	0	65.3
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.169	0
			0	0	0	111	0
	PVC CONDUIT	OTHER	0	0	0	0	0.0363
			0	0	0	0	1.12
	WINDOWS	OTHER	0	0	0	0	1.68
			0	0	0	0	84
	BUILDING INSULATION	OTHER	0	0	0	0	1.2
			0	0	0	0	535
	WINDOWS	PAINT	0	0	0	0.00436	0
			0	0	0	0.0466	0
J	PIPING (2" AND LESS)	UNH	0	0	0	0.0551	0
			0	0	0	0.629	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.234	0
			0	0	0	2.67	0
	PIPING (OVER 4")	DUST	0	0	0	0.0455	0
			0	0	0	0.973	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0104	0
			0	0	0	0.223	0
		CRUD	0	0	0	0.0125	0
			0	0	0	0.134	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00259	0
			0	0	0	0.0554	0
		CRUD	0	0	0	0.00294	0
			0	0	0	0.0315	0
	PIPING (OVER 4")	CRUD	0	0	0	0.228	0
			0	0	0	2.44	0
		UNH	0	0	0	4.26	0
			0	0	0	48.7	0

Component ID 20A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0	0	0.05	49.2	131
			0	0	0.141	936	2490

001254

Attachment B. III (Continued)

Component ID 20B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.809	0
			0	0	0	8.66	0
		METAL	0	0	0	54	0
			0	0	0	215	0
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.586	0
			0	0	0	3.4	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0405	0
			0	0	0	0.433	0
		METAL	0	0	0	0.61	0
			0	0	0	104	0
	DOORS	PAINT	0	0	0	0.0592	0
			0	0	0	0.633	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00548	0
			0	0	0	0.117	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.03	0
			0	0	0	0.321	0
	PIPING (OVER 4")	SS METAL	0	0	0	61.5	0
			0	0	0	1390	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0505	0
			0	0	0	0.54	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0033	0
			0	0	0	0.0705	0
		SS METAL	0	0	0	7.23	0
			0	0	0	64.1	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0502	0
			0	0	0	0.537	0
		DUST	0	0	0	0.00523	0
			0	0	0	0.112	0
		SS METAL	0	0	0	7.69	0
			0	0	0	107	0
	PIPING (OVER 4")	DUST	0	0	0	0.0162	0
			0	0	0	0.347	0
	DOORS	METAL	0	0	0	1.21	0
			0	0	0	62.7	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.139	0
			0	0	0	1.49	0
		DUST	0	0	0	0.00844	0
			0	0	0	0.18	0
		SS METAL	0	0	0	121	0
			0	0	0	2970	0
	PIPING (OVER 4")	CRUD	0	0	0	0.651	0
			0	0	0	6.96	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	2.38	0
			0	0	0	323	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.104	0
			0	0	0	1.19	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0033	0
			0	0	0	0.0705	0
		SS METAL	0	0	0	0.803	0
			0	0	0	7.12	0
		UNH	0	0	0	0.0624	0
			0	0	0	0.713	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0112	0
			0	0	0	0.119	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00561	0
			0	0	0	0.06	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.855	0
			0	0	0	11.9	0

Component ID 20B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.264	0
			0	0	0	35.9	0
	PIPING (OVER 4")	CRUD	0	0	0	0.145	0
			0	0	0	1.55	0
		DUST	0	0	0	0.0162	0
			0	0	0	0.347	0
		SS METAL	0	0	0	6.83	0
			0	0	0	155	0
		UNH	0	0	0	1.35	0
			0	0	0	15.5	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0309	0
			0	0	0	0.33	0
		DUST	0	0	0	0.00844	0
			0	0	0	0.18	0
		SS METAL	0	0	0	13.5	0
			0	0	0	330	0
		UNH	0	0	0	0.289	0
			0	0	0	3.3	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00523	0
			0	0	0	0.112	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00666	0
			0	0	0	0.0713	0
D	LEAD FLASHING	LEAD	0	0	0.025	0	0
			0	0	0.0704	0	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.42	0
			0	0	0	4.18	0
	DUCTWORK	PAINT	0	0	0	0.0509	0
			0	0	0	0.545	0
		METAL	0	0	0	0.823	0
			0	0	0	2.17	0
		DUST	0	0	0	0.00255	0
			0	0	0	0.0545	0
	LOUVERS	PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
	METAL PANEL ROOF	METAL	0	0	0	0.637	0
			0	0	0	1.88	0
		PAINT	0	0	0	0.105	0
			0	0	0	1.12	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.234	0
			0	0	0	2.5	0
	LOUVERS	METAL	0	0	0	0.191	0
			0	0	0	9.9	0
E	CONCRETE WALLS	OTHER	0	0	0	0	17.5
			0	0	0	0	233
	CONCRETE SLABS	OTHER	0	0	0	0	216
			0	0	0	0	2890
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1390
			0	0	0	0	18600
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0	7.03
			0	0	0	0	125
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0	2.18
			0	0	0	0	39.5
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0654	0
			0	0	0	43.2	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.0123
			0	0	0	0	5.45
	PIPING INSULATION	OTHER	0	0	0	0	0.486
			0	0	0	0	216

Component ID 20B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
I	WINDOWS	PAINT	0	0	0	0.00536	0
			0	0	0	0.0573	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	BUILDING INSULATION	OTHER	0	0	0	0	2.08
			0	0	0	0	926
	WINDOWS	OTHER	0	0	0	0	2.06
			0	0	0	0	103
	ROOFING (BUILT UP)	OTHER	0	0	0	0	11
			0	0	0	0	305
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.343	0
			0	0	0	227	0
J	PIPING (OVER 4")	UNH	0	0	0	12.2	0
			0	0	0	139	0
	PROCESS EQUIPMENT	UNH	0	0	0	2.6	0
			0	0	0	29.7	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.561	0
			0	0	0	6.41	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.139	0
			0	0	0	1.49	0
	PIPING (OVER 4")	DUST	0	0	0	0.13	0
			0	0	0	2.78	0
		CRUD	0	0	0	0.651	0
			0	0	0	6.96	0
	DUCTWORK	DUST	0	0	0	0.0229	0
			0	0	0	0.49	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0418	0
			0	0	0	0.895	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0675	0
			0	0	0	1.44	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0502	0
			0	0	0	0.537	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0264	0
			0	0	0	0.564	0
		CRUD	0	0	0	0.03	0
			0	0	0	0.321	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.94	0
			0	0	0	10.7	0
	Totals by Segregation Category:		**0**	**0**	**0.025**	**304**	**1650**
			0	**0**	**0.0704**	**6320**	**23500**

Component ID 20C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0823	0
			0	0	0	0.88	0
		METAL	0	0	0	5.49	0
			0	0	0	21.9	0
B	PROCESS EQUIPMENT	METAL	0	0	0	171	0
			0	0	0	177000	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.989	0
			0	0	0	39.9	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.43	0
			0	0	0	12.6	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	5.1	0
			0	0	0	71.4	0
		PAINT	0	0	0	0.0632	0
			0	0	0	0.675	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00545	0
			0	0	0	0.0583	0
	PIPING (OVER 4")	PAINT	0	0	0	0.161	0
			0	0	0	1.72	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0106	0
			0	0	0	0.113	0
	PROCESS EQUIPMENT	PAINT	0	0	0	18.1	0
			0	0	0	193	0
	PIPING (OVER 4")	METAL	0	0	0	16.8	0
			0	0	0	381	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.511	0
			0	0	0	2.97	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0238	0
			0	0	0	0.255	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00478	0
			0	0	0	0.102	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.082	0
			0	0	0	13.9	0
D	LOUVERS	METAL	0	0	0	5.12	0
			0	0	0	266	0
		PAINT	0	0	0	0.251	0
			0	0	0	2.68	0
E	CONCRETE SLABS	OTHER	0	0	0	19.8	0
			0	0	0	264	0
	CONCRETE WALLS	OTHER	0	0	0	0	134
			0	0	0	0	1780
	CONCRETE SLABS	OTHER	0	0	0	0	139
			0	0	0	0	1850
	CONCRETE FOUNDATION	OTHER	0	0	0	0	398
			0	0	0	0	5300
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0	24.4
			0	0	0	0	434
H	PIPING INSULATION	OTHER	0	0	0	0	0.136
			0	0	0	0	60.2
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0379	0
			0	0	0	25	0
I	WOOD	OTHER	0	0	72.6	0	0
			0	0	4840	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.199	0
			0	0	0	131	0
	Totals by Segregation Category:		**0**	**0**	**72.6**	**245**	**696**
			0	**0**	**4840**	**178000**	**9420**

001978

Attachment B. III (Continued)

Component ID 20D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	126	0
			0	0	0	501	0
		PAINT	0	0	0	1.88	0
			0	0	0	20.1	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0131	0
			0	0	0	0.279	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0677	0
			0	0	0	0.724	0
		METAL	0	0	0	7.05	0
			0	0	0	160	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.00145	0
			0	0	0	0.0155	0
		METAL	0	0	0	0.0871	0
			0	0	0	0.77	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000255	0
			0	0	0	0.00273	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.292	0
			0	0	0	49.9	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0597	0
			0	0	0	2.5	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.4	0
			0	0	0	8.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.16	0
			0	0	0	1.46	0
		DUST	0	0	0	0.00051	0
			0	0	0	0.0109	0
E	CONCRETE SLABS	OTHER	0	0	0	0	13.8
			0	0	0	0	184
	CONCRETE FOUNDATION	OTHER	0	0	0	0	643
			0	0	0	0	8570
H	PIPING INSULATION	OTHER	0	0	0	0	0.0385
			0	0	0	0	17.1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
I		OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	BUILDING INSULATION	OTHER	0	0	0	0	0.566
			0	0	0	0	251
	Totals by Segregation Category:		**0**	**0**	**0**	**137**	**657**
			0	**0**	**0**	**859**	**9020**

Component ID 20E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	DOORS	METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
		METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00421	0
			0	0	0	0.045	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0221	0
			0	0	0	3.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0915	0
			0	0	0	0.531	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.108	0
			0	0	0	1.51	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000857	0
			0	0	0	0.0183	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000412	0
			0	0	0	0.00441	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.158	0
			0	0	0	27	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000734	0
			0	0	0	0.00157	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00564	0
			0	0	0	0.0603	0
		DUST	0	0	0	0.000141	0
			0	0	0	0.00301	0
		SS METAL	0	0	0	0.533	0
			0	0	0	12.1	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000505	0
			0	0	0	0.0054	0
		DUST	0	0	0	0.0000306	0
			0	0	0	0.000655	0
		SS METAL	0	0	0	1.8	0
			0	0	0	10.8	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000705	0
			0	0	0	0.00754	0
C	HVAC EQUIPMENT	METAL	0	0	0	0.00245	0
			0	0	0	0.4	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000468	0
			0	0	0	0.005	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000458	0
			0	0	0	0.00049	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000157	0
			0	0	0	0.00168	0
		DUST	0	0	0	0.0000734	0
			0	0	0	0.00157	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00105	0
			0	0	0	0.012	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00147	0
			0	0	0	0.0168	0
		SS METAL	0	0	0	0.012	0
			0	0	0	0.168	0
	PIPING (OVER 4")	DUST	0	0	0	0.000141	0
			0	0	0	0.00301	0
		SS METAL	0	0	0	0.0592	0
			0	0	0	1.34	0

001300

Attachment B. III (Continued)

Component ID 20E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (OVER 4")	UNH	0	0	0	0.0117	0
			0	0	0	0.134	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000112	0
			0	0	0	0.0012	0
		DUST	0	0	0	0.0000306	0
			0	0	0	0.000655	0
		SS METAL	0	0	0	0.2	0
			0	0	0	1.2	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0175	0
			0	0	0	3	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00125	0
			0	0	0	0.0134	0
D	LEAD FLASHING	LEAD	0	0	0.014	0	0
			0	0	0.0394	0	0
E	MASONRY WALLS	OTHER	0	0	0	0	8.12
			0	0	0	0	295
	CONCRETE SLABS	OTHER	0	0	0	0	6
			0	0	0	0	80
	CONCRETE BEAMS	OTHER	0	0	0	0	0.304
			0	0	0	0	4.05
H	PIPING INSULATION	OTHER	0	0	0	0	0.00393
			0	0	0	0	1.75
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
I	WINDOWS	PAINT	0	0	0	0.000233	0
			0	0	0	0.0025	0
	WOOD	OTHER	0	0	0	0	0.501
			0	0	0	0	33.4
	WINDOWS	OTHER	0	0	0	0	0.0898
			0	0	0	0	4.5
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.48
			0	0	0	0	13.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
J	PIPING (OVER 4")	UNH	0	0	0	0.106	0
			0	0	0	1.21	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0132	0
			0	0	0	0.151	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000245	0
			0	0	0	0.00524	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000587	0
			0	0	0	0.0126	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00564	0
			0	0	0	0.0603	0
		DUST	0	0	0	0.00113	0
			0	0	0	0.0241	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000505	0
			0	0	0	0.0054	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000705	0
			0	0	0	0.00754	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00945	0
			0	0	0	0.108	0
	Totals by Segregation Category:		**0**	**0**	**0.014**	**3.43**	**15.5**
			0	**0**	**0.0394**	**183**	**432**

Component ID 20F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PIPING (OVER 4")	DUST	0	0	0	0.000141	0
			0	0	0	0.00301	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.221	0
			0	0	0	37.7	0
		PAINT	0	0	0	0.00589	0
			0	0	0	0.063	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000412	0
			0	0	0	0.00441	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000734	0
			0	0	0	0.00157	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00564	0
			0	0	0	0.0603	0
		SS METAL	0	0	0	0.533	0
			0	0	0	12.1	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000505	0
			0	0	0	0.0054	0
		DUST	0	0	0	0.0000306	0
			0	0	0	0.000655	0
		SS METAL	0	0	0	1.8	0
			0	0	0	10.8	0
	DOORS	METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0221	0
			0	0	0	3.6	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.108	0
			0	0	0	1.51	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.109	0
			0	0	0	0.633	0
		DUST	0	0	0	0.00102	0
			0	0	0	0.0218	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000705	0
			0	0	0	0.00754	0
C	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000654	0
			0	0	0	0.007	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00245	0
			0	0	0	0.4	0
		PAINT	0	0	0	0.0000458	0
			0	0	0	0.00049	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000157	0
			0	0	0	0.00168	0
		DUST	0	0	0	0.0000734	0
			0	0	0	0.00157	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0246	0
			0	0	0	4.19	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00125	0
			0	0	0	0.0134	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00147	0
			0	0	0	0.0168	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.0592	0
			0	0	0	1.34	0
		UNH	0	0	0	0.0117	0
			0	0	0	0.134	0

OC1052

Attachment B. III (Continued)

Component ID 20F — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.000112	0
			0	0	0	0.0012	0
		DUST	0	0	0	0.0000306	0
			0	0	0	0.000655	0
		SS METAL	0	0	0	0.2	0
			0	0	0	1.2	0
		UNH	0	0	0	0.00105	0
			0	0	0	0.012	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.012	0
			0	0	0	0.168	0
	PIPING (OVER 4")	DUST	0	0	0	0.000141	0
			0	0	0	0.00301	0
D	LEAD FLASHING	LEAD	0	0	0.014	0	0
			0	0	0.0394	0	0
E	MASONRY WALLS	OTHER	0	0	0	0	8.16
			0	0	0	0	297
	CONCRETE BEAMS	OTHER	0	0	0	0	0.304
			0	0	0	0	4.05
	CONCRETE SLABS	OTHER	0	0	0	0	6
			0	0	0	0	80
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00393
			0	0	0	0	1.75
I	WINDOWS	PAINT	0	0	0	0.000216	0
			0	0	0	0.00231	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.48
			0	0	0	0	13.3
	WINDOWS	OTHER	0	0	0	0	0.0831
			0	0	0	0	4.16
	WOOD	OTHER	0	0	0	0	0.501
			0	0	0	0	33.4
J	PROCESS EQUIPMENT	UNH	0	0	0	0.00945	0
			0	0	0	0.108	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0132	0
			0	0	0	0.151	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000245	0
			0	0	0	0.00524	0
	PIPING (OVER 4")	DUST	0	0	0	0.00113	0
			0	0	0	0.0241	0
		CRUD	0	0	0	0.00564	0
			0	0	0	0.0603	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000587	0
			0	0	0	0.0126	0
		CRUD	0	0	0	0.000705	0
			0	0	0	0.00754	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000505	0
			0	0	0	0.0054	0
	PIPING (OVER 4")	UNH	0	0	0	0.106	0
			0	0	0	1.21	0
	Totals by Segregation Category:		**0**	**0**	**0.014**	**3.52**	**15.5**
			0	**0**	**0.0394**	**195**	**434**

Component ID 20G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.378	0
			0	0	0	1.51	0
		PAINT	0	0	0	0.00567	0
			0	0	0	0.0606	0
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
		METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
	DOORS	METAL	0	0	0	0.152	0
			0	0	0	7.92	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.26	0
			0	0	0	327	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0153	0
			0	0	0	0.163	0
		DUST	0	0	0	0.000927	0
			0	0	0	0.0198	0
	DOORS	PAINT	0	0	0	0.00748	0
			0	0	0	0.08	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0714	0
			0	0	0	3.59	0
		PAINT	0	0	0	0.000561	0
			0	0	0	0.006	0
C		METAL	0	0	0	0.00794	0
			0	0	0	0.399	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0318	0
			0	0	0	0.363	0
		SS METAL	0	0	0	0.14	0
			0	0	0	36.3	0
		DUST	0	0	0	0.000927	0
			0	0	0	0.0198	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000623	0
			0	0	0	0.000667	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00339	0
			0	0	0	0.0363	0
D	LEAD FLASHING	LEAD	0	0	0.014	0	0
			0	0	0.0394	0	0
	LOUVERS	PAINT	0	0	0	0.00203	0
			0	0	0	0.0217	0
		METAL	0	0	0	0.0413	0
			0	0	0	2.15	0
E	MASONRY WALLS	OTHER	0	0	0	0	10.5
			0	0	0	0	383
	CONCRETE WALLS	OTHER	0	0	0	0	0.304
			0	0	0	0	4.05
	CONCRETE SLABS	OTHER	0	0	0	0	6
			0	0	0	0	80
	CONCRETE BEAMS	OTHER	0	0	0	0	0.648
			0	0	0	0	8.64
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
I	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.843
			0	0	0	0	23.4
	WINDOWS	PAINT	0	0	0	0.000233	0
			0	0	0	0.0025	0

001984

Attachment B. III (Continued)

Component ID 20G

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	WINDOWS	OTHER	0	0	0	0	0.0898
			0	0	0	0	4.5
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	WOOD	OTHER	0	0	0	0	0.84
			0	0	0	0	56
J	PROCESS EQUIPMENT	DUST	0	0	0	0.00742	0
			0	0	0	0.159	0
		UNH	0	0	0	0.286	0
			0	0	0	3.27	0
		CRUD	0	0	0	0.0153	0
			0	0	0	0.163	0
	Totals by Segregation Category:		**0**	**0**	**0.014**	**2.65**	**19.2**
			0	**0**	**0.0394**	**499**	**560**

Component ID 20H

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (OVER 4")	METAL	0	0	0	2.05	0
			0	0	0	46.7	0
		PAINT	0	0	0	0.0197	0
			0	0	0	0.211	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	390
			0	0	0	0	5200
	CONCRETE WALLS	OTHER	0	0	0	0	314
			0	0	0	0	4190
	CONCRETE SLABS	OTHER	0	0	0	0	294
			0	0	0	0	3920
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.267	0
			0	0	0	177	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0113
			0	0	0	0	5.02
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	1.4	0
			0	0	0	928	0
	Totals by Segregation Category:		**0**	**0**	**0**	**3.74**	**998**
			0	**0**	**0**	**1150**	**13300**

001366

Attachment B. III (Continued)

Component ID 22A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.394	0
			0	0	0	1.57	0
		PAINT	0	0	0	0.0059	0
			0	0	0	0.0631	0
B	PIPING (OVER 4")	DUST	0	0	0	0.000132	0
			0	0	0	0.00282	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00122	0
			0	0	0	0.0262	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.45	0
			0	0	0	14.4	0
	DOORS	METAL	0	0	0	0.134	0
			0	0	0	6.93	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.131	0
			0	0	0	0.759	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00529	0
			0	0	0	0.0566	0
		SS METAL	0	0	0	0.5	0
			0	0	0	11.3	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000673	0
			0	0	0	0.0072	0
		DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	DOORS	PAINT	0	0	0	0.00655	0
			0	0	0	0.07	0
C	PIPING (OVER 4")	UNH	0	0	0	0.011	0
			0	0	0	0.126	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0014	0
			0	0	0	0.016	0
		SS METAL	0	0	0	0.05	0
			0	0	0	1.6	0
		CRUD	0	0	0	0.00015	0
			0	0	0	0.0016	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.0555	0
			0	0	0	1.26	0
		DUST	0	0	0	0.000132	0
			0	0	0	0.00282	0
		CRUD	0	0	0	0.00118	0
			0	0	0	0.0126	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
E	MASONRY WALLS	OTHER	0	0	0	0	11.4
			0	0	0	0	415
	CONCRETE SLABS	OTHER	0	0	0	0	35.6
			0	0	0	0	474
	CONCRETE FOUNDATION	OTHER	0	0	0	0	0.6
			0	0	0	0	8
	CONCRETE	OTHER	0	0	0	0	2.36
			0	0	0	0	31.4
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00295
			0	0	0	0	1.31
I	WINDOWS	PAINT	0	0	0	0.000311	0
			0	0	0	0.00333	0

Component ID 22A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.066
			0	0	0	0	4.4
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.996
			0	0	0	0	27.7
	WINDOWS	OTHER	0	0	0	0	0.12
			0	0	0	0	6
J	PROCESS EQUIPMENT	CRUD	0	0	0	0.000673	0
			0	0	0	0.0072	0
		DUST	0	0	0	0.000327	0
			0	0	0	0.00699	0
		UNH	0	0	0	0.0126	0
			0	0	0	0.144	0
	PIPING (OVER 4")	DUST	0	0	0	0.00106	0
			0	0	0	0.0226	0
		CRUD	0	0	0	0.00529	0
			0	0	0	0.0566	0
		UNH	0	0	0	0.099	0
			0	0	0	1.13	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2.09**	**51.1**
			0	**0**	**0**	**161**	**968**

001008

Component ID 22B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.551	0
			0	0	0	2.19	0
		PAINT	0	0	0	0.00825	0
			0	0	0	0.0882	0
B	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0125	0
			0	0	0	0.134	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.465	0
			0	0	0	80	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
		METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.207	0
			0	0	0	1.2	0
		DUST	0	0	0	0.00194	0
			0	0	0	0.0415	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00547	0
			0	0	0	0.0585	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000332	0
			0	0	0	0.0071	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.999	0
			0	0	0	22.6	0
		DUST	0	0	0	0.000264	0
			0	0	0	0.00564	0
		CRUD	0	0	0	0.0106	0
			0	0	0	0.113	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0405	0
			0	0	0	0.566	0
	HVAC EQUIPMENT	METAL	0	0	0	0.2	0
			0	0	0	19.8	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000264	0
			0	0	0	0.00283	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.319	0
			0	0	0	2.83	0
		DUST	0	0	0	0.000145	0
			0	0	0	0.00311	0
		CRUD	0	0	0	0.00132	0
			0	0	0	0.0141	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00227	0
			0	0	0	0.0243	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000275	0
			0	0	0	0.000589	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.72	0
			0	0	0	117	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00055	0
			0	0	0	0.00628	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00235	0
			0	0	0	0.0251	0
		DUST	0	0	0	0.000264	0
			0	0	0	0.00564	0
		UNH	0	0	0	0.022	0
			0	0	0	0.251	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000332	0
			0	0	0	0.0071	0

Component ID 22B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	UNH	0	0	0	0.0114	0
			0	0	0	0.13	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0045	0
			0	0	0	0.0628	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.111	0
			0	0	0	2.51	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.08	0
			0	0	0	13	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0223	0
			0	0	0	2.2	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000275	0
			0	0	0	0.000589	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00122	0
			0	0	0	0.013	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00139	0
			0	0	0	0.0148	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000252	0
			0	0	0	0.0027	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000294	0
			0	0	0	0.00314	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0516	0
			0	0	0	8.88	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000145	0
			0	0	0	0.00311	0
		SS METAL	0	0	0	0.0354	0
			0	0	0	0.314	0
		UNH	0	0	0	0.00275	0
			0	0	0	0.0314	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0000587	0
			0	0	0	0.000628	0
D	DUCTWORK	METAL	0	0	0	0.44	0
			0	0	0	1.16	0
		PAINT	0	0	0	0.0273	0
			0	0	0	0.292	0
	METAL PANEL ROOF	METAL	0	0	0	0.0699	0
			0	0	0	0.206	0
		PAINT	0	0	0	0.0115	0
			0	0	0	0.123	0
	DUCTWORK	DUST	0	0	0	0.00136	0
			0	0	0	0.0292	0
E	CONCRETE	OTHER	0	0	0	0	13.1
			0	0	0	0	174
	CONCRETE SLABS	OTHER	0	0	0	0	5.06
			0	0	0	0	67.5
	MASONRY WALLS	OTHER	0	0	0	0	6.78
			0	0	0	0	247
	CONCRETE WALLS	OTHER	0	0	0	0	0.608
			0	0	0	0	8.1
H	DUCTWORK INSULATION	OTHER	0	0	0	0	0.00656
			0	0	0	0	2.92
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00913
			0	0	0	0	4.06
I	WINDOWS	OTHER	0	0	0	0	0.0532
			0	0	0	0	2.67
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0

001370

Attachment B. III (Continued)

Component ID 22B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	WINDOWS	PAINT	0	0	0	0.000138	0
			0	0	0	0.00148	0
J	PIPING (2" AND LESS)	CRUD	0	0	0	0.00132	0
			0	0	0	0.0141	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00266	0
			0	0	0	0.0568	0
		CRUD	0	0	0	0.00547	0
			0	0	0	0.0585	0
	PIPING (OVER 4")	DUST	0	0	0	0.00211	0
			0	0	0	0.0452	0
		CRUD	0	0	0	0.0106	0
			0	0	0	0.113	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00022	0
			0	0	0	0.00471	0
		CRUD	0	0	0	0.000264	0
			0	0	0	0.00283	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00116	0
			0	0	0	0.0249	0
	DUCTWORK	DUST	0	0	0	0.0123	0
			0	0	0	0.263	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.102	0
			0	0	0	1.17	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0247	0
			0	0	0	0.283	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00495	0
			0	0	0	0.0566	0
	PIPING (OVER 4")	UNH	0	0	0	0.198	0
			0	0	0	2.26	0
	Totals by Segregation Category:		**0**	**0**	**0**	**5.08**	**25.6**
			0	**0**	**0**	**402**	**506**

Component ID 22C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	5.28	0
			0	0	0	21	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0359	0
			0	0	0	0.899	0
		PAINT	0	0	0	0.00014	0
			0	0	0	0.0015	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
		DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		SS METAL	0	0	0	0.045	0
			0	0	0	1.8	0
C	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.00398	0
			0	0	0	0.0998	0
		PAINT	0	0	0	0.0000156	0
			0	0	0	0.000167	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000187	0
			0	0	0	0.0002	0
		DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		SS METAL	0	0	0	0.005	0
			0	0	0	0.2	0
		UNH	0	0	0	0.000175	0
			0	0	0	0.002	0
J		DUST	0	0	0.0000409	0	0
			0	0	0.000873	0	0
		UNH	0	0	0	0.00158	0
			0	0	0	0.018	0
		CRUD	0	0	0.0000842	0	0
			0	0	0.0009	0	0
	Totals by Segregation Category:		**0**	**0**	**0.000125**	**5.37**	**0**
			0	**0**	**0.00177**	**24**	**0**

OC1372

Component ID 22D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0114	0
			0	0	0	0.122	0
		METAL	0	0	0	0.761	0
			0	0	0	3.03	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0319	0
			0	0	0	0.292	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0359	0
			0	0	0	0.899	0
		PAINT	0	0	0	0.00014	0
			0	0	0	0.0015	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000102	0
			0	0	0	0.00218	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00000246	0
			0	0	0	0.0000527	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0000224	0
			0	0	0	0.00024	0
		SS METAL	0	0	0	0.0054	0
			0	0	0	0.0479	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		SS METAL	0	0	0	0.045	0
			0	0	0	1.8	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0539	0
			0	0	0	0.899	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.00000498	0
			0	0	0	0.0000533	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.000175	0
			0	0	0	0.002	0
		SS METAL	0	0	0	0.005	0
			0	0	0	0.2	0
		DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		CRUD	0	0	0	0.0000187	0
			0	0	0	0.0002	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0000466	0
			0	0	0	0.000533	0
		DUST	0	0	0	0.00000246	0
			0	0	0	0.0000527	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000115	0
			0	0	0	0.000122	0
		METAL	0	0	0	0.00599	0
			0	0	0	0.0999	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000156	0
			0	0	0	0.000167	0
		METAL	0	0	0	0.00398	0
			0	0	0	0.0998	0

Component ID 22D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0006	0
			0	0	0	0.00532	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	99.5
			0	0	0	0	1330
	CONCRETE SLABS	OTHER	0	0	0	0	33
			0	0	0	0	440
	CONCRETE	OTHER	0	0	0	0	10.7
			0	0	0	0	143
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0	0.656
			0	0	0	0	11.7
	TRANSITE ROOF	OTHER	0	0	0	0	0.226
			0	0	0	0	4.01
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0000499
			0	0	0	0	0.0222
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
J	PROCESS EQUIPMENT	DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.000419	0
			0	0	0	0.00479	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000197	0
			0	0	0	0.000422	0
		CRUD	0	0	0	0.0000224	0
			0	0	0	0.00024	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00158	0
			0	0	0	0.018	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1.42**	**144**
			0	**0**	**0**	**132**	**1930**

001374

Component ID 22E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	56.6	0
			0	0	0	225	0
E	CONCRETE	OTHER	0	0	0	0	3150
			0	0	0	0	42000
	Totals by Segregation Category:		**0**	**0**	**0**	**56.6**	**3150**
			0	**0**	**0**	**225**	**42000**

Component ID 23 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.86	0
			0	0	0	7.42	0
		PAINT	0	0	0	0.0279	0
			0	0	0	0.298	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.21	0
			0	0	0	35.9	0
		PAINT	0	0	0	0.00561	0
			0	0	0	0.06	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
		METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
E	CONCRETE SLABS	OTHER	0	0	0	0.169	0
			0	0	0	2.25	0
		OTHER	0	0	0	0	1.18
			0	0	0	0	15.7
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1.41
			0	0	0	0	18.7
	Totals by Segregation Category:		**0**	**0**	**0**	**2.31**	**2.59**
			0	**0**	**0**	**46.1**	**34.4**

001976

Component ID 24A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
	DOORS	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
	DOORS	METAL	0	0	0	0.0636	0
			0	0	0	3.3	0
E	MASONRY WALLS	OTHER	0	0	0	0	9.28
			0	0	0	0	337
	CONCRETE WALLS	OTHER	0	0	0	0	234
			0	0	0	0	3120
	CONCRETE SLABS	OTHER	0	0	0	0	25.3
			0	0	0	0	337
		OTHER	0	0	0	3.61	0
			0	0	0	48.2	0
	MASONRY WALLS	OTHER	0	0	0	0.619	0
			0	0	0	22.5	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	43.5
			0	0	0	0	580
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00459	0
			0	0	0	3.04	0
I		OTHER	0	0	0	0.0241	0
			0	0	0	15.9	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.6
			0	0	0	0	16.7
	WINDOWS	OTHER	0	0	0	0	0.183
			0	0	0	0	9.16
		PAINT	0	0	0	0.000476	0
			0	0	0	0.00509	0
	WOOD	OTHER	0	0	0	0.375	0
			0	0	0	25	0
	Totals by Segregation Category:		**0**	**0**	**0**	**4.73**	**313**
			0	**0**	**0**	**118**	**4400**

Component ID 24B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.98	0
			0	0	0	11.8	0
		PAINT	0	0	0	0.0446	0
			0	0	0	0.477	0
B	PIPING (2" AND LESS)	DUST	0	0	0	0.000181	0
			0	0	0	0.00388	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00775	0
			0	0	0	0.166	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000825	0
			0	0	0	0.00882	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00673	0
			0	0	0	0.072	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00165	0
			0	0	0	0.0177	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.398	0
			0	0	0	3.53	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00374	0
			0	0	0	0.04	0
		DUST	0	0	0	0.00039	0
			0	0	0	0.00834	0
		SS METAL	0	0	0	0.573	0
			0	0	0	8.01	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000126	0
			0	0	0	0.00135	0
		DUST	0	0	0	0.00000766	0
			0	0	0	0.000164	0
		SS METAL	0	0	0	0.036	0
			0	0	0	2.7	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	DOORS	PAINT	0	0	0	0.0374	0
			0	0	0	0.4	0
		METAL	0	0	0	0.763	0
			0	0	0	39.6	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.635	0
			0	0	0	5.82	0
		DUST	0	0	0	0.00203	0
			0	0	0	0.0434	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.828	0
			0	0	0	4.81	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.398	0
			0	0	0	43.1	0
	HVAC EQUIPMENT	METAL	0	0	0	0.305	0
			0	0	0	7.19	0
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.000367	0
			0	0	0	0.00392	0
		DUST	0	0	0	0.000181	0
			0	0	0	0.00388	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.000262	0
			0	0	0	0.003	0
		CRUD	0	0	0	0.0000281	0
			0	0	0	0.0003	0

Attachment B. III (Continued)

Component ID 24B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00778	0
			0	0	0	0.0889	0
		SS METAL	0	0	0	0.0637	0
			0	0	0	0.889	0
		DUST	0	0	0	0.00039	0
			0	0	0	0.00834	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00343	0
			0	0	0	0.0392	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.004	0
			0	0	0	0.3	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000916	0
			0	0	0	0.00098	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00000766	0
			0	0	0	0.000164	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000832	0
			0	0	0	0.00889	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0442	0
			0	0	0	0.392	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000748	0
			0	0	0	0.008	0
		METAL	0	0	0	0.0442	0
			0	0	0	4.79	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0339	0
			0	0	0	0.799	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	23.4
			0	0	0	0	312
	MASONRY WALLS	OTHER	0	0	0	2.98	0
			0	0	0	108	0
	CONCRETE	OTHER	0	0	0	0	42
			0	0	0	0	560
	CONCRETE SLABS	OTHER	0	0	0	0	79.7
			0	0	0	0	1060
	CONCRETE WALLS	OTHER	0	0	0	0	29.7
			0	0	0	0	396
	MASONRY WALLS	OTHER	0	0	0	0	44.7
			0	0	0	0	1630
	CONCRETE SLABS	OTHER	0	0	0	11.4	0
			0	0	0	152	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0413	0
			0	0	0	27.3	0
	PIPING INSULATION	OTHER	0	0	0	0.00678	0
			0	0	0	3.01	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.217	0
			0	0	0	143	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	3.6
			0	0	0	0	100
	BUILDING INSULATION	OTHER	0	0	0	0.45	0
			0	0	0	200	0
	WINDOWS	PAINT	0	0	0	0.00138	0
			0	0	0	0.0148	0
		OTHER	0	0	0	0	0.532
			0	0	0	0	26.7
J	PIPING (2" AND LESS)	DUST	0	0	0.00145	0	0
			0	0	0.0311	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.00374	0	0
			0	0	0.04	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0000613	0	0
			0	0	0.00131	0	0

Component ID 24B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PROCESS EQUIPMENT	CRUD	0	0	0.000126	0	0
			0	0	0.00135	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00165	0	0
			0	0	0.0177	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00236	0
			0	0	0	0.027	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.07	0
			0	0	0	0.8	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0309	0
			0	0	0	0.353	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00312	0	0
			0	0	0.0667	0	0
	Totals by Segregation Category:		**0**	**0**	**0.0101**	**22.8**	**224**
			0	**0**	**0.158**	**796**	**4080**

001080

Component ID 25A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000688	0
			0	0	0	0.00147	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.273	0
			0	0	0	1.58	0
		DUST	0	0	0	0.00255	0
			0	0	0	0.0545	0
	DOORS	PAINT	0	0	0	0.00982	0
			0	0	0	0.105	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.287	0
			0	0	0	49	0
		PAINT	0	0	0	0.00764	0
			0	0	0	0.0818	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
		PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0134	0
			0	0	0	0.899	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000661	0
			0	0	0	0.00707	0
	ELECTRICAL TRANSFORMERS	METAL	0.225	0	0	0	0
			4.5	0	0	0	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.101	0
			0	0	0	1.41	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000046	0
			0	0	0	0.000983	0
		CRUD	0	0	0	0.000757	0
			0	0	0	0.0081	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00106	0	0	0	0
			0.0114	0	0	0	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.315	0
			0	0	0	16.2	0
	DOORS	METAL	0	0	0	0.2	0
			0	0	0	10.4	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
C	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0319	0
			0	0	0	5.44	0
		PAINT	0	0	0	0.000849	0
			0	0	0	0.00908	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00149	0
			0	0	0	0.0999	0
		PAINT	0	0	0	0.0000115	0
			0	0	0	0.000122	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000147	0
			0	0	0	0.00157	0
		DUST	0	0	0	0.0000688	0
			0	0	0	0.00147	0
		SS METAL	0	0	0	0.0112	0
			0	0	0	0.157	0
		UNH	0	0	0	0.00137	0
			0	0	0	0.0157	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000168	0
			0	0	0	0.0018	0
		DUST	0	0	0	0.000046	0
			0	0	0	0.000983	0
		UNH	0	0	0	0.00158	0
			0	0	0	0.018	0

Component ID 25A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	SS METAL	0	0	0	0.035	0
			0	0	0	1.8	0
E	CONCRETE BEAMS	OTHER	0	0	0	0	1.21
			0	0	0	0	16.2
	CONCRETE SLABS	OTHER	0	0	0	0	48.5
			0	0	0	0	647
	CONCRETE FOUNDATION	OTHER	0	0	0	0	32.6
			0	0	0	0	435
	CONCRETE WALLS	OTHER	0	0	0	0	63.3
			0	0	0	0	844
	MASONRY WALLS	OTHER	0	0	0	0	8.58
			0	0	0	0	312
H	PIPING INSULATION	OTHER	0	0	0	0	0.000737
			0	0	0	0	0.328
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
I	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.801
			0	0	0	0	22.2
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.285
			0	0	0	0	19
	WINDOWS	OTHER	0	0	0	0	0.216
			0	0	0	0	10.8
		PAINT	0	0	0	0.000562	0
			0	0	0	0.00601	0
J	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0124	0
			0	0	0	0.141	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0142	0
			0	0	0	0.162	0
		CRUD	0	0	0	0.000757	0
			0	0	0	0.0081	0
		DUST	0	0	0	0.000368	0
			0	0	0	0.00786	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000551	0
			0	0	0	0.0118	0
		CRUD	0	0	0	0.000661	0
			0	0	0	0.00707	0
	Totals by Segregation Category:		**0.226**	**0**	**0**	**1.5**	**155**
			4.51	**0**	**0**	**151**	**2310**

001282

Component ID 25B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0125	0
			0	0	0	0.134	0
	DOORS	METAL	0	0	0	0.06	0
			0	0	0	3.12	0
		PAINT	0	0	0	0.00294	0
			0	0	0	0.0315	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.468	0
			0	0	0	80	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.207	0
			0	0	0	1.2	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
		PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0607	0
			0	0	0	4.49	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00194	0
			0	0	0	0.0415	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.513	0
			0	0	0	47.9	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000515	0
			0	0	0	0.00551	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000545	0
			0	0	0	0.00117	0
		SS METAL	0	0	0	0.12	0
			0	0	0	1.06	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000837	0
			0	0	0	0.00895	0
		DUST	0	0	0	0.0000872	0
			0	0	0	0.00187	0
		SS METAL	0	0	0	0.128	0
			0	0	0	1.79	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00224	0
			0	0	0	0.024	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000496	0
			0	0	0	0.0053	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000136	0
			0	0	0	0.00291	0
	ELECTRICAL TRANSFORMERS	METAL	0.148	0	0	0	0
			9	0	0	0	0
		PAINT	0.00169	0	0	0	0
			0.018	0	0	0	0
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000186	0
			0	0	0	0.00199	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00011	0
			0	0	0	0.00118	0
		DUST	0	0	0	0.0000545	0
			0	0	0	0.00117	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000573	0
			0	0	0	0.000612	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00103	0
			0	0	0	0.0118	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0143	0
			0	0	0	0.199	0
		DUST	0	0	0	0.0000872	0
			0	0	0	0.00187	0
		UNH	0	0	0	0.00174	0
			0	0	0	0.0199	0

Component ID 25B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	DUST	0	0	0	0.000136	0
			0	0	0	0.00291	0
		SS METAL	0	0	0	0.057	0
			0	0	0	5.33	0
		UNH	0	0	0	0.00466	0
			0	0	0	0.0533	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0133	0
			0	0	0	0.118	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00139	0
			0	0	0	0.0148	0
		METAL	0	0	0	0.052	0
			0	0	0	8.89	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000498	0
			0	0	0	0.00532	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00674	0
			0	0	0	0.499	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
		METAL	0	0	0	0.0755	0
			0	0	0	0.223	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
		METAL	0	0	0	0.17	0
			0	0	0	0.502	0
E	CONCRETE WALLS	OTHER	0	0	0	0	16.7
			0	0	0	0	223
	CONCRETE FOUNDATION	OTHER	0	0	0	0	1.49
			0	0	0	0	19.8
	CONCRETE SLABS	OTHER	0	0	0	0	20.2
			0	0	0	0	270
H	PIPING INSULATION	OTHER	0	0	0	0	0.00204
			0	0	0	0	0.905
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
I		OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000837	0
			0	0	0	0.00895	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000496	0
			0	0	0	0.0053	0
		DUST	0	0	0	0.000436	0
			0	0	0	0.00933	0
		UNH	0	0	0	0.00928	0
			0	0	0	0.106	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0157	0
			0	0	0	0.179	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0419	0
			0	0	0	0.479	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000698	0
			0	0	0	0.0149	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00224	0
			0	0	0	0.024	0
		DUST	0	0	0	0.00109	0
			0	0	0	0.0233	0
	Totals by Segregation Category:		**0.15**	**0**	**0**	**2.22**	**38.4**
			9.02	**0**	**0**	**214**	**514**

OC1284

Component ID 25C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0143	0
			0	0	0	0.153	0
		METAL	0	0	0	0.956	0
			0	0	0	3.81	0
B	PROCESS EQUIPMENT	DUST	0	0	0	0.0000255	0
			0	0	0	0.000546	0
		CRUD	0	0	0	0.000421	0
			0	0	0	0.0045	0
		SS METAL	0	0	0	0.333	0
			0	0	0	9	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0872	0
			0	0	0	0.506	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	DOORS	METAL	0	0	0	0.0794	0
			0	0	0	4.12	0
		PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.203	0
			0	0	0	2.83	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00113	0
			0	0	0	0.0121	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0104	0
			0	0	0	0.112	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	HVAC EQUIPMENT	METAL	0	0	0	0.12	0
			0	0	0	9.89	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000816	0
			0	0	0	0.0175	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000138	0
			0	0	0	0.00294	0
		CRUD	0	0	0	0.00132	0
			0	0	0	0.0141	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.392	0
			0	0	0	67	0
C	HVAC EQUIPMENT	PAINT	0	0	0	0.000126	0
			0	0	0	0.00135	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.037	0
			0	0	0	1	0
		UNH	0	0	0	0.000875	0
			0	0	0	0.01	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0435	0
			0	0	0	7.44	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0134	0
			0	0	0	1.1	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000294	0
			0	0	0	0.00314	0
		DUST	0	0	0	0.000138	0
			0	0	0	0.00294	0
		SS METAL	0	0	0	0.0225	0
			0	0	0	0.314	0
		UNH	0	0	0	0.00275	0
			0	0	0	0.0314	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0000255	0
			0	0	0	0.000546	0
		CRUD	0	0	0	0.0000935	0
			0	0	0	0.001	0

Component ID 25C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00116	0
			0	0	0	0.0124	0
D	DUCTWORK	PAINT	0	0	0	0.00382	0
			0	0	0	0.0408	0
		DUST	0	0	0	0.000191	0
			0	0	0	0.00408	0
		METAL	0	0	0	0.0617	0
			0	0	0	0.163	0
	LOUVERS	METAL	0	0	0	0.0381	0
			0	0	0	1.98	0
		PAINT	0	0	0	0.00187	0
			0	0	0	0.02	0
E	MASONRY WALLS	OTHER	0	0	0	0	10.5
			0	0	0	0	383
	CONCRETE WALLS	OTHER	0	0	0	0	3.36
			0	0	0	0	44.8
	CONCRETE SLABS	OTHER	0	0	0	0	63.3
			0	0	0	0	844
	CONCRETE FOUNDATION	OTHER	0	0	0	0	174
			0	0	0	0	2320
H	PIPING INSULATION	OTHER	0	0	0	0	0.00147
			0	0	0	0	0.654
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.000919
			0	0	0	0	0.408
I	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.9
			0	0	0	0	25
	WINDOWS	PAINT	0	0	0	0.000415	0
			0	0	0	0.00444	0
		OTHER	0	0	0	0	0.16
			0	0	0	0	8
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
	BUILDING INSULATION	OTHER	0	0	0	0	0.113
			0	0	0	0	50
J	PROCESS EQUIPMENT	CRUD	0	0	0	0.000421	0
			0	0	0	0.0045	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0011	0
			0	0	0	0.0236	0
		CRUD	0	0	0	0.00132	0
			0	0	0	0.0141	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000204	0
			0	0	0	0.00437	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0247	0
			0	0	0	0.283	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00788	0
			0	0	0	0.09	0
	DUCTWORK	DUST	0	0	0	0.00172	0
			0	0	0	0.0368	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2.58**	**252**
			0	**0**	**0**	**163**	**3680**

001286

Component ID 25D

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.118	0
			0	0	0	0.471	0
		PAINT	0	0	0	0.00177	0
			0	0	0	0.0189	0
B	PIPING (2" AND LESS)	CRUD	0	0	0	0.000397	0
			0	0	0	0.00424	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000046	0
			0	0	0	0.000983	0
		CRUD	0	0	0	0.000757	0
			0	0	0	0.0081	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.866	0
			0	0	0	19.6	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0956	0
			0	0	0	0.848	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00917	0
			0	0	0	0.098	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00106	0	0	0	0
			0.0114	0	0	0	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000436	0
			0	0	0	0.000933	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.09	0
			0	0	0	16.2	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0051	0
			0	0	0	0.109	0
	PIPING (OVER 4")	DUST	0	0	0	0.000229	0
			0	0	0	0.00489	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000206	0
			0	0	0	0.0022	0
	ELECTRICAL TRANSFORMERS	METAL	0.093	0	0	0	0
			4.5	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.545	0
			0	0	0	3.16	0
	DOORS	METAL	0	0	0	0.0763	0
			0	0	0	3.96	0
		PAINT	0	0	0	0.00374	0
			0	0	0	0.04	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.462	0
			0	0	0	78.9	0
		PAINT	0	0	0	0.0123	0
			0	0	0	0.132	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
		PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	HVAC EQUIPMENT	METAL	0	0	0	0.025	0
			0	0	0	1.8	0
C		PAINT	0	0	0	0.0000229	0
			0	0	0	0.000245	0
	PIPING (OVER 4")	UNH	0	0	0	0.0191	0
			0	0	0	0.218	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.01	0
			0	0	0	1.8	0
		DUST	0	0	0	0.000046	0
			0	0	0	0.000983	0
		CRUD	0	0	0	0.000168	0
			0	0	0	0.0018	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.0962	0
			0	0	0	2.18	0

Component ID 25D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	UNH	0	0	0	0.00158	0
			0	0	0	0.018	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00204	0
			0	0	0	0.0218	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.000825	0
			0	0	0	0.00943	0
		SS METAL	0	0	0	0.0106	0
			0	0	0	0.0943	0
		CRUD	0	0	0	0.0000881	0
			0	0	0	0.000943	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00278	0
			0	0	0	0.2	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00137	0
			0	0	0	0.0146	0
		METAL	0	0	0	0.0513	0
			0	0	0	8.77	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000436	0
			0	0	0	0.000933	0
	PIPING (OVER 4")	DUST	0	0	0	0.000229	0
			0	0	0	0.00489	0
E	CONCRETE SLABS	OTHER	0	0	0	0	47
			0	0	0	0	626
	CONCRETE WALLS	OTHER	0	0	0	0	20.2
			0	0	0	0	269
	CONCRETE FOUNDATION	OTHER	0	0	0	0	46.5
			0	0	0	0	620
	CONCRETE	OTHER	0	0	0	0	0.422
			0	0	0	0	5.62
H	PIPING INSULATION	OTHER	0	0	0	0	0.00599
			0	0	0	0	2.66
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
I		OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
J	PROCESS EQUIPMENT	DUST	0	0	0	0.000368	0
			0	0	0	0.00786	0
		UNH	0	0	0	0.0142	0
			0	0	0	0.162	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00742	0
			0	0	0	0.0848	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00917	0
			0	0	0	0.098	0
		UNH	0	0	0	0.172	0
			0	0	0	1.96	0
		DUST	0	0	0	0.00183	0
			0	0	0	0.0391	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000397	0
			0	0	0	0.00424	0
		DUST	0	0	0	0.000349	0
			0	0	0	0.00746	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000757	0
			0	0	0	0.0081	0
	Totals by Segregation Category:		**0.0941**	**0**	**0**	**2.85**	**114**
			4.51	**0**	**0**	**198**	**1520**

0C1388

Attachment B. III (Continued)

Component ID 25E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	7.28	0
			0	0	0	29	0
		PAINT	0	0	0	0.109	0
			0	0	0	1.17	0
B	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.017	0
			0	0	0	0.181	0
	ELECTRICAL TRANSFORMERS	METAL	0.2	0	0	0	0
			3.99	0	0	0	0
		PAINT	0.00098	0	0	0	0
			0.0105	0	0	0	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.999	0
			0	0	0	57.6	0
		DUST	0	0	0	0.000163	0
			0	0	0	0.00349	0
		CRUD	0	0	0	0.00269	0
			0	0	0	0.0288	0
	PIPING (OVER 4")	SS METAL	0	0	0	1.56	0
			0	0	0	35.4	0
		DUST	0	0	0	0.000413	0
			0	0	0	0.00884	0
		CRUD	0	0	0	0.0166	0
			0	0	0	0.177	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	2.6	0
			0	0	0	36.3	0
		DUST	0	0	0	0.00177	0
			0	0	0	0.0378	0
	DOORS	PAINT	0	0	0	0.0167	0
			0	0	0	0.178	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.807	0
			0	0	0	7.16	0
	DOORS	METAL	0	0	0	0.34	0
			0	0	0	17.7	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00459	0
			0	0	0	0.0982	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.215	0
			0	0	0	36.6	0
		PAINT	0	0	0	0.00572	0
			0	0	0	0.0611	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.176	0
			0	0	0	29.9	0
		PAINT	0	0	0	0.0117	0
			0	0	0	0.125	0
	HVAC EQUIPMENT	METAL	0	0	0	2.07	0
			0	0	0	164	0
		PAINT	0	0	0	0.0188	0
			0	0	0	0.201	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00335	0
			0	0	0	0.0358	0
		DUST	0	0	0	0.000368	0
			0	0	0	0.00788	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.49	0
			0	0	0	2.85	0
C	PIPING (2" AND LESS)	UNH	0	0	0	0.00696	0
			0	0	0	0.0796	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00209	0
			0	0	0	0.0223	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000744	0
			0	0	0	0.00796	0

Component ID 25E — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	DUST	0	0	0	0.000368	0
			0	0	0	0.00788	0
		SS METAL	0	0	0	0.0897	0
			0	0	0	0.796	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00377	0
			0	0	0	0.0403	0
		DUST	0	0	0	0.00177	0
			0	0	0	0.0378	0
		SS METAL	0	0	0	0.289	0
			0	0	0	4.03	0
	HVAC EQUIPMENT	METAL	0	0	0	0.23	0
			0	0	0	18.2	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00368	0
			0	0	0	0.0394	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.111	0
			0	0	0	6.4	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0353	0
			0	0	0	0.403	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000635	0
			0	0	0	0.00679	0
		METAL	0	0	0	0.0239	0
			0	0	0	4.07	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.174	0
			0	0	0	3.94	0
		UNH	0	0	0	0.0345	0
			0	0	0	0.394	0
		DUST	0	0	0	0.000413	0
			0	0	0	0.00884	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000163	0
			0	0	0	0.00349	0
		UNH	0	0	0	0.0056	0
			0	0	0	0.064	0
		CRUD	0	0	0	0.000598	0
			0	0	0	0.0064	0
D	DUCTWORK	DUST	0	0	0	0.000884	0
			0	0	0	0.0189	0
		PAINT	0	0	0	0.0177	0
			0	0	0	0.189	0
	LOUVERS	METAL	0	0	0	0.0222	0
			0	0	0	1.16	0
		PAINT	0	0	0	0.00109	0
			0	0	0	0.0117	0
	DUCTWORK	METAL	0	0	0	0.286	0
			0	0	0	0.753	0
E	MASONRY	OTHER	0	0	0	2.53	0
			0	0	0	92.1	0
	CONCRETE SLABS	OTHER	0	0	0	0	84.6
			0	0	0	0	1130
	CONCRETE COLUMNS	OTHER	0	0	0	0	2.19
			0	0	0	0	29.2
	MASONRY WALLS	OTHER	0	0	0	3.39	0
			0	0	0	123	0
	CONCRETE WALLS	OTHER	0	0	0	53.7	0
			0	0	0	715	0
	CONCRETE SLABS	OTHER	0	0	0	82.1	0
			0	0	0	1090	0
	CONCRETE COLUMNS	OTHER	0	0	0	2.19	0
			0	0	0	29.2	0

001330

Component ID 25E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	MASONRY	OTHER	0	0	0	0	38
			0	0	0	0	1380
	CONCRETE	OTHER	0	0	0	0	6.98
			0	0	0	0	93
	CONCRETE WALLS	OTHER	0	0	0	0	270
			0	0	0	0	3610
	CONCRETE FOUNDATION	OTHER	0	0	0	0	74.7
			0	0	0	0	996
	MASONRY WALLS	OTHER	0	0	0	0	50.9
			0	0	0	0	1850
H	DUCTWORK INSULATION	OTHER	0	0	0	0.00426	0
			0	0	0	1.89	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0321	0
			0	0	0	21.2	0
	PIPING INSULATION	OTHER	0	0	0	0.0356	0
			0	0	0	15.8	0
I	BUILDING INSULATION	OTHER	0	0	0	0.192	0
			0	0	0	85.2	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.169	0
			0	0	0	111	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.015
			0	0	0	0	1
	WINDOWS	OTHER	0	0	0	0	0.416
			0	0	0	0	20.8
	ROOFING (BUILT UP)	OTHER	0	0	0	0	1.53
			0	0	0	0	42.6
	WINDOWS	PAINT	0	0	0	0.00108	0
			0	0	0	0.0116	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.0141	0	0
			0	0	0.302	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0504	0
			0	0	0	0.576	0
		DUST	0	0	0.00131	0	0
			0	0	0.0279	0	0
		CRUD	0	0	0.00269	0	0
			0	0	0.0288	0	0
	PIPING (OVER 4")	DUST	0	0	0.00331	0	0
			0	0	0.0708	0	0
		CRUD	0	0	0.0166	0	0
			0	0	0.177	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00295	0	0
			0	0	0.063	0	0
	DUCTWORK	DUST	0	0	0.00796	0	0
			0	0	0.17	0	0
	PIPING (OVER 4")	UNH	0	0	0	0.31	0
			0	0	0	3.54	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.318	0
			0	0	0	3.63	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0627	0
			0	0	0	0.716	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.017	0	0
			0	0	0.181	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00335	0	0
			0	0	0.0358	0	0
	Totals by Segregation Category:		**0.201**	**0**	**0.0693**	**163**	**529**
			4	**0**	**1.06**	**2750**	**9150**

Component ID 25F

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	4.2	0
			0	0	0	16.7	0
		PAINT	0	0	0	0.00502	0
			0	0	0	0.0537	0
B	PIPING (OVER 4")	PAINT	0	0	0	0.00704	0
			0	0	0	0.0753	0
		METAL	0	0	0	0.733	0
			0	0	0	16.7	0
E	CONCRETE WALLS	OTHER	0	0	0	2.28	0
			0	0	0	30.4	0
	CONCRETE SLABS	OTHER	0	0	0	51.7	0
			0	0	0	690	0
	CONCRETE WALLS	OTHER	0	0	0	0	15.9
			0	0	0	0	213
	CONCRETE SLABS	OTHER	0	0	0	0	362
			0	0	0	0	4830
	CONCRETE FOUNDATION	OTHER	0	0	0	0	36.3
			0	0	0	0	484
H	PIPING INSULATION	OTHER	0	0	0	0	0.00393
			0	0	0	0	1.75
	Totals by Segregation Category:		**0**	**0**	**0**	**58.9**	**414**
			0	**0**	**0**	**754**	**5530**

001092

Component ID 25G

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.995	0
			0	0	0	3.96	0
		PAINT	0	0	0	0.0149	0
			0	0	0	0.159	0
B	PROCESS EQUIPMENT	PAINT	0	0	0	0.00347	0
			0	0	0	0.0371	0
		METAL	0	0	0	0.272	0
			0	0	0	34	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000714	0
			0	0	0	0.0153	0
		METAL	0	0	0	0.0763	0
			0	0	0	0.443	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0234	0
			0	0	0	3.99	0
		PAINT	0	0	0	0.000623	0
			0	0	0	0.00667	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
E	CONCRETE SLABS	OTHER	0	0	0	2.25	0
			0	0	0	30	0
	CONCRETE WALLS	OTHER	0	0	0	0	339
			0	0	0	0	4520
	CONCRETE	OTHER	0	0	0	0	19.3
			0	0	0	0	258
	CONCRETE FOUNDATION	OTHER	0	0	0	0	153
			0	0	0	0	2030
	CONCRETE SLABS	OTHER	0	0	0	0	2.25
			0	0	0	0	30
	Totals by Segregation Category:		**0**	**0**	**0**	**3.67**	**514**
			0	**0**	**0**	**78.6**	**6840**

Component ID 25H

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.0591	0
			0	0	0	0.235	0
		PAINT	0	0	0	0.000885	0
			0	0	0	0.00947	0
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.153	0
			0	0	0	0.886	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0088	0
			0	0	0	0.0941	0
		METAL	0	0	0	0.916	0
			0	0	0	20.9	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.011	0
			0	0	0	0.118	0
		METAL	0	0	0	0.889	0
			0	0	0	12.5	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0351	0
			0	0	0	5.99	0
		PAINT	0	0	0	0.000935	0
			0	0	0	0.01	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00143	0
			0	0	0	0.0305	0
E	CONCRETE	OTHER	0	0	0	0	45.6
			0	0	0	0	608
	CONCRETE WALLS	OTHER	0	0	0	0	122
			0	0	0	0	1620
	CONCRETE SLABS	OTHER	0	0	0	0	23.6
			0	0	0	0	314
		OTHER	0	0	0	23.6	0
			0	0	0	314	0
	CONCRETE WALLS	OTHER	0	0	0	0.81	0
			0	0	0	10.8	0
H	PIPING INSULATION	OTHER	0	0	0	0.0108	0
			0	0	0	4.8	0
	Totals by Segregation Category:		**0**	**0**	**0**	**26.6**	**191**
			0	**0**	**0**	**380**	**2540**

001394

Attachment B. III (Continued)

Component ID 25J — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.0131	0
			0	0	0	0.0522	0
		PAINT	0	0	0	0.000196	0
			0	0	0	0.0021	0
B	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0638	0
			0	0	0	0.585	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
		METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000795	0
			0	0	0	0.0085	0
		METAL	0	0	0	0.0292	0
			0	0	0	5.09	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.293	0
			0	0	0	71.9	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
		DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.00735	0
			0	0	0	0.0786	0
E	CONCRETE SLABS	OTHER	0	0	0	0	16.4
			0	0	0	0	219
	CONCRETE FOUNDATION	OTHER	0	0	0	0	0.375
			0	0	0	0	5
	CONCRETE	OTHER	0	0	0	0	1.67
			0	0	0	0	22.2
	Totals by Segregation Category:		**0**	**0**	**0**	**0.453**	**18.4**
			0	**0**	**0**	**79.9**	**246**

Component ID 26A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.608	0
			0	0	0	6.5	0
		METAL	0	0	0	40.6	0
			0	0	0	162	0
B	HVAC EQUIPMENT	METAL	0	0	0	0.179	0
			0	0	0	7.19	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0101	0
			0	0	0	0.108	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.531	0
			0	0	0	4.71	0
		DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000825	0
			0	0	0	0.00882	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0022	0
			0	0	0	0.0236	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.55	0
			0	0	0	21.7	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.788	0
			0	0	0	135	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0529	0
			0	0	0	0.566	0
		DUST	0	0	0	0.00132	0
			0	0	0	0.0282	0
		SS METAL	0	0	0	5	0
			0	0	0	113	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00936	0
			0	0	0	0.1	0
		DUST	0	0	0	0.000568	0
			0	0	0	0.0121	0
		SS METAL	0	0	0	12.7	0
			0	0	0	200	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000669	0	0	0	0
			0.00715	0	0	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00106	0
			0	0	0	0.0226	0
	DOORS	PAINT	0	0	0	0.0312	0
			0	0	0	0.333	0
		METAL	0	0	0	0.636	0
			0	0	0	33	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.0407	0
			0	0	0	0.488	0
		DUST	0	0	0	0.000122	0
			0	0	0	0.00262	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.915	0
			0	0	0	5.32	0
		DUST	0	0	0	0.00857	0
			0	0	0	0.183	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.021	0
			0	0	0	0.225	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.141	0
			0	0	0	23.9	0
	ELECTRICAL TRANSFORMERS	METAL	0.113	0	0	0	0
			2.25	0	0	0	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.00208	0
			0	0	0	0.0223	0

001095

Attachment B. III (Continued)

Component ID 26A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00225	0
			0	0	0	0.0241	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00458	0
			0	0	0	0.0524	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.173	0
			0	0	0	2.41	0
		DUST	0	0	0	0.00106	0
			0	0	0	0.0226	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0118	0
			0	0	0	0.126	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0195	0
			0	0	0	0.223	0
		DUST	0	0	0	0.000568	0
			0	0	0	0.0121	0
	PIPING (OVER 4")	UNH	0	0	0	0.11	0
			0	0	0	1.26	0
		SS METAL	0	0	0	0.555	0
			0	0	0	12.6	0
		DUST	0	0	0	0.00132	0
			0	0	0	0.0282	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	1.41	0
			0	0	0	22.2	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
		CRUD	0	0	0	0.00049	0
			0	0	0	0.00524	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000916	0
			0	0	0	0.00098	0
		METAL	0	0	0	0.0199	0
			0	0	0	0.799	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
		METAL	0	0	0	0.0876	0
			0	0	0	15	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.059	0
			0	0	0	0.524	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0211	0
			0	0	0	0.241	0
D	LOUVERS	PAINT	0	0	0	0.00405	0
			0	0	0	0.0433	0
		METAL	0	0	0	0.0826	0
			0	0	0	4.29	0
E	CONCRETE BEAMS	OTHER	0	0	0	0	6.38
			0	0	0	0	85
	CONCRETE SLABS	OTHER	0	0	29.1	0	0
			0	0	388	0	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	31.5
			0	0	0	0	420
	CONCRETE SLABS	OTHER	0	0	0	0	204
			0	0	0	0	2710
	CONCRETE BEAMS	OTHER	0	0	0.911	0	0
			0	0	12.2	0	0
	MASONRY WALLS	OTHER	0	0	0	0	93.8
			0	0	0	0	3410
		OTHER	0	0	6.25	0	0
			0	0	227	0	0
H	PIPING INSULATION	OTHER	0	0	0.0457	0	0
			0	0	20.3	0	0

Component ID 26A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
I		OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	WINDOWS	OTHER	0	0	0	0	0.781
			0	0	0	0	39.1
	ROOFING (BUILT UP)	OTHER	0	0	0	0	4.34
			0	0	0	0	120
	BUILDING INSULATION	OTHER	0	0	0.542	0	0
			0	0	241	0	0
	WINDOWS	PAINT	0	0	0	0.00203	0
			0	0	0	0.0217	0
J	PROCESS EQUIPMENT	CRUD	0	0	0.00936	0	0
			0	0	0.1	0	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.19	0
			0	0	0	2.17	0
	PIPING (OVER 4")	DUST	0	0	0.0106	0	0
			0	0	0.226	0	0
		CRUD	0	0	0.0529	0	0
			0	0	0.566	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00844	0	0
			0	0	0.181	0	0
	PIPING (OVER 4")	UNH	0	0	0	0.99	0
			0	0	0	11.3	0
	PIPING (2" AND LESS)	DUST	0	0	0.00194	0	0
			0	0	0.0415	0	0
		CRUD	0	0	0.0022	0	0
			0	0	0.0236	0	0
		UNH	0	0	0	0.0412	0
			0	0	0	0.471	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.175	0
			0	0	0	2	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.0101	0	0
			0	0	0.108	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.00455	0	0
			0	0	0.0972	0	0
	Totals by Segregation Category:		**0.114**	**0**	**36.9**	**68**	**341**
			2.26	**0**	**890**	**904**	**6780**

001098

Attachment B. III (Continued)

Component ID 26B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	6.37	0
			0	0	0	68.2	0
		METAL	0	0	0	426	0
			0	0	0	1700	0
B	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	PIPING (OVER 4")	PAINT	0	0	0	0.135	0
			0	0	0	1.45	0
	PROCESS EQUIPMENT	METAL	0	0	0	150	0
			0	0	0	89	0
		PAINT	0	0	0	0.0091	0
			0	0	0	0.0973	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.34	0
			0	0	0	32.8	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.175	0
			0	0	0	29.9	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.029	0
			0	0	0	0.31	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00612	0
			0	0	0	0.131	0
	PIPING (OVER 4")	METAL	0	0	0	14.1	0
			0	0	0	320	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.654	0
			0	0	0	3.8	0
E	CONCRETE COLUMNS	OTHER	0	0	0	0	12.1
			0	0	0	0	162
	CONCRETE BEAMS	OTHER	0	0	0	0	28.4
			0	0	0	0	378
	CONCRETE FOUNDATION	OTHER	0	0	0	0	614
			0	0	0	0	8180
	CONCRETE SLABS	OTHER	0	0	0	0	15
			0	0	0	0	200
	CONCRETE	OTHER	0	0	0	0	32.5
			0	0	0	0	433
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.039	0
			0	0	0	25.8	0
	PIPING INSULATION	OTHER	0	0	0	0	0.0909
			0	0	0	0	40.4
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.205	0
			0	0	0	135	0
	Totals by Segregation Category:		**0**	**0**	**0**	**600**	**702**
			0	**0**	**0**	**2410**	**9390**

Component ID 26C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.276	0
			0	0	0	1.1	0
		PAINT	0	0	0	0.00413	0
			0	0	0	0.0442	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00352	0
			0	0	0	0.0377	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0311	0
			0	0	0	3.6	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00132	0
			0	0	0	0.0141	0
		SS METAL	0	0	0	0.319	0
			0	0	0	2.83	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00198	0
			0	0	0	0.0212	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.304	0
			0	0	0	4.24	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000412	0
			0	0	0	0.00441	0
	PIPING (OVER 4")	DUST	0	0	0	0.000088	0
			0	0	0	0.00188	0
		SS METAL	0	0	0	0.333	0
			0	0	0	7.54	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000206	0
			0	0	0	0.00442	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.189	0
			0	0	0	32.4	0
	DOORS	PAINT	0	0	0	0.00732	0
			0	0	0	0.0783	0
		METAL	0	0	0	0.149	0
			0	0	0	7.75	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0872	0
			0	0	0	0.506	0
		DUST	0	0	0	0.000816	0
			0	0	0	0.0175	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00505	0
			0	0	0	0.054	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000145	0
			0	0	0	0.00311	0
C	PIPING (OVER 4")	CRUD	0	0	0	0.000783	0
			0	0	0	0.00838	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0354	0
			0	0	0	0.314	0
		UNH	0	0	0	0.00275	0
			0	0	0	0.0314	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000441	0
			0	0	0	0.00471	0
		DUST	0	0	0	0.000206	0
			0	0	0	0.00442	0
		UNH	0	0	0	0.00412	0
			0	0	0	0.0471	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000458	0
			0	0	0	0.00049	0
	PIPING (OVER 4")	DUST	0	0	0	0.000088	0
			0	0	0	0.00188	0

Attachment B. III (Continued)

Component ID 26C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (OVER 4")	SS METAL	0	0	0	0.037	0
			0	0	0	0.838	0
		UNH	0	0	0	0.00733	0
			0	0	0	0.0838	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0338	0
			0	0	0	0.471	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000294	0
			0	0	0	0.00314	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00345	0
			0	0	0	0.4	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000561	0
			0	0	0	0.006	0
		METAL	0	0	0	0.021	0
			0	0	0	3.59	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000145	0
			0	0	0	0.00311	0
E	CONCRETE	OTHER	0	0	0	0	4.71
			0	0	0	0	62.9
	CONCRETE FOUNDATION	OTHER	0	0	0	0	7
			0	0	0	0	93.3
	CONCRETE SLABS	OTHER	0	0	0	0	3.43
			0	0	0	0	45.7
	MASONRY WALLS	OTHER	0	0	0	0	6.88
			0	0	0	0	250
	CONCRETE SLABS	OTHER	0	0	0.428	0	0
			0	0	5.71	0	0
		OTHER	0	0	0	3	0
			0	0	0	40	0
	MASONRY WALLS	OTHER	0	0	0	0.458	0
			0	0	0	16.7	0
G	TRANSITE ROOF	OTHER	0	0	0	0.281	0
			0	0	0	5	0
H	PIPING INSULATION	OTHER	0	0	0	0.00712	0
			0	0	0	3.16	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I		OTHER	0	0	0	0.181	0
			0	0	0	119	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.00165	0	0
			0	0	0.0353	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0247	0
			0	0	0	0.283	0
	PIPING (OVER 4")	CRUD	0	0	0.00352	0	0
			0	0	0.0377	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.00198	0	0
			0	0	0.0212	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00116	0	0
			0	0	0.0249	0	0
		CRUD	0	0	0.00132	0	0
			0	0	0.0141	0	0
	PIPING (OVER 4")	UNH	0	0	0	0.066	0
			0	0	0	0.754	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0371	0
			0	0	0	0.424	0
	PIPING (OVER 4")	DUST	0	0	0.000704	0	0
			0	0	0.0151	0	0

Component ID 26C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0	0	0.438	5.96	22
			0	0	5.86	276	452

002002

Component ID 28A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0369	0
			0	0	0	0.395	0
		METAL	0	0	0	2.46	0
			0	0	0	9.81	0
B	PIPING (2" AND LESS)	METAL	0	0	0	0.714	0
			0	0	0	6.31	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0175	0
			0	0	0	0.187	0
	DOORS	PAINT	0	0	0	0.164	0
			0	0	0	1.75	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.655	0
			0	0	0	112	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.25	0
			0	0	0	213	0
		PAINT	0	0	0	0.0834	0
			0	0	0	0.892	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	2.03	0
			0	0	0	24.4	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.012	0
			0	0	0	0.129	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00612	0
			0	0	0	0.131	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0119	0
			0	0	0	0.128	0
	PROCESS EQUIPMENT	METAL	0	0	0	1.58	0
			0	0	0	201	0
		PAINT	0	0	0	0.0206	0
			0	0	0	0.22	0
	HVAC EQUIPMENT	METAL	0	0	0	3.49	0
			0	0	0	105	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00149	0	0	0	0
			0.016	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	4.08	0
			0	0	0	37.4	0
		DUST	0	0	0	0.0131	0
			0	0	0	0.279	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.79	0
			0	0	0	10.4	0
		DUST	0	0	0	0.0168	0
			0	0	0	0.359	0
	ELECTRICAL TRANSFORMERS	METAL	0.375	0	0	0	0
			7.5	0	0	0	0
	DOORS	METAL	0	0	0	3.34	0
			0	0	0	173	0
D	LOUVERS	PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
		METAL	0	0	0	0.00636	0
			0	0	0	0.33	0
	DUCTWORK	PAINT	0	0	0	0.25	0
			0	0	0	2.68	0
		DUST	0	0	0	0.0125	0
			0	0	0	0.268	0
		METAL	0	0	0	4.04	0
			0	0	0	10.7	0
E	CONCRETE BEAMS	OTHER	0	0	0	0	58.3
			0	0	0	0	777
	CONCRETE	OTHER	0	0	0	0	141
			0	0	0	0	1880

Component ID 28A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE COLUMNS	OTHER	0	0	0	0	20.9
			0	0	0	0	279
	CONCRETE FOUNDATION	OTHER	0	0	0	0	18.4
			0	0	0	0	245
	CONCRETE SLABS	OTHER	0	0	0	0	587
			0	0	0	0	7820
	MASONRY WALLS	OTHER	0	0	0	0	71.7
			0	0	0	0	2610
	CONCRETE BEAMS	OTHER	0	0	0	8.33	0
			0	0	0	111	0
	CONCRETE COLUMNS	OTHER	0	0	0	2.99	0
			0	0	0	39.8	0
	CONCRETE SLABS	OTHER	0	0	0	83.8	0
			0	0	0	1120	0
	MASONRY WALLS	OTHER	0	0	0	4.78	0
			0	0	0	174	0
G	FLOOR TILE	OTHER	0	0	0	1.24	0
			0	0	0	25.9	0
H	PIPING INSULATION	OTHER	0	0	0	0.00604	0
			0	0	0	2.68	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.0602	0
			0	0	0	26.8	0
I	WINDOWS	PAINT	0	0	0	0.0362	0
			0	0	0	0.388	0
	WOOD	OTHER	0	0	0	0	0.66
			0	0	0	0	44
	WINDOWS	OTHER	0	0	0	0	13.9
			0	0	0	0	698
	ROOFING (BUILT UP)	OTHER	0	0	0	0	21.3
			0	0	0	0	590
	DRYWALL	OTHER	0	0	0	12.2	0
			0	0	0	461	0
	BUILDING INSULATION	OTHER	0	0	0	4.36	0
			0	0	0	1940	0
J	DUCTWORK	DUST	0	0	0.113	0	0
			0	0	2.41	0	0
	Totals by Segregation Category:		**0.376**	**0**	**0.113**	**144**	**933**
			7.52	**0**	**2.41**	**4810**	**14900**

002004

Component ID 28B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.85	0
			0	0	0	9.09	0
		METAL	0	0	0	56.7	0
			0	0	0	226	0
B	HVAC EQUIPMENT	PAINT	0	0	0	0.0664	0
			0	0	0	0.711	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00245	0
			0	0	0	0.0524	0
	DOORS	METAL	0	0	0	3.37	0
			0	0	0	175	0
		PAINT	0	0	0	0.165	0
			0	0	0	1.77	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.537	0
			0	0	0	91.7	0
		PAINT	0	0	0	0.0143	0
			0	0	0	0.153	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.985	0
			0	0	0	167	0
	HVAC EQUIPMENT	METAL	0	0	0	1.68	0
			0	0	0	579	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.702	0
			0	0	0	6.43	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.17	0
			0	0	0	10.4	0
		PAINT	0	0	0	0.0196	0
			0	0	0	0.209	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.593	0
			0	0	0	8.3	0
		PAINT	0	0	0	0.00734	0
			0	0	0	0.0785	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.123	0
			0	0	0	24	0
		PAINT	0	0	0	0.00245	0
			0	0	0	0.0262	0
	ELECTRICAL TRANSFORMERS	METAL	0.68	0	0	0	0
			16.9	0	0	0	0
		PAINT	0.00256	0	0	0	0
			0.0274	0	0	0	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0654	0
			0	0	0	0.7	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.719	0
			0	0	0	4.18	0
		DUST	0	0	0	0.00673	0
			0	0	0	0.144	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.814	0
			0	0	0	9.77	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00224	0
			0	0	0	0.048	0
D	DUCTWORK	PAINT	0	0	0	0.475	0
			0	0	0	5.08	0
		METAL	0	0	0	7.66	0
			0	0	0	20.2	0
		DUST	0	0	0	0.0237	0
			0	0	0	0.508	0
E	MASONRY WALLS	OTHER	0	0	0	0	61.5
			0	0	0	0	2240
	CONCRETE	OTHER	0	0	0	0	27
			0	0	0	0	359

Component ID 28B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	47.2
			0	0	0	0	630
	CONCRETE SLABS	OTHER	0	0	0	0	517
			0	0	0	0	6890
G	FLOOR TILE	OTHER	0	0	0	0	13.2
			0	0	0	0	275
	CEILING DEMOLITION	OTHER	0	0	0	0	6.64
			0	0	0	0	553
H	DUCTWORK INSULATION	OTHER	0	0	0	0	0.114
			0	0	0	0	50.7
	PIPING INSULATION	OTHER	0	0	0	0	0.0138
			0	0	0	0	6.15
I	BUILDING INSULATION	OTHER	0	0	0	0	3.32
			0	0	0	0	1480
	DRYWALL	OTHER	0	0	0	0	35.1
			0	0	0	0	1330
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.945
			0	0	0	0	63
	ROOFING (BUILT UP)	OTHER	0	0	0	0	26.6
			0	0	0	0	738
	WINDOWS	OTHER	0	0	0	0	2.39
			0	0	0	0	120
		PAINT	0	0	0	0.00623	0
			0	0	0	0.0666	0
J	DUCTWORK	DUST	0	0	0	0.214	0
			0	0	0	4.57	0
	Totals by Segregation Category:		**0.683**	**0**	**0**	**77**	**741**
			16.9	**0**	**0**	**1350**	**14700**

002006

Component ID 28C

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	1.54	0
			0	0	0	6.12	0
		PAINT	0	0	0	0.023	0
			0	0	0	0.246	0
B	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
		METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
		METAL	0	0	0	0.0236	0
			0	0	0	0.0697	0
E	MASONRY WALLS	OTHER	0	0	0	0	1.83
			0	0	0	0	66.7
	CONCRETE SLABS	OTHER	0	0	0	0	1.51
			0	0	0	0	20.2
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I	WINDOWS	OTHER	0	0	0	0	0.2
			0	0	0	0	9.99
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.15
			0	0	0	0	4.17
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.181	0
			0	0	0	119	0
	WINDOWS	PAINT	0	0	0	0.000519	0
			0	0	0	0.00555	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1.88**	**3.69**
			0	**0**	**0**	**152**	**101**

Component ID 28D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000124	0
			0	0	0	0.00266	0
		METAL	0	0	0	0.0389	0
			0	0	0	0.356	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
		METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00014	0
			0	0	0	0.0015	0
		METAL	0	0	0	0.00886	0
			0	0	0	0.899	0
	DOORS	PAINT	0	0	0	0.00499	0
			0	0	0	0.0533	0
		METAL	0	0	0	0.102	0
			0	0	0	5.28	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000306	0
			0	0	0	0.00655	0
		METAL	0	0	0	0.0327	0
			0	0	0	0.19	0
C	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000156	0
			0	0	0	0.000167	0
		METAL	0	0	0	0.000984	0
			0	0	0	0.0998	0
E	CONCRETE SLABS	OTHER	0	0	0	0	1.8
			0	0	0	0	24
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.867
			0	0	0	0	24.1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.181	0
			0	0	0	119	0
	WINDOWS	OTHER	0	0	0	0	0.399
			0	0	0	0	20
	WOOD	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	WINDOWS	PAINT	0	0	0	0.00104	0
			0	0	0	0.0111	0
	Totals by Segregation Category:		**0**	**0**	**0**	**0.43**	**3.82**
			0	**0**	**0**	**153**	**118**

002003

Component ID 28E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.365	0
			0	0	0	1.45	0
		PAINT	0	0	0	0.00546	0
			0	0	0	0.0584	0
B	DOORS	METAL	0	0	0	0.0636	0
			0	0	0	3.3	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000117	0
			0	0	0	0.00125	0
		METAL	0	0	0	0.00988	0
			0	0	0	0.749	0
	DOORS	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00051	0
			0	0	0	0.0109	0
		METAL	0	0	0	0.0545	0
			0	0	0	0.316	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.0184	0
			0	0	0	0.197	0
		METAL	0	0	0	0.111	0
			0	0	0	0.329	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.0906	0
			0	0	0	0.268	0
		PAINT	0	0	0	0.015	0
			0	0	0	0.16	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	0.0906	0
			0	0	0	0.268	0
		PAINT	0	0	0	0.015	0
			0	0	0	0.16	0
E	CONCRETE SLABS	OTHER	0	0	0	0	11.3
			0	0	0	0	150
I	WINDOWS	PAINT	0	0	0	0.000363	0
			0	0	0	0.00388	0
	BUILDING INSULATION	OTHER	0	0	0	0	0.096
			0	0	0	0	42.7
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.024
			0	0	0	0	1.6
	WINDOWS	OTHER	0	0	0	0	0.14
			0	0	0	0	7
	Totals by Segregation Category:		**0**	**0**	**0**	**0.856**	**11.6**
			0	**0**	**0**	**9.3**	**201**

Component ID 28F

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00102	0
			0	0	0	0.0218	0
		METAL	0	0	0	0.109	0
			0	0	0	0.633	0
	DOORS	METAL	0	0	0	0.242	0
			0	0	0	12.5	0
		PAINT	0	0	0	0.0118	0
			0	0	0	0.127	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0253	0
			0	0	0	4.24	0
		PAINT	0	0	0	0.000662	0
			0	0	0	0.00708	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
		PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.048	0
			0	0	0	0.513	0
	METAL PANEL ROOF	METAL	0	0	0	0.156	0
			0	0	0	0.46	0
		PAINT	0	0	0	0.0257	0
			0	0	0	0.275	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.291	0
			0	0	0	0.859	0
E	CONCRETE SLABS	OTHER	0	0	0	0	9.84
			0	0	0	0	131
		OTHER	0	0	1.41	0	0
			0	0	18.7	0	0
	Totals by Segregation Category:		**0**	**0**	**1.41**	**0.935**	**9.84**
			0	**0**	**18.7**	**23.6**	**131**

002010

Attachment B. III (Continued)

Component ID 28G — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.197	0
			0	0	0	0.785	0
		PAINT	0	0	0	0.00295	0
			0	0	0	0.0316	0
B	DOORS	PAINT	0	0	0	0.00281	0
			0	0	0	0.03	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	DOORS	METAL	0	0	0	0.0572	0
			0	0	0	2.97	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0218	0
			0	0	0	0.127	0
		DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.0968	0
			0	0	0	0.286	0
		PAINT	0	0	0	0.016	0
			0	0	0	0.171	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	0.0968	0
			0	0	0	0.286	0
		PAINT	0	0	0	0.016	0
			0	0	0	0.171	0
	METAL PANEL ROOF	METAL	0	0	0	0.0604	0
			0	0	0	0.179	0
		PAINT	0	0	0	0.00997	0
			0	0	0	0.107	0
E	CONCRETE SLABS	OTHER	0	0	0	0	11.3
			0	0	0	0	150
I	WINDOWS	OTHER	0	0	0	0	0.11
			0	0	0	0	5.5
	BUILDING INSULATION	OTHER	0	0	0	0	0.101
			0	0	0	0	44.8
	WINDOWS	PAINT	0	0	0	0.000285	0
			0	0	0	0.00305	0
	Totals by Segregation Category:		**0**	**0**	**0**	**0.616**	**11.5**
			0	**0**	**0**	**11.2**	**200**

Component ID 30A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	2.24	0
			0	0	0	24	0
		METAL	0	0	0	150	0
			0	0	0	596	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.633	0
			0	0	0	108	0
	PIPING (OVER 4")	PAINT	0	0	0	0.141	0
			0	0	0	1.51	0
		METAL	0	0	0	14.7	0
			0	0	0	333	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0248	0
			0	0	0	0.265	0
		METAL	0	0	0	2.26	0
			0	0	0	31.6	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.136	0
			0	0	0	1.45	0
		METAL	0	0	0	8.17	0
			0	0	0	72.2	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0821	0
			0	0	0	0.878	0
		METAL	0	0	0	7.67	0
			0	0	0	309	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00183	0
			0	0	0	0.0196	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0421	0
			0	0	0	0.45	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00125	0
			0	0	0	0.0133	0
		METAL	0	0	0	0.259	0
			0	0	0	7.99	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0548	0
			0	0	0	1.17	0
	HVAC EQUIPMENT	METAL	0	0	0	0.388	0
			0	0	0	16	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	DOORS	PAINT	0	0	0	0.167	0
			0	0	0	1.79	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	5.86	0
			0	0	0	34	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00812	0
			0	0	0	0.174	0
		METAL	0	0	0	2.54	0
			0	0	0	23.3	0
	DOORS	METAL	0	0	0	3.4	0
			0	0	0	177	0
D	LEAD FLASHING	LEAD	0	0	0.5	0	0
			0	0	1.41	0	0
E	CONCRETE SLABS	OTHER	0	0	0	0	902
			0	0	0	0	12000
	MASONRY WALLS	OTHER	0	0	0	0.55	0
			0	0	0	20	0
		OTHER	0	0	0	0	8.25
			0	0	0	0	300
	CONCRETE SLABS	OTHER	0	0	0	129	0
			0	0	0	1720	0

OC2012

Component ID 30A

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	325
			0	0	0	0	4330
G	FLOOR TILE	OTHER	0	0	0	0.09	0
			0	0	0	1.87	0
	TRANSITE ROOF	OTHER	0	0	0	59	0
			0	0	0	1050	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	10.2	0
			0	0	0	185	0
	CEILING DEMOLITION	OTHER	0	0	0	1.5	0
			0	0	0	125	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	28.7	0
			0	0	0	510	0
H	PIPING INSULATION	OTHER	0	0	0	0.16	0
			0	0	0	71.3	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
I		OTHER	0	0	0	0.759	0
			0	0	0	502	0
	BUILDING INSULATION	OTHER	0	0	0	3.34	0
			0	0	0	1480	0
	DRYWALL	OTHER	0	0	0	1.65	0
			0	0	0	62.5	0
	WINDOWS	PAINT	0	0	0	0.0309	0
			0	0	0	0.33	0
		OTHER	0	0	0	0	11.9
			0	0	0	0	595
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	7.5
			0	0	0	0	500
	Totals by Segregation Category:		**1**	**0**	**0.5**	**434**	**1250**
			40	**0**	**1.41**	**7560**	**17700**

Component ID 30B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0295	0
			0	0	0	0.316	0
		METAL	0	0	0	1.97	0
			0	0	0	7.85	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000802	0
			0	0	0	0.00858	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.0741	0
			0	0	0	1.04	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
	HVAC EQUIPMENT	METAL	0	0	0	0.229	0
			0	0	0	6.99	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0000986	0
			0	0	0	0.00105	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.000918	0
			0	0	0	0.00982	0
	PIPING (OVER 4")	METAL	0	0	0	0.183	0
			0	0	0	4.17	0
		PAINT	0	0	0	0.00176	0
			0	0	0	0.0188	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.0059	0
			0	0	0	0.0522	0
	DOORS	PAINT	0	0	0	0.0452	0
			0	0	0	0.483	0
		METAL	0	0	0	0.922	0
			0	0	0	47.9	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.128	0
			0	0	0	1.17	0
		DUST	0	0	0	0.000408	0
			0	0	0	0.00873	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00311	0
			0	0	0	0.0664	0
		METAL	0	0	0	0.332	0
			0	0	0	1.93	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0697	0
			0	0	0	2	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.103	0
			0	0	0	1.1	0
	METAL PANEL ROOF	METAL	0	0	0	0.354	0
			0	0	0	1.05	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.623	0
			0	0	0	1.84	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0584	0
			0	0	0	0.625	0
E	CONCRETE	OTHER	0	0	0	0	2.6
			0	0	0	0	34.7
	CONCRETE SLABS	OTHER	0	0	0	0	24
			0	0	0	0	320
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0298	0
			0	0	0	19.7	0

002014

Attachment B. III (Continued)

Component ID 30B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
H	PIPING INSULATION	OTHER	0	0	0	0	0.00226
			0	0	0	0	1
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.157	0
			0	0	0	104	0
	WINDOWS	PAINT	0	0	0	0.0013	0
			0	0	0	0.0139	0
		OTHER	0	0	0	0	0.499
			0	0	0	0	25
	Totals by Segregation Category:		**0**	**0**	**0**	**5.6**	**27.1**
			0	**0**	**0**	**216**	**381**

Component ID 31A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.457	0
			0	0	0	4.89	0
		METAL	0	0	0	30.5	0
			0	0	0	122	0
B	PIPING (2" AND LESS)	DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
		CRUD	0	0	0	0.00297	0
			0	0	0	0.0318	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0291	0
			0	0	0	0.312	0
		METAL	0	0	0	2.72	0
			0	0	0	110	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0161	0
			0	0	0	27	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	HVAC EQUIPMENT	METAL	0	0	0	12.4	0
			0	0	0	109	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00187	0
			0	0	0	0.02	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.738	0
			0	0	0	6.54	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.022	0
			0	0	0	0.235	0
		DUST	0	0	0	0.00229	0
			0	0	0	0.049	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0176	0
			0	0	0	0.189	0
		SS METAL	0	0	0	1.67	0
			0	0	0	37.7	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0064	0
			0	0	0	0.0684	0
		SS METAL	0	0	0	1.69	0
			0	0	0	137	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	3.37	0
			0	0	0	47.1	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0351	0
			0	0	0	0.375	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000388	0
			0	0	0	0.0083	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.527	0
			0	0	0	89.6	0
	PIPING (OVER 4")	DUST	0	0	0	0.00044	0
			0	0	0	0.00941	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.031	0
			0	0	0	0.663	0
		METAL	0	0	0	3.31	0
			0	0	0	19.2	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0223	0
			0	0	0	0.478	0
		METAL	0	0	0	6.98	0
			0	0	0	64	0
	DOORS	METAL	0	0	0	1.88	0
			0	0	0	97.7	0

Component ID 31A

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	DOORS	PAINT	0	0	0	0.0922	0
			0	0	0	0.987	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.76	0
			0	0	0	28.7	0
		PAINT	0	0	0	0.00449	0
			0	0	0	0.048	0
C	PROCESS EQUIPMENT	DUST	0	0	0	0.000388	0
			0	0	0	0.0083	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00392	0
			0	0	0	0.0419	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00619	0
			0	0	0	0.0707	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00489	0
			0	0	0	0.0523	0
		DUST	0	0	0	0.00229	0
			0	0	0	0.049	0
		SS METAL	0	0	0	0.375	0
			0	0	0	5.23	0
		UNH	0	0	0	0.0458	0
			0	0	0	0.523	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.059	0
			0	0	0	0.524	0
	PIPING (OVER 4")	DUST	0	0	0	0.00044	0
			0	0	0	0.00941	0
		SS METAL	0	0	0	0.185	0
			0	0	0	4.19	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000242	0
			0	0	0	0.00518	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00142	0
			0	0	0	0.0152	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00139	0
			0	0	0	0.0148	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.188	0
			0	0	0	15.2	0
		UNH	0	0	0	0.0133	0
			0	0	0	0.152	0
	PIPING (OVER 4")	UNH	0	0	0	0.0367	0
			0	0	0	0.419	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.00179	0
			0	0	0	3	0
	HVAC EQUIPMENT	METAL	0	0	0	1.38	0
			0	0	0	12.1	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000499	0
			0	0	0	0.00533	0
		METAL	0	0	0	0.0845	0
			0	0	0	3.2	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000661	0
			0	0	0	0.00707	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000208	0
			0	0	0	0.00222	0
E	MASONRY WALLS	OTHER	0	0	0	0	103
			0	0	0	0	3740
		OTHER	0	0	0	6.85	0
			0	0	0	249	0
	CONCRETE	OTHER	0	0	0	0	56.8
			0	0	0	0	757
	CLAY PIPING	OTHER	0	0	0	0	0.416
			0	0	0	0	5.94

Component ID 31A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	96.2
			0	0	0	0	1280
	CONCRETE SLABS	OTHER	0	0	37.2	0	0
			0	0	496	0	0
	CONCRETE WALLS	OTHER	0	0	0	0	6.41
			0	0	0	0	85.5
	CONCRETE SLABS	OTHER	0	0	0	0	260
			0	0	0	0	3470
	CONCRETE	OTHER	0	0	5.06	0	0
			0	0	67.5	0	0
G	FLOOR TILE	OTHER	0	0	0	1.2	0
			0	0	0	25	0
H	PIPING INSULATION	OTHER	0	0	0	0.0384	0
			0	0	0	17.1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
I	BUILDING INSULATION	OTHER	0	0	0	2.87	0
			0	0	0	1270	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	3
			0	0	0	0	200
	WINDOWS	PAINT	0	0	0	0.0042	0
			0	0	0	0.045	0
		OTHER	0	0	0	0	1.62
			0	0	0	0	81
	ROOFING (BUILT UP)	OTHER	0	0	0	0	22.9
			0	0	0	0	637
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.181	0
			0	0	0	119	0
J	PIPING (OVER 4")	UNH	0	0	0	0.33	0
			0	0	0	3.77	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0557	0
			0	0	0	0.636	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.412	0
			0	0	0	4.71	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.12	0
			0	0	0	1.37	0
		DUST	0	0	0.00311	0	0
			0	0	0.0664	0	0
		CRUD	0	0	0.0064	0	0
			0	0	0.0684	0	0
	PIPING (OVER 4")	DUST	0	0	0.00352	0	0
			0	0	0.0753	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.0183	0	0
			0	0	0.392	0	0
		CRUD	0	0	0.022	0	0
			0	0	0.235	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00194	0	0
			0	0	0.0415	0	0
		CRUD	0	0	0.00297	0	0
			0	0	0.0318	0	0
	PIPING (OVER 4")	CRUD	0	0	0.0176	0	0
			0	0	0.189	0	0
	Totals by Segregation Category:		**0.5**	**0**	**42.3**	**81.8**	**550**
			20	**0**	**565**	**2660**	**10300**

OC2018

Attachment B. III (Continued)

Component ID 31B — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	274
			0	0	0	0	3650
	Totals by Segregation Category:		**0**	**0**	**0**	**0**	**274**
			0	**0**	**0**	**0**	**3650**

Component ID 32A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	24	0
			0	0	0	95.4	0
		PAINT	0	0	0	0.359	0
			0	0	0	3.84	0
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00203	0
			0	0	0	0.0434	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
		METAL	0	0	0	0.234	0
			0	0	0	39.8	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0197	0
			0	0	0	0.42	0
	DOORS	METAL	0	0	0	1.24	0
			0	0	0	64.5	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.635	0
			0	0	0	5.82	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.179	0
			0	0	0	4.99	0
	DOORS	PAINT	0	0	0	0.0609	0
			0	0	0	0.652	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.48	0
			0	0	0	59.8	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.00225	0
			0	0	0	0.024	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	2.1	0
			0	0	0	12.2	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0159	0
			0	0	0	0.17	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.247	0
			0	0	0	2.18	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.89	0
			0	0	0	40.4	0
		PAINT	0	0	0	0.0339	0
			0	0	0	0.363	0
	PIPING (OVER 4")	METAL	0	0	0	1.83	0
			0	0	0	41.7	0
		PAINT	0	0	0	0.0176	0
			0	0	0	0.188	0
	PROCESS EQUIPMENT	METAL	0	0	0	3.2	0
			0	0	0	22	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
		METAL	0.5	0	0	0	0
			20	0	0	0	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
D	DUCTWORK	METAL	0	0	0	0.596	0
			0	0	0	1.57	0
		PAINT	0	0	0	0.0369	0
			0	0	0	0.395	0
		DUST	0	0	0	0.00184	0
			0	0	0	0.0395	0
E	CONCRETE SLABS	OTHER	0	0	0	0	235
			0	0	0	0	3130
	CLAY PIPING	OTHER	0	0	0	0	0.951
			0	0	0	0	13.6
	CONCRETE FOUNDATION	OTHER	0	0	0	0	462
			0	0	0	0	6160

Component ID 32A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE WALLS	OTHER	0	0	0	0	36.6
			0	0	0	0	488
	MASONRY WALLS	OTHER	0	0	0	0	138
			0	0	0	0	5020
	CONCRETE	OTHER	0	0	0	0	29.5
			0	0	0	0	393
H	PIPING INSULATION	OTHER	0	0	0	0	0.0271
			0	0	0	0	12.1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0367	0
			0	0	0	24.3	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.00888
			0	0	0	0	3.95
I	WINDOWS	OTHER	0	0	0	0	1.06
			0	0	0	0	53.3
	BUILDING INSULATION	OTHER	0	0	0	0	2.13
			0	0	0	0	945
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.193	0
			0	0	0	127	0
	WINDOWS	PAINT	0	0	0	0.00277	0
			0	0	0	0.0296	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	17
			0	0	0	0	472
	DRYWALL	OTHER	0	0	0	0	2.44
			0	0	0	0	92.6
J	DUCTWORK	DUST	0	0	0	0.0166	0
			0	0	0	0.355	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**39.4**	**926**
			20	**0**	**0**	**548**	**16900**

Component ID 32B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	4.19	0
			0	0	0	16.7	0
		PAINT	0	0	0	0.0627	0
			0	0	0	0.67	0
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.111	0
			0	0	0	0.644	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
		METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00104	0
			0	0	0	0.0222	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
E	CONCRETE SLABS	OTHER	0	0	0	0	39.9
			0	0	0	0	532
		OTHER	0	0	0	5.7	0
			0	0	0	75.9	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	109
			0	0	0	0	1460
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00459	0
			0	0	0	3.04	0
I		OTHER	0	0	0	0.0241	0
			0	0	0	15.9	0
	BUILDING INSULATION	OTHER	0	0	0	0.416	0
			0	0	0	185	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	3.33
			0	0	0	0	92.5
	Totals by Segregation Category:		**0**	**0**	**0**	**10.8**	**152**
			0	**0**	**0**	**316**	**2080**

002022

Component ID 35A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	1.02	0
			0	0	0	8.98	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1.02**	**0**
			0	**0**	**0**	**8.98**	**0**

Component ID 37 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.522	0
			0	0	0	5.58	0
		METAL	0	0	0	34.8	0
			0	0	0	139	0
B	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00162	0
			0	0	0	0.0174	0
		METAL	0	0	0	1.71	0
			0	0	0	23.4	0
	HVAC EQUIPMENT	METAL	0	0	0	0.176	0
			0	0	0	36	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0608	0
			0	0	0	0.65	0
		METAL	0	0	0	0.914	0
			0	0	0	155	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00412	0
			0	0	0	0.0441	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0238	0
			0	0	0	0.255	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	19.3	0
			0	0	0	269	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.447	0
			0	0	0	4.78	0
		DUST	0	0	0	0.0271	0
			0	0	0	0.579	0
		SS METAL	0	0	0	47.5	0
			0	0	0	9550	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0557	0
			0	0	0	0.596	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.23	0
			0	0	0	89.7	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0131	0
			0	0	0	0.28	0
		CRUD	0	0	0	0.126	0
			0	0	0	1.34	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	2.28	0
			0	0	0	357	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0366	0
			0	0	0	0.784	0
		METAL	0	0	0	3.91	0
			0	0	0	22.7	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0109	0
			0	0	0	0.232	0
		METAL	0	0	0	3.4	0
			0	0	0	31.1	0
	DOORS	METAL	0	0	0	1.02	0
			0	0	0	52.8	0
		PAINT	0	0	0	0.0499	0
			0	0	0	0.533	0
C	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	2.14	0
			0	0	0	29.9	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	5.28	0
			0	0	0	1060	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0195	0
			0	0	0	4	0

002324

Attachment B. III (Continued)

Component ID 37 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0279	0
			0	0	0	0.299	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00018	0
			0	0	0	0.00193	0
		METAL	0	0	0	0.19	0
			0	0	0	2.6	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000458	0
			0	0	0	0.0049	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0131	0
			0	0	0	0.28	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00619	0
			0	0	0	0.0662	0
		METAL	0	0	0	0.254	0
			0	0	0	39.6	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.261	0
			0	0	0	2.99	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0271	0
			0	0	0	0.579	0
		UNH	0	0	0	0.929	0
			0	0	0	10.6	0
		CRUD	0	0	0	0.0992	0
			0	0	0	1.06	0
E	CONCRETE SLABS	OTHER	0	0	56.2	0	0
			0	0	749	0	0
	MASONRY WALLS	OTHER	0	0	10.7	0	0
			0	0	388	0	0
	CONCRETE	OTHER	0	0	0	0	0.0688
			0	0	0	0	0.917
	CONCRETE SLABS	OTHER	0	0	0	0	586
			0	0	0	0	7810
	MASONRY WALLS	OTHER	0	0	0	0	160
			0	0	0	0	5810
	CONCRETE FOUNDATION	OTHER	0	0	0	0	129
			0	0	0	0	1710
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0574	0
			0	0	0	37.9	0
	PIPING INSULATION	OTHER	0	0	0.14	0	0
			0	0	62.2	0	0
I	WINDOWS	OTHER	0	0	0	0	1.2
			0	0	0	0	60
		PAINT	0	0	0	0.00311	0
			0	0	0	0.0333	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.301	0
			0	0	0	199	0
	PVC CONDUIT	OTHER	0	0	0	0	0.0718
			0	0	0	0	2.21
	ROOFING (BUILT UP)	OTHER	0	0	0	0	18.9
			0	0	0	0	525
	BUILDING INSULATION	OTHER	0	0	2.36	0	0
			0	0	1050	0	0
J	PROCESS EQUIPMENT	DUST	0	0	0.217	0	0
			0	0	4.63	0	0
		CRUD	0	0	0.447	0	0
			0	0	4.78	0	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	2.35	0
			0	0	0	26.9	0
		CRUD	0	0	0.126	0	0
			0	0	1.34	0	0

Component ID 37

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PROCESS EQUIPMENT	UNH	0	0	0	8.36	0
			0	0	0	95.5	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.105	0	0
			0	0	2.24	0	0
	Totals by Segregation Category:		**0.5**	**0**	**70.3**	**139**	**895**
			20	**0**	**2260**	**12300**	**15900**

002026

Component ID 38A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.61	0
			0	0	0	10.4	0
		PAINT	0	0	0	0.0391	0
			0	0	0	0.418	0
B	PIPING (2" AND LESS)	SS METAL	0	0	0	2.26	0
			0	0	0	20	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00367	0
			0	0	0	0.0784	0
		SS METAL	0	0	0	5.39	0
			0	0	0	75.3	0
	PIPING (OVER 4")	CRUD	0	0	0	0.106	0
			0	0	0	1.13	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0000485	0
			0	0	0	0.00104	0
	PIPING (OVER 4")	SS METAL	0	0	0	9.99	0
			0	0	0	226	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000799	0
			0	0	0	0.00855	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0352	0
			0	0	0	0.377	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.22	0
			0	0	0	7.06	0
	PIPING (OVER 4")	DUST	0	0	0	0.00264	0
			0	0	0	0.0564	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00936	0
			0	0	0	0.1	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
		METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0132	0
			0	0	0	0.142	0
		METAL	0	0	0	0.199	0
			0	0	0	33.9	0
	DOORS	PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
		METAL	0	0	0	0.318	0
			0	0	0	16.5	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00305	0
			0	0	0	0.0652	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0114	0
			0	0	0	0.243	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.783	0
			0	0	0	17.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.953	0
			0	0	0	8.73	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00103	0
			0	0	0	0.022	0
C	PROCESS EQUIPMENT	SS METAL	0	0	0	0.087	0
			0	0	0	1.9	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00103	0
			0	0	0	0.022	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.00166	0
			0	0	0	0.019	0
		DUST	0	0	0	0.0000485	0
			0	0	0	0.00104	0
		CRUD	0	0	0	0.000178	0
			0	0	0	0.0019	0

Component ID 38A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (OVER 4")	UNH	0	0	0	0.22	0
			0	0	0	2.51	0
		SS METAL	0	0	0	1.11	0
			0	0	0	25.1	0
		DUST	0	0	0	0.00264	0
			0	0	0	0.0564	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00208	0
			0	0	0	0.0223	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0732	0
			0	0	0	0.837	0
		SS METAL	0	0	0	0.599	0
			0	0	0	8.37	0
		DUST	0	0	0	0.00367	0
			0	0	0	0.0784	0
		CRUD	0	0	0	0.00782	0
			0	0	0	0.0837	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0195	0
			0	0	0	0.223	0
		SS METAL	0	0	0	0.251	0
			0	0	0	2.23	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0235	0
			0	0	0	0.251	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	55.6
			0	0	0	0	742
	CONCRETE	OTHER	0	0	0	0	82.6
			0	0	0	0	1100
	MASONRY WALLS	OTHER	0	0	0	0	22
			0	0	0	0	800
	CONCRETE SLABS	OTHER	0	0	0	0	28.5
			0	0	0	0	380
H	PIPING INSULATION	OTHER	0	0	0	0	0.12
			0	0	0	0	53.2
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0608	0
			0	0	0	40.2	0
I	WINDOWS	PAINT	0	0	0	0.000692	0
			0	0	0	0.0074	0
	PVC CONDUIT	OTHER	0	0	0	0	0.0248
			0	0	0	0	0.764
	ROOFING (BUILT UP)	OTHER	0	0	0	0	2.28
			0	0	0	0	63.3
	WINDOWS	OTHER	0	0	0	0	0.266
			0	0	0	0	13.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.319	0
			0	0	0	211	0
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0352	0
			0	0	0	0.377	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00936	0
			0	0	0	0.1	0
		DUST	0	0	0	0.00824	0
			0	0	0	0.176	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0293	0
			0	0	0	0.627	0
	PIPING (OVER 4")	CRUD	0	0	0	0.106	0
			0	0	0	1.13	0
		DUST	0	0	0	0.0211	0
			0	0	0	0.452	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000799	0
			0	0	0	0.00855	0

Component ID 38A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PROCESS EQUIPMENT	UNH	0	0	0	0.015	0
			0	0	0	0.171	0
	PIPING (OVER 4")	UNH	0	0	0	1.98	0
			0	0	0	22.6	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.659	0
			0	0	0	7.53	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.175	0
			0	0	0	2	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.000388	0
			0	0	0	0.0083	0
	Totals by Segregation Category:		**0**	**0**	**0**	**30**	**191**
			0	**0**	**0**	**756**	**3150**

Component ID 38B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	0.394	0
			0	0	0	1.57	0
		PAINT	0	0	0	0.0059	0
			0	0	0	0.0631	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00156	0
			0	0	0	0.0167	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.02	0
			0	0	0	8.98	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0234	0
			0	0	0	3.98	0
	PROCESS EQUIPMENT	METAL	0	0	0	50.4	0
			0	0	0	2000	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0169	0
			0	0	0	0.181	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.204	0
			0	0	0	2.18	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.0958	0
			0	0	0	1.34	0
	DOORS	METAL	0	0	0	0.127	0
			0	0	0	6.6	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.0218	0
			0	0	0	0.127	0
		DUST	0	0	0	0.000204	0
			0	0	0	0.00436	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00119	0
			0	0	0	0.0127	0
	DOORS	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
D	METAL PANEL ROOF	METAL	0	0	0	0.0472	0
			0	0	0	0.139	0
		PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0234	0
			0	0	0	0.25	0
		METAL	0	0	0	0.142	0
			0	0	0	0.418	0
E	CONCRETE SLABS	OTHER	0	0	0	0	9.17
			0	0	0	0	122
		OTHER	0	0	0	1.31	0
			0	0	0	17.5	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0803	0
			0	0	0	53.1	0
	PIPING INSULATION	OTHER	0	0	0	0	0.00904
			0	0	0	0	4.02
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.422	0
			0	0	0	279	0
	Totals by Segregation Category:		**0**	**0**	**0**	**54.4**	**9.18**
			0	**0**	**0**	**2380**	**126**

062030

Attachment B. III (Continued)

Component ID 39A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	44.9	0
			0	0	0	179	0
		PAINT	0	0	0	0.672	0
			0	0	0	7.19	0
B	PIPING (OVER 4")	SS METAL	0	0	0	2.5	0
			0	0	0	56.5	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000187	0
			0	0	0	0.002	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	1.86	0
			0	0	0	16.5	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.98	0
			0	0	0	79.8	0
		PAINT	0	0	0	0.0212	0
			0	0	0	0.227	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00771	0
			0	0	0	0.0824	0
		DUST	0	0	0	0.000848	0
			0	0	0	0.0181	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0363	0
			0	0	0	0.388	0
		DUST	0	0	0	0.00378	0
			0	0	0	0.0809	0
		SS METAL	0	0	0	5.56	0
			0	0	0	77.7	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0268	0
			0	0	0	2.7	0
	PIPING (OVER 4")	DUST	0	0	0	0.000659	0
			0	0	0	0.0141	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.422	0
			0	0	0	71.7	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000168	0
			0	0	0	0.0018	0
		DUST	0	0	0	0.0000102	0
			0	0	0	0.000218	0
		SS METAL	0	0	0	0.036	0
			0	0	0	3.6	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0264	0
			0	0	0	0.283	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0174	0
			0	0	0	5.39	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000619	0
			0	0	0	0.00662	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0114	0
			0	0	0	0.243	0
		METAL	0	0	0	1.22	0
			0	0	0	7.06	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00112	0
			0	0	0	0.0239	0
	DOORS	METAL	0	0	0	0.318	0
			0	0	0	16.5	0
		PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.125	0
			0	0	0	3.59	0

Component ID 39A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000561	0
			0	0	0	0.006	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.349	0
			0	0	0	3.2	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000374	0
			0	0	0	0.0004	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00378	0
			0	0	0	0.0809	0
		SS METAL	0	0	0	0.618	0
			0	0	0	8.63	0
		UNH	0	0	0	0.0755	0
			0	0	0	0.863	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00587	0
			0	0	0	0.0628	0
		DUST	0	0	0	0.000659	0
			0	0	0	0.0141	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00807	0
			0	0	0	0.0863	0
	PIPING (OVER 4")	UNH	0	0	0	0.055	0
			0	0	0	0.628	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.004	0
			0	0	0	0.4	0
		UNH	0	0	0	0.00035	0
			0	0	0	0.004	0
		DUST	0	0	0	0.0000102	0
			0	0	0	0.000218	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.277	0
			0	0	0	6.28	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000623	0
			0	0	0	0.000667	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.016	0
			0	0	0	0.183	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0139	0
			0	0	0	0.399	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00193	0
			0	0	0	0.599	0
		PAINT	0	0	0	0.0000687	0
			0	0	0	0.000735	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.00298	0
			0	0	0	0.3	0
		PAINT	0	0	0	0.0000208	0
			0	0	0	0.000223	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00171	0
			0	0	0	0.0183	0
		DUST	0	0	0	0.000848	0
			0	0	0	0.0181	0
		SS METAL	0	0	0	0.206	0
			0	0	0	1.83	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	88.7
			0	0	0	0	1180
	CONCRETE SLABS	OTHER	0	0	0	0	73.2
			0	0	0	0	976
		OTHER	0	0	0	12	0
			0	0	0	160	0
		OTHER	0	0	12.2	0	0
			0	0	162	0	0

002032

Component ID 39A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000561	0
			0	0	0	0.006	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.349	0
			0	0	0	3.2	0
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000374	0
			0	0	0	0.0004	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00378	0
			0	0	0	0.0809	0
		SS METAL	0	0	0	0.618	0
			0	0	0	8.63	0
		UNH	0	0	0	0.0755	0
			0	0	0	0.863	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00587	0
			0	0	0	0.0628	0
		DUST	0	0	0	0.000659	0
			0	0	0	0.0141	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00807	0
			0	0	0	0.0863	0
	PIPING (OVER 4")	UNH	0	0	0	0.055	0
			0	0	0	0.628	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.004	0
			0	0	0	0.4	0
		UNH	0	0	0	0.00035	0
			0	0	0	0.004	0
		DUST	0	0	0	0.0000102	0
			0	0	0	0.000218	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.277	0
			0	0	0	6.28	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000623	0
			0	0	0	0.000667	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.016	0
			0	0	0	0.183	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0139	0
			0	0	0	0.399	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00193	0
			0	0	0	0.599	0
		PAINT	0	0	0	0.0000687	0
			0	0	0	0.000735	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.00298	0
			0	0	0	0.3	0
		PAINT	0	0	0	0.0000208	0
			0	0	0	0.000223	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00171	0
			0	0	0	0.0183	0
		DUST	0	0	0	0.000848	0
			0	0	0	0.0181	0
		SS METAL	0	0	0	0.206	0
			0	0	0	1.83	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	88.7
			0	0	0	0	1180
	CONCRETE SLABS	OTHER	0	0	0	0	73.2
			0	0	0	0	976
		OTHER	0	0	0	12	0
			0	0	0	160	0
		OTHER	0	0	12.2	0	0
			0	0	162	0	0

Component ID 39A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	17.4	0
			0	0	0	310	0
	TRANSITE ROOF	OTHER	0	0	0	6.15	0
			0	0	0	109	0
	FIRE BRICK	OTHER	0	0	0	6.07	0
			0	0	0	86.7	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	3.45	0
			0	0	0	62.5	0
H	PIPING INSULATION	OTHER	0	0	0	0.0723	0
			0	0	0	32.1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0941	0
			0	0	0	62.2	0
I	BUILDING INSULATION	OTHER	0	0	0	1.12	0
			0	0	0	500	0
	WINDOWS	PAINT	0	0	0	0.00934	0
			0	0	0	0.0999	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.494	0
			0	0	0	327	0
	WINDOWS	OTHER	0	0	0	0	3.59
			0	0	0	0	180
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.0302	0	0
			0	0	0.647	0	0
	PIPING (OVER 4")	DUST	0	0	0.00528	0	0
			0	0	0.113	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.000168	0	0
			0	0	0.0018	0	0
	PIPING (OVER 4")	CRUD	0	0	0.0264	0	0
			0	0	0.283	0	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.144	0
			0	0	0	1.65	0
		DUST	0	0	0.00678	0	0
			0	0	0.145	0	0
		CRUD	0	0	0.00771	0	0
			0	0	0.0824	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0000817	0	0
			0	0	0.00175	0	0
		UNH	0	0	0	0.00315	0
			0	0	0	0.036	0
	PIPING (OVER 4")	UNH	0	0	0	0.495	0
			0	0	0	5.65	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.679	0
			0	0	0	7.77	0
		CRUD	0	0	0.0363	0	0
			0	0	0.388	0	0
	Totals by Segregation Category:		**0.5**	**0**	**12.3**	**110**	**165**
			20	**0**	**164**	**2220**	**2340**

002034

Component ID 39B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0885	0
			0	0	0	0.947	0
		METAL	0	0	0	5.91	0
			0	0	0	23.5	0
B	PIPING (2" AND LESS)	CRUD	0	0	0	0.00165	0
			0	0	0	0.0177	0
		DUST	0	0	0	0.000181	0
			0	0	0	0.00388	0
		SS METAL	0	0	0	0.398	0
			0	0	0	3.53	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000184	0
			0	0	0	0.000393	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000201	0
			0	0	0	0.0043	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.027	0
			0	0	0	0.377	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000421	0
			0	0	0	0.00045	0
		DUST	0	0	0	0.00000255	0
			0	0	0	0.0000546	0
		SS METAL	0	0	0	0.027	0
			0	0	0	0.9	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000176	0
			0	0	0	0.00189	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.0628	0
			0	0	0	0.576	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.111	0
			0	0	0	0.644	0
		DUST	0	0	0	0.00104	0
			0	0	0	0.0222	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.000367	0
			0	0	0	0.00419	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.00000935	0
			0	0	0	0.0001	0
		DUST	0	0	0	0.00000255	0
			0	0	0	0.0000546	0
		SS METAL	0	0	0	0.003	0
			0	0	0	0.1	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.00343	0
			0	0	0	0.0392	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0000392	0
			0	0	0	0.000419	0
		DUST	0	0	0	0.0000184	0
			0	0	0	0.000393	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0000875	0
			0	0	0	0.001	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000181	0
			0	0	0	0.00388	0
		CRUD	0	0	0	0.000367	0
			0	0	0	0.00392	0

Component ID 39B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0442	0
			0	0	0	0.392	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.003	0
			0	0	0	0.0419	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.0545	0
			0	0	0	0.583	0
	METAL PANEL ROOF	METAL	0	0	0	0.33	0
			0	0	0	0.976	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.33	0
			0	0	0	0.976	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0545	0
			0	0	0	0.583	0
E	CONCRETE	OTHER	0	0	0	0	480
			0	0	0	0	6390
	CONCRETE FOUNDATION	OTHER	0	0	0	0	5.5
			0	0	0	0	73.3
	CONCRETE SLABS	OTHER	0	0	0	0	9.9
			0	0	0	0	132
		OTHER	0	0	0	7.42	0
			0	0	0	99	0
		OTHER	0	0	2.48	0	0
			0	0	33	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0184	0
			0	0	0	12.1	0
	PIPING INSULATION	OTHER	0	0	0.00452	0	0
			0	0	2.01	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0964	0
			0	0	0	63.7	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.000147	0	0
			0	0	0.00314	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00145	0	0
			0	0	0.0311	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.0000421	0	0
			0	0	0.00045	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.000176	0	0
			0	0	0.00189	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.000788	0
			0	0	0	0.009	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0033	0
			0	0	0	0.0377	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0309	0
			0	0	0	0.353	0
		CRUD	0	0	0.00165	0	0
			0	0	0.0177	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0000204	0	0
			0	0	0.000437	0	0
	Totals by Segregation Category:		**0**	**0**	**2.49**	**15.3**	**495**
			0	**0**	**35.1**	**221**	**6600**

0C2033

Component ID 39C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.00832	0
			0	0	0	0.089	0
		METAL	0	0	0	0.555	0
			0	0	0	2.21	0
B	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.101	0
			0	0	0	1.41	0
	DOORS	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
		METAL	0	0	0	0.0953	0
			0	0	0	4.95	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	2.71	0
			0	0	0	32.5	0
		DUST	0	0	0	0.00814	0
			0	0	0	0.174	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0792	0
			0	0	0	0.703	0
		CRUD	0	0	0	0.000329	0
			0	0	0	0.00351	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0000685	0
			0	0	0	0.00147	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00856	0
			0	0	0	0.0915	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.29	0
			0	0	0	219	0
		PAINT	0	0	0	0.0857	0
			0	0	0	0.917	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0179	0
			0	0	0	0.899	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000361	0
			0	0	0	0.000773	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	1.11	0
			0	0	0	54.8	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000658	0
			0	0	0	0.00704	0
C	PIPING (2" AND LESS)	SS METAL	0	0	0	0.0088	0
			0	0	0	0.0781	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.123	0
			0	0	0	6.09	0
		PAINT	0	0	0	0.000951	0
			0	0	0	0.0102	0
	HVAC EQUIPMENT	METAL	0	0	0	0.00199	0
			0	0	0	0.0999	0
		PAINT	0	0	0	0.0000115	0
			0	0	0	0.000122	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.0000361	0
			0	0	0	0.000773	0
		UNH	0	0	0	0.000683	0
			0	0	0	0.00781	0
		CRUD	0	0	0	0.000073	0
			0	0	0	0.000781	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.00137	0
			0	0	0	0.0156	0
		CRUD	0	0	0	0.000146	0
			0	0	0	0.00156	0
		DUST	0	0	0	0.0000685	0
			0	0	0	0.00147	0

Component ID 39C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0112	0
			0	0	0	0.156	0
E	MASONRY WALLS	OTHER	0	0	0	0	5.5
			0	0	0	0	200
	CONCRETE SLABS	OTHER	0	0	0	0	2.17
			0	0	0	0	28.9
	CONCRETE FOUNDATION	OTHER	0	0	0	0	0.415
			0	0	0	0	5.54
	CONCRETE	OTHER	0	0	0	0	5.2
			0	0	0	0	69.4
H	PIPING INSULATION	OTHER	0	0	0	0	0.00226
			0	0	0	0	1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0241	0
			0	0	0	15.9	0
I		OTHER	0	0	0	0.127	0
			0	0	0	83.7	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	0.225
			0	0	0	0	6.25
J	PIPING (2" AND LESS)	CRUD	0	0	0	0.000329	0
			0	0	0	0.00351	0
		UNH	0	0	0	0.00615	0
			0	0	0	0.0703	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0123	0
			0	0	0	0.141	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000289	0
			0	0	0	0.00619	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000658	0
			0	0	0	0.00704	0
		DUST	0	0	0	0.000548	0
			0	0	0	0.0117	0
	Totals by Segregation Category:		**0**	**0**	**0**	**6.39**	**13.5**
			0	**0**	**0**	**424**	**311**

062038

Component ID 39D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	2.35	0
			0	0	0	9.34	0
		PAINT	0	0	0	0.0351	0
			0	0	0	0.376	0
B	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00551	0
			0	0	0	0.0589	0
	PIPING (OVER 4")	METAL	0	0	0	0.128	0
			0	0	0	2.92	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.445	0
			0	0	0	6.22	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.00194	0
			0	0	0	0.0207	0
		METAL	0	0	0	0.116	0
			0	0	0	1.03	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0687	0
			0	0	0	0.735	0
		METAL	0	0	0	0.431	0
			0	0	0	599	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
		METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00335	0
			0	0	0	0.0358	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.523	0
			0	0	0	3.04	0
		DUST	0	0	0	0.0049	0
			0	0	0	0.105	0
	PIPING (OVER 4")	PAINT	0	0	0	0.00123	0
			0	0	0	0.0132	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.126	0
			0	0	0	21.5	0
E	CONCRETE	OTHER	0	0	0	1.9	0
			0	0	0	25.3	0
	CONCRETE SLABS	OTHER	0	0	0	4.69	0
			0	0	0	62.5	0
		OTHER	0	0	0	0	32.8
			0	0	0	0	437
	CONCRETE	OTHER	0	0	0	0	13.3
			0	0	0	0	177
G	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	0	1.56
			0	0	0	0	27.7
	TRANSITE ROOF	OTHER	0	0	0	0	0.656
			0	0	0	0	11.7
	FIRE BRICK	OTHER	0	0	0	0	10.5
			0	0	0	0	149
H	PIPING INSULATION	OTHER	0	0	0	0	0.00461
			0	0	0	0	2.05
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0321	0
			0	0	0	21.2	0
I		OTHER	0	0	0	0.169	0
			0	0	0	111	0
	Totals by Segregation Category:		**0**	**0**	**0**	**11.1**	**58.8**
			0	**0**	**0**	**872**	**804**

Component ID 45A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	40.8	0
			0	0	0	163	0
		PAINT	0	0	0	0.611	0
			0	0	0	6.54	0
B	PIPING (2" AND LESS)	PAINT	0	0	0	0.0969	0
			0	0	0	1.04	0
		METAL	0	0	0	5.85	0
			0	0	0	51.7	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.053	0
			0	0	0	0.567	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0654	0
			0	0	0	0.7	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	HVAC EQUIPMENT	METAL	0	0	0	8.96	0
			0	0	0	570	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0857	0
			0	0	0	0.917	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	4.95	0
			0	0	0	199	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.37	0
			0	0	0	33.2	0
		PAINT	0	0	0	0.0275	0
			0	0	0	0.294	0
	PIPING (OVER 4")	METAL	0	0	0	5.5	0
			0	0	0	125	0
		PAINT	0	0	0	0.0528	0
			0	0	0	0.564	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000204	0
			0	0	0	0.00218	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.29	0
			0	0	0	219	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00203	0
			0	0	0	0.0434	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0698	0
			0	0	0	2	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	9.28	0
			0	0	0	893	0
	DOORS	PAINT	0	0	0	0.19	0
			0	0	0	2.03	0
		METAL	0	0	0	3.88	0
			0	0	0	201	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	5.42	0
			0	0	0	65	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.635	0
			0	0	0	5.82	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.663	0
			0	0	0	3.85	0
		DUST	0	0	0	0.0062	0
			0	0	0	0.133	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.0163	0
			0	0	0	0.349	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.14	0
			0	0	0	1.49	0
D	DUCTWORK	PAINT	0	0	0	0.77	0
			0	0	0	8.24	0

002049

Component ID 45A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
D	METAL PANEL ROOF	PAINT	0	0	0	1.23	0
			0	0	0	13.2	0
		METAL	0	0	0	7.46	0
			0	0	0	22	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	5.52	0
			0	0	0	16.3	0
	DUCTWORK	METAL	0	0	0	12.4	0
			0	0	0	32.8	0
		DUST	0	0	0	0.0385	0
			0	0	0	0.824	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.912	0
			0	0	0	9.75	0
E	CONCRETE	OTHER	0	0	0	0	10.3
			0	0	0	0	138
	CONCRETE FOUNDATION	OTHER	0	0	0	0	16.7
			0	0	0	0	223
	CONCRETE SLABS	OTHER	0	0	0	0	1130
			0	0	0	0	15000
	MASONRY WALLS	OTHER	0	0	0	0	51.6
			0	0	0	0	1880
	CONCRETE SLABS	OTHER	0	0	0	161	0
			0	0	0	2140	0
	MASONRY WALLS	OTHER	0	0	0	3.44	0
			0	0	0	125	0
G	CEILING DEMOLITION	OTHER	0	0	0	6.15	0
			0	0	0	512	0
	FLOOR TILE	OTHER	0	0	0	6.38	0
			0	0	0	133	0
H	PIPING INSULATION	OTHER	0	0	0	0.0926	0
			0	0	0	41.2	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0975	0
			0	0	0	64.5	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.185	0
			0	0	0	82.4	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.512	0
			0	0	0	339	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	2.25
			0	0	0	0	150
J	DUCTWORK	DUST	0	0.347	0	0	0
			0	7.41	0	0	0
	Totals by Segregation Category:		**0.5**	**0.347**	**0**	**297**	**1210**
			20	**7.41**	**0**	**6090**	**17400**

Component ID 45B

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	DOORS	METAL	0	0	0	0.0667	0
			0	0	0	3.46	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0117	0
			0	0	0	1.99	0
		PAINT	0	0	0	0.000779	0
			0	0	0	0.00833	0
	DOORS	PAINT	0	0	0	0.00327	0
			0	0	0	0.035	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.000362	0
			0	0	0	0.00774	0
		METAL	0	0	0	0.0386	0
			0	0	0	0.224	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
I	WINDOWS	OTHER	0	0	0	0	0.279
			0	0	0	0	14
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	WOOD	OTHER	0	0	0	0.9	0
			0	0	0	60	0
	WINDOWS	PAINT	0	0	0	0.000726	0
			0	0	0	0.00777	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1.19**	**0.279**
			0	**0**	**0**	**180**	**14**

Component ID 46 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	53.1	0
			0	0	0	211	0
		PAINT	0	0	0	0.795	0
			0	0	0	8.51	0
B	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	3.71	0
			0	0	0	150	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0227	0
			0	0	0	0.243	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	3.01	0
			0	0	0	26.7	0
		DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0397	0
			0	0	0	0.425	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0379	0
			0	0	0	0.405	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0281	0
			0	0	0	0.3	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0124	0
			0	0	0	0.133	0
	PIPING (2-1/2" TO 4")	SS.METAL	0	0	0	3.67	0
			0	0	0	51.3	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.601	0
			0	0	0	14.4	0
	PIPING (OVER 4")	DUST	0	0	0	0.00077	0
			0	0	0	0.0165	0
		SS METAL	0	0	0	3.65	0
			0	0	0	82.7	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000126	0
			0	0	0	0.00135	0
		DUST	0	0	0	0.00000766	0
			0	0	0	0.000164	0
		SS METAL	0	0	0	0.108	0
			0	0	0	2.7	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00115	0
			0	0	0	0.0245	0
	DOORS	PAINT	0	0	0	0.081	0
			0	0	0	0.867	0
		METAL	0	0	0	1.65	0
			0	0	0	85.8	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	2.22	0
			0	0	0	20.4	0
		DUST	0	0	0	0.00711	0
			0	0	0	0.152	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	3.31	0
			0	0	0	19.2	0
		DUST	0	0	0	0.031	0
			0	0	0	0.663	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00224	0
			0	0	0	0.024	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.422	0
			0	0	0	71.7	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
		METAL	0.5	0	0	0	0
			20	0	0	0	0
C	PIPING (OVER 4")	DUST	0	0	0	0.00077	0
			0	0	0	0.0165	0

Component ID 46 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	UNH	0	0	0	0.000262	0
			0	0	0	0.003	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00504	0
			0	0	0	0.0539	0
		DUST	0	0	0	0.00115	0
			0	0	0	0.0245	0
		SS METAL	0	0	0	0.187	0
			0	0	0	2.62	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.012	0
			0	0	0	0.3	0
		DUST	0	0	0	0.00000766	0
			0	0	0	0.000164	0
		CRUD	0	0	0	0.0000281	0
			0	0	0	0.0003	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.324	0
			0	0	0	7.33	0
		CRUD	0	0	0	0.00842	0
			0	0	0	0.0901	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0472	0
			0	0	0	0.539	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.00133	0
			0	0	0	0.0285	0
	PIPING (OVER 4")	UNH	0	0	0	0.0788	0
			0	0	0	0.9	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00277	0
			0	0	0	0.0296	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000249	0
			0	0	0	0.00267	0
		METAL	0	0	0	0.0668	0
			0	0	0	1.6	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0259	0
			0	0	0	0.296	0
		SS METAL	0	0	0	0.324	0
			0	0	0	2.88	0
D	METAL PANEL ROOF	METAL	0	0	0	6.86	0
			0	0	0	20.2	0
	DUCTWORK	METAL	0	0	0	0.292	0
			0	0	0	0.77	0
		DUST	0	0	0	0.000904	0
			0	0	0	0.0193	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	5.3	0
			0	0	0	15.7	0
		PAINT	0	0	0	0.875	0
			0	0	0	9.35	0
	DUCTWORK	PAINT	0	0	0	0.0181	0
			0	0	0	0.193	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.117	0
			0	0	0	1.25	0
	METAL PANEL ROOF	PAINT	0	0	0	1.13	0
			0	0	0	12.1	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	0.708	0
			0	0	0	2.09	0
E	CONCRETE SLABS	OTHER	0	0	0	497	0
			0	0	0	6630	0
	MASONRY WALLS	OTHER	0	0	1.79	0	0
			0	0	65	0	0
	CLAY PIPING	OTHER	0	0	0	0	0.0891
			0	0	0	0	1.27

Attachment B. III (Continued)

Component ID 46 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	214
			0	0	0	0	2850
	CONCRETE SLABS	OTHER	0	0	0	0	497
			0	0	0	0	6630
	MASONRY WALLS	OTHER	0	0	0	0	26.8
			0	0	0	0	975
G	CEILING DEMOLITION	OTHER	0	0	0.581	0	0
			0	0	48.4	0	0
	FLOOR TILE	OTHER	0	0	0.2	0	0
			0	0	4.17	0	0
H	PIPING INSULATION	OTHER	0	0	0.0565	0	0
			0	0	25.1	0	0
	DUCTWORK INSULATION	OTHER	0	0	0.00435	0	0
			0	0	1.93	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0505	0
			0	0	0	33.4	0
I	DRYWALL	OTHER	0	0	1.98	0	0
			0	0	75	0	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	7.05
			0	0	0	0	470
	WINDOWS	PAINT	0	0	0	0.00329	0
			0	0	0	0.0352	0
		OTHER	0	0	0	0	1.26
			0	0	0	0	63.3
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.265	0
			0	0	0	175	0
J	PROCESS EQUIPMENT	DUST	0	0	0.0000613	0	0
			0	0	0.00131	0	0
		UNH	0	0	0	0.00236	0
			0	0	0	0.027	0
	PIPING (OVER 4")	UNH	0	0	0	0.709	0
			0	0	0	8.1	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.424	0
			0	0	0	4.85	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.233	0
			0	0	0	2.66	0
		CRUD	0	0	0.0124	0	0
			0	0	0.133	0	0
		DUST	0	0	0.0107	0	0
			0	0	0.228	0	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0.0227	0	0
			0	0	0.243	0	0
		DUST	0	0	0.00917	0	0
			0	0	0.196	0	0
	PIPING (OVER 4")	CRUD	0	0	0.0379	0	0
			0	0	0.405	0	0
		DUST	0	0	0.00616	0	0
			0	0	0.132	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.000126	0	0
			0	0	0.00135	0	0
	DUCTWORK	DUST	0	0	0.00813	0	0
			0	0	0.174	0	0
	Totals by Segregation Category:		**0.5**	**0**	**4.72**	**592**	**746**
			20	**0**	**221**	**7680**	**11000**

Component ID 51 — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	5.13	0
			0	0	0	54.9	0
		METAL	0	0	0	343	0
			0	0	0	1370	0
B	EQUIPMENT AND MISCELLANEOUS	METAL	0	0	0	3360	0
			0	0	0	135000	0
	PIPING (OVER 4")	CRUD	0	0	0	0.125	0
			0	0	0	1.34	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.059	0
			0	0	0	0.524	0
	EQUIPMENT AND MISCELLANEOUS	PAINT	0	0	0	13.8	0
			0	0	0	147	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000385	0
			0	0	0	0.00412	0
C	PIPING (OVER 4")	UNH	0	0	0	0.26	0
			0	0	0	2.97	0
		SS METAL	0	0	0	13.1	0
			0	0	0	297	0
	EQUIPMENT AND MISCELLANEOUS	METAL	0	0	0	373	0
			0	0	0	15000	0
		PAINT	0	0	0	1.53	0
			0	0	0	16.4	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0000857	0
			0	0	0	0.000916	0
		SS METAL	0	0	0	0.0442	0
			0	0	0	0.393	0
		UNH	0	0	0	0.000802	0
			0	0	0	0.00916	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0278	0
			0	0	0	0.297	0
E	CONCRETE SLABS	OTHER	0	0	0	0	1450
			0	0	0	0	19300
	CONCRETE FOUNDATION	OTHER	0	0	0	0	187
			0	0	0	0	2500
	CONCRETE	OTHER	0	0	0	0	2200
			0	0	0	0	29300
	CLAY PIPING	OTHER	0	0	0	0	0.505
			0	0	0	0	7.21
I	PVC CONDUIT	OTHER	0	0	0	0	0.938
			0	0	0	0	28.9
J	PIPING (2" AND LESS)	UNH	0	0	0	0.00722	0
			0	0	0	0.0825	0
	PIPING (OVER 4")	CRUD	0	0	0	0.125	0
			0	0	0	1.34	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000385	0
			0	0	0	0.00412	0
	PIPING (OVER 4")	UNH	0	0	0	2.34	0
			0	0	0	26.8	0
	Totals by Segregation Category:		**0**	**0**	**0**	**4110**	**3840**
			0	**0**	**0**	**152000**	**51100**

002046

Attachment B. III (Continued)

Component ID 53A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	1.21	0
			0	0	0	12.9	0
		METAL	0	0	0	80.7	0
			0	0	0	321	0
B	PIPING (2-1/2" TO 4")	METAL	0	0	0	13.2	0
			0	0	0	184	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	10.4	0
			0	0	0	1780	0
		PAINT	0	0	0	0.278	0
			0	0	0	2.97	0
	ELECTRICAL FIXTURES	METAL	0	0	0	7.13	0
			0	0	0	1210	0
		PAINT	0	0	0	0.474	0
			0	0	0	5.07	0
	HVAC EQUIPMENT	METAL	0	0	0	17.8	0
			0	0	0	1920	0
		PAINT	0	0	0	0.221	0
			0	0	0	2.36	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.557	0
			0	0	0	5.95	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	20.3	0
			0	0	0	186	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.145	0
			0	0	0	1.55	0
	PIPING (OVER 4")	METAL	0	0	0	16.4	0
			0	0	0	373	0
		PAINT	0	0	0	0.138	0
			0	0	0	1.48	0
	PROCESS EQUIPMENT	METAL	0	0	0	1.06	0
			0	0	0	140	0
		PAINT	0	0	0	0.0143	0
			0	0	0	0.153	0
	ELECTRICAL TRANSFORMERS	METAL	4.27	0	0	0	0
			85.4	0	0	0	0
		PAINT	0.00755	0	0	0	0
			0.0808	0	0	0	0
	DOORS	PAINT	0	0	0	0.575	0
			0	0	0	6.15	0
	PIPING (2" AND LESS)	METAL	0	0	0	33.9	0
			0	0	0	300	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	9.9	0
			0	0	0	119	0
		DUST	0	0	0	0.0298	0
			0	0	0	0.637	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.065	0
			0	0	0	1.39	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	17.9	0
			0	0	0	104	0
		DUST	0	0	0	0.167	0
			0	0	0	3.58	0
	DOORS	METAL	0	0	0	11.7	0
			0	0	0	609	0
D	LOUVERS	PAINT	0	0	0	0.00436	0
			0	0	0	0.0467	0
	METAL PANEL ROOF	METAL	0	0	0	0.164	0
			0	0	0	0.485	0
	LOUVERS	METAL	0	0	0	0.089	0
			0	0	0	4.62	0

Component ID 53A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	DUCTWORK	PAINT	0	0	0	2.37	0
			0	0	0	25.4	0
		METAL	0	0	0	38.3	0
			0	0	0	101	0
		DUST	0	0	0	0.119	0
			0	0	0	2.54	0
	METAL PANEL ROOF	PAINT	0	0	0	0.0271	0
			0	0	0	0.29	0
E	MASONRY	OTHER	0	0	0	1.62	0
			0	0	0	58.7	0
	CLAY PIPING	OTHER	0	0	0	0	1.1
			0	0	0	0	15.7
	CONCRETE BEAMS	OTHER	0	0	0	0	864
			0	0	0	0	11500
	CONCRETE COLUMNS	OTHER	0	0	0	0	122
			0	0	0	0	1620
	MASONRY WALLS	OTHER	0	0	0	15.1	0
			0	0	0	549	0
	MASONRY	OTHER	0	0	0	0	24.2
			0	0	0	0	881
	CONCRETE SLABS	OTHER	0	0	0	358	0
			0	0	0	4770	0
	CONCRETE COLUMNS	OTHER	0	0	0	17.4	0
			0	0	0	232	0
	CONCRETE BEAMS	OTHER	0	0	0	123	0
			0	0	0	1650	0
	CONCRETE WALLS	OTHER	0	0	0	0	1630
			0	0	0	0	21800
	CONCRETE SLABS	OTHER	0	0	0	0	2850
			0	0	0	0	38000
	CONCRETE FOUNDATION	OTHER	0	0	0	0	471
			0	0	0	0	6270
	MASONRY WALLS	OTHER	0	0	0	0	227
			0	0	0	0	8240
G	CEILING DEMOLITION	OTHER	0	0	0	34	0
			0	0	0	2840	0
	FLOOR TILE	OTHER	0	0	0	39.3	0
			0	0	0	820	0
H	PIPING INSULATION	OTHER	0	0	0	0.436	0
			0	0	0	194	0
	DUCTWORK INSULATION	OTHER	0	0	0	0.571	0
			0	0	0	254	0
I	WINDOWS	PAINT	0	0	0	0.0486	0
			0	0	0	0.519	0
	BUILDING INSULATION	OTHER	0	0	0	10.9	0
			0	0	0	4840	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	93.6
			0	0	0	0	6240
	PVC CONDUIT	OTHER	0	0	0	0	0.129
			0	0	0	0	3.98
	ROOFING (BUILT UP)	OTHER	0	0	0	0	64.7
			0	0	0	0	1800
	WINDOWS	OTHER	0	0	0	0	18.7
			0	0	0	0	935
	DRYWALL	OTHER	0	0	0	169	0
			0	0	0	6390	0
J	DUCTWORK	DUST	0	0	1.07	0	0
			0	0	22.8	0	0

002048

Attachment B. III (Continued)

Component ID 53A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			4.28	0	1.07	1050	6370
			85.5	0	22.8	30000	97300

Component ID 53B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0882	0
			0	0	0	0.944	0
		METAL	0	0	0	5.89	0
			0	0	0	23.5	0
B	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	0.461	0
			0	0	0	5.53	0
	PROCESS EQUIPMENT	METAL	0	0	0	102	0
			0	0	0	1010	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00844	0
			0	0	0	0.0903	0
		METAL	0	0	0	0.682	0
			0	0	0	9.54	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0415	0
			0	0	0	0.444	0
		METAL	0	0	0	2.48	0
			0	0	0	22	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00183	0
			0	0	0	0.0196	0
		METAL	0	0	0	0.0982	0
			0	0	0	16	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
		METAL	0	0	0	0.328	0
			0	0	0	55.8	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0241	0
			0	0	0	0.258	0
		METAL	0	0	0	0.903	0
			0	0	0	154	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.103	0
			0	0	0	1.1	0
	DOORS	METAL	0	0	0	1.16	0
			0	0	0	60.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.938	0
			0	0	0	8.6	0
		DUST	0	0	0	0.003	0
			0	0	0	0.0641	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.824	0
			0	0	0	4.78	0
		DUST	0	0	0	0.00771	0
			0	0	0	0.165	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00139	0
			0	0	0	0.0297	0
	DOORS	PAINT	0	0	0	0.0567	0
			0	0	0	0.607	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.196	0
			0	0	0	2.1	0
	METAL PANEL ROOF	PAINT	0	0	0	0.175	0
			0	0	0	1.87	0
		METAL	0	0	0	1.06	0
			0	0	0	3.14	0
	LOUVERS	PAINT	0	0	0	0.00125	0
			0	0	0	0.0133	0
		METAL	0	0	0	0.0254	0
			0	0	0	1.32	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	1.19	0
			0	0	0	3.51	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.19	0
			0	0	0	3.51	0

062050

Component ID 53B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	DUCTWORK	METAL	0	0	0	2.01	0
			0	0	0	5.31	0
		DUST	0	0	0	0.00623	0
			0	0	0	0.133	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.196	0
			0	0	0	2.1	0
	DUCTWORK	PAINT	0	0	0	0.125	0
			0	0	0	1.33	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	810
			0	0	0	0	10800
	CONCRETE SLABS	OTHER	0	0	0	0	105
			0	0	0	0	1400
G	CEILING DEMOLITION	OTHER	0	0	0	0	1.69
			0	0	0	0	141
H	DUCTWORK INSULATION	OTHER	0	0	0	0	0.03
			0	0	0	0	13.3
	PIPING INSULATION	OTHER	0	0	0	0	0.0255
			0	0	0	0	11.3
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.03
			0	0	0	0	2
	DRYWALL	OTHER	0	0	0	0	13
			0	0	0	0	494
	BUILDING INSULATION	OTHER	0	0	0	0	2.63
			0	0	0	0	1170
	WINDOWS	OTHER	0	0	0	0	1.08
			0	0	0	0	54
		PAINT	0	0	0	0.0028	0
			0	0	0	0.03	0
J	DUCTWORK	DUST	0	0	0	0.0561	0
			0	0	0	1.2	0
	Totals by Segregation Category:		**0**	**0**	**0**	**122**	**933**
			0	**0**	**0**	**1400**	**14100**

Component ID 54A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	2.05	0
			0	0	0	21.9	0
		METAL	0	0	0	137	0
			0	0	0	544	0
B	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.0124	0
			0	0	0	0.266	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	4.32	0
			0	0	0	57.6	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0103	0
			0	0	0	0.11	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00399	0
			0	0	0	0.0427	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	5.44	0
			0	0	0	219	0
	HVAC EQUIPMENT	METAL	0	0	0	0.44	0
			0	0	0	89.9	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0583	0
			0	0	0	0.623	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0561	0
			0	0	0	0.6	0
		DUST	0	0	0	0.00618	0
			0	0	0	0.132	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.119	0
			0	0	0	1.28	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	18.3	0
			0	0	0	255	0
	PROCESS EQUIPMENT	CRUD	0	0	0	1.12	0
			0	0	0	12	0
		SS METAL	0	0	0	119	0
			0	0	0	23900	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.139	0
			0	0	0	1.49	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0679	0
			0	0	0	1.45	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	13.5	0
			0	0	0	120	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
	DOORS	PAINT	0	0	0	0.0229	0
			0	0	0	0.245	0
		METAL	0	0	0	0.467	0
			0	0	0	24.3	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.607	0
			0	0	0	3.53	0
		DUST	0	0	0	0.00568	0
			0	0	0	0.122	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	5.8	0
			0	0	0	893	0
C	PIPING (2" AND LESS)	DUST	0	0	0	0.00618	0
			0	0	0	0.132	0
		CRUD	0	0	0	0.0125	0
			0	0	0	0.133	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000444	0
			0	0	0	0.00475	0
		METAL	0	0	0	0.48	0
			0	0	0	6.4	0

002052

Component ID 54A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	HVAC EQUIPMENT	PAINT	0	0	0	0.00115	0
			0	0	0	0.0123	0
		METAL	0	0	0	0.0488	0
			0	0	0	9.99	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0155	0
			0	0	0	0.166	0
		METAL	0	0	0	0.645	0
			0	0	0	99.2	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	2.03	0
			0	0	0	28.4	0
		CRUD	0	0	0	0.0265	0
			0	0	0	0.284	0
		DUST	0	0	0	0.0124	0
			0	0	0	0.266	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	1.5	0
			0	0	0	13.3	0
		UNH	0	0	0	0.117	0
			0	0	0	1.33	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.248	0
			0	0	0	2.83	0
	PROCESS EQUIPMENT	UNH	0	0	0	2.33	0
			0	0	0	26.6	0
		SS METAL	0	0	0	13.2	0
			0	0	0	2660	0
		DUST	0	0	0	0.0679	0
			0	0	0	1.45	0
		CRUD	0	0	0	0.249	0
			0	0	0	2.66	0
D	DUCTWORK	PAINT	0	0	0	0.902	0
			0	0	0	9.65	0
		METAL	0	0	0	14.6	0
			0	0	0	38.4	0
	LOUVERS	PAINT	0	0	0	0.0224	0
			0	0	0	0.24	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.91	0
			0	0	0	8.58	0
		PAINT	0	0	0	0.48	0
			0	0	0	5.13	0
	DUCTWORK	DUST	0	0	0	0.0451	0
			0	0	0	0.965	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.452	0
			0	0	0	4.83	0
	LOUVERS	METAL	0	0	0	0.458	0
			0	0	0	23.8	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	2.74	0
			0	0	0	8.09	0
	LEAD FLASHING	LEAD	0	0	0.55	0	0
			0	0	1.55	0	0
E	CONCRETE COLUMNS	OTHER	0	0	0	5.01	0
			0	0	0	66.8	0
	CONCRETE SLABS	OTHER	0	0	0	21	0
			0	0	0	280	0
	CONCRETE BEAMS	OTHER	0	0	30	0	0
			0	0	400	0	0
	CONCRETE SLABS	OTHER	0	0	71.1	0	0
			0	0	948	0	0
	MASONRY WALLS	OTHER	0	0	7.56	0	0
			0	0	275	0	0

Component ID 54A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE BEAMS	OTHER	0	0	0	8.88	0
			0	0	0	118	0
	MASONRY WALLS	OTHER	0	0	0	0	113
			0	0	0	0	4130
	CONCRETE FOUNDATION	OTHER	0	0	0	0	164
			0	0	0	0	2190
	CONCRETE COLUMNS	OTHER	0	0	16.9	0	0
			0	0	225	0	0
	CONCRETE	OTHER	0	0	0	0	4.35
			0	0	0	0	58
	CONCRETE COLUMNS	OTHER	0	0	0	0	113
			0	0	0	0	1510
	CONCRETE BEAMS	OTHER	0	0	0	0	201
			0	0	0	0	2680
	CONCRETE SLABS	OTHER	0	0	0	0	477
			0	0	0	0	6360
G	CEILING DEMOLITION	OTHER	0	0	2.02	0	0
			0	0	169	0	0
	FLOOR TILE	OTHER	0	0	0.8	0	0
			0	0	16.7	0	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	12.5	0
			0	0	0	222	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.414	0
			0	0	0	274	0
	DUCTWORK INSULATION	OTHER	0	0	0.217	0	0
			0	0	96.5	0	0
	PIPING INSULATION	OTHER	0	0	0.258	0	0
			0	0	114	0	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	7.14
			0	0	0	0	476
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	2.17	0
			0	0	0	1440	0
	DRYWALL	OTHER	0	0	0.825	0	0
			0	0	31.2	0	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	30
			0	0	0	0	833
	WOOD	OTHER	0	0	0	0	0.0726
			0	0	0	0	4.84
	WINDOWS	PAINT	0	0	0	0.00744	0
			0	0	0	0.0795	0
	BUILDING INSULATION	OTHER	0	0	5.92	0	0
			0	0	2630	0	0
	WINDOWS	OTHER	0	0	0	0	2.86
			0	0	0	0	143
J	PIPING (2-1/2" TO 4")	CRUD	0	0	0.119	0	0
			0	0	1.28	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.543	0	0
			0	0	11.6	0	0
		CRUD	0	0	1.12	0	0
			0	0	12	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.0994	0	0
			0	0	2.13	0	0
	DUCTWORK	DUST	0	0	0.406	0	0
			0	0	8.68	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	20.9	0
			0	0	0	239	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	2.23	0
			0	0	0	25.5	0

002054

Component ID 54A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PIPING (2" AND LESS)	UNH	0	0	0	1.05	0
			0	0	0	12	0
		DUST	0	0	0.0494	0	0
			0	0	1.06	0	0
		CRUD	0	0	0.0561	0	0
			0	0	0.6	0	0
	Totals by Segregation Category:		**1**	**0**	**139**	**426**	**1110**
			40	**0**	**4940**	**31800**	**18400**

Component ID 54B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	5.91	0
			0	0	0	23.5	0
		PAINT	0	0	0	0.0885	0
			0	0	0	0.947	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.139	0
			0	0	0	3.99	0
		PAINT	0	0	0	0.000623	0
			0	0	0	0.00667	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.164	0
			0	0	0	27.9	0
		PAINT	0	0	0	0.0109	0
			0	0	0	0.117	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0106	0
			0	0	0	0.113	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
		METAL	0.5	0	0	0	0
			20	0	0	0	0
	DOORS	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.989	0
			0	0	0	39.9	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.953	0
			0	0	0	8.73	0
		DUST	0	0	0	0.00305	0
			0	0	0	0.0652	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.717	0
			0	0	0	4.16	0
		DUST	0	0	0	0.00671	0
			0	0	0	0.144	0
	DOORS	METAL	0	0	0	0.159	0
			0	0	0	8.25	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.288	0
			0	0	0	3.08	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.18	0
			0	0	0	3.48	0
		PAINT	0	0	0	0.195	0
			0	0	0	2.08	0
	METAL PANEL ROOF	METAL	0	0	0	1.75	0
			0	0	0	5.16	0
E	CONCRETE SLABS	OTHER	0	0	0	0	157
			0	0	0	0	2100
		OTHER	0	0	0	22.5	0
			0	0	0	300	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	6.6
			0	0	0	0	88
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.213	0
			0	0	0	141	0
I		OTHER	0	0	0	1.12	0
			0	0	0	741	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**36.4**	**164**
			20	**0**	**0**	**1310**	**2190**

002056

Attachment B. III (Continued)

Component ID 54C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	5.91	0
			0	0	0	23.5	0
		PAINT	0	0	0	0.0885	0
			0	0	0	0.947	0
B	PROCESS EQUIPMENT	SS METAL	0	0	0	6.66	0
			0	0	0	1340	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.247	0
			0	0	0	9.97	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0264	0
			0	0	0	5.39	0
		PAINT	0	0	0	0.000619	0
			0	0	0	0.00662	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.27	0
			0	0	0	3.6	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0348	0
			0	0	0	0.372	0
		DUST	0	0	0	0.00363	0
			0	0	0	0.0775	0
		SS METAL	0	0	0	5.33	0
			0	0	0	74.5	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00381	0
			0	0	0	0.0813	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00025	0
			0	0	0	0.00267	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0627	0
			0	0	0	0.67	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00414	0
			0	0	0	0.0885	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00785	0
			0	0	0	0.084	0
		METAL	0	0	0	0.352	0
			0	0	0	50.3	0
	DOORS	PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
		METAL	0	0	0	0.254	0
			0	0	0	13.2	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	1.27	0
			0	0	0	11.6	0
		DUST	0	0	0	0.00406	0
			0	0	0	0.0868	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.442	0
			0	0	0	2.56	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00265	0
			0	0	0	0.0283	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00774	0
			0	0	0	0.0827	0
		SS METAL	0	0	0	0.593	0
			0	0	0	8.27	0
		UNH	0	0	0	0.0724	0
			0	0	0	0.827	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0139	0
			0	0	0	0.149	0
		SS METAL	0	0	0	0.74	0
			0	0	0	149	0

Component ID 54C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0000277	0
			0	0	0	0.000297	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.13	0
			0	0	0	1.49	0
		DUST	0	0	0	0.00381	0
			0	0	0	0.0813	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000687	0
			0	0	0	0.000735	0
		METAL	0	0	0	0.00293	0
			0	0	0	0.599	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000873	0
			0	0	0	0.00933	0
		METAL	0	0	0	0.0391	0
			0	0	0	5.59	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00363	0
			0	0	0	0.0775	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.03	0
			0	0	0	0.4	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	1.23	0
			0	0	0	3.62	0
	METAL PANEL ROOF	PAINT	0	0	0	0.101	0
			0	0	0	1.08	0
		METAL	0	0	0	0.614	0
			0	0	0	1.81	0
	LOUVERS	PAINT	0	0	0	0.0358	0
			0	0	0	0.383	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.203	0
			0	0	0	2.17	0
	LOUVERS	METAL	0	0	0	0.731	0
			0	0	0	38	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	27.3
			0	0	0	0	365
	CONCRETE SLABS	OTHER	0	0	0	0	51.2
			0	0	0	0	683
		OTHER	0	0	0	7.32	0
			0	0	0	97.5	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00574	0
			0	0	0	3.79	0
	PIPING INSULATION	OTHER	0	0	0.0384	0	0
			0	0	17.1	0	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0301	0
			0	0	0	19.9	0
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.029	0	0
			0	0	0.62	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.0627	0	0
			0	0	0.67	0	0
		DUST	0	0	0.0304	0	0
			0	0	0.651	0	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.652	0
			0	0	0	7.45	0
		CRUD	0	0	0.0348	0	0
			0	0	0.372	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	1.17	0
			0	0	0	13.4	0
	Totals by Segregation Category:		**0**	**0**	**0.195**	**34.8**	**78.5**
			0	**0**	**19.4**	**1900**	**1050**

002053

Attachment B. III (Continued)

Component ID 55A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	74.8	0
			0	0	0	298	0
		PAINT	0	0	0	1.12	0
			0	0	0	12	0
B	PROCESS EQUIPMENT	CRUD	0	0	0	0.183	0
			0	0	0	1.96	0
		DUST	0	0	0	0.0111	0
			0	0	0	0.237	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.236	0
			0	0	0	3.29	0
		DUST	0	0	0	0.00016	0
			0	0	0	0.00343	0
	HVAC EQUIPMENT	METAL	0	0	0	0.617	0
			0	0	0	118	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	48.7	0
			0	0	0	3910	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0135	0
			0	0	0	0.144	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.513	0
			0	0	0	4.55	0
		DUST	0	0	0	0.000234	0
			0	0	0	0.00501	0
		CRUD	0	0	0	0.00213	0
			0	0	0	0.0228	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0132	0
			0	0	0	0.142	0
		METAL	0	0	0	1.24	0
			0	0	0	49.9	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0932	0
			0	0	0	0.997	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00154	0
			0	0	0	0.0165	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	2.07	0
			0	0	0	12	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	7.65	0
			0	0	0	1340	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0421	0
			0	0	0	0.45	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0194	0
			0	0	0	0.415	0
	DOORS	METAL	0	0	0	1.27	0
			0	0	0	66	0
		PAINT	0	0	0	0.0623	0
			0	0	0	0.667	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	11.7	0
			0	0	0	554	0
		PAINT	0	0	0	0.0865	0
			0	0	0	0.925	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.633	0
			0	0	0	108	0
C	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0032	0
			0	0	0	0.0366	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.057	0
			0	0	0	0.506	0

Component ID 55A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.000342	0
			0	0	0	0.00366	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000234	0
			0	0	0	0.00501	0
		UNH	0	0	0	0.00443	0
			0	0	0	0.0506	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00016	0
			0	0	0	0.00343	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0406	0
			0	0	0	0.435	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.0262	0
			0	0	0	0.366	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.000473	0
			0	0	0	0.00506	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0111	0
			0	0	0	0.237	0
		SS METAL	0	0	0	5.41	0
			0	0	0	434	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.85	0
			0	0	0	149	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0015	0
			0	0	0	0.0161	0
		METAL	0	0	0	0.0685	0
			0	0	0	13.1	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00962	0
			0	0	0	0.103	0
		METAL	0	0	0	1.3	0
			0	0	0	61.6	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.0104	0
			0	0	0	0.111	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.38	0
			0	0	0	4.34	0
D	DUCTWORK	PAINT	0	0	0	0.249	0
			0	0	0	2.67	0
		DUST	0	0	0	0.0125	0
			0	0	0	0.267	0
		METAL	0	0	0	4.03	0
			0	0	0	10.6	0
E	CONCRETE SLABS	OTHER	0	0	9.61	0	0
			0	0	128	0	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	127
			0	0	0	0	1690
	CONCRETE SLABS	OTHER	0	0	0	0	67.3
			0	0	0	0	897
G	TRANSITE ROOF	OTHER	0	0	0	4.1	0
			0	0	0	72.9	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	15.3	0
			0	0	0	272	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	8.59	0
			0	0	0	156	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.131	0
			0	0	0	86.5	0
	DUCTWORK INSULATION	OTHER	0	0	0.06	0	0
			0	0	26.7	0	0
	PIPING INSULATION	OTHER	0	0	0.00678	0	0
			0	0	3.01	0	0
I	WINDOWS	PAINT	0	0	0	0.00259	0
			0	0	0	0.0278	0

002000

Attachment B. III (Continued)

Component ID 55A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	6
			0	0	0	0	400
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.687	0
			0	0	0	454	0
	PVC CONDUIT	OTHER	0	0	0	0	0.0966
			0	0	0	0	2.97
	BUILDING INSULATION	OTHER	0	0	2.8	0	0
			0	0	1250	0	0
	WINDOWS	OTHER	0	0	0	0	0.997
			0	0	0	0	50
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.00128	0	0
			0	0	0.0274	0	0
		CRUD	0	0	0.00154	0	0
			0	0	0.0165	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.183	0	0
			0	0	1.96	0	0
	PIPING (2" AND LESS)	CRUD	0	0	0.00213	0	0
			0	0	0.0228	0	0
	DUCTWORK	DUST	0	0	0.112	0	0
			0	0	2.4	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	3.42	0
			0	0	0	39.1	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0288	0
			0	0	0	0.329	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0398	0
			0	0	0	0.455	0
		DUST	0	0	0.00187	0	0
			0	0	0.0401	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.0888	0	0
			0	0	1.9	0	0
	Totals by Segregation Category:		**0.5**	**0**	**12.9**	**196**	**201**
			20	**0**	**1410**	**8240**	**3040**

Component ID 55B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	13.5	0
			0	0	0	53.7	0
		PAINT	0	0	0	0.202	0
			0	0	0	2.16	0
B	PROCESS EQUIPMENT	DUST	0	0	0	0.000804	0
			0	0	0	0.0172	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.533	0
			0	0	0	97.1	0
		PAINT	0	0	0	0.00674	0
			0	0	0	0.0721	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0088	0
			0	0	0	0.0941	0
		DUST	0	0	0	0.000917	0
			0	0	0	0.0196	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0132	0
			0	0	0	0.142	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0109	0
			0	0	0	0.117	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	3.51	0
			0	0	0	283	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.35	0
			0	0	0	18.8	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0891	0
			0	0	0	8.09	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.164	0
			0	0	0	27.9	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00631	0
			0	0	0	0.0675	0
		METAL	0	0	0	0.894	0
			0	0	0	40.4	0
	DOORS	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
		METAL	0	0	0	0.0794	0
			0	0	0	4.12	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.231	0
			0	0	0	1.34	0
		DUST	0	0	0	0.00216	0
			0	0	0	0.0462	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000928	0
			0	0	0	0.00992	0
C	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000749	0
			0	0	0	0.00801	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0993	0
			0	0	0	4.49	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000103	0
			0	0	0	0.0011	0
		METAL	0	0	0	0.0099	0
			0	0	0	0.899	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0592	0
			0	0	0	10.8	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.000917	0
			0	0	0	0.0196	0
		SS METAL	0	0	0	0.15	0
			0	0	0	2.09	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000701	0
			0	0	0	0.0075	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0183	0
			0	0	0	0.209	0

002062

Attachment B. III (Continued)

Component ID 55B — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
C	PROCESS EQUIPMENT	CRUD	0	0	0	0.00294	0
			0	0	0	0.0315	0
		DUST	0	0	0	0.000804	0
			0	0	0	0.0172	0
		SS METAL	0	0	0	0.39	0
			0	0	0	31.5	0
		UNH	0	0	0	0.0276	0
			0	0	0	0.315	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00196	0
			0	0	0	0.0209	0
D	DUCTWORK	METAL	0	0	0	1.37	0
			0	0	0	3.62	0
		PAINT	0	0	0	0.085	0
			0	0	0	0.909	0
		DUST	0	0	0	0.00425	0
			0	0	0	0.0909	0
E	CONCRETE	OTHER	0	0	0	0	183
			0	0	0	0	2440
	CONCRETE FOUNDATION	OTHER	0	0	0	0	25.9
			0	0	0	0	345
G	TRANSITE ROOF	OTHER	0	0	0	0.402	0
			0	0	0	7.15	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	5.22	0
			0	0	0	92.9	0
H	DUCTWORK INSULATION	OTHER	0	0	0.0204	0	0
			0	0	9.09	0	0
	PIPING INSULATION	OTHER	0	0	0.00904	0	0
			0	0	4.02	0	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0413	0
			0	0	0	27.3	0
I		OTHER	0	0	0	0.217	0
			0	0	0	143	0
J	PROCESS EQUIPMENT	CRUD	0	0	0.0132	0	0
			0	0	0.142	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.00733	0	0
			0	0	0.157	0	0
		CRUD	0	0	0.0088	0	0
			0	0	0.0941	0	0
	DUCTWORK	DUST	0	0	0.0382	0	0
			0	0	0.818	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.248	0
			0	0	0	2.83	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.165	0
			0	0	0	1.88	0
	PROCESS EQUIPMENT	DUST	0	0	0.00643	0	0
			0	0	0.138	0	0
	Totals by Segregation Category:		**0**	**0**	**0.103**	**29.1**	**209**
			0	**0**	**14.5**	**867**	**2790**

Component ID 56A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.484	0
			0	0	0	5.18	0
		METAL	0	0	0	32.3	0
			0	0	0	129	0
B	PIPING (OVER 4")	METAL	0	0	0	2.56	0
			0	0	0	58.4	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.47	0
			0	0	0	99.7	0
		PAINT	0	0	0	0.0265	0
			0	0	0	0.283	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.89	0
			0	0	0	16.7	0
		PAINT	0	0	0	0.0315	0
			0	0	0	0.337	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0356	0
			0	0	0	0.38	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0246	0
			0	0	0	0.263	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0197	0
			0	0	0	3	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.87	0
			0	0	0	40.2	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0397	0
			0	0	0	2	0
	DOORS	PAINT	0	0	0	0.0369	0
			0	0	0	0.395	0
		METAL	0	0	0	0.753	0
			0	0	0	39.1	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	2.04	0
			0	0	0	11.9	0
		DUST	0	0	0	0.0191	0
			0	0	0	0.409	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000306	0
			0	0	0	0.00328	0
D	LOUVERS	METAL	0	0	0	0.381	0
			0	0	0	19.8	0
	METAL PANEL ROOF	PAINT	0	0	0	0.68	0
			0	0	0	7.28	0
	LOUVERS	PAINT	0	0	0	0.0187	0
			0	0	0	0.2	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.474	0
			0	0	0	5.07	0
		METAL	0	0	0	2.87	0
			0	0	0	8.49	0
	METAL PANEL ROOF	METAL	0	0	0	4.12	0
			0	0	0	12.2	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	243
			0	0	0	0	3250

002064

Attachment B. III (Continued)

Component ID 56A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE	OTHER	0	0	0	0	7.5
			0	0	0	0	100
	CONCRETE SLABS	OTHER	0	0	0	0	286
			0	0	0	0	3810
		OTHER	0	0	0	40.9	0
			0	0	0	545	0
G	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0.322	0
			0	0	0	5.83	0
	CEILING DEMOLITION	OTHER	0	0	0	0.0638	0
			0	0	0	5.31	0
H	PIPING INSULATION	OTHER	0	0	0	0.0497	0
			0	0	0	22.1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0734	0
			0	0	0	48.6	0
I		OTHER	0	0	0	0.386	0
			0	0	0	255	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	4.12
			0	0	0	0	275
	PVC CONDUIT	OTHER	0	0	0	0	0.0213
			0	0	0	0	0.655
	WINDOWS	OTHER	0	0	0	0	8.04
			0	0	0	0	403
		PAINT	0	0	0	0.0209	0
			0	0	0	0.224	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**96**	**549**
			20	**0**	**0**	**1350**	**7840**

Component ID 56B — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	DOORS	METAL	0	0	0	0.318	0
			0	0	0	16.5	0
		PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.068	0
			0	0	0	0.728	0
		METAL	0	0	0	0.412	0
			0	0	0	1.22	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.472	0
			0	0	0	1.39	0
		PAINT	0	0	0	0.0779	0
			0	0	0	0.833	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.047	0
			0	0	0	31.1	0
I		OTHER	0	0	0	0.247	0
			0	0	0	163	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.3
			0	0	0	0	20
	WOOD	OTHER	0	0	0	0	1.8
			0	0	0	0	120
	Totals by Segregation Category:		**0**	**0**	**0**	**1.66**	**2.1**
			0	**0**	**0**	**215**	**140**

002086

Attachment B. III (Continued)

Component ID 56C — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	DOORS	PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
		METAL	0	0	0	0.318	0
			0	0	0	16.5	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.109	0
			0	0	0	1.17	0
	METAL PANEL ROOF	METAL	0	0	0	0.701	0
			0	0	0	2.07	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	0.661	0
			0	0	0	1.95	0
	METAL PANEL ROOF	PAINT	0	0	0	0.116	0
			0	0	0	1.24	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0356	0
			0	0	0	23.5	0
I	WOOD	OTHER	0	0	0	0	2.25
			0	0	0	0	150
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.187	0
			0	0	0	123	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	0.75
			0	0	0	0	50
	Totals by Segregation Category:		**0**	**0**	**0**	**2.14**	**3**
			0	**0**	**0**	**170**	**200**

Component ID 60

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	11.2	0
			0	0	0	44.5	0
		PAINT	0	0	0	0.167	0
			0	0	0	1.79	0
B	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
		METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0193	0
			0	0	0	5.99	0
	DOORS	PAINT	0	0	0	0.0385	0
			0	0	0	0.412	0
		METAL	0	0	0	0.785	0
			0	0	0	40.8	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.442	0
			0	0	0	2.56	0
		DUST	0	0	0	0.00414	0
			0	0	0	0.0885	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.48	0
			0	0	0	59.8	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0159	0
			0	0	0	0.17	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000687	0
			0	0	0	0.00735	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	3.6	0
			0	0	0	10.6	0
		PAINT	0	0	0	0.594	0
			0	0	0	6.35	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	990
			0	0	0	0	13200
	CONCRETE SLABS	OTHER	0	0	0	0	186
			0	0	0	0	2470
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0138	0
			0	0	0	9.11	0
I		OTHER	0	0	0	0.0723	0
			0	0	0	47.8	0
	WINDOWS	PAINT	0	0	0	0.000346	0
			0	0	0	0.0037	0
		OTHER	0	0	0	0	0.133
			0	0	0	0	6.66
	Totals by Segregation Category:		**0.5**	**0**	**0**	**18.7**	**1180**
			20	**0**	**0**	**248**	**15700**

OC2068

Attachment B. III (Continued)

Component ID 61 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.0893	0
			0	0	0	0.955	0
		METAL	0	0	0	5.96	0
			0	0	0	23.7	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00795	0
			0	0	0	0.085	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.128	0
			0	0	0	1.17	0
	DOORS	PAINT	0	0	0	0.0611	0
			0	0	0	0.653	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000408	0
			0	0	0	0.00873	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.742	0
			0	0	0	29.9	0
	DOORS	METAL	0	0	0	1.25	0
			0	0	0	64.7	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00155	0
			0	0	0	0.0331	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.166	0
			0	0	0	0.961	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.493	0
			0	0	0	5.28	0
		METAL	0	0	0	2.99	0
			0	0	0	8.83	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	30.2
			0	0	0	0	402
	CONCRETE SLABS	OTHER	0	0	0	0	124
			0	0	0	0	1660
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0172	0
			0	0	0	11.4	0
I	WINDOWS	PAINT	0	0	0	0.000554	0
			0	0	0	0.00592	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0903	0
			0	0	0	59.7	0
	WINDOWS	OTHER	0	0	0	0	0.213
			0	0	0	0	10.7
	Totals by Segregation Category:		**0**	**0**	**0**	**12**	**154**
			0	**0**	**0**	**215**	**2070**

Component ID 62 — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	5.96	0
			0	0	0	23.7	0
		PAINT	0	0	0	0.0893	0
			0	0	0	0.955	0
B	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000504	0
			0	0	0	0.0108	0
	DOORS	PAINT	0	0	0	0.0611	0
			0	0	0	0.653	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.742	0
			0	0	0	29.9	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0469	0
			0	0	0	7.97	0
	DOORS	METAL	0	0	0	1.25	0
			0	0	0	64.7	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.158	0
			0	0	0	1.44	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.00795	0
			0	0	0	0.085	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00165	0
			0	0	0	0.0353	0
		METAL	0	0	0	0.176	0
			0	0	0	1.02	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00312	0
			0	0	0	0.0333	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.99	0
			0	0	0	8.83	0
		PAINT	0	0	0	0.493	0
			0	0	0	5.28	0
E	CONCRETE SLABS	OTHER	0	0	0	0	117
			0	0	0	0	1560
	CONCRETE	OTHER	0	0	0	0	4.2
			0	0	0	0	56
	CONCRETE SLABS	OTHER	0	0	0	15.5	0
			0	0	0	207	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	122
			0	0	0	0	1630
G	FIRE BRICK	OTHER	0	0	0	23.3	0
			0	0	0	333	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.00918	0
			0	0	0	6.07	0
I		OTHER	0	0	0	0.0482	0
			0	0	0	31.9	0
	WINDOWS	PAINT	0	0	0	0.000554	0
			0	0	0	0.00592	0
		OTHER	0	0	0	0	0.213
			0	0	0	0	10.7
	Totals by Segregation Category:		**0**	**0**	**0**	**50.8**	**243**
			0	**0**	**0**	**723**	**3260**

002070

Attachment B. III (Continued)

Component ID 63 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	1.34	0
			0	0	0	14.3	0
		METAL	0	0	0	237	0
			0	0	0	946	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.692	0
			0	0	0	117	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0774	0
			0	0	0	0.828	0
		METAL	0	0	0	8.06	0
			0	0	0	183	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.101	0
			0	0	0	1.08	0
		METAL	0	0	0	8.14	0
			0	0	0	114	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0387	0
			0	0	0	0.415	0
		METAL	0	0	0	2.32	0
			0	0	0	20.5	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0821	0
			0	0	0	0.878	0
		METAL	0	0	0	7.67	0
			0	0	0	309	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00115	0
			0	0	0	0.0123	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0352	0
			0	0	0	0.752	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.046	0
			0	0	0	0.492	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000468	0
			0	0	0	0.005	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	DOORS	PAINT	0	0	0	0.0701	0
			0	0	0	0.75	0
		METAL	0	0	0	1.43	0
			0	0	0	74.2	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	3.76	0
			0	0	0	21.8	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0695	0
			0	0	0	3	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0789	0
			0	0	0	9.99	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
E	CONCRETE SLABS	OTHER	0	0	0	0	1280
			0	0	0	0	17100
	MASONRY WALLS	OTHER	0	0	0	0	236
			0	0	0	0	8570
		OTHER	0	0	0	15.7	0
			0	0	0	572	0
	CONCRETE	OTHER	0	0	0	0	42.5
			0	0	0	0	567
	CONCRETE SLABS	OTHER	0	0	0	183	0
			0	0	0	2440	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	144
			0	0	0	0	1910
G	FLOOR TILE	OTHER	0	0	0	0.22	0
			0	0	0	4.58	0

Component ID 63 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
G	FIRE BRICK	OTHER	0	0	0	3.5	0
			0	0	0	50	0
H	PIPING INSULATION	OTHER	0	0	0	0.118	0
			0	0	0	52.2	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0815	0
			0	0	0	53.9	0
I		OTHER	0	0	0	0.428	0
			0	0	0	283	0
	BUILDING INSULATION	OTHER	0	0	0	10.2	0
			0	0	0	4520	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	2.25
			0	0	0	0	150
	ROOFING (BUILT UP)	OTHER	0	0	0	0	81.3
			0	0	0	0	2260
	Totals by Segregation Category:		**1**	**0**	**0**	**484**	**1790**
			40	**0**	**0**	**9790**	**30600**

0C2070

Attachment B. III (Continued)

Component ID 64 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	47.7	0
			0	0	0	190	0
		PAINT	0	0	0	0.714	0
			0	0	0	7.63	0
B	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0503	0
			0	0	0	0.538	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
	ELECTRICAL WIRING	METAL	0	0	0	1.44	0
			0	0	0	5.02	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0598	0
			0	0	0	2	0
		PAINT	0	0	0	0.000229	0
			0	0	0	0.00245	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	7.04	0
			0	0	0	376	0
		PAINT	0	0	0	0.0261	0
			0	0	0	0.279	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.31	0
			0	0	0	11.6	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PROCESS EQUIPMENT	METAL	0	0	0	4.3	0
			0	0	0	125	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.141	0
			0	0	0	23.9	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.0128	0
			0	0	0	0.137	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0218	0
			0	0	0	0.233	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	13.1	0
			0	0	0	183	0
		PAINT	0	0	0	0.162	0
			0	0	0	1.74	0
	PIPING (OVER 4")	METAL	0	0	0	0.916	0
			0	0	0	20.9	0
		PAINT	0	0	0	0.0088	0
			0	0	0	0.0941	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	4.7	0
			0	0	0	189	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	5.63	0
			0	0	0	32.7	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0125	0
			0	0	0	0.133	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0527	0
			0	0	0	1.13	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0122	0
			0	0	0	0.261	0
		METAL	0	0	0	3.81	0
			0	0	0	34.9	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00408	0
			0	0	0	0.0872	0
		METAL	0	0	0	1.35	0
			0	0	0	16.3	0
	DOORS	METAL	0	0	0	5.77	0
			0	0	0	300	0

Component ID 64

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	DOORS	PAINT	0	0	0	0.283	0
			0	0	0	3.03	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.177	0
			0	0	0	79.9	0
D	LEAD FLASHING	LEAD	0	0	0.952	0	0
			0	0	2.68	0	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	7.88	0
			0	0	0	23.3	0
	METAL PANEL ROOF	PAINT	0	0	0	1.25	0
			0	0	0	13.3	0
		METAL	0	0	0	7.55	0
			0	0	0	22.3	0
	LOUVERS	PAINT	0	0	0	0.0285	0
			0	0	0	0.305	0
		METAL	0	0	0	0.582	0
			0	0	0	30.2	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	1.3	0
			0	0	0	13.9	0
E	CONCRETE SLABS	OTHER	0	0	0	97	0
			0	0	0	1290	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	240
			0	0	0	0	3200
	CONCRETE SLABS	OTHER	0	0	0	0	679
			0	0	0	0	9050
	MASONRY WALLS	OTHER	0	0	0	2.06	0
			0	0	0	75	0
		OTHER	0	0	0	0	30.9
			0	0	0	0	1130
	CONCRETE	OTHER	0	0	0	0	14.5
			0	0	0	0	194
G	CEILING DEMOLITION	OTHER	0	0	0	0.15	0
			0	0	0	12.5	0
	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0.671	0
			0	0	0	12.2	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0436	0
			0	0	0	28.8	0
	PIPING INSULATION	OTHER	0	0	0	0.102	0
			0	0	0	45.2	0
I	WINDOWS	OTHER	0	0	0	0	15.1
			0	0	0	0	758
	BUILDING INSULATION	OTHER	0	0	0	0.278	0
			0	0	0	123	0
	WINDOWS	PAINT	0	0	0	0.0393	0
			0	0	0	0.421	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	6.84
			0	0	0	0	456
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.229	0
			0	0	0	151	0
	PVC CONDUIT	OTHER	0	0	0	0	0.139
			0	0	0	0	4.28
	Totals by Segregation Category:		**0.5**	**0**	**0.952**	**218**	**986**
			20	**0**	**2.68**	**3450**	**14800**

002074

Attachment B. III (Continued)

Component ID 65 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	65	0
			0	0	0	259	0
		PAINT	0	0	0	0.974	0
			0	0	0	10.4	0
B	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.111	0
			0	0	0	1.55	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.063	0
			0	0	0	0.674	0
		METAL	0	0	0	3.77	0
			0	0	0	33.4	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.97	0
			0	0	0	120	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.12	0
			0	0	0	3	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00229	0
			0	0	0	0.0245	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0318	0
			0	0	0	0.34	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00137	0
			0	0	0	0.0147	0
	PIPING (OVER 4")	PAINT	0	0	0	0.088	0
			0	0	0	0.941	0
	DOORS	METAL	0	0	0	3.79	0
			0	0	0	197	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000306	0
			0	0	0	0.00328	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0777	0
			0	0	0	20	0
	PIPING (OVER 4")	METAL	0	0	0	9.16	0
			0	0	0	208	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.141	0
			0	0	0	23.9	0
	DOORS	PAINT	0	0	0	0.186	0
			0	0	0	1.99	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00935	0
			0	0	0	0.1	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.128	0
			0	0	0	1.17	0
		DUST	0	0	0	0.000408	0
			0	0	0	0.00873	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.39	0
			0	0	0	8.08	0
		DUST	0	0	0	0.013	0
			0	0	0	0.279	0
D	METAL PANEL ROOF	METAL	0	0	0	5.01	0
			0	0	0	14.8	0
	LEAD FLASHING	LEAD	0	0	0.625	0	0
			0	0	1.76	0	0
	METAL PANEL ROOF	PAINT	0	0	0	0.826	0
			0	0	0	8.84	0
	LOUVERS	PAINT	0	0	0	0.0187	0
			0	0	0	0.2	0
		METAL	0	0	0	0.381	0
			0	0	0	19.8	0

Component ID 65

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.922	0
			0	0	0	9.87	0
		METAL	0	0	0	5.59	0
			0	0	0	16.5	0
E	CONCRETE	OTHER	0	0	0	0	80.6
			0	0	0	0	1070
	CONCRETE SLABS	OTHER	0	0	0	0	530
			0	0	0	0	7060
H	PIPING INSULATION	OTHER	0	0	0	0	0.0813
			0	0	0	0	36.1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0264	0
			0	0	0	17.4	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	3
			0	0	0	0	200
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.139	0
			0	0	0	91.6	0
	WINDOWS	OTHER	0	0	0	0	9.92
			0	0	0	0	497
		PAINT	0	0	0	0.0258	0
			0	0	0	0.276	0
	Totals by Segregation Category:		**0.5**	**0**	**0.625**	**101**	**624**
			20	**0**	**1.76**	**1070**	**8860**

002078

Attachment B. III (Continued)

Component ID 66 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.184	0
			0	0	0	1.97	0
		METAL	0	0	0	12.3	0
			0	0	0	48.9	0
B	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0264	0
			0	0	0	0.282	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	1.59	0
			0	0	0	14.1	0
		DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0
		CRUD	0	0	0	0.00661	0
			0	0	0	0.0707	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.989	0
			0	0	0	39.9	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00275	0
			0	0	0	0.0588	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	2.02	0
			0	0	0	14.4	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	4.04	0
			0	0	0	56.5	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0705	0
			0	0	0	0.754	0
		DUST	0	0	0	0.00176	0
			0	0	0	0.0376	0
		SS METAL	0	0	0	6.66	0
			0	0	0	151	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.212	0
			0	0	0	2.27	0
		DUST	0	0	0	0.0129	0
			0	0	0	0.276	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000999	0
			0	0	0	0.0107	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000619	0
			0	0	0	0.00662	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	19.9	0
			0	0	0	4550	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0106	0
			0	0	0	0.113	0
	HVAC EQUIPMENT	METAL	0	0	0	0.134	0
			0	0	0	5.39	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0362	0
			0	0	0	0.774	0
		METAL	0	0	0	3.87	0
			0	0	0	22.4	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0183	0
			0	0	0	0.391	0
		METAL	0	0	0	5.71	0
			0	0	0	52.4	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	DUST	0	0	0	0.00816	0
			0	0	0	0.174	0
	DOORS	METAL	0	0	0	0.658	0
			0	0	0	34.2	0
		PAINT	0	0	0	0.0323	0
			0	0	0	0.345	0

Component ID 66 *rB Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	4.63	0
			0	0	0	437	0
		PAINT	0	0	0	0.0682	0
			0	0	0	0.729	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.211	0
			0	0	0	35.9	0
		PAINT	0	0	0	0.014	0
			0	0	0	0.15	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	2.71	0
			0	0	0	32.5	0
C	PROCESS EQUIPMENT	SS METAL	0	0	0	2.21	0
			0	0	0	505	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00587	0
			0	0	0	0.0628	0
		DUST	0	0	0	0.00275	0
			0	0	0	0.0588	0
		SS METAL	0	0	0	0.449	0
			0	0	0	6.28	0
		UNH	0	0	0	0.0549	0
			0	0	0	0.628	0
	PIPING (OVER 4")	DUST	0	0	0	0.00176	0
			0	0	0	0.0376	0
		UNH	0	0	0	0.147	0
			0	0	0	1.68	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.442	0
			0	0	0	5.05	0
		DUST	0	0	0	0.0129	0
			0	0	0	0.276	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0137	0
			0	0	0	0.157	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0157	0
			0	0	0	0.168	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0472	0
			0	0	0	0.505	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0
		CRUD	0	0	0	0.00147	0
			0	0	0	0.0157	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000111	0
			0	0	0	0.00119	0
		METAL	0	0	0	0.225	0
			0	0	0	1.6	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000687	0
			0	0	0	0.000735	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.74	0
			0	0	0	16.7	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0149	0
			0	0	0	0.599	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00757	0
			0	0	0	0.081	0
		METAL	0	0	0	0.514	0
			0	0	0	48.5	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.177	0
			0	0	0	1.57	0
D	METAL PANEL ROOF	METAL	0	0	0	1.81	0
			0	0	0	5.35	0
		PAINT	0	0	0	0.299	0
			0	0	0	3.2	0

002078

Attachment B. III (Continued)

Component ID 66 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.327	0
			0	0	0	3.5	0
		METAL	0	0	0	1.98	0
			0	0	0	5.86	0
	DUCTWORK	PAINT	0	0	0	0.0993	0
			0	0	0	1.06	0
		METAL	0	0	0	1.6	0
			0	0	0	4.23	0
		DUST	0	0	0	0.00497	0
			0	0	0	0.106	0
E	CONCRETE SLABS	OTHER	0	0	0	0	167
			0	0	0	0	2220
	CONCRETE FOUNDATION	OTHER	0	0	0	0	63.3
			0	0	0	0	845
	CONCRETE SLABS	OTHER	0	0	26.6	0	0
			0	0	354	0	0
		OTHER	0	0	0	19.2	0
			0	0	0	256	0
G	INTERIOR TRANSITE PANELS	OTHER	0	0	0	0.521	0
			0	0	0	9.44	0
	FLOOR TILE	OTHER	0	0	0.6	0	0
			0	0	12.5	0	0
	CEILING DEMOLITION	OTHER	0	0	0.137	0	0
			0	0	11.4	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.119	0
			0	0	0	78.9	0
	PIPING INSULATION	OTHER	0	0	0.0836	0	0
			0	0	37.1	0	0
	DUCTWORK INSULATION	OTHER	0	0	0.0239	0	0
			0	0	10.6	0	0
I	BUILDING INSULATION	OTHER	0	0	0.17	0	0
			0	0	75.5	0	0
	DRYWALL	OTHER	0	0	0.495	0	0
			0	0	18.7	0	0
	WINDOWS	OTHER	0	0	0	0	0.698
			0	0	0	0	35
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.626	0
			0	0	0	414	0
	WINDOWS	PAINT	0	0	0	0.00182	0
			0	0	0	0.0194	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.12
			0	0	0	0	75
J	PIPING (OVER 4")	CRUD	0	0	0.0705	0	0
			0	0	0.754	0	0
		DUST	0	0	0.0141	0	0
			0	0	0.301	0	0
	PROCESS EQUIPMENT	DUST	0	0	0.103	0	0
			0	0	2.21	0	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0.022	0	0
			0	0	0.471	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.212	0	0
			0	0	2.27	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00582	0	0
			0	0	0.124	0	0
		CRUD	0	0	0.00661	0	0
			0	0	0.0707	0	0
	DUCTWORK	DUST	0	0	0.0447	0	0
			0	0	0.956	0	0

Component ID 66

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	PROCESS EQUIPMENT	UNH	0	0	0	3.98	0
			0	0	0	45.5	0
	PIPING (OVER 4")	UNH	0	0	0	1.32	0
			0	0	0	15.1	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.124	0
			0	0	0	1.41	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.494	0
			0	0	0	5.65	0
		CRUD	0	0	0.0264	0	0
			0	0	0.282	0	0
	Totals by Segregation Category:		**0.5**	**0**	**28.6**	**104**	**232**
			20	**0**	**527**	**6940**	**3180**

002080

Attachment B. III (Continued)

Component ID 67 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.423	0
			0	0	0	4.52	0
		METAL	0	0	0	28.2	0
			0	0	0	112	0
B	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0109	0
			0	0	0	0.117	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	DOORS	METAL	0	0	0	1.05	0
			0	0	0	54.5	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.164	0
			0	0	0	27.9	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.332	0
			0	0	0	1.93	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.24	0
			0	0	0	49.9	0
		PAINT	0	0	0	0.0132	0
			0	0	0	0.142	0
	DOORS	PAINT	0	0	0	0.0514	0
			0	0	0	0.55	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00311	0
			0	0	0	0.0664	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.01	0
			0	0	0	5.93	0
	METAL PANEL ROOF	PAINT	0	0	0	0.312	0
			0	0	0	3.33	0
		METAL	0	0	0	1.89	0
			0	0	0	5.58	0
	LOUVERS	PAINT	0	0	0	0.00499	0
			0	0	0	0.0533	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.331	0
			0	0	0	3.54	0
	LOUVERS	METAL	0	0	0	0.102	0
			0	0	0	5.28	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	42
			0	0	0	0	560
	CONCRETE SLABS	OTHER	0	0	0	0	131
			0	0	0	0	1750
		OTHER	0	0	0	18.7	0
			0	0	0	250	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.078	0
			0	0	0	51.6	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.41	0
			0	0	0	271	0
	WINDOWS	OTHER	0	0	0	0	0.798
			0	0	0	0	40
		PAINT	0	0	0	0.00208	0
			0	0	0	0.0222	0

Component ID 67

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0.5	0	0	55.5	175
			20	0	0	850	2450

002052

Attachment B. III (Continued)

Component ID 68 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	50.8	0
			0	0	0	202	0
		PAINT	0	0	0	0.558	0
			0	0	0	5.97	0
B	HVAC EQUIPMENT	METAL	0	0	0	0.0794	0
			0	0	0	4.99	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
		METAL	0.5	0	0	0	0
			20	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0159	0
			0	0	0	0.17	0
		METAL	0	0	0	1.48	0
			0	0	0	59.8	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000139	0
			0	0	0	0.00148	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000573	0
			0	0	0	0.00613	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0974	0
			0	0	0	1.04	0
		METAL	0	0	0	1.47	0
			0	0	0	249	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000468	0
			0	0	0	0.005	0
		METAL	0	0	0	0.0695	0
			0	0	0	3	0
	DOORS	PAINT	0	0	0	0.0254	0
			0	0	0	0.272	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
		DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.553	0
			0	0	0	3.21	0
		DUST	0	0	0	0.00517	0
			0	0	0	0.111	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.23	0
			0	0	0	2	0
	DOORS	METAL	0	0	0	0.518	0
			0	0	0	26.9	0
D	LOUVERS	PAINT	0	0	0	0.00499	0
			0	0	0	0.0533	0
	LEAD FLASHING	LEAD	0	0	0.075	0	0
			0	0	0.211	0	0
	LOUVERS	METAL	0	0	0	0.102	0
			0	0	0	5.28	0
E	CONCRETE	OTHER	0	0	0	0	2.46
			0	0	0	0	32.8
	CONCRETE FOUNDATION	OTHER	0	0	0	0	11.3
			0	0	0	0	150
	CONCRETE SLABS	OTHER	0	0	0	36.4	0
			0	0	0	485	0
		OTHER	0	0	0	0	255
			0	0	0	0	3400
	CONCRETE WALLS	OTHER	0	0	0	0	39
			0	0	0	0	520
		OTHER	0	0	0	5.57	0
			0	0	0	74.3	0

Component ID 68

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
G	CEILING DEMOLITION	OTHER	0	0	0	0.077	0
			0	0	0	6.42	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	9.49	0
			0	0	0	169	0
	FLOOR TILE	OTHER	0	0	0	0.1	0
			0	0	0	2.08	0
	TRANSITE ROOF	OTHER	0	0	0	10.7	0
			0	0	0	190	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.078	0
			0	0	0	51.6	0
I	DRYWALL	OTHER	0	0	0	0.33	0
			0	0	0	12.5	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	2.34
			0	0	0	0	156
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.41	0
			0	0	0	271	0
	Totals by Segregation Category:		**0.5**	**0**	**0.075**	**119**	**310**
			20	**0**	**0.211**	**1830**	**4260**

002084

Attachment B. III (Continued)

Component ID 69 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	37.6	0
			0	0	0	150	0
		PAINT	0	0	0	0.563	0
			0	0	0	6.02	0
B	PIPING (2" AND LESS)	SS METAL	0	0	0	1.59	0
			0	0	0	14.1	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0195	0
			0	0	0	0.208	0
	HVAC EQUIPMENT	METAL	0	0	0	0.162	0
			0	0	0	3.6	0
		PAINT	0	0	0	0.000412	0
			0	0	0	0.00441	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.989	0
			0	0	0	39.9	0
		PAINT	0	0	0	0.0106	0
			0	0	0	0.113	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.293	0
			0	0	0	49.8	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0066	0
			0	0	0	0.0706	0
		DUST	0	0	0	0.000688	0
			0	0	0	0.0147	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0969	0
			0	0	0	1.04	0
		DUST	0	0	0	0.00242	0
			0	0	0	0.0517	0
		SS METAL	0	0	0	9.15	0
			0	0	0	207	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.000337	0
			0	0	0	0.0036	0
		DUST	0	0	0	0.0000204	0
			0	0	0	0.000437	0
		SS METAL	0	0	0	0.756	0
			0	0	0	7.2	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00661	0
			0	0	0	0.0707	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0627	0
			0	0	0	1.8	0
	DOORS	PAINT	0	0	0	0.0262	0
			0	0	0	0.28	0
		METAL	0	0	0	0.534	0
			0	0	0	27.7	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.317	0
			0	0	0	2.91	0
		DUST	0	0	0	0.00101	0
			0	0	0	0.0217	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.99	0
			0	0	0	11.5	0
		DUST	0	0	0	0.0186	0
			0	0	0	0.398	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000281	0
			0	0	0	0.003	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0

Component ID 69

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.01	0
			0	0	0	14.1	0
C		DUST	0	0	0	0.000688	0
			0	0	0	0.0147	0
		CRUD	0	0	0	0.00147	0
			0	0	0	0.0157	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.177	0
			0	0	0	1.57	0
	PIPING (OVER 4")	DUST	0	0	0	0.00242	0
			0	0	0	0.0517	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.0137	0
			0	0	0	0.157	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	0.112	0
			0	0	0	1.57	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.000727	0
			0	0	0	0.0155	0
	PIPING (OVER 4")	CRUD	0	0	0	0.0215	0
			0	0	0	0.23	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.00697	0
			0	0	0	0.2	0
	PIPING (OVER 4")	SS METAL	0	0	0	1.02	0
			0	0	0	23	0
		UNH	0	0	0	0.202	0
			0	0	0	2.3	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000748	0
			0	0	0	0.0008	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0137	0
			0	0	0	0.157	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00147	0
			0	0	0	0.0157	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.0000458	0
			0	0	0	0.00049	0
		METAL	0	0	0	0.018	0
			0	0	0	0.4	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0000312	0
			0	0	0	0.000333	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0007	0
			0	0	0	0.008	0
		SS METAL	0	0	0	0.084	0
			0	0	0	0.8	0
		DUST	0	0	0	0.0000204	0
			0	0	0	0.000437	0
D	LOUVERS	METAL	0	0	0	0.318	0
			0	0	0	16.5	0
		PAINT	0	0	0	0.0156	0
			0	0	0	0.167	0
E	CONCRETE	OTHER	0	0	2.34	0	0
			0	0	31.2	0	0
	MASONRY WALLS	OTHER	0	0	0	7.44	0
			0	0	0	271	0
	CONCRETE SLABS	OTHER	0	0	17.2	0	0
			0	0	229	0	0
	CONCRETE COLUMNS	OTHER	0	0	9.8	0	0
			0	0	131	0	0
	CONCRETE	OTHER	0	0	0	0	58.5
			0	0	0	0	780
	CONCRETE FOUNDATION	OTHER	0	0	0	0	204
			0	0	0	0	2730

002056

Attachment B. III (Continued)

Component ID 69 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	120
			0	0	0	0	1600
	MASONRY WALLS	OTHER	0	0	0	0	112
			0	0	0	0	4060
	CONCRETE COLUMNS	OTHER	0	0	0	0	68.6
			0	0	0	0	915
F	ACID BRICK	OTHER	0	0	0	67.1	0
			0	0	0	958	0
H	PIPING INSULATION	OTHER	0	0	0	0.0768	0
			0	0	0	34.1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.124	0
			0	0	0	82	0
I	BUILDING INSULATION	OTHER	0	0	0	1.22	0
			0	0	0	542	0
	WINDOWS	PAINT	0	0	0	0.00625	0
			0	0	0	0.0669	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	2.25
			0	0	0	0	150
	WINDOWS	OTHER	0	0	0	0	2.4
			0	0	0	0	120
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.65	0
			0	0	0	430	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	9.75
			0	0	0	0	271
J	PIPING (2-1/2" TO 4")	DUST	0	0	0.0055	0	0
			0	0	0.118	0	0
	PIPING (OVER 4")	DUST	0	0	0.0194	0	0
			0	0	0.414	0	0
		CRUD	0	0	0.0969	0	0
			0	0	1.04	0	0
	PROCESS EQUIPMENT	CRUD	0	0	0.000337	0	0
			0	0	0.0036	0	0
	PIPING (2" AND LESS)	DUST	0	0	0.00582	0	0
			0	0	0.124	0	0
		CRUD	0	0	0.00661	0	0
			0	0	0.0707	0	0
	PROCESS EQUIPMENT	UNH	0	0	0	0.0063	0
			0	0	0	0.072	0
		DUST	0	0	0.000163	0	0
			0	0	0.00349	0	0
	PIPING (OVER 4")	UNH	0	0	0	1.81	0
			0	0	0	20.7	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.124	0
			0	0	0	1.41	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.124	0
			0	0	0	1.41	0
		CRUD	0	0	0.0066	0	0
			0	0	0.0706	0	0
	Totals by Segregation Category:		**0.5**	**0**	**29.5**	**136**	**577**
			20	**0**	**393**	**2930**	**10600**

Component ID 71 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	55.8	0
			0	0	0	222	0
		PAINT	0	0	0	0.835	0
			0	0	0	8.93	0
B	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.0199	0
			0	0	0	2	0
	PIPING (2" AND LESS)	METAL	0	0	0	4.93	0
			0	0	0	43.6	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000139	0
			0	0	0	0.00148	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00206	0
			0	0	0	0.0221	0
		METAL	0	0	0	1.06	0
			0	0	0	18	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	6.93	0
			0	0	0	279	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0367	0
			0	0	0	0.392	0
	PIPING (OVER 4")	METAL	0	0	0	0.366	0
			0	0	0	8.34	0
		PAINT	0	0	0	0.00352	0
			0	0	0	0.0376	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.00959	0
			0	0	0	4	0
		PAINT	0	0	0	0.000408	0
			0	0	0	0.00437	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0742	0
			0	0	0	0.793	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.96	0
			0	0	0	41.4	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0362	0
			0	0	0	0.774	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0824	0
			0	0	0	0.881	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	3.87	0
			0	0	0	22.4	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00508	0
			0	0	0	0.109	0
		METAL	0	0	0	1.59	0
			0	0	0	14.6	0
	DOORS	METAL	0	0	0	1.42	0
			0	0	0	73.8	0
		PAINT	0	0	0	0.0697	0
			0	0	0	0.745	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0697	0
			0	0	0	2	0
		PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0938	0
			0	0	0	15.9	0
E	MASONRY WALLS	OTHER	0	0	0	9.24	0
			0	0	0	336	0

002033

Component ID 71

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	152	0
			0	0	0	2030	0
	CONCRETE FOUNDATION	OTHER	0	0	0	0	263
			0	0	0	0	3510
	MASONRY WALLS	OTHER	0	0	0	0	139
			0	0	0	0	5040
	CONCRETE SLABS	OTHER	0	0	0	0	1060
			0	0	0	0	14200
H	PIPING INSULATION	OTHER	0	0	0	0.0633	0
			0	0	0	28.1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.115	0
			0	0	0	75.9	0
I	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	1.5
			0	0	0	0	100
	ROOFING (BUILT UP)	OTHER	0	0	0	0	72.8
			0	0	0	0	2020
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.602	0
			0	0	0	398	0
	BUILDING INSULATION	OTHER	0	0	0	9.1	0
			0	0	0	4050	0
	Totals by Segregation Category:		**1**	**0**	**0**	**251**	**1540**
			40	**0**	**0**	**7680**	**24900**

Component ID 72

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	12.4	0
			0	0	0	49.2	0
		PAINT	0	0	0	0.185	0
			0	0	0	1.98	0
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.0703	0
			0	0	0	12	0
		PAINT	0	0	0	0.00468	0
			0	0	0	0.05	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0053	0
			0	0	0	0.0567	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00724	0
			0	0	0	0.155	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.311	0
			0	0	0	4.36	0
		PAINT	0	0	0	0.00386	0
			0	0	0	0.0412	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0299	0
			0	0	0	0.999	0
		PAINT	0	0	0	0.000102	0
			0	0	0	0.00109	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000156	0
			0	0	0	0.00167	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	0.495	0
			0	0	0	19.9	0
	DOORS	PAINT	0	0	0	0.0196	0
			0	0	0	0.21	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	0.774	0
			0	0	0	4.49	0
	DOORS	METAL	0	0	0	0.4	0
			0	0	0	20.8	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0398	0
			0	0	0	0.998	0
E	CONCRETE SLABS	OTHER	0	0	0	0	57.2
			0	0	0	0	763
	CONCRETE FOUNDATION	OTHER	0	0	0	0	33.4
			0	0	0	0	446
	CONCRETE SLABS	OTHER	0	0	0	8.17	0
			0	0	0	109	0
G	TRANSITE ROOF	OTHER	0	0	0	2.93	0
			0	0	0	52.1	0
	EXTERIOR TRANSITE PANELS	OTHER	0	0	0	3.44	0
			0	0	0	61.1	0
H	PIPING INSULATION	OTHER	0	0	0	0.00226	0
			0	0	0	1	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0711	0
			0	0	0	47	0
I		OTHER	0	0	0	0.373	0
			0	0	0	247	0
	WINDOWS	OTHER	0	0	0	0	0.658
			0	0	0	0	33
		PAINT	0	0	0	0.00171	0
			0	0	0	0.0183	0
	Totals by Segregation Category:		**0**	**0**	**0**	**29.7**	**91.3**
			0	**0**	**0**	**632**	**1240**

002039

Component ID 73A — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	65.8
			0	0	0	0	878
	CONCRETE SLABS	OTHER	0	0	0	0	31.2
			0	0	0	0	416
	Totals by Segregation Category:		**0**	**0**	**0**	**0**	**97**
			0	**0**	**0**	**0**	**1290**

Component ID 74A

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	253
			0	0	0	0	3380
		OTHER	0	0	0	36.2	0
			0	0	0	483	0
	Totals by Segregation Category:		**0**	**0**	**0**	**36.2**	**253**
			0	**0**	**0**	**483**	**3380**

002392

Component ID 74B

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	361
			0	0	0	0	4810
		OTHER	0	0	0	51.6	0
			0	0	0	687	0
	Totals by Segregation Category:		**0**	**0**	**0**	**51.6**	**361**
			0	**0**	**0**	**687**	**4810**

Component ID 74C

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	475
			0	0	0	0	6330
		OTHER	0	0	0	67.8	0
			0	0	0	905	0
	Totals by Segregation Category:		**0**	**0**	**0**	**67.8**	**475**
			0	**0**	**0**	**905**	**6330**

002094

Attachment B. III (Continued)

Component ID 74D — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	323
			0	0	0	0	4310
		OTHER	0	0	0	46.1	0
			0	0	0	615	0
	Totals by Segregation Category:		**0**	**0**	**0**	**46.1**	**323**
			0	**0**	**0**	**615**	**4310**

Component ID 74E

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	560
			0	0	0	0	7460
		OTHER	0	0	0	79.9	0
			0	0	0	1070	0
	Totals by Segregation Category:		**0**	**0**	**0**	**79.9**	**560**
			0	**0**	**0**	**1070**	**7460**

OC2096

Component ID 74F

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	57.2
			0	0	0	0	763
		OTHER	0	0	0	8.17	0
			0	0	0	109	0
	Totals by Segregation Category:		**0**	**0**	**0**	**8.17**	**57.2**
			0	**0**	**0**	**109**	**763**

Component ID 74G

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	154
			0	0	0	0	2050
		OTHER	0	0	0	22	0
			0	0	0	293	0
	Totals by Segregation Category:		**0**	**0**	**0**	**22**	**154**
			0	**0**	**0**	**293**	**2050**

062008

Attachment B. III (Continued)

Component ID 74H

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	98.4
			0	0	0	0	1310
		OTHER	0	0	0	14.1	0
			0	0	0	187	0
	Totals by Segregation Category:		**0**	**0**	**0**	**14.1**	**98.4**
			0	**0**	**0**	**187**	**1310**

Component ID 74J

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	100
			0	0	0	0	1330
		OTHER	0	0	0	14.3	0
			0	0	0	191	0
	Totals by Segregation Category:		**0**	**0**	**0**	**14.3**	**100**
			0	**0**	**0**	**191**	**1330**

002100

Component ID 74K

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	335
			0	0	0	0	4470
		OTHER	0	0	0	47.8	0
			0	0	0	638	0
	Totals by Segregation Category:		**0**	**0**	**0**	**47.8**	**335**
			0	**0**	**0**	**638**	**4470**

Component ID 74L — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE	OTHER	0	0	0	0	178
			0	0	0	0	2380
	CONCRETE SLABS	OTHER	0	0	0	106	0
			0	0	0	1410	0
		OTHER	0	0	0	0	740
			0	0	0	0	9870
	CONCRETE	OTHER	0	0	0	25.4	0
			0	0	0	339	0
	Totals by Segregation Category:		**0**	**0**	**0**	**131**	**918**
			0	**0**	**0**	**1750**	**12300**

002102

Attachment B. III (Continued)

Component ID 74M — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	794
			0	0	0	0	10600
		OTHER	0	0	0	113	0
			0	0	0	1510	0
	Totals by Segregation Category:		**0**	**0**	**0**	**113**	**794**
			0	**0**	**0**	**1510**	**10600**

Component ID 74N

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	215
			0	0	0	0	2860
		OTHER	0	0	0	30.6	0
			0	0	0	409	0
	Totals by Segregation Category:		**0**	**0**	**0**	**30.6**	**215**
			0	**0**	**0**	**409**	**2860**

002104

Attachment B. III (Continued)

Component ID 74P

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	2080
			0	0	0	0	27700
		OTHER	0	0	0	391	0
			0	0	0	5210	0
	Totals by Segregation Category:		**0**	**0**	**0**	**391**	**2080**
			0	**0**	**0**	**5210**	**27700**

Component ID 74Q — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	55.8
			0	0	0	0	744
		OTHER	0	0	0	7.97	0
			0	0	0	106	0
F	ACID BRICK	OTHER	0	0	0	30.6	0
			0	0	0	437	0
	Totals by Segregation Category:		**0**	**0**	**0**	**38.6**	**55.8**
			0	**0**	**0**	**543**	**744**

Attachment B. III (Continued)

Component ID 74R — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	77
			0	0	0	0	1030
		OTHER	0	0	0	77	0
			0	0	0	1030	0
	Totals by Segregation Category:		**0**	**0**	**0**	**77**	**77**
			0	**0**	**0**	**1030**	**1030**

Component ID 74S — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	105
			0	0	0	0	1410
		OTHER	0	0	0	15.1	0
			0	0	0	201	0
	Totals by Segregation Category:		**0**	**0**	**0**	**15.1**	**105**
			0	**0**	**0**	**201**	**1410**

Attachment B. III (Continued)

Component ID 74T

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	31300
			0	0	0	0	418000
		OTHER	0	0	0	2250	0
			0	0	0	30100	0
	Totals by Segregation Category:		**0**	**0**	**0**	**2250**	**31300**
			0	**0**	**0**	**30100**	**418000**

Component ID 74U

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	206
			0	0	0	0	2740
		OTHER	0	0	0	29.4	0
			0	0	0	392	0
	Totals by Segregation Category:		**0**	**0**	**0**	**29.4**	**206**
			0	**0**	**0**	**392**	**2740**

Component ID 74V

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	88.4
			0	0	0	0	1180
		OTHER	0	0	0	12.6	0
			0	0	0	168	0
	Totals by Segregation Category:		**0**	**0**	**0**	**12.6**	**88.4**
			0	**0**	**0**	**168**	**1180**

Component ID 74W

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	103
			0	0	0	0	1380
		OTHER	0	0	0	103	0
			0	0	0	1370	0
	Totals by Segregation Category:		**0**	**0**	**0**	**103**	**103**
			0	**0**	**0**	**1370**	**1380**

062112

Component ID 77

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.743	0
			0	0	0	7.94	0
		METAL	0	0	0	49.6	0
			0	0	0	197	0
B	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00779	0
			0	0	0	0.0833	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00101	0
			0	0	0	0.0217	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	5.69	0
			0	0	0	229	0
		PAINT	0	0	0	0.0609	0
			0	0	0	0.652	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.117	0
			0	0	0	19.9	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	14.2	0
			0	0	0	199	0
		PAINT	0	0	0	0.176	0
			0	0	0	1.88	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0809	0
			0	0	0	0.865	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00125	0
			0	0	0	0.0133	0
	PIPING (OVER 4")	METAL	0	0	0	8.43	0
			0	0	0	192	0
	DOORS	PAINT	0	0	0	0.0566	0
			0	0	0	0.605	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.317	0
			0	0	0	2.91	0
	DOORS	METAL	0	0	0	1.15	0
			0	0	0	59.9	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.19	0
			0	0	0	6.92	0
		DUST	0	0	0	0.0112	0
			0	0	0	0.239	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.239	0
			0	0	0	7.99	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	3.79	0
			0	0	0	11.2	0
	METAL PANEL ROOF	PAINT	0	0	0	1.91	0
			0	0	0	20.4	0
		METAL	0	0	0	11.5	0
			0	0	0	34.1	0
	LOUVERS	PAINT	0	0	0	0.0112	0
			0	0	0	0.12	0
		METAL	0	0	0	0.229	0
			0	0	0	11.9	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.626	0
			0	0	0	6.7	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	86.3
			0	0	0	0	1150
	CONCRETE SLABS	OTHER	0	0	0	122	0
			0	0	0	1630	0
	CONCRETE	OTHER	0	0	0	0	4.5
			0	0	0	0	60

Component ID 77

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	854
			0	0	0	0	11400
H	PIPING INSULATION	OTHER	0	0	0	0.14	0
			0	0	0	62.2	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.039	0
			0	0	0	25.8	0
I		OTHER	0	0	0	0.205	0
			0	0	0	135	0
	WINDOWS	OTHER	0	0	0	0	0.179
			0	0	0	0	9
		PAINT	0	0	0	0.000467	0
			0	0	0	0.00499	0
	Totals by Segregation Category:		**1**	**0**	**0**	**223**	**945**
			40	**0**	**0**	**2860**	**12600**

002114

7497

Component ID 78

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.863	0
			0	0	0	9.23	0
		METAL	0	0	0	57.6	0
			0	0	0	229	0
B	PROCESS EQUIPMENT	SS METAL	0	0	0	17.9	0
			0	0	0	2090	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.00643	0
			0	0	0	0.0688	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	1.85	0
			0	0	0	315	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	3.52	0
			0	0	0	456	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.123	0
			0	0	0	1.32	0
	HVAC EQUIPMENT	METAL	0	0	0	3.98	0
			0	0	0	933	0
		PAINT	0	0	0	0.107	0
			0	0	0	1.14	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	10.6	0
			0	0	0	92.6	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	2.97	0
			0	0	0	120	0
		PAINT	0	0	0	0.0318	0
			0	0	0	0.34	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0273	0
			0	0	0	0.292	0
		DUST	0	0	0	0.003	0
			0	0	0	0.0643	0
		SS METAL	0	0	0	6.58	0
			0	0	0	58.4	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0612	0
			0	0	0	0.654	0
		DUST	0	0	0	0.00637	0
			0	0	0	0.136	0
		SS METAL	0	0	0	9.37	0
			0	0	0	131	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00593	0
			0	0	0	0.127	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
	DOORS	PAINT	0	0	0	0.0852	0
			0	0	0	0.912	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0976	0
			0	0	0	1.04	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.964	0
			0	0	0	8.83	0
		DUST	0	0	0	0.00308	0
			0	0	0	0.0659	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	2.53	0
			0	0	0	14.7	0
		DUST	0	0	0	0.0237	0
			0	0	0	0.506	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.0713	0
			0	0	0	0.762	0
	DOORS	METAL	0	0	0	1.74	0
			0	0	0	90.3	0

002115

Component ID 78

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
C	PIPING (2" AND LESS)	CRUD	0	0	0	0.00607	0
			0	0	0	0.0649	0
		UNH	0	0	0	0.0568	0
			0	0	0	0.649	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.391	0
			0	0	0	50.7	0
		PAINT	0	0	0	0.00792	0
			0	0	0	0.0847	0
	HVAC EQUIPMENT	METAL	0	0	0	0.442	0
			0	0	0	104	0
		PAINT	0	0	0	0.0119	0
			0	0	0	0.127	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0136	0
			0	0	0	0.145	0
	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000714	0
			0	0	0	0.00764	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0217	0
			0	0	0	0.232	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.003	0
			0	0	0	0.0643	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	1.18	0
			0	0	0	10.3	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.00637	0
			0	0	0	0.136	0
	PIPING (2" AND LESS)	SS METAL	0	0	0	0.732	0
			0	0	0	6.49	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.127	0
			0	0	0	1.45	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00593	0
			0	0	0	0.127	0
		SS METAL	0	0	0	1.99	0
			0	0	0	232	0
		UNH	0	0	0	0.203	0
			0	0	0	2.32	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	1.04	0
			0	0	0	14.5	0
D	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.55	0
			0	0	0	7.53	0
		PAINT	0	0	0	0.421	0
			0	0	0	4.5	0
	INTERIOR METAL WALL PANELS	PAINT	0	0	0	0.421	0
			0	0	0	4.5	0
	LOUVERS	METAL	0	0	0	0.47	0
			0	0	0	24.4	0
		PAINT	0	0	0	0.0231	0
			0	0	0	0.247	0
	INTERIOR METAL WALL PANELS	METAL	0	0	0	2.55	0
			0	0	0	7.53	0
E	CONCRETE FOUNDATION	OTHER	0	0	0	0	100
			0	0	0	0	1340
	MASONRY WALLS	OTHER	0	0	0	0	191
			0	0	0	0	6960
	CONCRETE SLABS	OTHER	0	0	0	0	415
			0	0	0	0	5530
G	CEILING DEMOLITION	OTHER	0	0	0	0	0.525
			0	0	0	0	43.7
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0459	0
			0	0	0	30.4	0

002116

Component ID 78

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
H	PIPING INSULATION	OTHER	0	0	0	0	0.129
			0	0	0	0	57.2
I	BUILDING INSULATION	OTHER	0	0	0	0	6.75
			0	0	0	0	3000
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	16.5
			0	0	0	0	1100
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.241	0
			0	0	0	159	0
	ROOFING (BUILT UP)	OTHER	0	0	0	0	25.3
			0	0	0	0	702
J	PROCESS EQUIPMENT	CRUD	0	0	0	0.0976	0
			0	0	0	1.04	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	1.15	0
			0	0	0	13.1	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.0474	0
			0	0	0	1.01	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.511	0
			0	0	0	5.84	0
		CRUD	0	0	0	0.0273	0
			0	0	0	0.292	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0612	0
			0	0	0	0.654	0
	PIPING (2" AND LESS)	DUST	0	0	0	0.024	0
			0	0	0	0.514	0
	PIPING (2-1/2" TO 4")	DUST	0	0	0	0.051	0
			0	0	0	1.09	0
	PROCESS EQUIPMENT	UNH	0	0	0	1.83	0
			0	0	0	20.9	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**138**	**755**
			20	**0**	**0**	**5260**	**18700**

Component ID 79 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.618	0
			0	0	0	6.61	0
		METAL	0	0	0	41.3	0
			0	0	0	164	0
B	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.139	0
			0	0	0	5.99	0
		PAINT	0	0	0	0.000935	0
			0	0	0	0.01	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.74	0
			0	0	0	10.4	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0249	0
			0	0	0	0.267	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	4.95	0
			0	0	0	199	0
		PAINT	0	0	0	0.053	0
			0	0	0	0.567	0
	PIPING (2" AND LESS)	METAL	0	0	0	5.8	0
			0	0	0	51.3	0
		PAINT	0	0	0	0.0969	0
			0	0	0	1.04	0
	DOORS	PAINT	0	0	0	0.107	0
			0	0	0	1.14	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.375	0
			0	0	0	63.7	0
	DOORS	METAL	0	0	0	2.17	0
			0	0	0	113	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	3.31	0
			0	0	0	19.2	0
		DUST	0	0	0	0.031	0
			0	0	0	0.663	0
	PIPING (OVER 4")	METAL	0	0	0	9.16	0
			0	0	0	208	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.00917	0
			0	0	0	0.098	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (OVER 4")	PAINT	0	0	0	0.088	0
			0	0	0	0.941	0
D	METAL PANEL ROOF	PAINT	0	0	0	1.46	0
			0	0	0	15.6	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	4.25	0
			0	0	0	12.6	0
		PAINT	0	0	0	0.701	0
			0	0	0	7.5	0
	METAL PANEL ROOF	METAL	0	0	0	8.83	0
			0	0	0	26.1	0
	LOUVERS	METAL	0	0	0	0.229	0
			0	0	0	11.9	0
		PAINT	0	0	0	0.0112	0
			0	0	0	0.12	0
E	CONCRETE SLABS	OTHER	0	0	0	106	0
			0	0	0	1420	0
	CONCRETE	OTHER	0	0	0	0	27.4
			0	0	0	0	365
	CONCRETE WALLS	OTHER	0	0	0	0	9
			0	0	0	0	120

OC2113

Component ID 79

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	746
			0	0	0	0	9940
	CONCRETE FOUNDATION	OTHER	0	0	0	0	90.7
			0	0	0	0	1210
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	PIPING INSULATION	OTHER	0	0	0	0.104	0
			0	0	0	46.2	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	PVC CONDUIT	OTHER	0	0	0	0	0.0975
			0	0	0	0	3
	Totals by Segregation Category:		**0.5**	**0**	**0**	**191**	**873**
			20	**0**	**0**	**2500**	**11600**

Component ID 80 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	24.6	0
			0	0	0	98.1	0
		PAINT	0	0	0	0.369	0
			0	0	0	3.95	0
B	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.66	0
			0	0	0	9.62	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0352	0
			0	0	0	0.376	0
	PIPING (2" AND LESS)	METAL	0	0	0	2.47	0
			0	0	0	21.8	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0318	0
			0	0	0	0.34	0
		METAL	0	0	0	2.97	0
			0	0	0	120	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.000623	0
			0	0	0	0.00667	0
		METAL	0	0	0	0.0994	0
			0	0	0	3.99	0
	PIPING (OVER 4")	METAL	0	0	0	3.66	0
			0	0	0	83.4	0
	DOORS	METAL	0	0	0	0.836	0
			0	0	0	43.4	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0155	0
			0	0	0	0.332	0
	DOORS	PAINT	0	0	0	0.041	0
			0	0	0	0.438	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0412	0
			0	0	0	0.441	0
D	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.538	0
			0	0	0	5.75	0
		METAL	0	0	0	3.26	0
			0	0	0	9.62	0
	LOUVERS	METAL	0	0	0	0.21	0
			0	0	0	10.9	0
	METAL PANEL ROOF	PAINT	0	0	0	0.927	0
			0	0	0	9.92	0
	LOUVERS	PAINT	0	0	0	0.0103	0
			0	0	0	0.11	0
	METAL PANEL ROOF	METAL	0	0	0	5.62	0
			0	0	0	16.6	0
E	CONCRETE SLABS	OTHER	0	0	0	95.6	0
			0	0	0	1280	0
	CONCRETE	OTHER	0	0	0	0	3.38
			0	0	0	0	45
	CONCRETE FOUNDATION	OTHER	0	0	0	0	84
			0	0	0	0	1120
	CONCRETE SLABS	OTHER	0	0	0	0	669
			0	0	0	0	8930
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.111	0
			0	0	0	73.6	0
	PIPING INSULATION	OTHER	0	0	0	0.0407	0
			0	0	0	18.1	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.584	0
			0	0	0	386	0

002120

Component ID 80

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
Totals by Segregation Category:			0.5	0	0	144	756
			20	0	0	2200	10100

Component ID 81 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	82.8	0
			0	0	0	330	0
		PAINT	0	0	0	0.292	0
			0	0	0	3.12	0
B	HVAC EQUIPMENT	METAL	0	0	0	0.0298	0
			0	0	0	2	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.0788	0
			0	0	0	0.843	0
	PIPING (OVER 4")	PAINT	0	0	0	0.0264	0
			0	0	0	0.282	0
	PROCESS EQUIPMENT	METAL	0	0	0	0.0798	0
			0	0	0	2	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	6.36	0
			0	0	0	89.1	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.00145	0
			0	0	0	0.0155	0
		METAL	0	0	0	0.0866	0
			0	0	0	0.765	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0265	0
			0	0	0	0.283	0
		METAL	0	0	0	2.47	0
			0	0	0	99.7	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.000229	0
			0	0	0	0.00245	0
	PIPING (OVER 4")	METAL	0	0	0	2.75	0
			0	0	0	62.5	0
	PROCESS EQUIPMENT	PAINT	0	0	0	0.000204	0
			0	0	0	0.00218	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0171	0
			0	0	0	0.183	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0134	0
			0	0	0	0.288	0
		METAL	0	0	0	1.44	0
			0	0	0	8.34	0
	DOORS	METAL	0	0	0	0.836	0
			0	0	0	43.4	0
		PAINT	0	0	0	0.041	0
			0	0	0	0.438	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.0697	0
			0	0	0	2	0
		PAINT	0	0	0	0.000312	0
			0	0	0	0.00333	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.258	0
			0	0	0	43.8	0
D	METAL PANEL ROOF	PAINT	0	0	0	0.701	0
			0	0	0	7.5	0
	EXTERIOR METAL WALL PANELS	METAL	0	0	0	2.55	0
			0	0	0	7.53	0
		PAINT	0	0	0	0.421	0
			0	0	0	4.5	0
	LOUVERS	METAL	0	0	0	0.152	0
			0	0	0	7.92	0
		PAINT	0	0	0	0.00748	0
			0	0	0	0.08	0

062122

Attachment B. III (Continued)

Component ID 81 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	METAL PANEL ROOF	METAL	0	0	0	4.25	0
			0	0	0	12.6	0
E	CONCRETE	OTHER	0	0	0	0	2.03
			0	0	0	0	27
	CONCRETE SLABS	OTHER	0	0	0	0	525
			0	0	0	0	7000
	CONCRETE FOUNDATION	OTHER	0	0	0	0	74.8
			0	0	0	0	997
	CONCRETE SLABS	OTHER	0	0	0	75	0
			0	0	0	1000	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0344	0
			0	0	0	22.8	0
	PIPING INSULATION	OTHER	0	0	0	0.0587	0
			0	0	0	26.1	0
I	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.181	0
			0	0	0	119	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**181**	**602**
			20	**0**	**0**	**1900**	**8020**

Component ID 82 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	0.443	0
			0	0	0	4.74	0
		METAL	0	0	0	29.6	0
			0	0	0	118	0
B	MATERIAL HANDLING EQUIPMENT	PAINT	0	0	0	0.000125	0
			0	0	0	0.00134	0
		METAL	0	0	0	0.0359	0
			0	0	0	1.8	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.02	0
			0	0	0	0.214	0
		METAL	0	0	0	1.62	0
			0	0	0	174	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0467	0
			0	0	0	0.5	0
	DOORS	PAINT	0	0	0	0.143	0
			0	0	0	1.53	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00729	0
			0	0	0	0.078	0
		METAL	0	0	0	1	0
			0	0	0	46.7	0
	PROCESS EQUIPMENT	SS METAL	0	0	0	0.018	0
			0	0	0	1.8	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	3.46	0
			0	0	0	140	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.703	0
			0	0	0	119	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0371	0
			0	0	0	0.397	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0133	0
			0	0	0	0.142	0
		DUST	0	0	0	0.00145	0
			0	0	0	0.0311	0
		SS METAL	0	0	0	3.21	0
			0	0	0	28.5	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0156	0
			0	0	0	0.167	0
		DUST	0	0	0	0.00138	0
			0	0	0	0.0294	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00881	0
			0	0	0	0.0943	0
		SS METAL	0	0	0	0.833	0
			0	0	0	18.9	0
	PROCESS EQUIPMENT	DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
		PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	DOORS	METAL	0	0	0	2.91	0
			0	0	0	151	0
	PIPING (2-1/2" TO 4")	SS METAL	0	0	0	2.43	0
			0	0	0	34	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.00812	0
			0	0	0	0.174	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	5.86	0
			0	0	0	34	0

002124

Attachment B, III (Continued)

Component ID 82 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.0548	0
			0	0	0	1.17	0
	PIPING (OVER 4")	DUST	0	0	0	0.00022	0
			0	0	0	0.0047	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	2.54	0
			0	0	0	23.3	0
C	PIPING (OVER 4")	DUST	0	0	0	0.00022	0
			0	0	0	0.0047	0
	MATERIAL HANDLING EQUIPMENT	METAL	0	0	0	0.00399	0
			0	0	0	0.2	0
		PAINT	0	0	0	0.0000139	0
			0	0	0	0.000148	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.00296	0
			0	0	0	0.0317	0
		DUST	0	0	0	0.00145	0
			0	0	0	0.0311	0
		SS METAL	0	0	0	0.354	0
			0	0	0	3.14	0
		UNH	0	0	0	0.0277	0
			0	0	0	0.317	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.00347	0
			0	0	0	0.0371	0
		DUST	0	0	0	0.00138	0
			0	0	0	0.0294	0
		SS METAL	0	0	0	0.225	0
			0	0	0	3.14	0
	HVAC EQUIPMENT	METAL	0	0	0	0.18	0
			0	0	0	19.4	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00196	0
			0	0	0	0.0209	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00081	0
			0	0	0	0.00867	0
	PIPING (OVER 4")	SS METAL	0	0	0	0.0925	0
			0	0	0	2.09	0
		UNH	0	0	0	0.0183	0
			0	0	0	0.209	0
	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000187	0
			0	0	0	0.0002	0
		DUST	0	0	0	0.00000511	0
			0	0	0	0.000109	0
		SS METAL	0	0	0	0.002	0
			0	0	0	0.2	0
		UNH	0	0	0	0.000175	0
			0	0	0	0.002	0
	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.0325	0
			0	0	0	0.371	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00222	0
			0	0	0	0.0238	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.111	0
			0	0	0	5.19	0
D	METAL PANEL ROOF	METAL	0	0	0	6.04	0
			0	0	0	17.9	0
	EXTERIOR METAL WALL PANELS	PAINT	0	0	0	0.53	0
			0	0	0	5.67	0
		METAL	0	0	0	3.21	0
			0	0	0	9.48	0
	DUCTWORK	PAINT	0	0	0	0.212	0
			0	0	0	2.27	0

Component ID 82 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
D	DUCTWORK	METAL	0	0	0	3.43	0
			0	0	0	9.03	0
		DUST	0	0	0	0.0106	0
			0	0	0	0.227	0
	METAL PANEL ROOF	PAINT	0	0	0	0.997	0
			0	0	0	10.7	0
	LOUVERS	PAINT	0	0	0	0.00623	0
			0	0	0	0.0667	0
		METAL	0	0	0	0.127	0
			0	0	0	6.6	0
E	CONCRETE SLABS	OTHER	0	0	0	0	622
			0	0	0	0	8290
	MASONRY WALLS	OTHER	0	0	0	0	66
			0	0	0	0	2400
	CONCRETE	OTHER	0	0	0	0	46.9
			0	0	0	0	625
	CLAY PIPING	OTHER	0	0	0	0	1.87
			0	0	0	0	26.7
	CONCRETE FOUNDATION	OTHER	0	0	0	0	138
			0	0	0	0	1840
G	CEILING DEMOLITION	OTHER	0	0	0	0	0.656
			0	0	0	0	54.7
H	PIPING INSULATION	OTHER	0	0	0	0	0.0497
			0	0	0	0	22.1
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0275	0
			0	0	0	18.2	0
	DUCTWORK INSULATION	OTHER	0	0	0	0	0.0511
			0	0	0	0	22.7
I	WINDOWS	OTHER	0	0	0	0	0.16
			0	0	0	0	8
		PAINT	0	0	0	0.000415	0
			0	0	0	0.00444	0
	PVC CONDUIT	OTHER	0	0	0	0	0.145
			0	0	0	0	4.47
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.145	0
			0	0	0	95.6	0
	MISCELLANEOUS DEBRIS	OTHER	0	0	0	0	4.85
			0	0	0	0	323
J	PIPING (2-1/2" TO 4")	UNH	0	0	0	0.292	0
			0	0	0	3.34	0
	PIPING (2" AND LESS)	UNH	0	0	0	0.249	0
			0	0	0	2.85	0
	PIPING (OVER 4")	UNH	0	0	0	0.165	0
			0	0	0	1.89	0
	DUCTWORK	DUST	0	0	0	0.0955	0
			0	0	0	2.04	0
	PIPING (2" AND LESS)	CRUD	0	0	0	0.0133	0
			0	0	0	0.142	0
		DUST	0	0	0	0.0116	0
			0	0	0	0.249	0
	PIPING (2-1/2" TO 4")	CRUD	0	0	0	0.0156	0
			0	0	0	0.167	0
		DUST	0	0	0	0.011	0
			0	0	0	0.235	0
	PIPING (OVER 4")	CRUD	0	0	0	0.00881	0
			0	0	0	0.0943	0
		DUST	0	0	0	0.00176	0
			0	0	0	0.0376	0

002126

Component ID 82 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	PROCESS EQUIPMENT	CRUD	0	0	0	0.0000842	0
			0	0	0	0.0009	0
		DUST	0	0	0	0.0000409	0
			0	0	0	0.000873	0
		UNH	0	0	0	0.00158	0
			0	0	0	0.018	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**71.7**	**881**
			20	**0**	**0**	**1120**	**13600**

Component ID 89 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
E	CONCRETE SLABS	OTHER	0	0	0	0	17800
			0	0	0	0	237000
	ASPHALT	OTHER	0	0	0	0	10600
			0	0	0	0	261000
	Totals by Segregation Category:		**0**	**0**	**0**	**0**	**28400**
			0	**0**	**0**	**0**	**498000**

002128

Component ID G-002

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
E	CONCRETE SLABS	OTHER	0	0	0	0	33900
			0	0	0	0	452000
	ASPHALT	OTHER	0	0	0	11800	0
			0	0	0	291000	0
	Totals by Segregation Category:		**0**	**0**	**0**	**11800**	**33900**
			0	**0**	**0**	**291000**	**452000**

Component ID G-004

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL FIXTURES	METAL	0	0	0	0.0586	0
			0	0	0	9.96	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	22.9	0
			0	0	0	133	0
	PIPING (OVER 4")	PAINT	0	0	0	3.58	0
			0	0	0	38.3	0
		METAL	0	0	0	373	0
			0	0	0	8480	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	2.6	0
			0	0	0	27.8	0
		METAL	0	0	0	210	0
			0	0	0	2940	0
	PIPING (2" AND LESS)	PAINT	0	0	0	5.15	0
			0	0	0	55	0
		METAL	0	0	0	308	0
			0	0	0	2720	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0039	0
			0	0	0	0.0417	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.205	0
			0	0	0	2.19	0
		METAL	0	0	0	7.67	0
			0	0	0	1310	0
	CONDUIT/WIRE/CABLE TRAY (OVER 4	METAL	0	0	0	23.1	0
			0	0	0	277	0
		DUST	0	0	0	0.0694	0
			0	0	0	1.48	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.0961	0
			0	0	0	2.06	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.215	0
			0	0	0	4.59	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	30.1	0
			0	0	0	275	0
C	PIPING (2-1/2" TO 4")	METAL	0	0	0	20.3	0
			0	0	0	284	0
	PIPING (2" AND LESS)	PAINT	0	0	0	0.0476	0
			0	0	0	0.51	0
		METAL	0	0	0	2.85	0
			0	0	0	25.2	0
	PIPING (2-1/2" TO 4")	PAINT	0	0	0	0.251	0
			0	0	0	2.69	0
H	PIPING INSULATION	OTHER	0	0	0	0	23.1
			0	0	0	0	10300
	Totals by Segregation Category:		**0**	**0**	**0**	**1010**	**23.1**
			0	**0**	**0**	**16600**	**10300**

002139

Component ID G-006

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	PROCESS TRAILERS	METAL	0	0	0	0	208
			0	0	0	0	71100
		PAINT	0	0	0	0.669	0
			0	0	0	7.15	0
	Totals by Segregation Category:		**0**	**0**	**0**	**0.669**	**208**
			0	**0**	**0**	**7.15**	**71100**

Component ID G-007

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
I	NON PROCESS TRAILERS	METAL	0	0	0	0	895
			0	0	0	0	305000
		PAINT	0	0	0	1.77	0
			0	0	0	18.9	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1.77**	**895**
			0	**0**	**0**	**18.9**	**305000**

002132

Component ID G-008

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	546	0
			0	0	0	2180	0
		PAINT	0	0	0	8.18	0
			0	0	0	87.5	0
E	CONCRETE COLUMNS	OTHER	0	0	0	0	23
			0	0	0	0	307
		OTHER	0	0	0	3.29	0
			0	0	0	43.9	0
	Totals by Segregation Category:		**0**	**0**	**0**	**557**	**23**
			0	**0**	**0**	**2310**	**307**

Component ID G-011

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
J	THORIUM WASTE	UNCHAR	0	0	0	396	0
			0	0	0	14100	0
		RCRA	0	0	6.24	0	0
			0	0	457	0	0
	OTHER WASTE	RCRA	0	0	2720	0	0
			0	0	49700	0	0
	THORIUM WASTE	NON-RCRA	0	0	0	1670	0
			0	0	0	63000	0
	PRODUCT WASTE	NON-RCRA	0	0	0	5180	0
			0	0	0	85400	0
	OTHER WASTE	UNCHAR	0	0	0	3120	0
			0	0	0	224000	0
		NON-RCRA	0	0	0	3500	0
			0	0	0	268000	0
	PRODUCT WASTE	UNCHAR	0	0	0	3100	0
			0	0	0	16800	0
		RCRA	0	0	100	0	0
			0	0	4330	0	0
	Totals by Segregation Category:		**0**	**0**	**2830**	**17000**	**0**
			0	**0**	**54500**	**671000**	**0**

002134

Component ID G-013

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
J	SOIL PILE	OTHER	0	0	0	47300	0
			0	0	0	985000	0
	Totals by Segregation Category:		**0**	**0**	**0**	**47300**	**0**
			0	**0**	**0**	**985000**	**0**

Component ID GRID 1

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	26.6	0
			0	0	0	106	0
B	PIPING (OVER 4")	METAL	0	0	0	20.6	0
			0	0	0	469	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.218	0
			0	0	0	1.93	0
	ELECTRICAL WIRING	METAL	0	0	0	1.83	0
			0	0	0	6.38	0
E	CLAY PIPING	OTHER	0	0	0	0	16.1
			0	0	0	0	230
	CONCRETE	OTHER	0	0	0	0	31.2
			0	0	0	0	416
G	FEEDER CABLE	METAL	0	0	0	0	8.66
			0	0	0	0	30.2
I	WOOD	OTHER	0	0	0	0	30.6
			0	0	0	0	2040
	Totals by Segregation Category:		**0**	**0**	**0**	**49.2**	**86.6**
			0	**0**	**0**	**583**	**2720**

002136

Component ID GRID 10

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	52.5	0
			0	0	0	209	0
B	PIPING (OVER 4")	METAL	0	0	0	66	0
			0	0	0	1500	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.44	0
			0	0	0	12.7	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	4.85	0
			0	0	0	68	0
C		METAL	0	0	0	3.78	0
			0	0	0	52.9	0
	PIPING (OVER 4")	METAL	0	0	0	23.1	0
			0	0	0	525	0
E	CONCRETE	OTHER	0	0	0	0	248
			0	0	0	0	3310
	CLAY PIPING	OTHER	0	0	0	0	21.4
			0	0	0	0	305
G	FEEDER CABLE	METAL	0	0	0	0	5.17
			0	0	0	0	18
I	WOOD	OTHER	0	0	0	0	30.1
			0	0	0	0	2010
	PVC CONDUIT	OTHER	0	0	0	0	0.12
			0	0	0	0	3.68
	Totals by Segregation Category:		**0**	**0**	**0**	**152**	**305**
			0	**0**	**0**	**2370**	**5650**

Component ID GRID 11

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	14.3	0
			0	0	0	57.1	0
B	PIPING (OVER 4")	METAL	0	0	0	99.1	0
			0	0	0	2260	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	9.74	0
			0	0	0	136	0
	PIPING (2" AND LESS)	METAL	0	0	0	2.93	0
			0	0	0	25.9	0
C		METAL	0	0	0	0.682	0
			0	0	0	6.03	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.81	0
			0	0	0	39.4	0
	PIPING (OVER 4")	METAL	0	0	0	30	0
			0	0	0	682	0
E	CONCRETE	OTHER	0	0	0	0	749
			0	0	0	0	9990
	CLAY PIPING	OTHER	0	0	0	0	40.1
			0	0	0	0	573
G	FEEDER CABLE	METAL	0	0	0	0	9.86
			0	0	0	0	34.4
I	PVC CONDUIT	OTHER	0	0	0	0	0.406
			0	0	0	0	12.5
	WOOD	OTHER	0	0	0	0	16.5
			0	0	0	0	1100
	Totals by Segregation Category:		**0**	**0**	**0**	**160**	**816**
			0	**0**	**0**	**3210**	**11700**

002138

Component ID GRID 12 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PIPING (OVER 4")	METAL	0	0	0	51	0
			0	0	0	1160	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.86	0
			0	0	0	16.4	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	1.85	0
			0	0	0	25.9	0
C	PIPING (OVER 4")	METAL	0	0	0	15.5	0
			0	0	0	352	0
E	CLAY PIPING	OTHER	0	0	0	0	23.3
			0	0	0	0	333
	CONCRETE	OTHER	0	0	0	0	516
			0	0	0	0	6880
G	FEEDER CABLE	METAL	0	0	0	0	8.39
			0	0	0	0	29.2
I	PVC PIPING	OTHER	0	0	0	0	0.334
			0	0	0	0	77.7
	Totals by Segregation Category:		**0**	**0**	**0**	**70.2**	**548**
			0	**0**	**0**	**1550**	**7320**

Component ID GRID 13

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (OVER 4")	METAL	0	0	0	48.2	0
			0	0	0	1100	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	5.63	0
			0	0	0	78.8	0
	PIPING (2" AND LESS)	METAL	0	0	0	2.5	0
			0	0	0	22.1	0
C	PIPING (OVER 4")	METAL	0	0	0	20.9	0
			0	0	0	475	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.406	0
			0	0	0	3.59	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	2.74	0
			0	0	0	38.4	0
E	CONCRETE	OTHER	0	0	0	0	1520
			0	0	0	0	20300
	CLAY PIPING	OTHER	0	0	0	0	23.1
			0	0	0	0	329
G	FEEDER CABLE	METAL	0	0	0	0	18.4
			0	0	0	0	64.2
I	PVC CONDUIT	OTHER	0	0	0	0	0.31
			0	0	0	0	9.54
	Totals by Segregation Category:		**0**	**0**	**0**	**80.4**	**1560**
			0	**0**	**0**	**1720**	**20700**

062140

Component ID GRID 14

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	14.5	0
			0	0	0	129	0
	PIPING (OVER 4")	METAL	0	0	0	120	0
			0	0	0	2730	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	23.1	0
			0	0	0	324	0
	ELECTRICAL WIRING	METAL	0	0	0	4.18	0
			0	0	0	14.6	0
C	PIPING (OVER 4")	METAL	0	0	0	60.6	0
			0	0	0	1380	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	1.33	0
			0	0	0	18.7	0
E	CLAY PIPING	OTHER	0	0	0	0	42.4
			0	0	0	0	605
	CONCRETE	OTHER	0	0	0	0	352
			0	0	0	0	4700
G	FEEDER CABLE	METAL	0	0	0	0	23.9
			0	0	0	0	83.2
I	PVC PIPING	OTHER	0	0	0	0	0.156
			0	0	0	0	36.2
	PVC CONDUIT	OTHER	0	0	0	0	0.406
			0	0	0	0	12.5
	Totals by Segregation Category:		**0**	**0**	**0**	**224**	**419**
			0	**0**	**0**	**4600**	**5440**

Component ID GRID 15

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	4.08	0
			0	0	0	14.2	0
	PIPING (OVER 4")	METAL	0	0	0	8.8	0
			0	0	0	200	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	3.41	0
			0	0	0	47.7	0
E	CLAY PIPING	OTHER	0	0	0	0	16.1
			0	0	0	0	230
G	FEEDER CABLE	METAL	0	0	0	0	24.5
			0	0	0	0	85.3
I	PVC CONDUIT	OTHER	0	0	0	0	0.422
			0	0	0	0	13
	PVC PIPING	OTHER	0	0	0	0	0.21
			0	0	0	0	48.9
	Totals by Segregation Category:		**0**	**0**	**0**	**16.3**	**41.2**
			0	**0**	**0**	**262**	**377**

002242

Attachment B. III (Continued)

Component ID GRID 16

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	31.9	0
			0	0	0	127	0
B	ELECTRICAL WIRING	METAL	0	0	0	1.07	0
			0	0	0	3.74	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.769	0
			0	0	0	6.8	0
	PIPING (OVER 4")	METAL	0	0	0	6.87	0
			0	0	0	156	0
E	CONCRETE	OTHER	0	0	0	0	194
			0	0	0	0	2580
	CLAY PIPING	OTHER	0	0	0	0	19.7
			0	0	0	0	281
G	FEEDER CABLE	METAL	0	0	0	0	3.88
			0	0	0	0	13.5
I	PVC CONDUIT	OTHER	0	0	0	0	0.0124
			0	0	0	0	0.382
	WOOD	OTHER	0	0	0	0	36.7
			0	0	0	0	2450
	Totals by Segregation Category:		**0**	**0**	**0**	**40.6**	**254**
			0	**0**	**0**	**294**	**5320**

Component ID GRID 17

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	773	0
			0	0	0	3080	0
B	PIPING (OVER 4")	METAL	0	0	0	42.7	0
			0	0	0	972	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.63	0
			0	0	0	8.82	0
E	CLAY PIPING	OTHER	0	0	0	0	18.5
			0	0	0	0	264
	CONCRETE	OTHER	0	0	0	0	140
			0	0	0	0	1870
G	FEEDER CABLE	METAL	0	0	0	0	9.85
			0	0	0	0	34.3
I	PVC CONDUIT	OTHER	0	0	0	0	0.362
			0	0	0	0	11.1
	WOOD	OTHER	0	0	0	0	13.3
			0	0	0	0	889
	Totals by Segregation Category:		**0**	**0**	**0**	**816**	**182**
			0	**0**	**0**	**4060**	**3070**

002144

Attachment B. III (Continued)

Component ID GRID 18

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	22.2	0
			0	0	0	88.3	0
B	PIPING (OVER 4")	METAL	0	0	0	89.6	0
			0	0	0	2040	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	4.93	0
			0	0	0	69	0
C		METAL	0	0	0	11.3	0
			0	0	0	158	0
	PIPING (OVER 4")	METAL	0	0	0	15.6	0
			0	0	0	354	0
E	CLAY PIPING	OTHER	0	0	0	0	14.7
			0	0	0	0	209
	CONCRETE	OTHER	0	0	0	0	4660
			0	0	0	0	62200
G	FEEDER CABLE	METAL	0	0	0	0	3.82
			0	0	0	0	13.3
I	WOOD	OTHER	0	0	0	0	25.5
			0	0	0	0	1700
	PVC CONDUIT	OTHER	0	0	0	0	0.118
			0	0	0	0	3.63
	Totals by Segregation Category:		**0**	**0**	**0**	**144**	**4700**
			0	**0**	**0**	**2710**	**64100**

Component ID GRID 19

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	7.46	0
			0	0	0	29.7	0
B	PIPING (2" AND LESS)	METAL	0	0	0	2.37	0
			0	0	0	20.9	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	24.3	0
			0	0	0	340	0
	ELECTRICAL WIRING	METAL	0	0	0	2.3	0
			0	0	0	8.02	0
	PIPING (OVER 4")	METAL	0	0	0	137	0
			0	0	0	3110	0
C	PIPING (2" AND LESS)	METAL	0	0	0	0.058	0
			0	0	0	0.513	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	10.9	0
			0	0	0	152	0
	PIPING (OVER 4")	METAL	0	0	0	104	0
			0	0	0	2360	0
E	CONCRETE	OTHER	0	0	0	0	1230
			0	0	0	0	16400
	CLAY PIPING	OTHER	0	0	0	0	33.5
			0	0	0	0	479
G	FEEDER CABLE	METAL	0	0	0	0	14.5
			0	0	0	0	50.6
I	WOOD	OTHER	0	0	0	0	8.58
			0	0	0	0	572
	Totals by Segregation Category:		**0**	**0**	**0**	**288**	**1290**
			0	**0**	**0**	**6020**	**17500**

002146

Component ID GRID 2

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	12.6	0
			0	0	0	50	0
B	PIPING (OVER 4")	METAL	0	0	0	37.1	0
			0	0	0	844	0
	ELECTRICAL WIRING	METAL	0	0	0	0.657	0
			0	0	0	2.29	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	1.85	0
			0	0	0	25.9	0
E	CONCRETE	OTHER	0	0	0	0	139
			0	0	0	0	1860
	CLAY PIPING	OTHER	0	0	0	0	25.5
			0	0	0	0	364
G	FEEDER CABLE	METAL	0	0	0	0	8.03
			0	0	0	0	28
I	WOOD	OTHER	0	0	0	0	7.22
			0	0	0	0	481
	PVC CONDUIT	OTHER	0	0	0	0	0.0683
			0	0	0	0	2.1
	Totals by Segregation Category:		**0**	**0**	**0**	**52.2**	**180**
			0	**0**	**0**	**922**	**2740**

Component ID GRID 20

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	3.77	0
			0	0	0	15	0
B	ELECTRICAL WIRING	METAL	0	0	0	6.68	0
			0	0	0	23.3	0
	PIPING (OVER 4")	METAL	0	0	0	53.7	0
			0	0	0	1220	0
	PIPING (2" AND LESS)	METAL	0	0	0	2.39	0
			0	0	0	21.2	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	9.22	0
			0	0	0	129	0
C	PIPING (OVER 4")	METAL	0	0	0	58.5	0
			0	0	0	1330	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	11.1	0
			0	0	0	156	0
E	CONCRETE	OTHER	0	0	0	0	801
			0	0	0	0	10700
	CLAY PIPING	OTHER	0	0	0	0	21.1
			0	0	0	0	301
G	FEEDER CABLE	METAL	0	0	0	0	15.9
			0	0	0	0	55.3
I	WOOD	OTHER	0	0	0	0	4.33
			0	0	0	0	289
	Totals by Segregation Category:		**0**	**0**	**0**	**145**	**842**
			0	**0**	**0**	**2890**	**11300**

Attachment B. III (Continued)

Component ID GRID 21

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	2.41	0
			0	0	0	21.3	0
	PIPING (OVER 4")	METAL	0	0	0	49.7	0
			0	0	0	1130	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	6.67	0
			0	0	0	93.4	0
	ELECTRICAL WIRING	METAL	0	0	0	0.313	0
			0	0	0	1.09	0
C	PIPING (OVER 4")	METAL	0	0	0	21.6	0
			0	0	0	492	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.445	0
			0	0	0	6.22	0
E	CLAY PIPING	OTHER	0	0	0	0	14.5
			0	0	0	0	207
	CONCRETE	OTHER	0	0	0	0	27.2
			0	0	0	0	362
G	FEEDER CABLE	METAL	0	0	0	0	4.58
			0	0	0	0	16
I	PVC CONDUIT	OTHER	0	0	0	0	0.0496
			0	0	0	0	1.53
	Totals by Segregation Category:		**0**	**0**	**0**	**81.1**	**46.3**
			0	**0**	**0**	**1740**	**587**

Component ID GRID 22

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	20.3	0
			0	0	0	80.9	0
B	PIPING (OVER 4")	METAL	0	0	0	6.6	0
			0	0	0	150	0
	ELECTRICAL WIRING	METAL	0	0	0	1.14	0
			0	0	0	3.98	0
E	CLAY PIPING	OTHER	0	0	0	0	1.69
			0	0	0	0	24.2
	CONCRETE	OTHER	0	0	0	0	24
			0	0	0	0	320
G	FEEDER CABLE	METAL	0	0	0	0	3.29
			0	0	0	0	11.5
I	PVC CONDUIT	OTHER	0	0	0	0	0.0461
			0	0	0	0	1.42
	WOOD	OTHER	0	0	0	0	23.4
			0	0	0	0	1560
	Totals by Segregation Category:		**0**	**0**	**0**	**28**	**52.4**
			0	**0**	**0**	**235**	**1920**

062150

Component ID GRID 23

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	296	0
			0	0	0	1180	0
B	ELECTRICAL WIRING	METAL	0	0	0	0.454	0
			0	0	0	1.58	0
	PIPING (OVER 4")	METAL	0	0	0	9.62	0
			0	0	0	219	0
E	CLAY PIPING	OTHER	0	0	0	0	1.28
			0	0	0	0	18.2
G	FEEDER CABLE	METAL	0	0	0	0	1.31
			0	0	0	0	4.57
I	WOOD	OTHER	0	0	0	0	5.09
			0	0	0	0	340
	Totals by Segregation Category:		**0**	**0**	**0**	**306**	**7.68**
			0	**0**	**0**	**1400**	**363**

Component ID GRID 24

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	9.31	0
			0	0	0	37.1	0
B	PIPING (OVER 4")	METAL	0	0	0	28.2	0
			0	0	0	642	0
	ELECTRICAL WIRING	METAL	0	0	0	1.8	0
			0	0	0	6.27	0
C	PIPING (2-1/2" TO 4")	METAL	0	0	0	1.48	0
			0	0	0	20.7	0
E	CONCRETE	OTHER	0	0	0	0	7.88
			0	0	0	0	105
	CLAY PIPING	OTHER	0	0	0	0	7.58
			0	0	0	0	108
G	FEEDER CABLE	METAL	0	0	0	0	3.82
			0	0	0	0	13.3
I	WOOD	OTHER	0	0	0	0	10.7
			0	0	0	0	713
	Totals by Segregation Category:		**0**	**0**	**0**	**40.8**	**30**
			0	**0**	**0**	**706**	**939**

002152

Attachment B. III (Continued)

Component ID GRID 25

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	11.5	0
			0	0	0	45.9	0
B	PIPING (OVER 4")	METAL	0	0	0	65.7	0
			0	0	0	1500	0
	ELECTRICAL WIRING	METAL	0	0	0	1.35	0
			0	0	0	4.72	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	10.5	0
			0	0	0	147	0
C		METAL	0	0	0	2.04	0
			0	0	0	28.5	0
	PIPING (OVER 4")	METAL	0	0	0	34.1	0
			0	0	0	776	0
E	CLAY PIPING	OTHER	0	0	0	0	8.41
			0	0	0	0	120
	CONCRETE	OTHER	0	0	0	0	850
			0	0	0	0	11300
G	FEEDER CABLE	METAL	0	0	0	0	9.46
			0	0	0	0	33
I	WOOD	OTHER	0	0	0	0	13.2
			0	0	0	0	883
	Totals by Segregation Category:		**0**	**0**	**0**	**125**	**881**
			0	**0**	**0**	**2500**	**12300**

Component ID GRID 26 — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	19.2	0
			0	0	0	76.5	0
B	PIPING (2-1/2" TO 4")	METAL	0	0	0	3.89	0
			0	0	0	54.5	0
	PIPING (OVER 4")	METAL	0	0	0	35.6	0
			0	0	0	809	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.07	0
			0	0	0	9.5	0
	ELECTRICAL WIRING	METAL	0	0	0	1.69	0
			0	0	0	5.89	0
C	PIPING (2-1/2" TO 4")	METAL	0	0	0	3.07	0
			0	0	0	43.1	0
	PIPING (OVER 4")	METAL	0	0	0	10.6	0
			0	0	0	242	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.81	0
			0	0	0	16	0
E	CONCRETE	OTHER	0	0	0	0	211
			0	0	0	0	2810
	CLAY PIPING	OTHER	0	0	0	0	21.7
			0	0	0	0	310
G	FEEDER CABLE	METAL	0	0	0	0	10.7
			0	0	0	0	37.1
I	WOOD	OTHER	0	0	0	0	22.1
			0	0	0	0	1470
	PVC CONDUIT	OTHER	0	0	0	0	0.00798
			0	0	0	0	0.245
	Totals by Segregation Category:		**0**	**0**	**0**	**76.9**	**266**
			0	**0**	**0**	**1260**	**4630**

062154

Attachment B. III (Continued)

Component ID GRID 27

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	0.987	0
			0	0	0	8.72	0
	PIPING (OVER 4")	METAL	0	0	0	48.3	0
			0	0	0	1100	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	6.11	0
			0	0	0	85.6	0
	ELECTRICAL WIRING	METAL	0	0	0	0.29	0
			0	0	0	1.01	0
C	PIPING (2-1/2" TO 4")	METAL	0	0	0	5.45	0
			0	0	0	76.2	0
	PIPING (OVER 4")	METAL	0	0	0	4.21	0
			0	0	0	95.9	0
E	CONCRETE	OTHER	0	0	0	0	187
			0	0	0	0	2490
	CLAY PIPING	OTHER	0	0	0	0	11.6
			0	0	0	0	165
G	FEEDER CABLE	METAL	0	0	0	0	12.3
			0	0	0	0	42.8
I	PVC CONDUIT	OTHER	0	0	0	0	0.832
			0	0	0	0	25.6
	Totals by Segregation Category:		**0**	**0**	**0**	**65.3**	**212**
			0	**0**	**0**	**1370**	**2720**

Component ID GRID 28

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	1.09	0
			0	0	0	3.79	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.319	0
			0	0	0	2.82	0
E	CLAY PIPING	OTHER	0	0	0	0	3.77
			0	0	0	0	53.9
G	FEEDER CABLE	METAL	0	0	0	0	5.87
			0	0	0	0	20.5
I	PVC CONDUIT	OTHER	0	0	0	0	0.0266
			0	0	0	0	0.818
	Totals by Segregation Category:		**0**	**0**	**0**	**1.41**	**9.67**
			0	**0**	**0**	**6.61**	**75.2**

OC2156

Component ID GRID 29

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	2.04	0
			0	0	0	7.12	0
	PIPING (OVER 4")	METAL	0	0	0	10.3	0
			0	0	0	236	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	1.7	0
			0	0	0	23.9	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.276	0
			0	0	0	2.44	0
E	CLAY PIPING	OTHER	0	0	0	0	1.69
			0	0	0	0	24.2
G	FEEDER CABLE	METAL	0	0	0	0	9.08
			0	0	0	0	31.6
I	PVC CONDUIT	OTHER	0	0	0	0	0.236
			0	0	0	0	7.25
	PVC PIPING	OTHER	0	0	0	0	0.263
			0	0	0	0	61.1
	Totals by Segregation Category:		**0**	**0**	**0**	**14.3**	**11.3**
			0	**0**	**0**	**269**	**124**

Component ID GRID 3 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	14.8	0
			0	0	0	58.9	0
B	PIPING (2" AND LESS)	METAL	0	0	0	1.48	0
			0	0	0	13.1	0
	ELECTRICAL WIRING	METAL	0	0	0	1.75	0
			0	0	0	6.11	0
	PIPING (OVER 4")	METAL	0	0	0	75.7	0
			0	0	0	1720	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	3.67	0
			0	0	0	51.4	0
C		METAL	0	0	0	1.78	0
			0	0	0	24.9	0
	PIPING (OVER 4")	METAL	0	0	0	4.4	0
			0	0	0	100	0
E	CLAY PIPING	OTHER	0	0	0	0	31.8
			0	0	0	0	454
	CONCRETE	OTHER	0	0	0	0	449
			0	0		0	5980
G	FEEDER CABLE	METAL	0	0	0	0	10.3
			0	0	0	0	35.9
I	PVC CONDUIT	OTHER	0	0	0	0	0.0222
			0	0	0	0	0.682
	WOOD	OTHER	0	0	0	0	8.49
			0	0	0	0	566
	Totals by Segregation Category:		**0**	**0**	**0**	**104**	**500**
			0	**0**	**0**	**1970**	**7040**

002158

Component ID GRID 30

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	2.25	0
			0	0	0	7.83	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	0.63	0
			0	0	0	8.82	0
	PIPING (OVER 4")	METAL	0	0	0	126	0
			0	0	0	2880	0
E	CLAY PIPING	OTHER	0	0	0	0	1.16
			0	0	0	0	16.6
G	FEEDER CABLE	METAL	0	0	0	0	7.42
			0	0	0	0	25.8
I	PVC CONDUIT	OTHER	0	0	0	0	0.223
			0	0	0	0	6.87
	Totals by Segregation Category:		**0**	**0**	**0**	**129**	**8.8**
			0	**0**	**0**	**2900**	**49.3**

Component ID GRID 31

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	57.6	0
			0	0	0	229	0
B	PIPING (OVER 4")	METAL	0	0	0	96.4	0
			0	0	0	2190	0
	PIPING (2" AND LESS)	METAL	0	0	0	7.96	0
			0	0	0	70.4	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	7.78	0
			0	0	0	109	0
C	PIPING (OVER 4")	METAL	0	0	0	59.6	0
			0	0	0	1360	0
E	CLAY PIPING	OTHER	0	0	0	0	6.45
			0	0	0	0	92.1
I	WOOD	OTHER	0	0	0	0	66.2
			0	0	0	0	4420
	Totals by Segregation Category:		**0**	**0**	**0**	**229**	**72.7**
			0	**0**	**0**	**3960**	**4510**

002189

Component ID GRID 32

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	2.57	0
			0	0	0	22.7	0
	ELECTRICAL WIRING	METAL	0	0	0	0.36	0
			0	0	0	1.25	0
	PIPING (OVER 4")	METAL	0	0	0	60.4	0
			0	0	0	1370	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	7.67	0
			0	0	0	107	0
C	PIPING (OVER 4")	METAL	0	0	0	4.76	0
			0	0	0	108	0
E	CLAY PIPING	OTHER	0	0	0	0	2.97
			0	0	0	0	42.4
	CONCRETE	OTHER	0	0	0	0	48.9
			0	0	0	0	652
G	FEEDER CABLE	METAL	0	0	0	0	10.4
			0	0	0	0	36.3
I	PVC CONDUIT	OTHER	0	0	0	0	0.0514
			0	0	0	0	1.58
	Totals by Segregation Category:		**0**	**0**	**0**	**75.8**	**62.3**
			0	**0**	**0**	**1610**	**732**

Component ID GRID 33

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	0.423	0
			0	0	0	1.47	0
	PIPING (2" AND LESS)	METAL	0	0	0	1.16	0
			0	0	0	10.3	0
	PIPING (OVER 4")	METAL	0	0	0	6.05	0
			0	0	0	138	0
E	CLAY PIPING	OTHER	0	0	0	0	4.13
			0	0	0	0	59
G	FEEDER CABLE	METAL	0	0	0	0	3.81
			0	0	0	0	13.3
	Totals by Segregation Category:		**0**	**0**	**0**	**7.63**	**7.94**
			0	**0**	**0**	**150**	**72.3**

002162

Attachment B. III (Continued)

Component ID GRID 4 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
B	PIPING (OVER 4")	METAL	0	0	0	46	0
			0	0	0	1050	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	9.71	0
			0	0	0	136	0
	PIPING (2" AND LESS)	METAL	0	0	0	0.595	0
			0	0	0	5.26	0
	ELECTRICAL WIRING	METAL	0	0	0	4.19	0
			0	0	0	14.6	0
E	CLAY PIPING	OTHER	0	0	0	0	10.5
			0	0	0	0	150
	CONCRETE	OTHER	0	0	0	0	468
			0	0	0	0	6240
G	FEEDER CABLE	METAL	0	0	0	0	13.2
			0	0	0	0	45.9
I	PVC CONDUIT	OTHER	0	0	0	0	0.163
			0	0	0	0	5.02
	Totals by Segregation Category:		**0**	**0**	**0**	**60.5**	**492**
			0	**0**	**0**	**1210**	**6440**

Component ID GRID 5

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	2.31	0
			0	0	0	8.06	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	10.7	0
			0	0	0	150	0
	PIPING (OVER 4")	METAL	0	0	0	12.8	0
			0	0	0	292	0
C		METAL	0	0	0	12.1	0
			0	0	0	275	0
E	CLAY PIPING	OTHER	0	0	0	0	0.802
			0	0	0	0	11.5
	CONCRETE	OTHER	0	0	0	0	1990
			0	0	0	0	26500
G	FEEDER CABLE	METAL	0	0	0	0	8.64
			0	0	0	0	30.1
	Totals by Segregation Category:		**0**	**0**	**0**	**37.9**	**2000**
			0	**0**	**0**	**725**	**26500**

002164

Component ID GRID 6

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	ELECTRICAL WIRING	METAL	0	0	0	1.32	0
			0	0	0	4.61	0
	PIPING (OVER 4")	METAL	0	0	0	94.5	0
			0	0	0	2150	0
	PIPING (2" AND LESS)	METAL	0	0	0	2.76	0
			0	0	0	24.4	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	5.3	0
			0	0	0	74.2	0
C		METAL	0	0	0	2.96	0
			0	0	0	41.5	0
	PIPING (OVER 4")	METAL	0	0	0	31.8	0
			0	0	0	723	0
E	CONCRETE	OTHER	0	0	0	0	1670
			0	0	0	0	22200
	CLAY PIPING	OTHER	0	0	0	0	31.7
			0	0	0	0	452
G	FEEDER CABLE	METAL	0	0	0	0	16.4
			0	0	0	0	57
I	PVC PIPING	OTHER	0	0	0	0	0.0525
			0	0	0	0	12.2
	Totals by Segregation Category:		**0**	**0**	**0**	**139**	**1720**
			0	**0**	**0**	**3020**	**22700**

Component ID GRID 7

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (2" AND LESS)	METAL	0	0	0	2.52	0
			0	0	0	22.3	0
	ELECTRICAL WIRING	METAL	0	0	0	0.712	0
			0	0	0	2.48	0
	PIPING (2-1/2" TO 4")	METAL	0	0	0	8.19	0
			0	0	0	115	0
	PIPING (OVER 4")	METAL	0	0	0	48.9	0
			0	0	0	1110	0
C		METAL	0	0	0	11.9	0
			0	0	0	271	0
E	CONCRETE	OTHER	0	0	0	0	320
			0	0	0	0	4270
	CLAY PIPING	OTHER	0	0	0	0	15.3
			0	0	0	0	219
G	FEEDER CABLE	METAL	0	0	0	0	13.5
			0	0	0	0	47
I	PVC PIPING	OTHER	0	0	0	0	0.201
			0	0	0	0	46.7
	PVC CONDUIT	OTHER	0	0	0	0	0.215
			0	0	0	0	6.63
	Totals by Segregation Category:		**0**	**0**	**0**	**72.2**	**349**
			0	**0**	**0**	**1520**	**4590**

002186

Component ID GRID 8

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
B	PIPING (OVER 4")	METAL	0	0	0	12.8	0
			0	0	0	292	0
	ELECTRICAL WIRING	METAL	0	0	0	3.44	0
			0	0	0	12	0
E	CONCRETE	OTHER	0	0	0	0	74.3
			0	0	0	0	990
	CLAY PIPING	OTHER	0	0	0	0	22.9
			0	0	0	0	327
G	FEEDER CABLE	METAL	0	0	0	0	15.3
			0	0	0	0	53.2
I	PVC CONDUIT	OTHER	0	0	0	0	0.181
			0	0	0	0	5.56
	Totals by Segregation Category:		**0**	**0**	**0**	**16.2**	**113**
			0	**0**	**0**	**304**	**1380**

Component ID GRID 9 — **Segregation Category**

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	81.3	0
			0	0	0	324	0
B	ELECTRICAL WIRING	METAL	0	0	0	1.94	0
			0	0	0	6.76	0
	PIPING (OVER 4")	METAL	0	0	0	35	0
			0	0	0	796	0
E	CLAY PIPING	OTHER	0	0	0	0	24.2
			0	0	0	0	345
	CONCRETE	OTHER	0	0	0	0	122
			0	0	0	0	1630
G	FEEDER CABLE	METAL	0	0	0	0	6.68
			0	0	0	0	23.3
I	WOOD	OTHER	0	0	0	0	46.7
			0	0	0	0	3110
	Totals by Segregation Category:		**0**	**0**	**0**	**118**	**200**
			0	**0**	**0**	**1130**	**5110**

002108

Component ID P-004

Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
H	COPPER PILE	OTHER	0	0	0	1370	0
			0	0	0	47800	0
	Totals by Segregation Category:		**0**	**0**	**0**	**1370**	**0**
			0	**0**	**0**	**47800**	**0**

Component ID TS-001

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	44.3	0
			0	0	0	177	0
		PAINT	0	0	0	0.664	0
			0	0	0	7.1	0
B	DOORS	METAL	0	0	0	2.29	0
			0	0	0	119	0
	CONDUIT/WIRE (2-1/2" TO 4")	METAL	0	0	0	0.191	0
			0	0	0	1.75	0
	ELECTRICAL TRANSFORMERS	METAL	1	0	0	0	0
			40	0	0	0	0
	CONDUIT/WIRE (2-1/2" TO 4")	DUST	0	0	0	0.000612	0
			0	0	0	0.0131	0
	ELECTRICAL TRANSFORMERS	PAINT	0.000618	0	0	0	0
			0.00661	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.0556	0
			0	0	0	0.595	0
		METAL	0	0	0	5.19	0
			0	0	0	209	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.0352	0
			0	0	0	5.98	0
	HVAC EQUIPMENT	METAL	0	0	0	0.029	0
			0	0	0	8.99	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.00234	0
			0	0	0	0.025	0
	DOORS	PAINT	0	0	0	0.113	0
			0	0	0	1.2	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00103	0
			0	0	0	0.011	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0425	0
			0	0	0	28.1	0
I		OTHER	0	0	0	0.223	0
			0	0	0	147	0
	FABRIC ROOF	OTHER	0	0	0	1.67	0
			0	0	0	51.7	0
	FABRIC WALLS	OTHER	0	0	0	0.892	0
			0	0	0	27.6	0
	Totals by Segregation Category:		**1**	**0**	**0**	**55.7**	**0**
			40	**0**	**0**	**785**	**0**

002170

Component ID TS-002

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	66.5	0
			0	0	0	265	0
		PAINT	0	0	0	0.996	0
			0	0	0	10.7	0
B	HVAC EQUIPMENT	PAINT	0	0	0	0.00172	0
			0	0	0	0.0184	0
		METAL	0	0	0	0.0583	0
			0	0	0	15	0
	DOORS	METAL	0	0	0	2.29	0
			0	0	0	119	0
		PAINT	0	0	0	0.113	0
			0	0	0	1.2	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0551	0
			0	0	0	36.4	0
I	FABRIC ROOF	OTHER	0	0	0	2.5	0
			0	0	0	77.5	0
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.289	0
			0	0	0	191	0
	FABRIC WALLS	OTHER	0	0	0	1.17	0
			0	0	0	36.2	0
	Totals by Segregation Category:		**0**	**0**	**0**	**74**	**0**
			0	**0**	**0**	**752**	**0**

Component ID TS-003 — Segregation Category

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	12.9	0
			0	0	0	51.4	0
		PAINT	0	0	0	0.193	0
			0	0	0	2.07	0
B	DOORS	METAL	0	0	0	1.35	0
			0	0	0	70	0
		PAINT	0	0	0	0.0661	0
			0	0	0	0.707	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0115	0
			0	0	0	7.59	0
I		OTHER	0	0	0	0.0602	0
			0	0	0	39.8	0
	FABRIC ROOF	OTHER	0	0	0	0.5	0
			0	0	0	15.5	0
	FABRIC WALLS	OTHER	0	0	0	0.358	0
			0	0	0	11.1	0
	Totals by Segregation Category:		**0**	**0**	**0**	**15.4**	**0**
			0	**0**	**0**	**198**	**0**

002172

Attachment B. III (Continued)

Component ID TS-004

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	1.48	0
			0	0	0	15.8	0
		METAL	0	0	0	98.5	0
			0	0	0	392	0
B	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
		PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0444	0
			0	0	0	0.475	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00321	0
			0	0	0	0.0343	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.122	0
			0	0	0	1.3	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.668	0
			0	0	0	113	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00125	0
			0	0	0	0.0133	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	11.4	0
			0	0	0	459	0
	DOORS	PAINT	0	0	0	0.0781	0
			0	0	0	0.835	0
		METAL	0	0	0	1.59	0
			0	0	0	82.7	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.72	0
			0	0	0	10	0
		DUST	0	0	0	0.0161	0
			0	0	0	0.345	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.189	0
			0	0	0	7.99	0
	HVAC EQUIPMENT	METAL	0	0	0	0.107	0
			0	0	0	28	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0505	0
			0	0	0	33.4	0
I		OTHER	0	0	0	0.265	0
			0	0	0	175	0
	FABRIC WALLS	OTHER	0	0	0	0	1.54
			0	0	0	0	47.8
	FABRIC ROOF	OTHER	0	0	0	0	3.62
			0	0	0	0	112
	Totals by Segregation Category:		**1.5**	**0**	**0**	**116**	**5.16**
			60	**0**	**0**	**1320**	**160**

Component ID TS-005

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	PAINT	0	0	0	1.48	0
			0	0	0	15.8	0
		METAL	0	0	0	98.5	0
			0	0	0	392	0
B	ELECTRICAL TRANSFORMERS	METAL	1.5	0	0	0	0
			60	0	0	0	0
	ELECTRICAL FIXTURES	METAL	0	0	0	0.668	0
			0	0	0	113	0
	HVAC EQUIPMENT	METAL	0	0	0	0.207	0
			0	0	0	28	0
	ELECTRICAL EQUIPMENT	PAINT	0	0	0	0.00125	0
			0	0	0	0.0133	0
	MISCELLANEOUS ELECTRICAL ITEMS	PAINT	0	0	0	0.122	0
			0	0	0	1.3	0
	ELECTRICAL FIXTURES	PAINT	0	0	0	0.0444	0
			0	0	0	0.475	0
	ELECTRICAL TRANSFORMERS	PAINT	0.00081	0	0	0	0
			0.00867	0	0	0	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	11.4	0
			0	0	0	459	0
	DOORS	PAINT	0	0	0	0.109	0
			0	0	0	1.16	0
		METAL	0	0	0	2.21	0
			0	0	0	115	0
	CONDUIT/WIRE (2" AND LESS)	METAL	0	0	0	1.72	0
			0	0	0	10	0
		DUST	0	0	0	0.0161	0
			0	0	0	0.345	0
	HVAC EQUIPMENT	PAINT	0	0	0	0.00321	0
			0	0	0	0.0343	0
	ELECTRICAL EQUIPMENT	METAL	0	0	0	0.229	0
			0	0	0	7.99	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0505	0
			0	0	0	33.4	0
I		OTHER	0	0	0	0.265	0
			0	0	0	175	0
	FABRIC WALLS	OTHER	0	0	0	0	1.54
			0	0	0	0	47.8
	FABRIC ROOF	OTHER	0	0	0	0	3.62
			0	0	0	0	112
	Totals by Segregation Category:		**1.5**	**0**	**0**	**117**	**5.16**
			60	**0**	**0**	**1350**	**160**

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Component ID TS-006

Material Category	Material Description	CW Type	PCB Waste Wgt (tons) Vol (cu ft)	Hazardous Wgt (tons) Vol (cu ft)	Mixed Wgt (tons) Vol (cu ft)	Low Level Wgt (tons) Vol (cu ft)	Below Baseline Wgt (tons) Vol (cu ft)
			Segregation Category				
A	STRUCTURAL AND MISC. STEEL	METAL	0	0	0	10.8	0
			0	0	0	43.2	0
		PAINT	0	0	0	0.162	0
			0	0	0	1.74	0
B	ELECTRICAL TRANSFORMERS	PAINT	0.00039	0	0	0	0
			0.00417	0	0	0	0
	CONDUIT/WIRE (2" AND LESS)	DUST	0	0	0	0.00311	0
			0	0	0	0.0664	0
		METAL	0	0	0	0.332	0
			0	0	0	1.93	0
	DOORS	METAL	0	0	0	1.05	0
			0	0	0	54.5	0
		PAINT	0	0	0	0.0514	0
			0	0	0	0.55	0
	HVAC EQUIPMENT	METAL	0	0	0	0.0598	0
			0	0	0	2	0
		PAINT	0	0	0	0.000229	0
			0	0	0	0.00245	0
	MISCELLANEOUS ELECTRICAL ITEMS	METAL	0	0	0	1.24	0
			0	0	0	49.9	0
		PAINT	0	0	0	0.0132	0
			0	0	0	0.142	0
	ELECTRICAL TRANSFORMERS	METAL	0.5	0	0	0	0
			20	0	0	0	0
H	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0161	0
			0	0	0	10.6	0
I	FABRIC WALLS	OTHER	0	0	0	0	0.183
			0	0	0	0	5.68
	FABRIC ROOF	OTHER	0	0	0	0	0.417
			0	0	0	0	12.9
	PERSONAL PROTECTIVE EQUIPMENT	OTHER	0	0	0	0.0843	0
			0	0	0	55.8	0
	Totals by Segregation Category:		**0.5**	**0**	**0**	**13.8**	**0.6**
			20	**0**	**0**	**220**	**18.6**

ATTACHMENT B.IV

CALCULATIONS FOR DETERMINATION OF CONTAMINATED WEIGHT OF OU3 MATERIALS

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ATTACHMENT B.IV

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B.IV Calculations for Determination of Contaminated Weight of OU3 Materials B.IV-1

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B.IV	Calculation Details for Contaminated Weights

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B.IV CALCULATIONS FOR DETERMINATION OF CONTAMINATED WEIGHT OF OU3 MATERIALS

This attachment provides the calculations used to determine the weight of contaminated material.

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Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Acid Brick (4" Thick)			1315200		1315200
Assumptions:					
Total Volume of Acid Brick (sq.ft) <Takeoff_Quantity>	62075.8				
==> Acid Brick Thickness (in.)	4				
==> Total Volume (cu.ft)		20691.9333			
Total Volume of Acid Brick (cu.ft.) <Unbulked_Volume>	20691.9				
Density of Acid Brick (lb/cu.ft.)	140				
==> Weight of Acid Brick (lb) =		2896866			
==> Mass of Acid Brick (Kg) =		1315200			
Asphalt (4" Thick)			20313300		20313300
Assumptions:					
Total Volume of Asphalt (cu.yd) <Takeoff_Quantity>	20458.6				
==> Asphalt Thickness (in.)	4				
==> Total Surface Area (sq.ft)		1657146.6			
Total Volume of Asphalt (cu.ft.) <Unbulked_Volume>	552383.33	552382.2			
Density of Asphalt (lb/cu.ft.)	81				
==> Weight of Asphalt (lb) =		44743049.7			
==> Mass of Asphalt (Kg) =		20313300			
Building Insulation: 2" Thick (10% contaminated)			317300		317300
Assumptions:					
Total Area of Insulation (sq.ft.)	931802.5				
Percent of Total Area Contaminated	100				
==> Total Area Contaminated (sq.ft.)		931802.5			
Density of Insulation (lb/sq.ft.)	0.75				
==> Weight of Insulation (lb) =		698851.875			
==> Mass of Insulation (Kg) =		317300			
Ceiling Demolition			133500		133500
Assumptions:					
Total Area of Demolition (sq.ft.)	196046				
Density of Ceiling Material (lb/sq.ft.)	1.5				
==> Weight of Insulation (lb) =		294069			
==> Mass of Insulation (Kg) =		133500			
Clay Piping - 10" ID					502400
Volume and Weight of Clay Piping				502400	
Assumptions:					
Total Length of Clay Piping (LF) ==> <Takeoff_Quantity>	93222				
Average Clay Piping Diameter (in)	10				
Clay Piping Thickness (in)	0.75				
==> Unit Surface Area of Clay Piping - (sq.ft./LF)	2.5				
==> Total Surface Area of Clay Piping (sq.ft.) =		233055			
==> Total Volume Clay Piping w/o Void Space		10074.7734			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	7912.7				
Clay Piping Weight Factor (lbs/ln.ft) =	140				
Weight of Piping (tons) ==> <Weight>	553.29	553.889			
==> Total Mass of Piping (Kg) =		502400			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mater (Kg)
Concrete (incl. beams, columns, walls and slabs): Top 1/2"			15739300		
Assumptions:					
Total Volume (cu.ft.) <Takeoff_Quantity>	3697928.72				
Average Thickness (in)	8				
Total Surface Area of Walls - one side (sq.ft.) =		5546893.08			
Thickness of Contamination in Walls (in)	0.5				
==> Total Volume of Contamination in Walls (cu.ft.) =		231120.545			
Density of Walls (lb/cu.ft.)	150				
==> Weight of Contamination in Walls (lb) =		34668081.8			
==> Mass of Contamination in Walls (Kg) =		15739300			
Concrete (incl. beams, columns, walls and slabs) - 0.5 -1"			15739300		
Assumptions:					
Total Volume (cu.ft.)	3697928.72				
Average Thickness (in)	8				
Total Surface Area of Walls - one side (sq.ft.) =		5546893.08			
Thickness of Contamination in Walls (in)	0.5				
==> Total Volume of Contamination in Walls (cu.ft.) =		231120.545			
Density of Walls (lb/cu.ft.)	150				
==> Weight of Contamination in Walls (lb) =		34668081.8			
==> Mass of Contamination in Walls (Kg) =		15739300			
Concrete (incl. beams, columns, walls and slabs) - 1" -4"			94435900		
Assumptions:					
Total Volume (cu.ft.)	3697928.72				
Average Thickness (in)	8				
Total Surface Area of Walls - one side (sq.ft.) =		5546893.08			
Thickness of Contamination in Walls (in)	3				
==> Total Volume of Contamination in Walls (cu.ft.) =		1386723.27			
Density of Walls (lb/cu.ft.)	150				
==> Weight of Contamination in Walls (lb) =		208008491			
==> Mass of Contamination in Walls (Kg) =		94435900			
Concrete (incl. beams, columns, walls and slabs) - 4" - 8"			125914500		251829000
Assumptions:					
Total Volume (cu.ft.)	3697928.72				
Average Thickness (in)	8				
Total Surface Area of Walls - one side (sq.ft.) =		5546893.08			
Thickness of Contamination in Walls (in)	4				
==> Total Volume of Contamination in Walls (cu.ft.) =		1848964.36			
Density of Walls (lb/cu.ft.)	150				
==> Weight of Contamination in Walls (lb) =		277344654			
==> Mass of Contamination in Walls (Kg) =		125914500			

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Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Conduit/Wire: 2" and Less					970500
Metal Volume and Weight of Conduit/Wire				961600	
Assumptions:					
Total Length of Conduit (LF) ==> <Takeoff_Quantity>	962596				
Average Conduit Diameter (in)	2				
==> Unit Surface Area of Conduit - (sq.ft./LF)	0.524				
==> Total Surface Area of Conduit (sq.ft.) =		504400.304			
Total Volume of Conduit (cu.ft.) ==> <Unbulked_Volume>	6300				
Conduit Weight Factor (lbs/ln.ft) =	2.2				
Weight of Conduit (tons) ==> <Weight>	1059	1058.8556			
==> Total Mass of Conduit(Kg) =		961600			
Dust on Outside of Conduit					
Assumptions:					
Total Length of Conduit (LF)	962596		8900		
Average Conduit Diameter (in)	2				
==> Unit Surface Area of Conduit (sq.ft./LF)	0.524				
==> Total Surface Area of Pipe (sq.ft.) =		504400.304			
Thickness of Dust (mil)	5				
==> Total Volume of Dust (cu.ft.) =		210.166793			
Density of Dust (lb/cu.ft.)	93.5				
==> Weight of Dust (lb) =		19650.5952			
==> Mass of Dust (Kg) =		8900			
Conduit/Wire: 2-1/2" to 4"					538300
Metal Volume and Weight of Conduit/Wire				536600	
Assumptions:					
Total Length of Conduit (LF) ==> <Takeoff_Quantity>	92410				
Average Conduit Diameter (in)	4				
==> Unit Surface Area of Conduit - (sq.ft./LF)	1.047				
==> Total Surface Area of Conduit (sq.ft.) =		96753.27			
Total Volume of Conduit (cu.ft.) ==> <Unbulked_Volume>	1978				
Conduit Weight Factor (lbs/ln.ft) =	12.8				
Weight of Conduit (tons) ==> <Weight>	591	591.424			
==> Total Mass of Conduit (Kg) =		536600			
Dust on Outside of Conduit					
Assumptions:					
Total Length of Conduit (LF)	92410		1700		
Average Conduit Diameter (in)	4				
==> Unit Surface Area of Conduit (sq.ft./LF)	1.047				
==> Total Surface Area of Pipe (sq.ft.) =		96753.27			
Thickness of Dust (mil)	5				
==> Total Volume of Dust (cu.ft.) =		40.3138625			
Density of Dust (lb/cu.ft.)	93.5				
==> Weight of Dust (lb) =		3769.34614			
==> Mass of Dust (Kg) =		1700			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Conduit/Wire/Cable Tray: Over 4"					149300
Metal Volume and Weight of Conduit/Wire				148900	
Assumptions:					
Total Length of Conduit (LF) ==> <Takeoff_Quantity>	12089				
Average Conduit Diameter (in)	8				
==> Unit Surface Area of Conduit - (sq.ft./LF)	2.094				
==> Total Surface Area of Conduit (sq.ft.) =		25314.366			
Total Volume of Conduit (cu.ft.) ==> <Unbulked_Volume>	1978				
Conduit Weight Factor (lbs/ln.ft) =	27.2				
Weight of Conduit(tons) ==> <Weight>	164	164.4104			
==> Total Mass of Conduit(Kg) =		148900			
Dust on Outside of Conduit					
Assumptions:			400		
Total Length of Conduit (LF)	12089				
Average Conduit Diameter (in)	8				
==> Unit Surface Area of Conduit (sq.ft./LF)	2.094				
==> Total Surface Area of Pipe (sq.ft.) =		25314.366			
Thickness of Dust (mil)	5				
==> Total Volume of Dust (cu.ft.) =		10.5476525			
Density of Dust(lb/cu.ft.)	93.5				
==> Weight of Dust (lb) =		986.205509			
==> Mass of Dust (Kg) =		400			
Doors					
Metal Volume and Weight of Doors				185600	194300
Assumptions:					
Total Area of Doors (sq.ft) ==> <Takeoff_Quantity>	61322.4				
Average Door Thickness (in)	2				
==> Total Volume of Doors (cu.ft.) =		10220.4			
Total Volume of Doors (cu.ft.) ==> <Unbulked_Volume>	10220.4				
==> Total weight factor (lbs/cu,ft) =	40				
Weight of Doors (tons) ==> <Weight>	204.4	204.408			
==> Total Mass of Doors (Kg) =		185600			
Paint on Outside of Door			8700		
Assumptions:					
Total Area of Doors - 2 sides (sq.ft.)	122644.8				
Thickness of Paint on Doors (mil)	10				
==> Total Volume of Paint (cu.ft.) =		102.204			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		19112.148			
==> Mass of Paint (Kg) =		8700			

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Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Drywall (Gypsum Board) (3/4" Thick)			488700		488700
Assumptions:					
Total Volume of Drywall (sq.ft) <Takeoff_Quantity>	326162.64				
==> Drywall Thickness (in.)	0.75				
==> Total Volume (cu.ft)		20385.165			
Total Volume of Drywall (cu.ft.) <Unbulked_Volume>	20385.165				
Weight Factor of Drywall (lb/sq.ft.)	3.3				
==> Weight of Drywall (lb) =		1076336.71			
==> Mass of Drywall (Kg) =		488700			
Ductwork					876766
Metal Volume and Weight of Ductwork				808100	
Assumptions:					
Total Area of Ductwork (sq.ft) ==> <Takeoff_Quantity>	647043				
Average Ductwork Thickness (in)	0.0598				
==> Unit Surface Area of Duct (sq.ft./LF)	7				
==> Total Linear Feet of Ductwork (ln.ft.) =		92434.7143			
==> Total Volume of Ductwork (cu.ft.) =		3224.43095			
Total Volume of Duct (cu.ft.) ==> <Unbulked_Volume>	3224.43095				
==> Total weight factor (lbs/sq,ft) =	2.75				
Weight of Ductwork (tons) ==> <Weight>	890	889.684125			
==> Total Mass of Ductwork (Kg) =		808100			
Dust on Inside of Ductwork			22889		
Assumptions:					
Total Area of Ductwork (sq.ft) <Takeoff_Quantity>	647043				
Thickness of Dust (mil)	10				
==> Total Volume of Dust (cu.ft.) =		539.2025			
Density of Dust (lb/cu.ft.)	93.5				
==> Weight of Dust (lb) =		50415.4338			
==> Mass of Dust (Kg) =		22889			
Paint on Outside of Ductwork			45777		
Assumptions:					
Total Area of Ductwork (sq.ft) <Takeoff_Quantity>	647043				
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		539.2025			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		100830.868			
==> Mass of Paint (Kg) =		45777			
Ductwork Insulation (HVAC, Ductwork & Process): 1" Thick			11000		11000
Assumptions:					
Total Area of Insulation - 1" Thick (sq.ft.)	64704				
==> Total Volume of Insulation (cu.ft.) =		5392			
Density of Insulation (lb/cu.ft.)	4.5				
==> Weight of Insulation (lb) =		24264			
==> Mass of Insulation (Kg) =		11000			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Electrical Equipment					1027200
Assumptions:				1012300	
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	105225.5				
Total Weight of Items (tons) <Weight>	1114.859				
==> Total Mass of Items (Kg) =		1012300			
Paint on Outside of Items			14900		
Assumptions:					
Total Volume of Equipment (cu.ft.)	105225.5				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	2				
==> Total Surface Area of Equipment (sq.ft.)		210451			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.)		175.375833			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		32795.2808			
==> Mass of Paint (Kg) =		14900			
Electrical Fixtures					157100
Assumptions:				147900	
Total Number of Fixtures	13031.5				
Total Volume of Fixtures <Unbulked_Volume> (cu.ft.)	26063				
==> Average Volume per Fixture (cu.ft.) =		2			
Average Weight per Fixture (lbs)	25				
Total Weight of Fixtures (tons) <Unbulked_Volume>	162.9	162.89375			
==> Total Mass of Fixtures (Kg) =		147900			
Paint on Outside of Fixtures					
Average Surface Area per Fixture (sq.ft.)	10		9200		
==> Total Surface Area of Fixtures (sq.ft.) =		130315			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		108.595833			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		20307.4208			
==> Mass of Paint (Kg) =		9200			
Electrical Transformers				303300	303600
Assumptions:					
Total Weight of Items (tons) <Weight>	334				
==> Total Mass of Items (Kg) =		303300			
Paint on Outside of Items					
Total Volume of Transformers <Unbulked_Volume>(cu.ft.)	12649.9		300		
***** ==> Total Surface Area of Items (sq.ft.) =	4764	2714.53054			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		3.97			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		742.39			
==> Mass of Paint (Kg) =		300			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Electrical Wiring - 1" - OD					53600
Volume and Weight of Electrical Wiring				53600	
Assumptions:					
Total Length of Electrical Wiring (LF) ==> <Takeoff_Quantit	37707.5				
Average Electrical Wiring Diameter (in)	1				
==> Unit Surface Area of Electrical Wiring - (sq.ft./LF)	0.33333333				
==> Total Surface Area of Electrical Wiring (sq.ft.) =		12569.1667			
==> Total Volume Electrical Wiring w/o Void Space		21719520			
Total Volume of Electrical Wiring (cu.ft.) ==> <Unbulked_Vo	205.7				
Electrical Wiring Weight Factor (lbs/ln.ft) =	574				
Weight (tons) ==> <Weight>	59	59.0359			
==> Total Mass of Piping (Kg) =		53600			
Equipment and Miscellaneous -(Equipment)					3419200
Assumptions:				3405300	
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	150014				
Total Weight of Items (tons) <Weight>	3750.35				
==> Total Mass of Items (Kg) =		3405300			
Paint on Outside of Items					
Assumptions:			13900		
Total Volume of Equipment (cu.ft.)	150014				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	1.31				
==> Total Surface Area of Equipment (sq.ft.)		196518.34			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.)		163.765283			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		30624.108			
==> Mass of Paint (Kg) =		13900			
Exterior Metal Wall Panels - 26 Gauge				132400	151200
Metal Volume and Weight of Exterior Metal Wall Panels					
Assumptions:					
Total Area of Ext. Metal Panels(sq.ft) ==> <Takeoff_Quantit	265190				
Average Metal Wall Panel Thickness (in)	0.0198				
==> Total Volume of Int. Metal Panel (cu.ft.) =		437.5635			
Percent Volume Increase due to corrugation	35				
==> Panel Volume (cu.ft.)		590.710725			
Total Volume of Exterior Metal Wall Panels (cu.ft.) ==> <Un	590.7				
==> Total weight factor (lbs/sq,ft) =	1.1				
Weight of Exterior Metal Wall Panel(tons) ==> <Weight>	145.8	145.8545			
==> Total Mass of Panel (Kg) =		132400			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Paint on One side of Metal Panel			18800		
Assumptions:					
Total Surface Area of Panels (sq.ft.)	265190				
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		220.991667			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		41325.4417			
==> Mass of Paint (Kg) =		18800			
Exterior Transite Panels: 7/16" Thick			891800		891800
Assumptions:					
Total Surface Area of Panels (sq.ft.)	479123.8				
Density of Panels (lb/sq.ft.)	4.1				
==> Weight of Panels (lb) =		1964407.58			
==> Mass of Panels (Kg) =		891800			
Fabric -31 mil Thickness			1000		1000
Assumptions:					
Total Volume of Fabric (sq.ft) <Takeoff_Quantity>	13829				
==> Fabric Thickness (in.)	0.031				
==> Total Volume (cu.ft)		35.7249167			
Total Volume of Fabric (cu.ft.) <Unbulked_Volume>	35.7				
Weight Factor of Fabric (oz/sq.yd.)	24				
==> Weight of Fabric (lb) =		2304.83333			
==> Mass of Fabric (Kg) =		1000			
Fabric Roof - 31 mil Thickness			11200		11200
Assumptions:					
Total Volume of Fabric Roof (sq.ft) <Takeoff_Quantity>	148000				
==> Fabric Roof Thickness (in.)	0.031				
==> Total Volume (cu.ft)		382.333333			
Total Volume of Fabric Roof (cu.ft.) <Unbulked_Volume>	382.3				
Weight Factor of Fabric Roof (oz/sq.yd.)	24				
==> Weight of Fabric Roof (lb) =		24666.6667			
==> Mass of Fabric Roof (Kg) =		11200			
Fabric Walls - 31 mil Thickness			5200		5200
Assumptions:					
Total Volume of Fabric Walls (sq.ft) <Takeoff_Quantity>	68200				
==> Fabric Walls Thickness (in.)	0.031				
==> Total Volume (cu.ft)		176.183333			
Total Volume of Fabric Walls (cu.ft.) <Unbulked_Volume>	176.18				
Weight Factor of Fabric Walls (oz/sq.yd.)	24				
==> Weight of Fabric Walls (lb) =		11366.6667			
==> Mass of Fabric Walls (Kg) =		5200			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Feeder Cable - 1.7" - OD					291200
Volume and Weight of Feeder Cable				291200	
Assumptions:					
Total Length of Feeder Cable (LF) ==> <Takeoff_Quantity>	70903				
Average Feeder Cable Diameter (in)	1.7				
==> Unit Surface Area of Feeder Cable - (sq.ft./LF)	0.56666667				
==> Total Surface Area of Feeder Cable (sq.ft.) =		40178.3667			
==> Total Volume Feeder Cable w/o Void Space		14293291.4			
Total Volume of Cable (cu.ft.) ==> <Unbulked_Volume>	1117.6				
Feeder Cable Weight Factor (lbs/ln.ft) =	574				
Weight of Cable (tons) ==> <Weight>	320.75	320.7512			
==> Total Mass of Cable (Kg) =		291200			
Fire Brick (4" Thick)			355300		355300
Assumptions:					
Total Volume of Fire Brick (sq.ft) <Takeoff_Quantity>	16770				
==> Fire Brick Thickness (in.)	4				
==> Total Volume (cu.ft)		5590			
Total Volume of Fire Brick (cu.ft.) <Unbulked_Volume>	5590				
Density of Fire Brick (lb/cu.ft.)	140				
==> Weight of Fire Brick (lb) =		782600			
==> Mass of Fire Brick (Kg) =		355300			
Floor Tile (1/4" Thick)			162100		162100
Assumptions:					
Total Volume of Floor Tile (sq.ft) <Takeoff_Quantity>	178531				
==> Floor Tile Thickness (in.)	0.25				
==> Total Volume (cu.ft)		3719.39583			
Total Volume of Floor Tile (cu.ft.) <Unbulked_Volume>	3719.39				
Weight Factor of Floor Tile (lb/sq.ft.)	2				
==> Weight of Floor Tile (lb) =		357062			
==> Mass of Floor Tile (Kg) =		162100			
HVAC Equipment (Equipment Type 2)					348900
Assumptions:				341500	
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	71512.35				
Total Weight of Items (tons) <Weight>	376.1				
==> Total Mass of Items (Kg) =		341500			
Paint on Outside of Items			7400		
Assumptions:					
Total Volume of Type 2 Equipment (cu.ft.)	71512.35				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	1.47				
==> Total Surface Area of Equipment (sq.ft.)		105123.155			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.)		87.6026288			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		16381.6916			
==> Mass of Paint (Kg) =		7400			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Interior Metal Wall Panels - Process Areas: 26 Gauge				20400	23300
Metal Volume and Weight of Panels					
Assumptions:					
Total Area of Int. Metal Panels(sq.ft) ==> <Takeoff_Quantity	40909				
Average Thickness (in)	0.0198				
==> Total Volume of Int. Metal Panel (cu.ft.) =		67.49985			
Percent Volume Increase due to corrugation	35				
==> Panel Materials Volume (cu.ft.)		91.1247975			
Total Volume of Interior Metal Wall Panel (cu.ft.) ==> <Unbu	91				
==> Total weight factor (lbs/sq,ft) =	1.1				
Weight of Panel (tons) ==> <Weight>	22.5	22.49995			
==> Total Mass of Panel (Kg) =		20400			
Paint on One side of Metal Panel			2900		
Assumptions:					
Total Surface Area of Panels (sq.ft.)	40909				
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		34.0908333			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		6374.98583			
==> Mass of Paint (Kg) =		2900			
Interior Transite Panels: 1/4" Thick			617700		617700
Assumptions:					
Total Surface Area of Panels (sq.ft.)	591570.8				
Density of Panels (lb/sq.ft.)	2.3				
==> Weight of Panels (lb) =		1360612.84			
==> Mass of Panels (Kg) =		617700			
Lead Flashing: 1/8" Thick					15800
Metal Volume and Weight of Lead Flashing				15800	
Assumptions:					
Total weight of Lead Flashing (lbs) ==> <Takeoff_Quantity>	35090				
Total Volume of Flashing (cu.ft.) ==> <Unbulked_Volume>	49.42				
Average lead Flashing Thickness (in) <1/8">	0.125				
==> Surface Area of Lead Flashing (sq.ft.)		0.5			
==> Total weight factor (lbs/cu,ft) =	700				
Weight of Flashing (tons) ==> <Weight>	17.42	17.297			
==> Total Mass of Flashing (Kg) =		15800			
Louvers					28100
Metal Volume and Weight of Louvers				26800	
Assumptions:					
Total Area of Louvers (sq.ft) ==> <Takeoff_Quantity>	8861				
Total Volume of Louvers (cu.ft.) ==> <Unbulked_Volume>	1476.83				
==> Average thickness of each louver (in.) =		1.99999549			
Weight of Louvers (tons) ==> <Weight>	29.54				
==> Total Mass of Louvers (Kg) =		26800			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Paint on Outside of Louvers			1300		
Assumptions:					
Total Area of Louvers - 2 sides (sq.ft.)	17722				
Thickness of Paint on Louvers (mil)	10				
==> Total Volume of Paint (cu.ft.) =		14.7683333			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		2761.67833			
==> Mass of Paint (Kg) =		1300			
Masonry (Masonry and Masonry Walls): Top 0.5"			424900		
Assumptions:					
Total Surface Area of Walls (sq.ft.)	408429.887				
Thickness of Walls (in)	8				
==> Total Volume of Walls (cu.ft.) =		272286.591			
Thickness of Contamination in Walls (in)	0.5				
==> Total Volume of Contamination in Walls (cu.ft.) =		17017.912			
Density of Walls (lb/cu.ft.)	55				
==> Weight of Contamination in Walls (lb) =		935985.158			
==> Mass of Contamination in Walls (Kg) =		424900			
Masonry (Masonry and Masonry Walls): 0.5" - 1"			424900		
Assumptions:					
Total Surface Area of Walls (sq.ft.)	408429.887				
Thickness of Walls (in)	8				
==> Total Volume of Walls (cu.ft.) =		272286.591			
Thickness of Contamination in Walls (in)	0.5				
==> Total Volume of Contamination in Walls (cu.ft.) =		17017.912			
Density of Walls (lb/cu.ft.)	55				
==> Weight of Contamination in Walls (lb) =		935985.158			
==> Mass of Contamination in Walls (Kg) =		424900			
Masonry (Masonry and Masonry Walls): 1" - 3"			2549600		
Assumptions:					
Total Surface Area of Walls (sq.ft.)	408429.887				
Thickness of Walls (in)	8				
==> Total Volume of Walls (cu.ft.) =		272286.591			
Thickness of Contamination in Walls (in)	3				
==> Total Volume of Contamination in Walls (cu.ft.) =		102107.472			
Density of Walls (lb/cu.ft.)	55				
==> Weight of Contamination in Walls (lb) =		5615910.95			
==> Mass of Contamination in Walls (Kg) =		2549600			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Masonry (Masonry and Masonry Walls): 4" - 8"			3399500		6798900
Assumptions:					
Total Surface Area of Walls (sq.ft.)	408429.887				
Thickness of Walls (in)	8				
==> Total Volume of Walls (cu.ft.) =		272286.591			
Thickness of Contamination in Walls (in)	4				
==> Total Volume of Contamination in Walls (cu.ft.) =		136143.296			
Density of Walls (lb/cu.ft.)	55				
==> Weight of Contamination in Walls (lb) =		7487881.26			
==> Mass of Contamination in Walls (Kg) =		3399500			
Material Handling Equipment					656100
Assumptions:				648900	
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	114527				
Total Weight of Items (tons) <Weight>	714.69				
==> Total Mass of Items (Kg) =		648900			
Paint on Outside of Items			7200		
Assumptions:					
Total Volume of Equipment (cu.ft.)	114527				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	0.89				
==> Total Surface Area of Equipment (sq.ft.)		101929.03			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.)		84.9408583			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		15883.9405			
==> Mass of Paint (Kg) =		7200			
Metal Panel Roofing - 26 Gauge					159500
Metal Volume and Weight ofMetal Panel roofing				139700	
Assumptions:					
Total Area of Roofing Metal Panels(sq.ft) ==> <Takeoff_Qu	279898				
Average Metal Panel Roofing Thickness (in)	0.0198				
==> Total Volume of Int. Metal Panel (cu.ft.) =		461.8317			
Percent Volume Increase due to corrugation	35				
==> Panel & Corrugation Materials Volume (cu.ft.)		623.472795			
Total Volume of Metal Panel (cu.ft.) ==> <Unbulked_Volum	623.5				
==> Total weight factor (lbs/sq,ft) =	1.1				
Weight of Metal Panel (tons) ==> <Weight>	153.9	153.9439			
==> Total Mass of Metal Panel (Kg) =		139700			
Paint on One side of Metal Panel			19800		
Assumptions:					
Total Surface Area of Panels (sq.ft.)	279898				
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		233.248333			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		43617.4383			
==> Mass of Paint (Kg) =		19800			

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Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Miscellaneous Debris (incl. basin liners, personnel protection equipment, pvc conduit, and pvc piping)					
Miscellaneous Electrical Items - (Electrical)				376600	380600
Assumptions:					
Total Number of Items	1659				
Aver ==> Average Volume per Item (cu.ft) =	10				
Total Volume of Items (cu.ft.) <Unbulked_Volume>	16590	16590			
Average Weight per unit volume (lbs/cu.ft)	50				
Total Weight of Items (tons) <Weight>	414.75	414.75			
==> Total Mass of Items (Kg) =		376600			
Paint on Outside of Items			4000		
Total Volume of Items (cu.ft.) <Unbulked_Volume>	16590				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	3.4				
==> Total Surface Area of Items (sq.ft.) =		56406			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		47.005			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		8789.935			
==> Mass of Paint (Kg) =		4000			
Piping: 2" and Less - Process Area (Cat. 3 & 4)					934990
Metal Volume and Weight of Piping				857890	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	320273				
Average Pipe Diameter (in)	2				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		2.0816E-06			
==> Piping Volume (cu.ft.)		1112.05903			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		1334.47083			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	8385				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		3.88331492			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	0.622				
==> Total Surface Area of Pipe (sq.ft.) =		199200			
Weight of Piping (tons) ==> <Weight>	944.81				
==> Total Mass of Piping (Kg) =		857890			
Crystalized UNH on Inside of Pipe			66600		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	8385				
Percent Contaminated Layer of Total Volume	10				
==> Total Volume UNH (cu.ft.) =		838.5			
Density of Contaminated Layer (lb/cu.ft.)	175				
==> Total Weight of UNH (tons) =		73.36875			
==> Total Mass of UNH (Kg) =		66600			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mater (Kg)
Contamination Layer on Outside of Pipe (Dust)			3400		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	311604				
Nominal Pipe Diameter (in)	3.88331492				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	0.622				
==> Total Surface Area of Pipe (sq.ft.) =		193800			
Thickness of Dust Layer (mil)	5				
==> Total Volume of Contamination Layer (cu.ft.) =		80.75			
Density of Dust Layer (lb/cu.ft.)	93.5				
==> Weight of Contamination Layer (lb) =		7550.125			
==> Mass of Contamination Layer (Kg) =		3400			
Corrosion/Rust Layer on Inside of Pipe (CRUD)			7100		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	8385				
Percent volume of CRUD Layer (mil)	1				
==> Total Volume of CRUD (cu.ft.) =		83.85			
Density of CRUD Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		15679.95			
==> Mass of Contamination Layer (Kg) =		7100			
Piping: 2-1/2" To 4" - Process Area (Cat. 3 & 4)					1006
Metal Volume and Weight of Piping				884390	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	129822				
Average Pipe Diameter (in)	4				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		43274			
==> Piping Volume (cu.ft.)		14424.6667			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		17309.6			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	13595				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		3.8832621			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	1.178				
==> Total Surface Area of Pipe (sq.ft.) =		152900			
Weight of Piping (tons) ==> <Weight>	974				
==> Total Mass of Piping (Kg) =		884390			
Crystalized UNH on Inside of Pipe			108000		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	13595				
Percent Contaminated Layer of Total Volume	10				
==> Total Volume UNH (cu.ft.) =		1359.5			
Density of Contaminated Layer (lb/cu.ft.)	175				
==> Total Weight of UNH (tons) =		118.95625			
==> Total Mass of UNH (Kg) =		108000			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Contamination Layer on Outside of Pipe (Dust)			2500		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	121412				
Nominal Pipe Diameter (in)	3.8832621				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	1.178				
==> Total Surface Area of Pipe (sq.ft.) =		143000			
Thickness of Dust Layer (mil)	5				
==> Total Volume of Contamination Layer (cu.ft.) =		59.5833333			
Density of Dust Layer (lb/cu.ft.)	93.5				
==> Weight of Contamination Layer (lb) =		5571.04167			
==> Mass of Contamination Layer (Kg) =		2500			
Corrosion/Rust Layer on Inside of Pipe (CRUD)			11500		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	13595				
Percent volume of CRUD Layer (mil)	1				
==> Total Volume of CRUD (cu.ft.) =		135.95			
Density of CRUD Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		25422.65			
==> Mass of Contamination Layer (Kg) =		11500			
ping: 4" and Over - Process Area (Cat. 3 & 4)					843070
Metal Volume and Weight of Piping				700070	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	38433				
Average Pipe Diameter (in)	8				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		12811			
==> Piping Volume (cu.ft.)		17081.3333			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		20497.6			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	16099				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		7.76655735			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	2.258				
==> Total Surface Area of Pipe (sq.ft.) =		86800			
Weight of Piping (tons) ==> <Weight>	771				
==> Total Mass of Piping (Kg) =		700070			
Crystalized UNH on Inside of Pipe			127900		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	16099				
Percent Contaminated Layer of Total Volume	10				
==> Total Volume UNH (cu.ft.) =		1609.9			
Density of Contaminated Layer (lb/cu.ft.)	175				
==> Total Weight of UNH (tons) =		140.86625			
==> Total Mass of UNH (Kg) =		127900			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Contamination Layer on Outside of Pipe (Dust)			1400		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	34698				
Nominal Pipe Diameter (in)	7.76655735				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	2.258				
==> Total Surface Area of Pipe (sq.ft.) =		78300			
Thickness of Dust Layer (mil)	5				
==> Total Volume of Contamination Layer (cu.ft.) =		32.625			
Density of Dust Layer (lb/cu.ft.)	93.5				
==> Weight of Contamination Layer (lb) =		3050.4375			
==> Mass of Contamination Layer (Kg) =		1400			
Corrosion/Rust Layer on Inside of Pipe (CRUD)			13700		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	16099				
Percent volume of CRUD Layer (mil)	1				
==> Total Volume of CRUD (cu.ft.) =		160.99			
Density of CRUD Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		30105.13			
==> Mass of Contamination Layer (Kg) =		13700			
Piping: 2" and Less - NonProcess Area (Not in Cat. 3 & 4)					558
Metal Volume and Weight of Piping				550250	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	205526				
Average Pipe Diameter (in)	2				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		0.66666667			
==> Piping Volume (cu.ft.)		5709.05556			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		6850.86667			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	5381				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		1.9416876			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	0.622				
==> Total Surface Area of Pipe (sq.ft.) =		127800			
Weight of Piping (tons) ==> <Weight>	606				
==> Total Mass of Piping (Kg) =		550250			
Contamination Layer on Outside of Pipe (Paint)			8100		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	184956				
Nominal Pipe Diameter (in)	1.9416876				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	0.622				
==> Total Surface Area of Pipe (sq.ft.) =		115000			
Thickness of Paint Layer (mil)	10				
==> Total Volume of Contamination Layer (cu.ft.) =		95.8333333			
Density of Paint Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		17920.8333			
==> Mass of Contamination Layer (Kg) =		8100			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Piping: 2-1/2" to 4" - NonProcess Area (Not in Cat. 3 & 4)					691240
Metal Volume and Weight of Piping				685540	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	100671				
Average Pipe Diameter (in)	4				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		1.33333333			
==> Piping Volume (cu.ft.)		11185.6667			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		13422.8			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	10542				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		3.88320717			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	1.178				
==> Total Surface Area of Pipe (sq.ft.) =		118600			
Weight of Piping (tons) ==> <Weight>	755				
==> Total Mass of Piping (Kg) =		685540			
Contamination Layer on Outside of Pipe (Paint)			5700		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	68791				
Nominal Pipe Diameter (in)	3.88320717				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	1.178				
==> Total Surface Area of Pipe (sq.ft.) =		81000			
Thickness of Paint Layer (mil)	10				
==> Total Volume of Contamination Layer (cu.ft.) =		67.5			
Density of Paint Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		12622.5			
==> Mass of Contamination Layer (Kg) =		5700			
Piping: Over 4" - NonProcess Area (Not in Cat. 3 & 4)					2610650
Metal Volume and Weight of Piping				2605050	
Assumptions:					
Total Length of Pipe (LF) ==> <Takeoff_Quantity>	155060				
Average Pipe Diameter (in)	8				
==> Unit Surface Area of Pipe - Sch 40 (sq.ft./LF)		2.66666667			
==> Piping Volume (cu.ft.)		68915.5556			
Percent Volume Increase from valves, fitting,supports	20				
==> Piping & Misc. Materials Volume (cu.ft.)		82698.6667			
Total Volume of Pipe (cu.ft.) ==> <Unbulked_Volume>	64951				
==> Nom. Pipe Diameter (inc. valve, fittings, supports)		7.76648088			
==> Unit Surface Area of Pipe & misc. (sq.ft/LF)	2.258				
==> Total Surface Area of Pipe (sq.ft.) =		350100			
Weight of Piping (tons) ==> <Weight>	2869				
==> Total Mass of Piping (Kg) =		2605050			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Contamination Layer on Outside of Pipe (Paint)			5600		
Assumptions:					
Total Length of Pipe ==> above grade (LF)	35252				
Nominal Pipe Diameter (in)	7.76648088				
==> Unit Surface Area of Pipe & misc. (sq.ft./LF)	2.258				
==> Total Surface Area of Pipe (sq.ft.) =		79600			
Thickness of Paint Layer (mil)	10				
==> Total Volume of Contamination Layer (cu.ft.) =		66.3333333			
Density of Paint Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		12404.3333			
==> Mass of Contamination Layer (Kg) =		5600			
Piping Insulation (Piping)			41200		41200
Assumptions:					
Total Volume of Insulation -1" Thick (sq.ft)	241992				
==> Total Volume of Insulation (cu.ft.) =		20166			
Density of Insulation (lb/cu.ft.)	4.5				
==> Weight of Insulation (lb) =		90747			
==> Mass of Insulation (Kg) =		41200			
Process Equipment					10738
Metal Volumes and Masses				9908700	
Assumptions:					
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	919109.75				
Total Weight of Items (tons) <Weight>	10912.668				
==> Total Mass of Items (Kg) =		9908700			
Crystalized UNH on Inside of Process Eq.			730200		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	919109.75				
Percent Contaminated Layer of Total Volume	1				
==> Total Volume UNH (cu.ft.) =		9191.0975			
Density of Contaminated Layer (lb/cu.ft.)	175				
==> Total Weight of UNH (tons) =		804.221031			
==> Total Mass of UNH (Kg) =		730200			
Contamination Layer on Outside of Process Eq. (Dust)			21300		
Assumptions:					
Total Volume of Process Areas (Cat. 3&4)	919109.75				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	1.31				
==> Total Surface Area of Process Eq. (sq.ft.) =		1204033.77			
Thickness of Dust Layer (mil)	5				
==> Total Volume of Contamination Layer (cu.ft.) =		501.680739			
Density of Dust Layer (lb/cu.ft.)	93.5				
==> Weight of Contamination Layer (lb) =		46907.1491			
==> Mass of Contamination Layer (Kg) =		21300			

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Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Corrosion/Rust Layer on Inside of Process Eq. (CRUD)			78000		
Assumptions:					
Total Volume in Process Areas (Cat. 3 & 4)	919109.75				
Percent volume of CRUD Layer - before decon (mil)	0.1				
==> Total Volume of CRUD (cu.ft.) =		919.10975			
Density of CRUD Layer (lb/cu.ft.)	187				
==> Weight of Contamination Layer (lb) =		171873.523			
==> Mass of Contamination Layer (Kg) =		78000			
Process Equipment					1213400
Metal Volumes and Masses					
Assumptions:				1182900	
Total Volume of Steel (cu.ft.) <Takeoff_Quantity>	329539.21				
Total Weight of Items (tons) <Weight>	1302.7				
==> Total Mass of Items (Kg) =		1182900			
Paint on Outside of Process Equipment.			30500		
Assumptions:					
Total Volume of Process Equipment (cu.ft.)	329539.21				
Unit Surface Area of Equipment (sq.ft./cu.ft.)	1.31				
==> Total Surface Area of Equipment (sq.ft.)		431696.365			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.)		359.746971			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		67272.6836			
==> Mass of Paint (Kg) =		30500			
Roofing (Built-Up): 1" Thick			948400		948400
Assumptions:					
Total Area of Roofing (sq.ft.)	348147.709				
Density of Roofing (lb/sq.ft.)	6				
==> Weight of Roofing (lb) =		2088886.25			
==> Mass of Roofing (Kg) =		948400			
Roofing (Transite): 7/16" Thick			962600		962600
Assumptions:					
Total Area of Roofing (sq.ft.)	517116.25				
Density of Roofing (lb/sq.ft.)	4.1				
==> Weight of Transite (lb) =		2120176.63			
==> Mass of Transite (Kg) =		962600			
Structural & Misc Steel (above & below grade)				13657200	13826800
Assumptions:					
Total Volume of Steel (cu.ft.) <Unbulked_Volume>	61391.6				
Total Weight of Items (tons) <Weight>	15041				
==> Total Mass of Items (Kg) =		13657200			

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total M Mate (Kg)
Paint on Outside of Items above grade					
Assumptions:					
Total Volume of Steel (cu.ft.)	51654		169600		
Unit Surface Area of Steel (sq.ft./cu.ft.)	46.4				
==> Total Surface Area of Steel (sq.ft.) =		2396745.6			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		1997.288			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		373492.856			
==> Mass of Paint (Kg) =		169600			
Trailers - Process Area				189800	190400
Metal Volume and Mass					
Assumptions:					
Total Volume of Trailers <Unbulked_Volume>(cu.ft.)	71136				
Total Weight of Items (tons) <Weight>	209				
==> Total Mass of Items (Kg) =		189800			
Paint on Outside of Items					
Total Volume of Trailers <Unbulked_Volume>(cu.ft.)	71136		600		
***** ==> Total Surface Area of Items (sq.ft.) =	8580	8584.13024			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		7.15			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		1337.05			
==> Mass of Paint (Kg) =		600			
Trailers - Non-Process Area				814000	815600
Metal Volume and Mass					
Assumptions:					
Total Volume of Trailers <Unbulked_Volume>(cu.ft.)	305136				
Total Weight of Items (tons) <Weight>	896.5				
==> Total Mass of Items (Kg) =		814000			
Paint on Outside of Items					
Total Volume of Trailers <Unbulked_Volume>(cu.ft.)	305136		1600		
***** ==> Total Surface Area of Items (sq.ft.) =	22668	22662.0384			
Thickness of Paint (mil)	10				
==> Total Volume of Paint (cu.ft.) =		18.89			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		3532.43			
==> Mass of Paint (Kg) =		1600			

***** Total Surface Area was computed on a per record bases. Value was adjusted to reflect actual (shaded) calculations.

Attachment B.IV
Calculation Details for Contaminated Weights

Description	SWIFTS/ Process Knowledge Values	Calculations	Mass of Contaminated Material (Kg)	Non-Contaminated Material (Kg)	Total Mass Material (Kg)
Windows					
Volume and Weight of Window				380700	381700
Assumptions:					
Total Area of Window (sq.ft) ==> <Takeoff_Quantity>	125770.031				
Average Window Thickness (in)	2				
==> Total Volume of Windows (cu.ft.) =		20961.6718			
Total Volume of Window (cu.ft.) ==> <Unbulked_Volume>	20961.67				
==> Total weight factor (lbs/cu,ft) =	40				
Weight of Window (tons) ==> <Weight>	419.23	419.2334			
==> Total Mass of Window (Kg) =		380700			
Paint on Window Frame			1000		
Assumptions:					
Total Area of Windows - 2 sides (sq.ft.)	251540.062				
Frame Area per Unit Window Area (sq.ft./sq.ft.)	0.05549				
==> Total Frame Area (sq.ft) =		13957.958			
Thickness of Paint on Windows (mil)	10				
==> Total Volume of Paint (cu.ft.) =		11.6316317			
Density of Paint (lb/cu.ft.)	187				
==> Weight of Paint (lb) =		2175.11513			
==> Mass of Paint (Kg) =		1000			
Wood					420800
Assumptions:				420800	
Total Volume of Wood (cu.ft.) <Takeoff_Quantity>	30896.1				
==> Density of Wood (lb/cu.ft)	30				
Total Weight of Wood (tons) <Weight>	463.4	463.4415			
==> Total Mass of Items (Kg) =		420800			

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LIST OF ACRONYMS AND ABBREVIATIONS

AEA	Atomic Energy Act
ARAR	Applicable or Relevant and Appropriate Requirement
CAA	Clean Air Act
CAMU	corrective action management unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DOE	United States Department of Energy
FS	feasibility study
ILCR	incremental lifetime cancer risk
LDR	land disposal restriction
MCLs	maximum contaminant levels
MTR	Minimum Technological Requirements
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OAC	Ohio Administrative Code
OEPA	State of Ohio Environmental Protection Agency
ORC	Ohio Revised Code
OU	operable unit
PCBs	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
TBC	to be considered
TSCA	Toxic Substances Control Act
UMTRCA	Uranium Mill Tailings Radiation Control Act
US EPA	United States Environmental Protection Agency

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C.0 POTENTIALLY APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs) AND OTHER CRITERIA TO BE CONSIDERED

C.1 ARARs DEVELOPMENT

This appendix includes the potential statutory and regulatory requirements impacting remedial alternatives for Operable Unit 3 (OU3). Remedial action decisions must include consideration of any ARARs. Section 121(d) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), jointly referred to as CERCLA, and Section 300.430(f)(ii)(B) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) require CERCLA response actions to attain or exceed environmental and public health ARARs unless specific waivers are obtained from regulators. CERCLA lists specific federal environmental laws that must be considered as part of an ARARs analysis. This list includes:

- Toxic Substances Control Act (TSCA)
- Safe Drinking Water Act (SDWA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Solid Waste Disposal Act/Resource Conservation and Recovery Act, as amended (jointly referred to as RCRA)

A requirement under these and other environmental laws may be either "applicable" or "relevant and appropriate," but not both. These terms are defined below.

- Applicable requirements are cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.

- Relevant and appropriate requirements are cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

Determination of whether a requirement is applicable or relevant and appropriate will differ for each site. In addition to ARARs, the NCP directs that other criteria, advisories, and guidance issued by federal or state government agencies that may be useful in developing CERCLA remedies may be used as "To Be Considered" (TBC) criteria and do not have the status of potential ARARs. However, these TBC criteria are evaluated along with the ARARs to determine the necessary level of cleanup or technology required to protect human health and the environment.

Some TBC criteria include United States Department of Energy (DOE) Orders, which pertain only to DOE facilities under the Atomic Energy Act (AEA). The substantive requirements of DOE Orders are TBCs, which, when specifically incorporated in a CERCLA Record of Decision (ROD), are enforceable cleanup standards under CERCLA. The United States Environmental Protection Agency's (US EPA's) Compliance with Other Laws Manual (1988) states, "DOE Orders are not

promulgated requirements and are not potential ARARs." The manual further states that, "to the extent that DOE Orders are more stringent or cover areas not addressed by existing ARARs, they should be considered, when necessary, to develop a protective remedy."

The NCP has identified three categories of ARARs:

- Chemical-specific ARARs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment (e.g., maximum contaminant levels [MCLs] that establish safe levels in drinking water).

- Location-specific ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present.

- Action-specific ARARs are usually technology-, performance-, or activity-based requirements or limitations on actions or conditions involving special substances.

The regulatory requirements discussed in this section have been identified for the OU3 final remedial action. Many key decisions affecting the final disposition of materials generated during the OU3 interim remedial action were made under RODs from other OUs:

- OU2 identified the ARARs/TBCs and waste acceptance criteria for low-level radioactive waste disposal in an on-property disposal cell, including a US EPA waiver of solid waste disposal facility siting criteria established by the OEPA [OAC 3745-27-07(H)(2)(c)and(d)];

- OU1 identified the ARARs/TBCs for off-site transportation and disposal of uranium process residues; and

- OU4 identified the ARARs/TBCs for waste disposition of concrete from the silos (similar to OU3 material).

In addition, the OU5 Feasibility Study (FS) Report identified the ARARs/TBCs and waste acceptance criteria for low-level and mixed waste disposal in an on-property disposal facility, and discussed the Corrective Action Management Unit (CAMU) concept; the OU5 decision expands the scope of the disposal cell.

Three alternatives will be evaluated for the OU3 final remedial action: Alternative 1 is the no further action option (based on implementation of the interim remedial action at OU3); Alternative 2 involves selected material treatment, on-property disposal of most construction rubble and off-site disposal of the remaining materials; and Alternative 3 involves selected material treatment and off-site disposal. For the no further action alternative, it is assumed that there is no active management and no new construction associated with the continued storage of the material beyond the completion of the interim remedial action. It is also assumed that there will not be any new construction if Alternative 3 is selected.

C.2 ARARs WAIVER OF OEPA SOLID WASTE DISPOSAL FACILITY SITING CRITERIA

EPA has determined that the buried valley aquifer system of the Great Miami/Little Miami Rivers of southwestern Ohio (Great Miami Aquifer) is a sole or principal source of drinking water. Contamination of this aquifer could create a significant hazard to public health. OEPA has established solid waste siting criteria that prohibit locating a solid waste landfill over a 100 gpm [OAC 3745-27-07(H)(2)(d)] or a sole-source aquifer [OAC 3745-27-07(H)(2)(c)]. ORC 3734.02(G) allows exemptions to requirements identified in the regulations for obtaining a permit or license. These exemptions must be based on a determination that a disposal facility in this location would be unlikely to adversely affect public health or safety or the environment. To ensure protection of public health and the environment, DOE will provide additional engineering controls beyond these required by the OEPA solid waste engineering regulations to protect the aquifer. Additional controls include ARARs for Uranium Mill Tailings Radiation Control Act (UMTRCA) and RCRA. The resulting combination of hydrogeologic conditions and engineering controls will provide protection of human health and the environment.

Because the on-property disposal facility would contain solid waste in addition to low-level radioactive waste/residual radioactive material, the facility must comply with the OEPA siting criteria in the Ohio Solid Waste Disposal Regulations. OAC 3745-27-07 lists the following areas where a solid waste disposal facility may not be located:

- In surface and subsurface areas surrounding a public water supply well through which contaminants may move toward and may reach the public water supply well within a period of five years;
- Above an aquifer declared by the Federal government under the Safe Drinking Water Act to be a sole-source aquifer;
- Above an unconsolidated aquifer capable of sustaining a yield of 100 gallons per minute for a 24-hour period to a water supply well located within 1,000 feet of the limits of solid waste placement;
- In a regulatory floodplain;
- Within 1,000 feet of a water supply well or developed spring;
- Within 300 feet of the facility's property line;
- Within 1,000 feet of a domicile whose owner has not consented in writing to the location of the facility;
- Within 200 feet of a stream, lake, or natural wetland; and
- In areas for which the isolation distance between the uppermost aquifer system and the bottom of the recompacted soil liner of the disposal facility cannot be less than 15 feet of in situ or added geologic material.

The proposed feasible location of the on-property disposal facility is on the eastern side of the FEMP which is not in a floodplain; near a stream, lake, or wetland; within 1,000 feet of an existing water supply well or developed spring; or near enough to a public water supply well so that contaminants may reach the well within a period of 5 years. The facility would not be placed within 300 feet of

the FEMP property line or within 1,000 feet of an existing residence. The isolation distance between the uppermost aquifer system and the bottom of the recompacted soil liner will be greater than 15 feet.

The remaining two siting criteria (bullets two and three) cannot be met because of the FEMP's location over a sole-source aquifer that is capable of sustaining a yield of 100 gallons per minute for a 24-hour period. Because the aquifer underlies the entire site, a waiver would be requested to locate an on-property disposal facility on the FEMP. The waiver request would be based on the ability of the selected remedial action, through the use of another method or approach, to attain a standard of performance that is equivalent to that required by the ARARs. The criteria in determining a CERCLA ARAR waiver based on an equivalent standard of performance [40 CFR 300.430(f)(1)(ii)(C)(4)] are degree of protection, level of performance, reliability into the future, and time required for results.

As the support for an OEPA exemption is a combination of performance and risk, the equivalent level of performance will address both factors.

The circumstances of this alternative are considered equivalent to the OEPA requirements and thereby warrant the granting of a CERCLA ARAR waiver. The basis for equivalency is identified for each of the identified criteria:

Degree of protection:

- OEPA Standard

  The justification to allow a solid waste landfill over a high-yield sole-source aquifer is that the existing hydrogeology will provide adequate protection to the high-yield sole-source aquifer from the effects of a release of leachate and thereby protect the aquifer from contamination. The approach spelled out by the pertinent policies is to prevent leachate from reaching the aquifer during the active life of the landfill and the post closure period of 30 years. The active life of the disposal facility for Operable Unit 3 wastes is estimated to be 7 years. It should be noted that if future funding does not support this schedule, the maximum active life could be approximately 27 years.

- Equivalent Standard

  The combination of engineering controls and existing hydrogeology proposed in this alternative will provide the same degree of protection to the aquifer as the hydrogeologic conditions described in the OEPA policy. Modeling with the combined controls shows that the leachate will not reach the aquifer during the active life of the landfill and a post-closure period of thirty years.

  It should be noted that the modeling was performed for 1,000 years and assumed that the liner system and man-made materials (e.g., leachate collection, leak detection and synthetic liners) of the disposal facility would fail. This modeling shows that with the enhanced cap to reduce infiltration and the existing hydrogeology, leachate that may eventually reach the aquifer would not cause the constituent concentrations in the aquifer to exceed the promulgated and proposed MCLs.

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Level of performance (method based):

- OEPA Standard

  Significant thickness of low permeable material between the disposal facility and the aquifer

- Equivalent Standard

  Decisions for on-property disposal of OU3 materials have been based on a combination of 20 feet of gray clay, geochemical parameters in gray clay, OU3 specific leaching potential, and conservative leaching assumptions to achieve equivalent protective requirements. An approach similar to OU2 and OU5 was followed for development of protective WAC for OU3 materials. Two parameters in the engineering model were updated for OU3 WAC development to reflect site-specific information. The disposal facility dimensions were based on the OU2 Disposal Facility pre-Design Geotechnical Investigation Soil Investigation Data Report (DOE 1995_) which identified the best hydrogeology for placement of the disposal facility. An additional modification increased the technetium-99 K_d based on site sampling within the area overlying the disposal facility location as determined within the OU2 pre-design report. Based on these changes, modeling under the EPA 70-year rule has shown that a contribution by OU3 of less than or equal to 105 grams of technetium-99 to the disposal facility will not exceed a 10^{-5} risk level at the boundary of the disposal facility.

- OEPA Standard

  Lack of interconnection between the sole-source aquifer and any significant zones of saturation

- Equivalent Standard

  Any interconnections will be minimized by:

  1) Locating the disposal facility in an area with the greatest thickness of gray clay and the least occurrence of interbedded granular material; and

  2) Providing an increase in the engineered controls to compensate for any reduction of protection due to interbedded granular material; and/or

  3) Providing engineering control of lateral movement of water in an area of interbedded granular material by removing the granular material affecting the geologic protection of the aquifer or by preventing the movement of water from these areas to the aquifer.

- OEPA Standard

  Significant amount of sediment [soil] between the disposal facility and the high-yield aquifer to prevent leachate from migrating to the high-yield aquifer during the life of the landfill and the post-closure care period. The post-closure care period for solid waste landfills is a minimum of 30 years [OAC 3745-27-14(A)].

- Equivalent Standard

At a minimum, a total of four additional layers will be added to the standard solid waste cap and liner [OAC 3745-27-08(C) and 11(G)]. These layers are a sand filter, biotic barrier and bentonite geocomposite layers in the cap to reduce infiltration and to protect the integrity of the cap. A leak detection layer will be provided in the liner to monitor the integrity of the containment system and to provide early warning to allow corrective action prior to any adverse impact to the aquifer. These additional engineering controls together with the natural hydrogeology will prevent leachate from reaching the aquifer during the post closure care period.

Level of performance (risk based):

- OEPA Standard

ORC 3734.02(G) allows exemptions of OEPA regulations if an alternative is unlikely to adversely affect the public health or safety or the environment. The pertinent policies mirror this requirement using an approach which requires existing hydrogeologic conditions to provide this protection.

OEPA does not propose a specific definition for the protection of human health and the environment. However, OAC 3745-27-10(F)(7)(a)-(d), which specifies solid waste landfill operating requirements, sets forth concentration levels for constituents detected in the groundwater for which a corrective action is required. This standard provides an appropriate framework for risk analysis in this case because the waiver concerns the establishment of a solid waste disposal unit. These levels are concentrations that are at a statistically significant level to be:

- Protective of human health and the environment, and
- The promulgated MCL, or
- Background concentrations for constituents that do not have a promulgated MCL, or
- Alternative groundwater protection standard - for a known or suspected carcinogen-concentration levels that represent a cumulative excess upper-bound lifetime cancer risk to an individual within the 1×10^{-4} to 1×10^{-6} range.

- Equivalent Standard

This same definition has been used as a threshold criterion in evaluating alternatives in the CERCLA decision-making process at the FEMP and specifically in the OU2 FS with the addition that constituents in groundwater should not be higher than the proposed MCLs. This alternative meets this threshold criterion.

Protection of human health has been determined through the risk assessment process based on contaminant transport modeling and the NCP acceptable incremental lifetime cancer risk (ILCR) range of $1x10^{-4}$ to $1x10^{-6}$ and in compliance with promulgated and proposed MCLs.

Reliability into the future:

The combination of hydrogeologic and engineering controls (including additional controls beyond the requirements for a solid waste disposal facility) provides increased reliability into the future because of the following:

- The biotic barrier in the cap will prevent burrowing animals or vegetative roots from compromising the integrity of the cap and thereby increasing the infiltration.
- Leak detection monitoring will provide an early warning of any problem in leachate containment and allow corrective measures to be undertaken prior to adverse impact to the aquifer.

Time required for results:

Not applicable to this circumstance.

A CERCLA ARAR waiver of the OEPA prohibition of siting a disposal facility over a high-yield, sole-source aquifer is justified based on an equivalent standard of performance [40 CFR 300.430(f)(1)(ii)(C)(4)] to the OEPA policies allowing an exemption to the siting requirements.

The disposal facility location and design will be subject to review and approval during the remedial design phase. DOE intends to construct only one disposal facility at the FEMP. Therefore, should on-property disposal be selected for additional FEMP operable units, the disposal facility capacity and location will be adjusted accordingly during the remedial design process.

C.3 CORRECTIVE ACTION MANAGEMENT UNIT (CAMU)

Adoption of the CAMU rule under the OU5 FS and ROD will have an impact on the final disposition of wastes from OU3. Under this rule, remediation waste can be treated and consolidated from a portion of the site or from the total site without invoking the land disposal restrictions (LDRs) under RCRA; LDRs prohibit the placement of hazardous wastes in land disposal units unless the waste has been treated to certain concentration levels or by using specified technologies. In addition, minimum technological requirements (MTRs) are not invoked under the CAMU Rule. The decisions for US EPA to designate a CAMU are related to the function and purpose of managing remediation waste on site during cleanup, rather than to the areal extent and the contiguousness of the contamination prior to cleanup. Through the application of this rulemaking, contaminated media and any hazardous or solid waste generated during the remediation of OU3 may be managed in the CAMU, or moved between CAMUs, without triggering the applicability of the LDRs. The use of waste acceptance criteria for disposal in the on-property disposal facility will ensure protection of the underlying Great Miami Aquifer, allowing a more cost-effective disposal method than off-site shipment or meeting LDRs for on-site disposal.

C.4 POLYCHLORINATED BIPHENYLS (PCBs)

There is the potential that during the decontamination and dismantling of structures within OU3 that waste material will be generated that is contaminated with polychlorinated biphenyls (PCBs). If these non-liquid wastes (in the form of contaminated soil, rags, or other debris) contain concentrations of PCBs in excess of 50 parts per million, then it will be necessary for the disposal facility to meet the requirements of 40 CFR 761.75 for chemical waste landfills. These requirements include soil, synthetic liners, hydrologic conditions, flood protection, topography, monitoring systems, leachate

collection, and operations requirements. The on-property disposal facility as designed (per the OU2 ROD) will meet or exceed these requirements.

C.5 ARARs TABLES

This section includes summary crosswalk tables that describe the ARARs/TBCs from other operable units and the pertinence of those requirements to each of the OU3 alternatives (Tables C-1 through C-4). As noted earlier, many key decisions affecting the final disposition of materials generated during the OU3 interim remedial action were made under RODs from other OUs. These tables delineate all the ARARs/TBCs from those decisions and the interrelationship with the OU3 final disposition decision. It should be noted that these ARARs from the other OUs are included for reference to help explain the rationale for inclusion; this is not intended to reopen the ARARs identification for the other OUs. For those ARARs/TBCs that are specifically germane to the final disposition decision, there is a detailed discussion in Table C-5 of the regulatory requirements. This would include new issues that were not addressed in previous documents and newly promulgated regulations. These tables include only brief descriptive titles or summary descriptions of the requirements; the regulation, statute, or Federal Register citation listed on the tables should be consulted for a full description of the requirement.

TABLE C-1

CHEMICAL - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 FS OPTIONS ALT 1	ALT 2	ALT 3
DRINKING WATER									
40 CFR 141.15 to 141.16	EPA National Primary Drinking Water Regulations	R	R	R	R	T		R	
56 FR 33050	Proposed Maximum Contaminant Limit (MCL) for Radiological Contaminants July 18, 1991		T		T			T	
DOE Order 5400.5	Radiation Protection of the Public and Environment	T	T	T	T	T		T	T
DOE Order 5480.11	Radiation in All Media	T			T	T	T	T	T
40 CFR 192.12	Standards for Uranium Mill Tailings	R	R		R				
OAC 3745-1	Ohio Water Quality Standard Chemical Discharge to Surface Water	A			A	A		A	A
40 CFR 141.12 and .50	EPA National Primary Drinking Water Standard MCLGs	R			R	R		R	R
40 CFR 141.61	EPA National Primary Drinking Water Standard	R	R	R	R	R		R	R
OAC 3745-81-12	Ohio Drinking Water Regulations for Maximum Contaminant Limits (MCLs)	R		R	R	R		R	R
55 FR 30370	Proposed MCLs for Organic Contaminants - July 25, 1990				T			T	

TABLE C-1 (Continued)

CHEMICAL - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 FS OPTIONS ALT 1	ALT 2	ALT 3
DRINKING WATER (Continued)									
40 CFR 141.11 and 141.51	EPA National Primary Drinking Water Regulations for MCLGs and MCLs for Inorganic and Organic Chemicals in Drinking Water	R	R	R	R	R		R	
40 CFR 141.62 40 CFR 143.3	EPA National Primary and Secondary Drinking Water Regulations for MCLs for Inorganic Chemicals in Drinking Water	R		R	R	R		R	
OAC 3745-81-11 OAC 3745-81-15 OAC 3745-81-16	Ohio Primary Drinking Water Regulations for MCLGs and MCLs for Inorganic Chemicals in Drinking Water	R	R	R	R	R		R	R
40 CFR 257.4-3	Chemicals in Drinking Water (Solid Waste Disposal Facility)	R	A	R	R			R	R
OAC 3745-27-10(D)	Ohio Solid Waste Regulations			R	R			R	R
40 CFR 264.94	Chemicals in Drinking Water (Hazardous Waste Disposal Facility)			R	R			R	R
OAC 3745-54-94	Ohio Hazardous Waste			R	R			R	R
40 CFR 141.80	Control of Copper and Lead	R						R	R
	Proposed MCLs from 'Drinking Water Regulations and Health Advisories' by the Office of Water, U.S. EPA, Washington, D.C. May 1993	T						T	T
50 FR 46936	Proposed MCLGs for Arsenic (November 13, 1989)		T					T	T

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TABLE C-1 (Continued)

CHEMICAL - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 FS OPTIONS ALT 1	ALT 2	ALT 3
SURFACE WATER									
OAC 3745-1-04	Ohio Water Quality Standards (Discharge of Liquid Waste to Surface Water)	A		R	R	A	R	R	R
OAC 3745-1-21	Ohio Water Quality Standards (Use Designation of Surface)	A	A	A	A		A	A	A
OAC 3745-1-07	Ohio Water Quality Standards (Warm Water Habitat and Water Supply Criteria)	A	A	A	A	A	A	A	
OAC 3745-1	Ohio Water Quality Standard Chemical Discharge to Surface Water	A			A	A		A	A
OAC 3701-38-15(A)(1), (B)	Ohio General Radiation Protection Standard				A	N	R	R	R
AIR									
40 CFR 192 Subpart H	National Emission Standards for Emissions of Radionuclides Other Than Radon From DOE Facility	A	A	A	A	A	A	A	A
40 CFR 192.02(b) Subpart A	Health and Environmental Protection Standard for Uranium and Thorium Mill Tailings	R	R	R	R		R	R	
40 CFR 192.32(B)(1)(ii) Subpart D	Health and Environmental Protection Standard for Uranium and Thorium Mill Tailings		R		R		R	R	
40 CFR 61 Subpart Q	National Emission Standard for Hazardous Air Pollutants, Radon - 222 Emissions			A	R		R	R	

TABLE C-1 (Continued)

CHEMICAL - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 FS OPTIONS ALT 1	ALT 2	ALT 3
AIR (Continued)									
40 CFR 50.6	EPA Regulations on National Primary and Secondary Ambient Air Quality Standards	A	R		A				
OAC 3745-17-07	Ohio Ambient Air Quality Standards	A			A				
OEPA Proposed Policy January 1994	Ohio De Minimis Emission Levels		T		T			T	T
40 CFR 50.12	Ambient Air Quality - Lead in Air	A			A				
OAC 3745-17-08	Restriction of Emission of Fugitive Dust	A			A	R		R	R
OAC 3545-21-07(G)(2)	Organic Air Emissions				A			A	A
40 CFR 50	List Primary National Ambient Air Quality Standard Levels		R		R				
40 CFR 192.41	Implements Standards for Uranium Mill Tailings	R	R						
40 CFR 61.150 - 61.155	National Emission Standard for Asbestos		R					R	R
OAC 3745-20-07(A), (C)	Ohio Asbestos Handling Regulations		A					A	A
SOILS AND CONTAMINATED MEDIA									
40 CFR 192.02 Subpart A	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	
40 CFR 192.12(a) Subpart B	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	
40 CFR 192.20 Subpart C	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	
40 CFR 192.21(f) to 192.22(b) Subpart C	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	

TABLE C-1 (Continued)

CHEMICAL - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 FS OPTIONS ALT 1	ALT 2	ALT 3
SOILS AND CONTAMINATED MEDIA (Continued)									
40 CFR 192.32(b)(2) Subpart D	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	
40 CFR 192.40 - .42 Subpart E	Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings	R	R	R	R			R	
40 CFR 268.41	Land Disposal Restriction RCRA (Lead)		R		A			R	A
US NRC Regulatory Guide 1.86	Reasonable Effort to Eliminate Residual Contamination (see Table C-5 for additional discussion)							T	T
	EPA Guidance Methods for Evaluating the Attainment of Cleanup Standards, Vol. 1		T						
OSWER Directive 9335.4-12	Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities								
DOE Order 5480.11	Radiation Protection for Occupational Workers	T			T		T	T	T
DOE Order 5820.2A	Radioactive Waste Management		T		T		T	T	T

Notes: A - Applicable
R - Relevant and Appropriate
T - To be considered
A/R - "relates to OU5 scenarios"
N - These requirements are not considered to be ARARs by EPA, but are requirements that apply to the performance of the interim actions at the site.

No Entry - Not germane
R/A - On-site Relevant and Appropriate "only for OU3 scenarios"
Off-site Applicable

TABLE C-2
LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
THREATENED AND ENDANGERED SPECIES									
40 CFR 6.302(h)	Procedures for Implementing NEPA	A	A	A	A				
16 USC §1531 et seq.	Endangered Species Act	A		R	A			A	
50 CFR 17.21, 17.31, 17.61, 17.71 and 17.94	Endangered and Threatened Wildlife and Plants	A	A	A	A			A	
50 CFR 402.01	Interagency Cooperation - Endangered Species Act		A	R	A			A	
50 CFR 402.12(a)(b)	Interagency Cooperation - Endangered Species Act		A		A			A	
ORC 1513.25	Ohio Endangered Species Act	A	A	R	A		A	A	R
OAC 1501:18-1 ORC 1518.02	Ohio Endangered Species Act	A	A	R	A		A	A	R
40 CFR 257.3-2	Classification of Solid Waste Disposal Facilities and Practices	A	A	A	A			A	
16 USC §661 et seq.	Fish and Wildlife Coordination Act	A		A	A			A	
HISTORIC AND CULTURAL RESOURCE PROTECTION									
16 USC §431-33	Antiquities Act of 1906	A	A	A	A			A	
16 USC §461-467	Historic Sites Preservation Act	A		A	A			A	
16 USC §408(a)	Archeological Recovery Act			A	A			A	
40 CFR 6.301(a), (b), (c)	Procedures for Implementing NEPA	A	A	A	A			A	

TABLE C-2 (Continued)

LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
HISTORIC AND CULTURAL RESOURCE PROTECTION (Continued)									
43 CFR 7.4(a)	Protection of Archeological Resources		A	A	A			A	
16 USC §106 and 110	National Historic Preservation Act			A	A			A	
36 CFR §60, §60.4, §63, and §800	Protection of Historic and Cultural Properties		A	A	A			A	
16 USC §469, 16 USC §470 and §470aa et seq	Archaeological and Historic Preservation Act and the National Historic Preservation Act	A	A	A	A			A	
42 USC §1996	American Indian Religious Freedom Act	A	A	A	A			A	
Executive Order 11593	Protection and Enhancement of Cultural Environment	A		A	A			A	
25 USC §3001	Native American Graves Protection and Repatriation Act	A	A	A	A			A	
36 CFR §65.2(c)(2)	National Historic Landmarks Program			A	A			A	
FLOOD PLAINS AND WETLANDS									
10 CFR 1022.11(a)(b)(c)	DOE Compliance with Flood Plains/Wetlands Environmental Review Requirement	A	A	A	A	A			
10 CFR 1022.12(a), (c) 10 CFR 1022.15(a), (b)	DOE Compliance with Flood Plains/Wetlands Environmental Review Requirement	A	A	A	A	A			

TABLE C-2 (Continued)

LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
FLOOD PLAINS AND WETLANDS (Continued)									
10 CFR 1022.3(a), (b)(1), (2),(3),(5),(6),(c), (d), (e)	DOE Compliance with Flood Plains/Wetlands Environmental Review Requirement	A	A	A	A	A	A	A	A
10 CFR 1022.5(b),(h)	DOE Compliance with Flood Plains/Wetlands Environmental Review Requirement	A	A	A	A	A	A	A	A
40 CFR 6.302(a)	Procedure for Implementing NEPA	A	A	A	A	A	A	A	A
40 CFR 6, Appendix A	Procedure for Implementing NEPA	A		A	A	A	A	A	A
40 CFR 6.302(b)	Procedure for Implementing NEPA	A	A		A	A	A	A	A
33 U.S.C. 1341(a)(1), (d) and 33 CFR §330	Clean Water Act Nationwide Permit Program	A	A	A	A	A		R	R
40 CFR 258.12	Protection of Wetlands	R		R	A			A	
OHIO SOLID WASTE SITING CRITERIA									
OAC 3745-27-05(A)	Ohio Solid Waste Disposal Regulations (Solid Waste Disposal Methods)		A					A	
OAC 3745-27-07(H)(2)(a)	Ohio Solid Waste Disposal Regulations (Sand or Gravel Pits)	R		R	A			A	

TABLE C-2 (Continued)

LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
OHIO SOLID WASTE SITING CRITERIA (Continued)									
OAC 3745-27-07(H)(2)(b)	Ohio Solid Waste Disposal Regulations (Limestone Quarry or Sandstone Quarry)	R		R	A			A	
OAC 3745-27-07(H)(1)	Ohio Solid Waste Disposal Regulations (National or State Parks or Recreation Area)	R		R	A			A	
OAC 3745-27-07(H)(3)(a)	Ohio Solid Waste Disposal Regulations (Location of a Facility within a 5 Year Migration Area of Influence for a Public Water Supply Well)	R	A	R	A			A	
OAC 3745-27-07(H)(2)(c)	Ohio Solid Waste Disposal Regulations (Sole Source Aquifer)	R	A	R	A			A	
Guidance Document 202.105	OEPA Guidance on Solid Waste Siting Criteria (Minimum Distance from a Public Water Supply Well)				T			T	
Guidance Document 202.101	OEPA Guidance on Solid Waste Siting Criteria (Sole Source Aquifer)				T			T	
42 USC §1424(e)	Safe Drinking Water Act (Review of Projects constructed in area of sole source aquifer)		A		A			A	
OAC 3745-27-07(H)(4)(a)	Ohio Solid Waste Disposal Regulations (Natural Areas)	R		R	A			A	
OAC 3745-27-20(C)(3)	Ohio Solid Waste Disposal Regulations (Fault Limit on Solid Waste Placement)	R		R	A			A	
OAC 3745-27-07(H)(3)(b)	Ohio Solid Waste Disposal Regulations (Underground Mine)	R		R	A			A	

TABLE C-2 (Continued)

LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
OHIO SOLID WASTE SITING CRITERIA (Continued)									
OAC 3745-27-07(H)(2)(d)	Ohio Solid Waste Disposal Regulations (Allows OEPA Director to Accept Facility Location Over a High-Yield Aquifer)	R	A	R	A			A	
Guidance Document 202.102	OEPA Guidance on Solid Waste Siting Criteria (100 Gallons Per Minute Aquifer)				T			T	
OAC 3745-27-07(B)(10)	Ohio Solid Waste Disposal Regulations (Allows OEPA Director to Accept Facility in a Flood Plain)	R	A	R	A			A	
OAC 3745-27-20(C)(2)	Ohio Solid Waste Disposal Regulations (Allows OEPA Director to Accept Facility Location Near a Water Supply or Developed Spring)	R	A	R	A			A	
Guidance Document 202.103	OEPA Guidance on Solid Waste Siting Criteria (Minimum Isolation Distances to Wells and Developed Springs)				T			T	
OAC 3745-27-07(H)(4)(b)	Ohio Solid Waste Disposal Regulations (Property Line Limit on Solid Waste Placement)	R	A	R	A			A	
OAC 3745-27-07(H)(4)(c)	Ohio Solid Waste Disposal Regulations (Domicile Limit on Solid Waste Placement)	R	A	R	A			A	
OAC 3745-27-07(H)(4)(d)	Ohio Solid Waste Disposal Regulations (Lake, Stream, or Natural Wetlands Limit on Waste Placement - Allows OEPA Director to Accept Facility Location)	R	A	R	A			A	
OAC 3745-27-07(H)(2)(e)	Ohio Solid Waste Disposal Regulations (Allows OEPA Director to Accept Facility Location Over Less Than 15 feet InSitu or Added Geological Material)	R	A	R	A			A	

TABLE C-2 (Continued)

LOCATION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
OHIO SOLID WASTE SITING CRITERIA (Continued)									
OAC 3745-27-09(Y)	Ohio Solid Waste Disposal Regulations (Five Year Process Review)				A			A	
Guidance Document 202.104	OEPA Guidance on Solid Waste Siting Criteria: Material Acceptable to the Director		T		T			T	
OAC 3745-27-06	Ohio Solid Waste Disposal Regulation (Permit to Install)							R	
ORC 3734.02A	Protection of Human Health and the Environment		A						
OTHER SITING CRITERIA									
40 CFR 241.200 to .211	On-site Nonhazardous Waste Management Facilities (See Table C-5 for additional discussion)	A						A	
	CERCLA Compliance with Other Laws Manual Section 2.7		T						
DOE Order 5820.2A Chapter III(7)	Radioactive Waste Management (Disposal Site Selection)		T					T	
DOE Order 5820.2A Chapter III(7)	Joint NRC-EPA Guidance on Siting of Mixed Low-Level Radioactive and Hazardous Waste Units - (March 13, 1987)		T					T	

Notes:
A - Applicable
R - Relevant and Appropriate
T - To be considered
A/R - relates to OU5 scenarios
N - These requirements are not considered to be ARARs by EPA, but are requirements that apply to the performance of the interim actions at the site.

No Entry - Not germane
R/A - On-site Relevant and Appropriate Off-site Applicable only for OU3 scenarios

TABLE C-3

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
GENERAL									
40 USC §6903(27)	Definition of Solid Waste		A				A	A	A
OAC 3745-27-01(B)(40)	Ohio Solid Waste Disposal Regulations		A				A	A	A
40 CFR 261.3(a)	Definition of Hazardous Waste		A				A	A	A
40 CFR 260.10	Definition of Remediation Waste		A				A	A	A
42 USC §2014(2)(ee)	Atomic Energy Act - Definition of Low - Level Radioactive Material		A				A	A	A
42 USC §10101 (12), (16), (23)	Nuclear Waste Policy Act		A				A	A	A
40 USC §4901 et seq.	Noise Control Act		A		A		R	R	R
42 USC §7641	Noise Pollution and Abatement Act				A	A	R	R	R
40 CFR 261.6	Requirements for Recyclable Materials (See Table C-5 for additional discussion)						R	A	A
OAC 3745-51-06	Requirements for Recyclable Materials (See Table C-5 for additional discussion)						R	A	A
40 CFR Part 300	The off-site rule under CERCLA finalized 58 FR 49200 (September 22, 1993) (See Table C-5 for additional discussion)							A	A
	Hamilton County Earthwork Regulations Erosion Control Specifications				T			T	
ORC 3734.02.7 (a,b)	Prohibits Commingling of Low Level Waste with Solid Waste				A			A	A

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TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
HAZARDOUS WASTE MANAGEMENT (GENERAL FACILITY STANDARDS)									
40 CFR 262.11	RCRA Hazardous Waste Determination	R		R	R	A	R	R/A	A
OAC 3745-52-11	RCRA Hazardous Waste Determination	R			R	A	R	R/A	A
40 CFR 265.13 - .16	Interim Status: Treatment, Storage, and Disposal General Facility Standards - (See Table C-5 for additional discussion)			R	R	A	R	R	A
OAC 3745-65-13 - 16	Interim Status: Treatment, Storage, and Disposal General Facility Standards - (See Table C-5 for additional discussion)			R	R	A	R	A	A
40 CFR 265.31 - .35, .37	Interim Status: Treatment, Storage, and Disposal Facility Preparedness and Prevention			R	R	A	R	R	
OAC 3745-65-31 - 35, 37	Interim Status: Treatment, Storage, and Disposal Facility Preparedness and Prevention			R	R	A	R	R	
40 CFR 265.51, .52 and .55 - .56	Interim Status: Treatment, Storage, and Disposal Facility Contingency Plan and Emergency Procedures			R	R	A	R	R	
OAC 3745-65-51, -52, and -55 through -56	Interim Status: Treatment, Storage, and Disposal Facility Contingency Plan and Emergency Procedures			R	R	A	R	R	
40 CFR 261.7	RCRA Empty Containers			R	R			R	R
OAC 3745-51-07	RCRA Empty Containers			R	R			R	R
40 CFR 265.171 through .174, .176 and .177	RCRA Condition of Containers			R	R	A		R	R
OAC 3745-55-71 through 74, 76, AND 77	RCRA Condition of Containers			R	R	A		R	R

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
HAZARDOUS WASTE MANAGEMENT (GENERAL FACILITY STANDARDS) (Continued)									
40 CFR 265.175(a)-(c)	RCRA Containment Storage Area Requirements				R	A		R	R
OAC 3745-55-75	RCRA Containment Storage Area Requirements				R	A		R	R
40 CFR 264.1100 through 1102	RCRA Permitted Containment Building Requirements				R	A		R	R
40 CFR 262.20 through .33, 40 CFR 263.20	RCRA - Preparing and Transporting Hazardous Waste Off-Site				A	A		A	A
OAC 3745-53-20 through .31 and OAC 3745-52-30 and 33	RCRA - Preparing and Transporting Hazardous Waste Off-Site			A	A	A		A	A
40 CFR 268.40 through .44	RCRA Land Disposal Restrictions (See Table C-5 for additional discussion)				A			A	A
OAC 3745-59	RCRA Land Disposal Restrictions (See Table C-5 for additional discussion)				A			A	A
40 CFR 268.2	RCRA Definition of Hazardous Waste Debris (See Table C-5 for additional discussion)				A			A	A
40 CFR 268.45	RCRA Hazardous Waste Debris Land Disposal Requirements - (See Table C-5 for additional discussion)				A			A	A
40 CFR 261.3	RCRA Hazardous Waste Determination (See Table C-5 for additional discussion)				A			A	A
ORC 3734.02 (i)	Air Emissions from Hazardous Waste Facilities				A			R	R

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
HAZARDOUS WASTE MANAGEMENT (GROUNDWATER MONITORING)									
40 CFR 265.90 Subpart F	Interim Status: Groundwater Monitoring Program			R	A			R	
OAC 3745-65-90	Interim Status: Groundwater Monitoring Program			R	A			R	
40 CFR 264.92 through 100	Permitted Status: Groundwater Protection Standards			R	R			R	
OAC 3745-54-92 through 100	Permitted Status: Groundwater Protection Standards			R	R			R	
HAZARDOUS WASTE MANAGEMENT (TRANSPORTATION)									
59 Federal Register page 67390 December 29, 1994	Implementation of the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions (See Table C-5 for additional discussion)							T	T
40 CFR 262.20 - 262.33 and 263.20 through 263.31	Generators Who Transport Hazardous Waste for Off-Site Treatment, Storage, and Disposal (See Table C-5 for additional discussion)			A				A	A
OAC 3745-52-20 through 33 and 3745-53-20 through 31	Generators Who Transport Hazardous Waste for Off-Site Treatment, Storage, and Disposal (See Table C-5 for additional discussion)			A				A	A
HAZARDOUS WASTE MANAGEMENT (CLOSURE)									
40 CFR 265.111	Interim Status: Closure Performance Standards for Hazardous Waste Management Units (HWMUs)	R		R	A	A		R	R
OAC 3745-66-11	Interim Status: Closure Performance Standards for HWMUs	R		R	A	A		R	R
40 CFR 265.114	Interim Status: Closure Performance Standards			R	A	A		R	R

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
HAZARDOUS WASTE MANAGEMENT (CLOSURE) (Continued)									
40 CFR 265.191 and 40 CFR 265.197	Interim Status: Closure of Tank Systems			R	R	A		R	R
OAC 3745-66-14	Interim Status: Closure Performance Standards			R	A	A		R	R
40 CFR 264.178	Permitted Status: Storage Area Closure				R				
OAC 3745-55-78	Permitted Status: Storage Area Closure				R				
OAC 3745-66-91 and OAC 3745-66-97	Interim Status: Closure of Tank Systems			R	R	A		R	R
40 CFR 264.1101 and .1102	Permitted Status: Containment Buildings			R	R			R	
40 CFR 264.310 OAC 3745-68-10	Minimum RCRA Landfill Design Requirements for Closure				R			R	
40 CFR 265.116	Hazardous Waste Disposal Survey Plot Filing			R	R	A		R	
OAC 3745-66-16	Hazardous Waste Disposal Survey Plot Filing			R		A		R	
HAZARDOUS WASTE MANAGEMENT (OTHER)									
58 FR 48092 September 14, 1993	Contained in Policy Proposed Rule				T			T	T
59 FR 10778 March 8, 1994	Contained in Policy, Clarification, Partial Withdrawal				T			T	
40 CFR 264.552, .553	Subpart S: Corrective Action Management Unit 58 FR 865829 (16 FEB 93) - (See Table C-5 for additional discussion)	R	R	R	A	R		R	

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TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
RADIOACTIVE									
40 CFR 192.02	AEA/Uranium Mill Tailings Radiation Control Act (UMTRCA): Landfill Requirements	R	R	R	R		R	R	R
40 CFR 192.20	AEA/UMTRCA: Implementation of Standards in 40 CFR 192, Subparts A and B	R	R	R	R		R	R	R
40 CFR 192.30 - .34	AEA/UMTRCA: Management of Uranium By-Products	R	R		R		R	R	R
DOE Order 5400.1	DOE Facility Monitoring Guidance	T					T	T	T
10 CFR 1021.2	DOE Actions Must Comply With NEPA	T		A			A	A	A
10 CFR 61.7(b)(2), (4) and (5)	Land Disposal of Radioactive Waste (See Table C-5 for additional discussion)			R				R	
10 CFR 61.40 to .44	Performance Objective of Land Disposal of Radioactive Waste - (See Table C-5 for additional discussion)			R				R	
10 CFR 61.50 to .57	Technical Requirements of Land Disposal of Radioactive Waste - (See Table C-5 for additional discussion)			R				R	
40 CFR 191.03(b)	Environmental Radiation Protection Standards for Management and Disposal of High Level Radioactive Waste (HLRW), Spent Nuclear Fuel and transuranic (TRU) Wastes			R				R	
40 CFR 191.13 through .15	Environmental Radiation Protection Standards for Management and Disposal of HLRW, Spent Nuclear Fuel and TRU Wastes			R				R	

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
RADIOACTIVE (Continued)									
10 CFR 835	Occupational Radiation Protection							A	A
DOE Order 5400.5	Radiation Protection of the Public and the Environment		T			T		T	
10 CFR 20	Standards for Protection Against Radiation							R	R
DOE Order 6430.1A, 1324-5.3, -6	Low-Level Radioactive Solid Waste Confinement (General Design Criteria)		T					T	
UNDERGROUND STORAGE TANKS (UST)									
40 CFR 280.61 - .66	UST Confined Release Response				A				
OAC 1301:7-7-36	UST Confined Release Response				A				
WATER									
40 CFR 122.26	Discharge of Stormwater Run-off	A	A	A			A	A	A
OAC 3745-38	Discharge of Stormwater Run-off	A		A			A	A	A
40 CFR 122.41	National Pollutant Discharge Elimination System (NPDES) Wastewater Discharges				A		A	A	A
ORC 6111.07 a,c OAC 3745-33-05	NPDES Wastewater Discharges				A		A	A	A
40 CFR 125.100	Discharge of Treatment System Effluent	A		R			A	A	A
40 CFR 125.104	Clean Water Act Best Management Practices	R			A		R	R	R
ORC 6111.04	Ohio Water Pollution Control Regulations		A		A		R	R	R
OAC 3745-1-05	Antidegradation Policy				A		A	A	A

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
AIR									
40 CFR 264.1030, .1032 through .1034	Permitted Status: Air Emission Standards for Process Vents	R			R			R	R
OAC 3745-15-07	General Provisions on Air Pollution Control Prevention of Air Pollution Nuisance	A	A	A	A			A	A
OAC 3745-17-07	Control of Visible Emissions From Stationary Sources - (See Table C-5 for additional discussion)		A	A	A			A	A
OAC 3745-17-11	Restrictions on Particulate Emissions from Industrial Processes - (See Table C-5 for additional discussion)	R	A	A	A			R	R
40 CFR 60.672(a), (d), (e)	Standards of Performance for Nonmetallic Mineral Processing Plants		R						
OAC 3745-17-02 OAC 3745-17-15	Ohio Ambient Air Quality Standards								
OAC 3745-31-05(A)(3)	Permit to Install -(See Table C-5 for additional discussion)	R	R	R				R	R
OAC 3745-17-08	Restriction of Emission of Fugitive Dust	A	R	R	A		R	A	R
SOLID WASTE DISPOSAL - FACILITY DESIGN									
OAC 3745-27-08(C), (D), (F), (G)	Solid Waste Disposal Facility Design		A					A	
40 CFR 241	Solid Waste Disposal Facility Design Criteria	R		R				R	

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
SOLID WASTE DISPOSAL - FACILITY OPERATIONS									
OAC 3745-27-19	Requirements for Operation of Solid Waste Disposal Facilities		A		A			A	
OAC 3745-27-11(H); (O)	Final Closure of Sanitary Landfill Facilities		A		A			A	
OAC 3745-27-14	Post-Closure Care of Sanitary Landfill Facilities		A		A			A	
40 CFR 258.61	Post-Closure Care of Sanitary Landfill Facilities		A					A	
OAC 3745-27-01(B)(15) OAC 3745-27-30(A), (E), (H) ORC 3734.021(A)(1)(c), (d)	Ohio Infectious Waste Regulations		A						
ORC 3734.03 OAC 3745-27-05	Ohio Solid Waste Disposal Regulations		A		A			A	
OEPA Policy PP 01 03 200	Ohio Petroleum Contaminated Soil Policy		T						
40 CFR 258.61	EPA Criteria for Municipal Solid Waste Landfills		R						
OAC 3745-27-10	Groundwater Monitoring		A	R	A			A	
40 CFR 257.3-3 and .3-4	Classification of Solid Waste Disposal Facilities and Practices - (See Table C-5 for additional discussion	A	A					A	
40 CFR 257.3-7	US EPA Solid Waste Disposal Regulations (Open burning Prohibited)		A					A	
OAC 3745-09-10	Abandonment of Test Holes and Wells	A		A	A/R		A	A	A
POLYCHLORINATED BIPHENYLS (PCBs)									
40 CFR 761.3	Excluded PCB Materials		R				R	R	R
40 CFR 761.60(a)(3), (4)	PCB Disposal Requirements - (See Table C-5 for additional discussion)				R/A	T	R	R	R

TABLE C-3 (Continued)

ACTION - SPECIFIC REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
40 CFR 761.60(e)	PCB Treatment - (See Table C-5 for additional discussion)				A	T		A	A
40 CFR 761.65	PCB Storage for Disposal				A	T		R	R
40 CFR 761.120, .125, .130	PCB Cleanup Policy (For Spills Created During Remediation) - (See Table C-5 for additional discussion)	T			R	T		T	T

Notes: A - Applicable
R - Relevant and Appropriate
T - To be considered
A/R - relates to OU5 scenarios
No Entry - Not germane
R/A - On-site Relevant and Appropriate Off-site Applicable only for OU3 scenarios
N - These requirements are not considered to be ARARs by EPA, but are requirements that apply to the performance of the interim actions at the site.

TABLE C-4
OTHER REQUIREMENTS

SOURCE		OU1	OU2	OU4	OU5	OU3 IROD	OU3 OPTIONS ALT 1	ALT 2	ALT 3
OTHER REQUIREMENTS									
29 CFR 1904 and 1910	Occupational Safety and Health Act (OSHA) Worker Protection Requirements			A		N	A	A	A
49 CFR 171-173, 177, 178	DOT Requirements for the Transportation of Hazardous Materials			A				A	A
49 USC §1801-1812	Hazardous Materials Transportation Act			A				A	A
23 USC §127	Highway Improvement Act			A				A	A
DOE Order 5440.1E	NEPA Compliance Program			T				T	T
DOE Order 5480.1B	Environmental, Safety, and Health Program for DOE Operations			T				T	T
DOE Order 5480.3A	Hazardous Materials Packaging and Transportation Safety			T				T	T
DOE Order 5480.4	Environmental Protection, Safety, and Health Protection Standards			T				T	T
DOE Order 5483.1A	Occupational Safety and Health Programs for DOE Employees at Government Owned, Contractor Operated Facilities			T				T	T
DOE Order 5700.6C	Quality Assurance			T				T	T
DOE Order 6430.1A	General Design Criteria			T		T		T	

Notes: A - Applicable
R - Relevant and Appropriate
T - To be considered
A/R - "relates to OU5 scenarios"
N - These requirements are not considered to be ARARs by EPA, but are requirements that apply to the performance of the interim actions at the site.

No Entry - Not germane
R/A - On-site Relevant and Appropriate "only for OU3 scenarios"
Off-site Applicable

TABLE C-5
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
US NRC Regulatory Guide 1.86 Chemical-Specific	**Reasonable Effort to Eliminate Residual Contamination** A reasonable effort shall be made to eliminate residual contamination and to achieve the acceptable surface contamination levels stated in the guide.	T	Radiation surveys will performed prior to releasing any potentially contaminated materials off site to demonstrate compliance with the specified standards. These surveys should show compliance averaged over limited areas rather than point-by-point compliance. This requirement is a TBC since it a guidance document.
40 CFR 241.200 Location-Specific	**On-Property Solid Waste Management Facilities - Design:** Standards are presented in the following citations: 241.200-2, 241.201-2, 241.203-2, 241.204-2, 241.205-2, 241.206-2, 241.207-2, 241.208-2, 241.209-2, and 241.210-2.	A	Solid, nonhazardous wastes generated as a result of remediation must be managed in accordance with federal and state regulations. This requirement is applicable to wastes generated by the remedial action.
40 CFR 257.3-3 and .3-4 Location-Specific	**257.3-3, Surface Water** Remediation activities shall not cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the NPDES under section 402 of the Clean Water Act. A solid waste disposal facility or practice shall not cause non-point source pollution of waters of the United States that violates applicable legal requirements implementing an area-wide or Statewide water quality management plan that has been approved by the Administrator under section 208 of the Clean Water Act, as amended. **257.3-4, Groundwater Protection** A solid waste disposal facility or practice shall not contaminate an underground water source beyond the solid waste boundary.	A	These requirements are considered applicable where remediation wastes are managed on site. Additionally, the site possesses a NPDES permit.

TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
40 CFR 261.6 OAC 3745-51-06 Action-Specific	**Requirements for Recyclable Materials** The following recyclable materials are not subject to regulation under parts 262 through 266 or parts 268, 270 or 124 of 40 CFR, and are not subject to the notification requirements of section 3010 of RCRA: i) used batteries returned to a battery manufacturer for regeneration; ii) scrap metal; iii) used oil, that exhibits a hazardous waste characteristic, that is recycled is regulated under 40 CFR 279.	A	This requirement is considered applicable for remediation generated materials as the site is a regulated hazardous waste generator. Recycling of remediation generated materials may be conducted.
40 CFR Part 300 Action-Specific	**The Off-Site Rule under CERCLA** was finalized 58 CFR 49200 (September 22, 1993). EPA requires that remedial actions at Federal facilities comply with the Off-Site Rule. DOE must comply with the Off-Site Rule for all cleanups taken using DOE's lead agency authority under CERCLA.	A	The Off-Site Rule applies to all situations where DOE is authorized under CERCLA to remediate a site and the CERCLA wastes generated are transferred off-site.
40 CFR 265.13 through .16 OAC 3745-65-13 through -16 Action-Specific	**General facility standards** require that operators of a facility must obtain chemical and physical analysis of a representative sample of each hazardous waste to be treated, stored or disposed of at the facility prior to treatment, storage or disposal. The analysis may include existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes. The operator of a facility must also provide controlled access for the facility. In addition, the operator must maintain and inspect all monitoring equipment, safety and emergency equipment, security devices and operating and structural equipment that are important to preventing human health hazards. Operators must train personnel for procedures relevant to their emergency response training.	R/A	The requirement is relevant and appropriate where RCRA wastes are managed on site. This requirement is not applicable because RCRA wastes managed on site are considered as "remediation wastes," not as "generated wastes," under the Corrective Action Management Unit (CAMU) rule. The requirement is applicable for off site facilities where RCRA wastes are managed.

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TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
40 CFR 268.40 through .44 OAC 3745-59 Action-Specific	**RCRA Land Disposal Restrictions** A restricted hazardous waste may be land disposed only if: 1) an extract of the waste or of the treatment residue of the waste does not exceed the value shown in 40 CFR 268.41, or 2) it is treated using a technology specified in 40 CFR 268.42(a) or an equivalent method, or 3) the constituent concentrations in the waste or treatment residue of the waste do not exceed the value shown in 40 CFR 268.43.	A	This requirement is applicable to those RCRA hazardous wastes that will be disposed off site. Land Disposal Restrictions will not apply to on-property disposal under the Corrective Action Management Unit (CAMU) rule.
40 CFR 268.2 Action-Specific 40 CFR 268.45 Action-Specific 40 CFR 261.3 Action-Specific	Debris means solid material exceeding 60 mm particle size that is intended for disposal and that is a manufactured object, plant or animal matter or natural geologic material. Hazardous debris means debris that contains a listed hazardous waste, or that exhibits a characteristic of hazardous waste. Hazardous debris must be treated prior to land disposal unless the EPA determines that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard for the waste containing debris. Provided the debris does not exhibit a RCRA characteristic it is not subject to regulation under 40 CFR Parts 260 to 266, 268, or 270 if: 1) the hazardous debris has been treated using one of the required extraction or destruction technologies specified in 40 CFR 268.45, or 2) the debris, considering the extent of contamination, is determined to no longer be contaminated with hazardous waste.	A	This requirement is applicable to those RCRA hazardous wastes that will be disposed off site. Hazardous waste debris land disposal restrictions will not apply to on-property disposal under the Corrective Action Management Unit (CAMU) rule.

TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
59 Federal Register page 67390 December 29, 1994	The final rule comprehensively revises the Hazardous Materials Regulations (HMR), 49 CFR Parts 171 to 180, with respect to hazard communication, classification, and packaging requirements based on the United Nations recommendations.	T	The Final Rule takes effect October 1, 1995, and is authorized for implementation January 1, 1995. The Department of Transportation (U.S. DOT) has extended the full compliance date to October 1, 1996, allowing for transition.
40 CFR 262.20 through .33 and 263.20 through .31 OAC 3745-52-20 through -33 and OAC 3745-53-20 through -31 Action-Specific	Any generator who transports hazardous waste for off site treatment, storage or disposal must originate and follow-up the manifest for off site shipments. Pre-transporting requirements include appropriate packaging, labeling, marking, and placarding.	A	Any residues determined to be RCRA hazardous waste destined for off site disposal are subject to manifest requirements. Remedial actions involving off site disposal of RCRA listed wastes will be subject to this requirement.
40 CFR 264.552, .553 58 FR 865829 2/16/93 Action-Specific	Corrective Action Management Unit (CAMU) means an area within a facility that is designated by the Regional Administrator under 40 CFR 264 Subpart S, for the purpose of implementing corrective action requirements under Sec. 264.101 and RCRA section 3008(h). CAMUs might be designated at the site as areas where remediation wastes (solid, hazardous, or contaminated media and debris) might be placed during the process of remediation. Temporary Units (TUs) consisting of tanks and container storage units might be used to store and treat hazardous waste during the process of corrective action.	R	This requirement is relevant and appropriate as the remediation is not of a RCRA permitted facility. All of the materials generated from remediation of the site are considered remediation wastes. Some of the waste material might exhibit a RCRA characteristic, or otherwise be sufficiently similar to hazardous waste to make this requirement relevant and appropriate. The Consent Agreement and Amended Consent Agreement between the US EPA and the DOE, as site owner, serve as the equivalent to an US EPA corrective action order under 3008(h) and 3004(u) of RCRA.
10 CFR 61.7(b)(5) Action-Specific	Land Disposal of Radioactive Waste Disposal facility requirements should include intruder barriers with an effective life of 500 years.	R	The prescriptive intruder protection requirements in 10 CFR 61 will be addressed to provide a reasonable assurance of the long-term protection of the inadvertent intruder. Historically this requirement has been considered relevant and appropriate at this site.

TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
10 CFR 61.42 Action-Specific	Land Disposal Of Radioactive Wastes: Performance Objective Design, operation, and closure of the land disposal facility must ensure protection of any individual inadvertently intruding into the disposal site and occupying the site or contacting the waste at any time after active institutional controls over the disposal site are removed.	R	The prescriptive intruder protection requirements in 10 CFR 61 will be addressed to provide a reasonable assurance of the long-term protection of the inadvertent intruder. Historically this requirement has been considered relevant and appropriate at this site.
10 CFR 61.52(a)(2) and 10 CFR 61.56(b) Action-Specific	Land Disposal of Radioactive Wastes: Technical Requirements Waste must be disposed so that the top of the waste is a minimum of 5 meters below the top surface of the cover or with intruder barriers destined to protect against inadvertent intrusion for at least 500 years. This section includes requirements to provide stability of the waste to ensure degradation or failure of the disposal unit does not occur, which may result in exposure to an inadvertent intruder.	R	This prescriptive intruder protection requirements in 10 CFR 61 will be adopted to provide reasonable assurance of the long-term protection of the inadvertent intruder. Historically this requirement has been considered relevant and appropriate at this site.
OAC 3745-17-07 Action-Specific	Control of Visible Particulate Emissions from Stationary Sources Discharge of particle emissions into ambient air from any stack of a shade or density greater than 20 percent opacity is prohibited. Transient exceedance limits are included in this regulation.	A	Treatment operations might result in the release of particulate material for which this regulation would be applicable.

TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
OAC 3745-17-11 Action-Specific	Restrictions on Particulate Emissions from Industrial Processes This requirement applies to any operation, process, or activity which releases or may release particulate emissions into the ambient air. Emission restriction requirements for sources,... are specified in "Figure II" and in "Table 1." "Figure II" relates uncontrolled mass rate of emission (ordinate) ... specific process (at its maximum capacity) that may result in particulate emissions to maximum allowable mass rate of emission.	A	Treatment operations might result in release of particulate material for which these standards would apply.
OAC 3745-31-05 (A)(3) Action-Specific	Air Permit to Install The Director shall issue a permit to install if he determines that the installation or modification and operation of the air contaminant source will employ the best available technology.	R	Although an administrative Permit to Install is not required for treatment, the substantive requirements of this section must be met by employing Best Available Technology (BAT) for treating particle and off-gas emissions.
40 CFR 761.60(a)(4) Action-Specific	Non-liquid PCB Disposal Requirements Any non-liquid PCBs at concentrations of 50 parts per million (ppm) or greater in the form of contaminated soil, rags, or other debris shall be disposed of: in an incinerator which complies with 761.70, or in a chemical waste landfill which complies with 761.75.	R/A	This requirement is relevant and appropriate only if PCB contaminated or containing materials are managed on site. This requirement is applicable for PCB contaminated or containing material managed off site.
40 CFR 761.60(e) Action-Specific	PCB Treatment Requirements Any person who is required to incinerate any PCBs and PCB items under this Subpart and who can demonstrate that an alternative method of destroying PCBs and PCB Items exists and that this alternative method can achieve a level of performance equivalent to 761.70 incinerators or high efficiency boilers.	A	This requirement is applicable only if PCB contaminated items (cloth, debris), or soil, are greater than 50 ppm and are treated on property using a method besides incineration.

TABLE C-5 (Continued)
EXPANDED DISCUSSION

CITATION	REQUIREMENT	ARAR /TBC	REMARKS
40 CFR 761.75 Action-Specific	Chemical Waste Landfills This section specifies the technical requirements for a chemical waste landfill used for the disposal of PCB items.	A	This requirement is applicable only if non-liquid PCBs at concentrations of 50 parts per million (ppm) or greater in the form of contaminated soil, rags, or other debris is disposed of on-site.
40 CFR 761.120, .125, and .130 Action-Specific	PCB Cleanup Policy This policy established criteria that the EPA will use to determine the adequacy of the cleanup of spills resulting from the release of materials containing PCBs at concentrations of 50 ppm or greater. The policy applies to spills which occur after May 4, 1987.	T	This requirement is not applicable to the remediation material, due to the spills being "old." The requirement will be considered for spills which occur during remediation and when remediating areas where PCB contamination exists in the soil.

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Appendix D

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
AWWT	Advanced Wastewater Treatment
CAA	Compliance Assurance Agreement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Title 42)
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CWA	Clean Water Act, (aka FWPCA)
DOE	United States Department of Energy
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FEMP	Fernald Environmental Management Project
GRA	general response action
HEPA	high efficiency particulate air (filter)
LLW	low-level radioactive waste
Mhz	megahertz
NEPA	National Environmental Policy Act (DOE 5440.1C, April 9, 1985)
NORM	Naturally Occurring Radioactive Material
NPDES	National Pollutant Discharge Elimination System
NTS	Nevada Test Site
O&M	operation and maintenance
OAC	ohio administrative code
OU	Operable Unit
PCB	polychlorinated biphenyl(s)
ppm	parts per million
psi	pounds per square inch
RCRA	Resource Conservation and Recovery Act, 1976 (Title 42)
ROD	Record of Decision (CERCLA)
WAC	waste acceptance criteria
yd^3	cubic yard

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D.0 IDENTIFICATION AND SCREENING OF TECHNOLOGY TYPES

This appendix presents tables representing the initial screening of technology types and related process options that were identified for Operable Unit 3 (OU3) material categories. The technologies that pass the initial screening process are further evaluated for effectiveness, implementability, and cost.

D.1 INITIAL SCREENING OF TECHNOLOGY TYPES AND PROCESS OPTIONS

Section 4.4.1 of this report discussed the goals of the initial screening process. Process options were identified and screened based on considerations that included current site conditions, types and concentrations of OU3 contaminants, and the quantity and viability of information available for the respective process options.

The initial screening tables in this appendix were created by assessing available technology types that were potentially applicable for possible further treatment of OU3 materials to be derived from the OU3 interim remedial action. The identification of the respective process options for each material category was completed by referencing the U.S. Department of Energy Decommissioning Handbook (DOE 1994a), Oak Ridge National Laboratory Technology Logic Diagram (DOE 1993a), Idaho National Engineering Laboratory D&D Technology Logic Diagram U.S. (DOE 1994b), the DOE Office of Technology Development Program Research Development Announcement (PRDA) and Research Opportunity Announcement (ROA) programs, K-2073 Oak Ridge K-25 Site Technology Logic Diagram (DOE 1993b), the EPA Vendor Information System for Innovative Treatment Technologies database (VISIT) (EPA 1995a), and Alternative Treatment Techniques Information Center (ATTC) database (EPA 1995b). The initial screening was conducted in accordance with US EPA guidance (EPA 1988).

Table D-1 identifies and screens technology types and process options that are potentially applicable to all material categories. These technology types and process options fall within the no further action, institutional controls, and disposition GRAs respectively. The treatment GRA is material specific and therefore evaluated separately in this appendix.

Tables D-2 through D-4 provide results of the initial screening of treatment technology types and process options for specific groups of material categories. The categories were grouped since much of the applicable screening information was the same for groups of categories. The tables include the following information:

- the GRA, applicable technology type, and associated process options;
- the anticipated OU3 contaminants of concern that the process option may treat (e.g., low level radiological, inorganics, organics, and PCBs);
- a description of the process option; and
- the decision whether or not to retain the process option for further evaluation.

The process options that were deleted from further consideration were shaded in Tables D-2 through D-4. The retained process options, presented in Table 4-2 of this report, were then subjected to further evaluation.

D.2 EVALUATION OF TECHNOLOGY TYPES AND PROCESS OPTIONS

Section 4.4.2 of this report discussed the goals of the process option evaluation. The evaluation is based on the effectiveness, implementability, and cost of the process option. The following sections present the evaluation of all process options retained from the initial screening process by GRA.

Tables D-5 through D-7 summarize only the respective evaluation results for the potential treatment of the material category groups. The evaluation of process options provide the following information:

- the GRA, applicable technology type, and associated process options retained from initial screening;
- the anticipated OU3 contaminants of concern that the process option may treat;
- an evaluation of the effectiveness of the process option to treat a contaminant;
- an evaluation of the process option implementability; and
- a non-quantitative estimate of the capital and operation and maintenance (O&M) costs relative to process options within the same technology. The costs are presented as high (H), moderate (M), or low (L).

The process options that were deleted from further consideration during the evaluation have been shaded. The technology types and process options that were retained from the evaluation process are listed in Table 4-3 of this report. As mentioned in Section 4.4.3, retained process options are methods that could be utilized as contingencies for further treatment of OU3 materials. Discussion concerning the evaluation of the no further action, institutional action, and disposition GRAs is presented in Sections D.2.1, D.2.2, and D.2.4, respectively.

D.2.1 No Further Action

The no further action GRA is retained for development into an alternative as required by the CERCLA as amended. The no further action response is intended to provide a baseline against which other remedial technologies and alternatives can be compared. Under this scenario, the site would remain in an "as is" condition once the interim remedial action has been completed. The materials generated by the interim remedial action would be in interim storage in multiple configurations, including piles, containers, and drums. Concrete and accessible metals would be stored in uncovered piles within a bermed open storage area. There are no process options under this GRA that require evaluation against effectiveness, implementability and costs.

D.2.2 Institutional Action

As discussed in Section 4.2.2, OU3 does not directly address the remediation of environmental media, therefore, no OU3 materials will remain in situ. The appropriate sitewide approach for long-term environmental media monitoring has been addressed in the OU2 ROD and the OU5 ROD. Therefore, long-term monitoring will not be evaluated within this report. The only process option associated with this GRA is short-term air monitoring during the OU3 final remedial action. The evaluation of the short-term air monitoring process option is presented below.

Short-Term Air Monitoring

Task-specific air monitoring activities for radiological airborne contaminants will be conducted during final remedial activities. This additional monitoring will augment the current air monitoring programs at the Fernald Environmental Management Project (FEMP).

Effectiveness: Air monitoring would not reduce the toxicity, mobility, or volume of potential on-site and/or off-site airborne contaminants, and would not provide any additional environmental protection from contaminant releases caused by OU3 remedial activities. However, periodic air monitoring would serve as a warning mechanism for contaminant releases during OU3 remedial activities. This warning would enable project management to revise the remedial approaches to prevent further releases. Exposure for sampling and analytical personnel is expected to be negligible.

Implementability: This process option is implementable. A network of air monitoring stations currently exists on the perimeter of the OU3 property, at the FEMP site boundary, and in several local communities. A combination of personal air samplers, breathing zone, and general area samplers constitutes the occupational monitoring program. Additional air monitoring stations may be included during the final remedial action when a potential for airborne emissions exists. The personnel required for the monitoring would be available. Any additional equipment to perform the monitoring would be readily procured.

Cost: The capital costs for this process option are low. The O&M costs for this process option are low. These costs would include air monitor maintenance, sampling, laboratory analysis, and data validation/management.

This process option will be retained as a support technology for all OU3 remedial activities.

D.2.3 Treatment Technologies

Treatment technologies considered for evaluation include thermal, chemical, and physical technologies. All biological process options were eliminated during the initial screening process (see Table D-2).

D.2.3.1 Thermal Treatment Technologies

Thermal treatment technologies expose materials to high temperatures that remove or destroy contaminants. Process options evaluated under the thermal technology are incineration, smelting, and thermal desorption.

Incineration

Incineration is used to destroy organic contamination by exposing contaminated liquids and solid materials to temperatures that range from 1,400°F to 2,200°F. Organic contaminants that are not completely combusted, as well as remaining inorganic and radiological contaminants, require collection and secondary treatment prior to disposition. The heating is generally performed in portable or stationary rotary drying kilns, fluidized-bed furnaces, or cement kilns. The incineration systems are generally equipped with material handling and air pollution control systems. This process option is potentially applicable to the miscellaneous materials category.

Effectiveness: This ex situ process option is a commercially proven method for destroying volatile organic contamination, destroying or volatilizing semi-volatile organics, and oxidizing inorganic and radiological contamination. The volume of contaminated material is reduced during the process. The destruction and removal efficiency of a contaminant is based on the type of contaminant, the type of incinerator, the moisture content of the contaminated material, the residence time of the material in the incinerator, and the temperatures applied.

Rotary kilns are generally utilized since solid materials with diameters greater than one inch may be fed into the system. This process option will reduce the mobility, toxicity, and volume of contaminated materials, but may increase risks to workers due to handling of process ashes

contaminated with incompletely combusted organic, inorganic, or radiological constituents. Secondary heating chambers (e.g., afterburner) may be required to ensure complete destruction of the organic contaminants. However, the OU3 source term for organic contamination has been estimated to be limited. This process option will not destroy inorganic and radiological contamination.

Implementability: This process option would be implementable. Stationary and mobile incineration systems are commercially available. A commercial facility that is licensed for the incineration of material contaminated with low-level radiological constituents, in Oak Ridge, Tennessee, is also available. The DOE would be required to establish a service contract with a selected commercial facility.

On-property implementation would be difficult. A rotary kiln is present at the FEMP. The current material handling and air pollution control systems may require modification based upon the material and contaminant types proposed for treatment. Materials would require transport to and loading into the incineration system. The treated material residues (ash) would require final characterization prior to disposal as a secondary waste. Operation utilities, such natural gas or electricity, would be required for operation. Negative public opinion may also have an impact on the use of an on-property incinerator due to potential airborne releases.

Cost: The off-site capital costs of this process option would be moderate since a commercial facility is in place. The off-site O&M cost would include the testing, packing, and disposal of the incineration ash. On-property capital costs would be high. These costs could include modifications to existing systems that may include alterations to material handling and air pollution control systems. The O&M costs would be high due to worker training, material handling requirements, and secondary waste disposition.

Since the volume of the materials viable for this treatment is expected to be limited, and the quantity of organic contaminants is minimal, implementing this technology is not practical due to permitting requirements, negative public opinion, and high costs. Therefore, this process option will be eliminated from further evaluation.

Smelting (also referred to as Metal Melting)
Smelting is a pyrometallurgical process for decontaminating scrap metals. The process consists of heating contaminated metal materials in a furnace, in combination with various flux materials (such as limestone and coke) to react with the contaminants and reducing gases, to yield molten metal and a slag that contains the removed contaminants. The heating temperatures can range from 1,300°F - 3,600°F. This process option is potentially applicable to all metal categories.

Effectiveness: Smelting is a commercially proven method for destroying volatile and semi-volatile organic contaminants. Inorganic and radiological contaminants are ideally removed as a constituent of the resultant process slag. However, these contaminants may become fixed within the molten metal matrix. Current commercial facilities are capable of processing up to 25,000 tons of contaminated scrap metal per year. This process is proven for eliminating the toxicity of organic contaminants and reducing the mobility of inorganic and radiological contaminants. No apparent impacts to human health and the environment would be evident as a result of implementing this process option, assuming all process pollution control measures are in place and operational.

Implementability: This process option would be implementable at one of several off-site commercial facilities. The DOE would be required to enter into a service contract with the selected commercial facility. Any required size reduction of the material could take place on-property or at the

processing facility. The equipment and the personnel to perform the size reduction at the FEMP would be available.

An on-property smelting operation would require the smelting equipment, trained operating personnel, and regulatory operation permits. The secondary wastes produced by smelting that would require treatment and/or disposal include the contaminated slag, spent off-gas filters, and spent quenching water. Operation utilities, such as natural gas, electricity, and/or water would be required for operation. Negative public opinion may also have an impact on the use of an on-property smelting operation due to potential airborne releases.

Cost: The capital costs of an off-site process are low. The O&M costs are moderate due to transportation costs, processing fees, and the treatment and disposal of secondary wastes. The capital costs of an on-property smelting process are high. These costs would include the acquisition of an electric induction furnace, with melting crucibles and all ancillary equipment, pollution control systems, and all process operation control systems. The on-property O&M costs would also be high due to the required training, labor, transportation and handling, permitting, and utilities.

The overall on-property costs of this process option are high. The overall costs of utilizing an off-site facility are moderate. However, the potential reduction of volume, toxicity, and mobility and metal re-use benefits may offset the initial processing costs. Therefore, this process option will be retained for further evaluation for all metal categories.

Thermal Desorption

Thermal desorption separates volatile organic contaminants from contaminated feed material by exposing the material to temperatures that range from 300°F to 800°F. The organic contaminants are volatilized. The off-gas is collected and, if appropriate, treated prior to discharge. The heating is generally performed in portable or stationary rotary drying kilns, indirect-heated furnaces, or asphalt aggregate dryers equipped with material handling systems. This process option is potentially applicable to all metal categories.

Effectiveness: This process option has been accepted by industry as an ex situ process for the effective removal of volatile organic contamination only from soils and solid materials, including concrete, brick and miscellaneous materials, with diameters of less than three inches. However, contaminants such as mercury may also be volatilized, thereby creating operation permitting and secondary waste generation difficulties. The depth of subsurface decontamination depends on the contaminant of interest, the physical condition of the contaminated material, the temperatures applied to the material, and the material throughput rate (5-100 tons/hour). An off-gas collection and treatment system is necessary to protect system operators and the environment from the volatilized fraction. The treated material would require cooling after treatment for safe handling, and may require further treatment depending on the contaminants that remain. No apparent impacts to human health and the environment would be evident as a result of implementing this process option, assuming all process pollution control measures are in place and operational.

Implementability: This process option could be implemented at an off-site commercial facility. The DOE would need to enter into a service contract with the selected facility to have OU3 materials treated.

The implementability of this process option on-property would be difficult. A rotary kiln is located at the FEMP. The current material handling and air pollution control systems may require modification based upon the type of material and contaminant type proposed to be treated. The material may need

to be size reduced (if greater than three inches) or dried prior to treatment. Workers assigned to operate the system would require extensive training. Operation utilities such as natural gas, electricity, water, and steam would be required. The off-gas collection/treatment media would require appropriate disposal.

Cost: The off-site capital costs of this process option would be low since the vendor's equipment would be in place. The off-site O&M costs would be high due to material handling and transportation costs, and treatment and secondary waste disposal fees. The on-property capital costs would be high. These costs would include acquiring a heating chamber, an off-gas collection and treatment system, a conveyorized material handling system, and ancillary equipment, or modifying the existing rotary kiln system to the desired operation specifications. The on-property O&M costs would also be high due to system maintenance, material treatment verification sampling and analysis, material handling, utility costs, and secondary waste disposal costs.

The effectiveness of this process option is currently proven for the removal of organic contaminants only. No data have been collected to verify any level of effectiveness on inorganic and radiological contaminants. The overall costs of implementing this process option are high. Due to the limited quantity of materials contaminated with organic constituents, this process option will not be retained for further evaluation.

D.2.3.2 Chemical Treatment Technologies

Chemical treatment technologies utilize process options that reduce the mobility, toxicity, and/or the volume of contaminants by chemically interacting with the contaminants of interest. Process options evaluated under the chemical treatment technologies include the following:

- chemical conversion,
- chemical leaching,
- electropolishing,
- proprietary solvents,
- surfactants,
- turbulator, and
- ultrasonic cleaning.

Chemical Conversion

This process option is used to convert asbestos containing material (ACM) to a non-toxic material. The process involves submerging ACM in an agitated proprietary solution that destroys the asbestos fibers. The resulting sand-like residue could be chemically leached to remove remaining inorganic or radiological contaminants. This process option is potentially applicable to the regulated ACM and non-regulated ACM categories.

Effectiveness: This ex situ process has been commercially proven to destroy asbestos fibers, thereby creating a non-toxic residue. The process will provide volume reduction for the regulated ACM. However, due to the density of non-regulated ACM, no significant volume reduction is expected. The process does not address any other contaminants. The removal of any inorganic or radiological contaminants may be accomplished by applying a secondary waste treatment method such as chemical leaching or solidification. Potential impacts to human health and the environment could arise from the secondary wastes, such as spent conversion solutions. Engineering and administrative controls, as well as the use of proper personal protective equipment, would be required.

Implementability: This process option would be implementable at an off-site commercial facility. The DOE would be required to enter into a service contract with an off-site facility to have the materials treated.

The on-property implementation of this process option would be difficult. An on-property facility would require bench-scale and pilot-scale studies. The secondary waste streams would include the spent digestion solution and residues. These wastes may require further treatment prior to disposal. This process would also require size reduction of materials to one-half inch or less for processing. Therefore, a pulverizer equipped with a high-efficiency particulate air (HEPA) filtration system would also be required. Secondary waste characterization would be required prior to discharge or disposal to comply with requirements of the National Pollutant and Discharge Elimination System (NPDES) permit, and with Clean Air Act (CAA) and Clean Water Act (CWA) requirements.

Cost: The capital costs for this process option are moderate. The proprietary solvent, pulverizer, stainless steel process tanks, pumping system, and ancillary equipment would need to be purchased. The O&M costs are also moderate. The handling of the ACM and the treatment sampling and analysis activities would contribute to these costs. The costs of this process option for regulated ACM may be offset by the reduction in disposal costs for the contaminated, non-regulated ACM due to volume reduction.

This process option may be used for the reduction of ACM toxicity and volume for regulated ACM. Therefore, the chemical conversion process option will be retained for further evaluation.

Chemical Leaching

Chemical leaching is a process in which contaminated materials are immersed in a chemical decontamination solution. The contaminants are removed from the materials via chemical reaction with the decontamination solution. An OU3 engineering study of this process option indicated that chemical leaching was not effective on concrete and acid brick residues. A engineering study of the effectiveness of chemical leaching on chemical conversion residues will take place only if that process option is selected for final remediation.

An OU3 engineering study of this process option is scheduled to be performed for the decontamination of the scrap structural steel generated from the Plant 7 removal action. Therefore, this process option will only be potentially applicable to the accessible metal category.

Effectiveness: This ex situ process option has been commercially demonstrated for the removal of organic, inorganic, polychlorinated biphenyl (PCB), and radiological contamination from contaminated scrap structural steel. The contaminated steel can be immersed in the decontamination solution via batch processing or a continuous feed system. The scrap steel components may require size reduction to be compatible with the system's capacity. All coatings need to be removed prior to the leaching application. The spent decontamination solution can be recycled, via filtering or ion exchange, for additional use. The secondary wastes generated are filtrates, spent ion exchange columns, and spent solution. These wastes may require secondary treatment, such as solidification or neutralization, prior to discharge or disposal. No apparent impacts to human health and the environment would be evident as a result of implementing this process option, assuming all process control and secondary waste management measures are in place and operational.

Implementability: This process option would be implementable utilizing an off-site commercial decontamination facility. The scrap structural steel from the Plant 7 removal action has been scheduled for transport to an off-site commercial treatment facility.

The on-property implementation of this process option would be contingent upon the acquisition of the processing equipment, processing controls, pollution control systems, and the decontamination solution. A secondary waste management system would be required. Utility hookups, appropriate permits and trained personnel would also be required for operation. The required personnel would be available.

Cost: The capital costs of utilizing an off-site commercial facility are low. These costs would include the acquisition of transportation containers. The O&M costs are moderate. These costs would include the treatment fees, labor, transportation, treatment, and disposal of secondary wastes. The capital costs of an on-property facility would be high. These costs would include the purchasing of process equipment and the decontamination solution. The O&M costs for an on-property facility would also be high. These costs would include operating permits, material handling requirements, trained personnel, treatment verification, and secondary waste disposal.

Since a commercial facility is currently scheduled to perform a treatability study on the scrap structural steel from the Plant 7 removal action, this process option will be retained for further evaluation. The evaluation will be based on data received on the effectiveness and efficiency of the Plant 7 steel decontamination.

Electropolishing

Electropolishing is an anodic-dissolution process in which a controlled amount of contaminated surface is stripped from a conductive substrate being cleaned. The contamination embedded in the removed material is transported away via dissolution, thereby creating a clean substrate surface. The level of decontamination is defined by the electrolytic solution used, the electrical current applied, and the smoothness of the substrate surface. This process option is potentially applicable to all metal categories.

Effectiveness: This ex situ process option has been commercially proven to be effective for the removal of inorganic and radiological contamination from conductive materials. Electropolishing was successfully utilized at the DOE Hanford Reservation for the removal of plutonium oxide from conductive components. This process option may treat varying types and shapes of conductive surfaces. Large conductive components may also be treated without size reduction. The hygroscopic nature of the electrolytic solution minimizes airborne emissions.

This process option will not treat surfaces that are coated with non-conductive materials (e.g., paint). These materials would require removal and thereby would create secondary wastes that would require potential treatment and subsequent disposal. The components may also require repeated exposure to attain the decontamination goals. Non-conductive constituents of a treated component, and cracks, crevices and surfaces that are not in "the line of sight" of the negatively charged electrode will not be readily decontaminated. The electrolytic solution containing the removed contamination can be recycled via ion exchange or filtering. The secondary wastes generated by this process option are spent filters, ion exchange columns, and solution. The metal plates (negative electrode) may also need periodic decontamination to maintain effectiveness. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control and secondary waste management measures are in place and operational.

Implementability: This process option could be implemented using portable or stationary systems that are commercially available.

The on-property implementability of this process option would be contingent upon the acquisition, installation, and permitting of the electropolishing system. A secondary waste management system would be required. Training for on-site personnel would also be required. The personnel required to implement this process option would be available.

Cost: The costs of portable or stationary commercial facilities using this process option are moderate. These costs would include removing any coatings from the substrate as well as transportation, handling, and treatment fees. The on-property facility capital costs of this process option would be high. These costs would include the purchasing of process equipment and the anodic and electrolytic solutions. The O&M costs are high since material handling, worker training, and secondary waste disposal would be required.

Most of the structural steel at the FEMP is coated with several layers of paint. Much of the machinery and equipment is also painted. The paint coatings would have to be removed, and the exposed conductive surfaces would then require characterization to determine if the surfaces are actually contaminated. This would be a labor intensive activity. Therefore, this process option will not be retained for further evaluation.

Proprietary Solvents

Proprietary solvents are specialized chemicals designed to extract chemical and radiological contamination from solid materials. This process option is potentially applicable to the following material categories: concrete, brick, all metals, and non-regulated ACM.

Effectiveness: Proprietary solvents have been commercially proven for the in situ removal of organic, inorganic, radiological, and PCB contamination from material surfaces and substrate. The effectiveness of subsurface decontamination is dependent on the type of contamination, the physical nature of the substrate, the amount of time the solvent is applied to the substrate, and the solvent itself.

Successful demonstrations of proprietary solvents have been completed at the DOE Oak Ridge Reservation and at the DOE Piketon facility. Radiologically contaminated solid materials (metals) were readily decontaminated to the respective "free release" levels. Some proprietary solvents have been designed to be non-flammable, non-explosive, and non-hazardous under the Resource Conservation and Recovery Act (RCRA). Solvents also possess encapsulation properties to reduce airborne emissions. No apparent impacts to human health and the environment would be evident as a result of implementing this process option assuming all process control and secondary waste management measures are in place and operational.

Implementability: The implementability of this process option would be contingent upon results of bench and pilot scale testing of proprietary solvents prior to full scale use. The testing would need to demonstrate the effectiveness of the solvent on contamination removal, health risks to FEMP workers, and potential impacts to the environment. The spent solvent would be a secondary waste stream requiring treatment (e.g., filtering) prior to disposal. The spent filtrate would then require appropriate disposal. Any off-site discharge of the spent solvent would require adherence to appropriate regulations (e.g., NPDES, CWA, etc.). This would be accomplished by treating the spent solvent at the Advanced Wastewater Treatment (AWWT) Facility. FEMP personnel would be available and would require training to implement this process option.

Costs: The capital costs of this process option may be moderate to high, depending on the cost of the proprietary solvent selected and the application and removal equipment. The O&M cost would be moderate due to labor, training, and secondary waste treatment and disposal costs.

An OU3 engineering study of the decontamination effectiveness of a proprietary solvent on FEMP non-regulated ACM (transite) is being performed. Proprietary solvent decontamination has been demonstrated to be effective on concrete, steel, and other contaminated solid materials. Therefore, this process option will be retained for further evaluation.

Surfactants

Surfactants are used to break chemical and physical bonds between contamination and the affected material by reduction. Surfactants then act as a carrier to remove the contamination. They are commercially available in spray, foam, or gel form. Surfactants may also be added to water washing techniques to augment the decontamination effectiveness. This process option is potentially applicable to all material categories.

Effectiveness: The in situ and ex situ use of surfactants is a commercially proven method for the removal of organic, inorganic, PCB, and radiological surface contamination. This process option has had some success at removing loosely bound subsurface contamination. Repeated applications can produce contamination reduction up to several orders of magnitude. These process options perform well on accessible and uniform, large surface areas or on areas of localized contamination. Surfactants have been utilized in industry and at various DOE sites for surface decontamination efforts. No apparent impacts to human health and the environment would result from implementing this process option.

Implementability: This process option is implementable. Surfactants are generally sprayed on a surface or applied with a cloth or brush. The removal of the spent foams and gels is accomplished using a vacuum, water wash, or cloth. The spent surfactant rinse or removal cloth may require treatment prior to disposal or discharge. The personnel required to perform these tasks would be available.

Cost: The capital costs for this process option are low since the surfactant costs and applicator systems are inexpensive. The O&M costs are moderate due to the labor and secondary waste disposal requirements.

The potential exists for the treatment of localized areas of contamination (primarily removable) on materials after the OU3 interim remedial action has been completed and before final disposition occurs. Therefore, this process option will be retained for further evaluation.

Turbulator

A turbulator system uses stirring propellers to direct a flow of a decontamination solution via agitation across the surfaces of contaminated materials. A square or round turbulation tank can have two to four propellers each. The propeller operation can be automatically adjusted to create changes in the flow direction of the decontamination solution. This action promotes the decontamination of more inaccessible and more heavily contaminated surface areas. This process option is applicable to all metal categories.

Effectiveness: This ex situ process option is designed for the removal of surface inorganic, organic, and radiological contamination. This process option has been commercially demonstrated at various DOE facilities for the decontamination of metallic hand tools, valves, pump pistons, etc. The type of

contaminant to be removed would determine the solution to be used. The material handling aspects of this process option could pose an immediate impact to human health. No apparent impacts to the environment would be evident as a result of implementing this process option, assuming all process control and secondary waste management measures are in place and operational.

Implementability: The implementability of this process option would be contingent upon data results from bench and pilot scale tests that would be required to determine the effectiveness of this process option on OU3 contaminated material. Commercial turbulator systems are generally designed for tools and small pieces of equipment. Design modifications would be required to increase the system capacity for larger pieces of equipment or structural steel. Existing on-property process tanks could be modified to create a turbulator system. The handling of the contaminated and treated materials would be labor intensive. The contaminated material may require size reduction to meet the capacity limits of the process system. Personnel would need training on system operations. The secondary wastes would include the contaminant filtrates and spent decontamination solution. These wastes would require treatment prior to disposal or discharge. Personnel would need training on system operations. The personnel to implement this process option would be available.

Cost: The capital costs of this process option are moderate. The costs would include purchasing the tanks, propeller units, control systems, and decontamination solution. The O&M costs would also be moderate due to the labor and secondary waste disposal costs.

This process option has been commercially proven to remove loose contamination. However, the OU3 interim remedial action activities are scheduled to remove loose contamination through decontamination. Any remaining contamination would be fixed within the matrix of the material. Therefore, this process option will not be retained for further evaluation.

Ultrasonic Cleaning

This process option uses a generator to produce an ultrasonic frequency (greater than 20 Mhz). A transducer then converts the frequency energy into low-amplitude mechanical energy. This energy, when applied to a decontamination solution, creates a vigorous scrubbing action due to the rapid formation and collapse of bubbles. Ultrasonic cleaning produces no abrasion, distortion, or changes in most solids, and is ideally suited for delicate materials. This process option is potentially applicable to all metal categories.

Effectiveness: This ex situ process option has been commercially proven for the removal of loosely bound organic, inorganic, PCB, and radiological surface contamination. Ultrasonic cleaning is ineffective for tightly bound materials such as paints, varnishes, and other materials that are difficult to remove. The use of this method on large pieces of equipment or structural steel results in less effective decontamination results. This process option has been utilized in industry and within the DOE complex, particularly at the Y-12 Site in Oak Ridge, for the decontamination of hand tools and small pieces of equipment. This process option has been used especially when the tools or equipment are constructed of exotic metals or specialized alloys. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control and secondary waste management measures are in place and operational.

Implementability: The implementability of this process option would be contingent upon results of bench and pilot scale testing to determine the effectiveness of decontamination on the OU3 metal categories. Commercial ultrasonic cleaning systems are generally designed for small tools. Design modifications may be required to increase the system capacity for larger pieces of equipment or for structural steel. Any surface coatings would require removal utilizing a different method prior to

implementing this process option. The secondary waste generated from the surface coatings would require potential treatment and appropriate disposal. The material handling operations would be labor intensive. The cleaning process will generate secondary wastes, including the spent decontamination solution and filtered contamination residues, which would require treatment prior to disposal or discharge. If a commercial system is used on-property, then site personnel would require the appropriate systems training. The site personnel would be available.

Cost: The capital costs of this process option are moderate. The costs would include purchasing the required equipment and decontamination solution. The O&M costs are moderate due to labor requirements.

An OU3 engineering study of this process option is currently being performed on equipment made of nickel and/or specialty alloys. A potential exists that this process option could also be applied to larger metal components. Therefore, this process option will be retained for further evaluation.

D.2.3.3 Physical Treatment Technologies

Physical treatments use process options and associated techniques that physically remove surface contamination from the contaminated material. Process options evaluated under the physical treatment technology include the following:

- abrasive blasting,
- compaction,
- crushing,
- encapsulation,
- shredding,
- solidification (of decontamination residues),
- vibratory finishing, and
- water washing.

Abrasive Blasting

The abrasive blasting process option consists of several techniques that use centrifugal force or compressed air to propel abrasive media against the contaminated surfaces. Techniques vary in aggressiveness from surface cleaning to surface removal. Various types of abrasive blast media include frozen carbon dioxide (CO_2) pellets, ice, sponge, sand, soda, grit, and metal shot. The abrasive process option is scheduled to be utilized for the decontamination of the scrap structural steel generated from the Plant 7 Removal Action. This process option is potentially applicable to the accessible metal and painted light-gauge metal categories.

Effectiveness: Abrasive blasting is a commercially proven process option, generally for in situ applications, that effectively removes surface and subsurface organic, inorganic, PCB, and radiological contamination. Decontamination effectiveness is dependent on the type of contamination, the depth of contamination penetration in the affected material, the type of abrasive used, and the pressure and distance at which the abrasive is applied to the material. Abrasive blasting technologies such as CO_2, ice, and soda blasting are effective at removing contaminated surface coatings (e.g., paint) but are not efficient at subsurface removal. Sand and shot blasting are more aggressive techniques for subsurface contamination removal.

This process option is designed to protect the operator from airborne emissions by recovering the spent blast media (except ice and frozen dioxide) for reuse and the contaminated material in HEPA vacuum/filter systems. No apparent impacts to human health and the environment would result from

implementing this process option, assuming all process control and secondary waste management measures are in place and operational.

Implementability: This process option would be implementable. Commercial decontamination facilities utilizing abrasive blasting are currently available. The scrap structural steel from the Plant 7 Removal Action has been scheduled for transport to an off-site commercial treatment facility. The DOE would be required to enter into new service contracts with the off-site vendor to have additional OU3 material treated. An on-property treatment facility would require acquisition and housing of blasting equipment and media.

Secondary waste includes paint chips, concrete residues, etc. A blast media recovery system would be required to recycle the blasting media. Spent media may require treatment prior to disposal. The exception to this is ice blasting, which requires wastewater treatment systems to collect the spent, contaminated water. Containment systems are also required to control airborne contamination. Appropriate training of FEMP personnel would be required to prepare the materials for off-site shipment. The required personnel would be available.

Cost: The capital costs of utilizing an off-site commercial facility are low. These costs would include the acquisition of transportation containers. The O&M costs for the off-site facility are moderate. These costs include treatment fees, labor, transportation, and disposal of secondary wastes. The capital costs of an on-property facility would be high. These costs would include the purchasing of blasting equipment and media. The O&M costs for the on-property facility would be moderate. These costs would include material handling, worker training, treatment verification, and secondary waste disposal.

Since a commercial facility is currently scheduled to decontaminate the scrap structural steel from the Plant 7 Removal Action using abrasive blasting, this process option will be retained for further evaluation. The evaluation will be based on data received on the effectiveness of the Plant 7 steel decontamination.

Compaction

Mechanical compaction of loose materials is performed using a hydraulic compression and baling system. The resulting volume reduction provides a more effective means of material handling and disposal. This process option is potentially applicable to the following material categories: process-related metals, inaccessible metals, painted light-gauge metals, regulated ACM, and miscellaneous materials.

Effectiveness: This process option is a commercially proven method for reducing the volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. The application of this process option is not intended to reduce contaminant mobility and/or toxicity. This process option has been widely used throughout industry and the DOE complex for the preparation of wastes scheduled for disposal. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control measures are in place and operational.

Implementability: This process option is implementable. Stationary and mobile systems are commercially available. A preventive maintenance program is required to maintain production rates. Standard earth moving equipment is used to fill the feed hopper and manage the compacted material. Additional bins may be required to segregate output materials based on contamination levels. The system would require fugitive dust containment measures. The dust containment could be

accomplished using either a structure equipped with a HEPA filter system or a built-in system on the compactor. Training for site personnel would required. Heavy equipment operators would be required. These personnel would be readily available.

A compaction system currently exists at the FEMP that may be utilized if the system's capacity can sufficiently process the proposed OU3 materials. The long-term use of this existing compactor may be limited if the OU3 structure in which the unit is housed is decontaminated and dismantled.

Costs: The capital costs for this process option are moderate. The costs would include a compaction and fugitive dust collection system. The O&M costs for this process option are also moderate due to the labor and material handling costs.

Compaction does not treat contaminants of concern. However, disposal costs may be reduced by the benefits of waste volume reduction. Therefore, this process option will be retained for further evaluation.

Crushing

Crushing is a method of reducing the volume of contaminated materials to enhance disposal efficiency. Commercial systems are available to size reduce and volume reduce materials to a user defined size. This process option is potentially applicable to the concrete and brick categories.

Effectiveness: This process option is a commercially proven method for reducing the volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. The application of this process option is not intended to reduce contaminant mobility and/or toxicity. This process option has been widely used throughout the industry and the DOE complex for the preparation of wastes scheduled for disposal. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control measures are in place and operational.

Implementability: This process option would be implementable. Stationary and mobile systems are commercially available. A preventive maintenance program would be required to maintain production rates. Standard earth moving equipment would be used to fill the feed hopper and manage the crushed material. Additional bins may be required to segregate output materials based on contamination levels. The system would require fugitive dust containment measures. The dust containment could be accomplished using either a structure equipped with a HEPA filter system or a built-in system on the crusher. Training for site personnel would required. Heavy equipment operators would be required. These personnel would be readily available.

Costs: The capital costs for this process option are high. The equipment for an on-property operation would include a conveyorized material feed system, the crusher, and a fugitive dust collection system. The O&M costs for this process option are also high due to the labor, material handling, and sampling and analysis requirements.

The potential for disposal cost savings exists if volume reduction of the contaminated materials is achieved. Therefore, this process option will be retained for further evaluation.

Encapsulation

Encapsulation is a process option in which a coating is applied to adhere to a material surface, thus reducing the mobility of surface and loosely-bound subsurface contamination. The coating thicknesses range from a light coating of latex paint to immobilize transferable contamination to a heavy polymer

coating to provide more resiliency against impact or abrasion. This process option is potentially applicable to all OU3 material categories.

Effectiveness: The in situ and ex situ application of encapsulants to material surfaces has been commercially proven to provide effective reduction in the mobility of loose radiological, hazardous, asbestos, and PCB contaminants. Resistance to abrasion, physical impact, and the natural elements depends on the type of encapsulant chosen. The life expectancy of an encapsulant would depend on its chemical composition, the number of applications to a material, the surrounding physical environment, etc. Potential impacts to human health and the environment may arise due to inhalation or airborne release of the solvent vapors that accompany the encapsulants. Appropriate engineering and personal protective measures would be required.

Implementability: This process option is implementable. The encapsulant application could be performed on-property or at an off-site commercial facility. No specific regulatory permits would be required to perform this task. Encapsulants are generally applied to a material surface using a spray applicator system. The emptied encapsulant containers may require disposal as a secondary waste. The personnel required to implement this process option would be available.

Costs: Capital costs of this process option are low. The capital costs would include the encapsulant and an application system. The O&M costs are also low.

This process option will be retained for all OU3 remedial activities.

Shredding

Commercial shredding systems generally consist of two direct-driven or hydraulically powered shafts fitted with cutter wheels separated by counter-rotating spacers. A shredder is utilized to size and volume reduce materials as a means of increasing material handling capabilities and reducing disposal volumes. In general, the heaviest materials that can be shredded are one-quarter inch thick steel, one and one-quarter inch reinforcement bar, and four-inch, schedule forty pipe. This process option is potentially applicable to all metal categories and the miscellaneous materials category.

Effectiveness: This process option is a commercially proven method for reducing the volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. The application of this process option is not intended to reduce contaminant mobility and/or toxicity. This process option has been widely used throughout industry and the DOE complex for the preparation of wastes scheduled for disposal. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control measures are in place and operational.

Implementability: This process option would be implementable. Stationary and mobile systems are commercially available. A preventive maintenance program would be required to maintain production rates. Standard earth moving equipment would be used to fill the feed hopper and manage the shredded material. Additional bins may be required to segregate output materials based on contamination levels. The system would require fugitive dust containment measures. The dust containment could be accomplished using either a structure equipped with a HEPA filter system or a built-in system on the shredder. Training for site personnel would required. Heavy equipment operators would be required. These personnel would be readily available.

Costs: The capital costs for this process option are moderate. The costs would include a shredding and fugitive dust collection system. The O&M costs for this process option are also moderate due to the labor and material handling costs.

Shredding does not treat contaminants of concern. However, disposal costs may be reduced by the benefits of waste volume reduction. Therefore, this process option will be retained for further evaluation.

Solidification (of Decontamination Residues)
The purpose of solidification is to prepare contaminated wastes for disposal in an environmentally acceptable manner. Solidification would be performed in order to prevent contaminants in the waste from leaching once the wastes are disposed. This process option combines contaminated wastes with portland cement, a siliceous material, an aluminosilicate material, or a polymeric material to create a stable physical and chemical form. This process option is potentially applicable to treat residues that may be created from the decontamination of concrete, brick, accessible metal, and light gauge painted metals during the OU3 interim remedial action and post-interim remedial action decontamination efforts.

Effectiveness: Solidification is a commercially proven and regulatory accepted in situ or ex situ process option for the treatment of sludges, residues, and liquids contaminated with organic, inorganic, and low-level radiological constituents. The treatment immobilizes contaminants and, in some cases, reduces contaminant toxicity. The effectiveness of the treatment is dependent on the treatment goals, the physical and chemical characteristics of the contaminated material, and the type of solidification admixtures used. The product of this process option is a monolithic form that can be safely dispositioned in a cost effective manner. No apparent impacts to human health and the environment would result from implementing this process option.

Implementability: The implementability would be contingent upon developing and testing mixing formulations for the specific materials intended to be treated. Therefore, bench and pilot scale testing would be required. Proper implementation is necessary to ensure that the waste form tested in the laboratory represents what would be produced in the field. Once mixing formulae are determined, the appropriate equipment would be procured. Site personnel would require systems operations training. These personnel would be available.

Costs: The capital costs of this process option are low to moderate, depending on the type of admixture and blending equipment utilized. The O&M costs would be moderate. The verification of treatment would require sampling and analysis, and disposal costs may increase due to the additional volume of the solidified materials.

The benefits of contamination immobilization and toxicity reduction may offset the cost of disposing the additional volume of stabilized material. The FEMP Site Treatment Plan identifies solidification as the preferred treatment of lead-based paint residues that may be generated from the decontamination of OU3 metals. The FEMP Waste Programs Management group is currently conducting a engineering study for the applicability of solidification to mixed wastes. Therefore, this process option will be retained for further evaluation.

Vibratory Finishing
Vibratory finishing is a process option in which contaminated materials are immersed in a decontamination solution containing a fine abrasive medium. The decontamination solution is mechanically agitated using high frequency vibrations. The agitated decontamination solution thus

creates a scouring effect to remove the contaminants. This process option is potentially applicable to all metal categories.

Effectiveness: This commercially proven ex situ process option is effective for the removal of surface and loosely bound subsurface organic, inorganic, PCB, and radiological contamination. This process option will also remove surface coatings (e.g., paints and enamels).

The effectiveness of the treatment depends on the type of contamination to be removed, the decontamination solution used, the level of vibratory energy applied to the system, the size and geometry of the material, and the amount of time the material is treated. This process option has been traditionally utilized for the cleaning of hand tools and small pieces of equipment.

Implementability: This process option would be implementable. Commercial vibratory finishing systems are generally designed for tools and small pieces of equipment. Design modifications would be required to increase the system capacity for larger pieces of equipment or structural steel. Existing on-property process tanks could be modified to create a finishing system. The handling of the contaminated and treated materials would be labor intensive. The contaminated material may require size reduction to meet the capacity limits of the process system. Personnel would need training on system operations. The secondary wastes would include the contaminant filtrates and spent decontamination solution and abrasives. These wastes would require treatment prior to disposal or discharge. Personnel that would be required to operate the system and handle the material would be available.

Cost: The capital costs of this process option are moderate. The capital costs would include the acquisition of the decontamination solution, abrasive media, process tank, and associated equipment. The O&M costs are also moderate due to the labor and secondary waste treatment and disposal requirements.

Vibratory finishing could be an effective alternative for the pre-treatment of contaminated materials prior to chemical treatment. Therefore, this process option will be retained for further evaluation.

Water Washing

Water washing encompasses a variety of techniques using water to remove contamination. Water pressures, flow rates, and temperatures can be adjusted to vary from the removal of surface contamination to spalling-off the contaminated material surfaces. The water washing techniques include high pressure spray (5,000-20,000 pounds per square inch [psi]), ultra-high pressure spray (30,000-50,000 psi), superheated water (300°F at 300 psi), and steam cleaning. This process option is potentially applicable to the accessible metals category.

Effectiveness: Water washing is a commercially proven process option used for the in situ or ex situ methods of removing surface and loosely bound subsurface organic, inorganic, PCB, and radiological contamination. The type and penetration of contamination, surface accessibility, material porosity and geometry determine the system to be used to meet the decontamination goals. Abrasives or surfactants may be added to the wash water stream to increase the decontamination effectiveness. This process option was used for the Plant 7 removal action decontamination efforts. Water washing is also scheduled to be used during the OU3 interim remedial action. No apparent impacts to human health and the environment would result from implementing this process option, assuming all process control measures are in place and operational.

Implementability: This process option is implementable. Commercial systems consist of a pumping system, a series of hoses, and a wand with a variety of nozzles. An adequate water supply would be required. Water washing operations would normally consist of an operator using a wand to direct the water stream at the contaminated surface. Operator health and safety concerns increase as system pressures, temperatures, and flow rates increase. This process option may cause worker fatigue, which may reduce productivity. Hearing protection, wet suits, and shin guards are typical types of personal protective equipment worn to protect against the hazards.

Containment systems would be required to collect spent waste waters, which can be treated with the FEMP wastewater treatment system. Additional secondary wastes include contaminated paint residues, concrete residues, and loose media. The secondary wastes may require sampling and analysis prior to discharge or disposal to verify compliance with CWA, NPDES, and RCRA regulations. Personnel required to perform this task would be available.

Costs: The capital costs of this process option are low. The O&M costs are moderate due to the labor requirements and the need for personal protective equipment.

Water washing was utilized for the surface decontamination of the Plant 7 interior, and is scheduled to be used during the OU3 interim remedial action in a similar capacity. Secondary surface decontamination efforts of accessible metal components may be required prior to final disposition. Therefore, this process option will be retained for further evaluation.

D.2.4 Disposition Technologies

The technologies considered for the disposition of OU3 material are on-property disposal, off-site disposal, unrestricted release, and material transportation.

D.2.4.1 On-Property Technologies

The process option evaluated under on-property disposal for this technology is landfilling.

Landfilling

This option involves the landfilling of OU3 interim remedial action derived materials in an on-property disposal facility. The on-property disposal facility would contain materials in an aboveground earthen structure. Operational methods that reduce the volume of contaminated materials, ease the handling of the materials, and reduce human exposure to radiation and other contaminants would be rigidly followed. Contaminated materials received at the on-property facility would have to meet acceptance criteria that would restrict moisture content, concentration and quantity of radiological contaminants, and toxic and hazardous waste concentrations. The disposal facility would have a 200 year design life and an effective life of 1,000 years, in accordance with 40 CFR 192, DOE Order 5400.5, and Ohio Administrative Code (OAC) 3745-27.

Effectiveness: On-property landfilling would be effective for reducing the mobility of contaminants and restricting personnel, public, and wildlife access to the OU3 materials. This process option would also reduce the volume of materials that may require dispositioning at an off-site disposal facility. No apparent impacts to human health and the environment would result from implementing this process option, assuming all containment control measures are in place and operational. The effective life of the on-property disposal facility would need to match or exceed an OU3 disposition schedule.

Implementability: This option would be implementable. An on-property disposal facility is proposed to be constructed and administered by OU2. A verification sampling and analysis program

may be required to confirm that OU3 materials do not exceed the on-property WAC. The accepted materials would require transport to the disposal cell location.

Cost: The capital costs for this process option would be low. The O&M costs for this process option would also be low.

This process option will be retained as the representative technology for all material categories meeting the on-property WAC.

D.2.4.2 Off-Site Disposal Technologies
Process options being evaluated for the off-site disposal technology are the Nevada Test Site (NTS) and a representative commercial disposal facility.

Nevada Test Site
This option involves the disposal of OU3 materials at an existing DOE facility. The NTS is located in Nye County, Nevada, with the southwest corner of the facility situated approximately 65 miles northwest of Las Vegas. The NTS encompasses about 1,350 square miles. The NTS has an arid climate, and is surrounded on the east, north, and west by public access exclusion areas that provide a buffer zone between the test areas and the nearby public lands. Depths of the groundwater beneath the NTS vary from approximately 500 feet to greater than 2,000 feet. An environmental impact statement for waste disposal activities at the NTS is currently being prepared to satisfy the requirements of the National Environmental Policy Act (NEPA).

OU3 materials could be transported for permanent disposal at the NTS. As a condition of disposal at the NTS, no untreated wet, raw waste or free liquids are accepted. An additional NTS requirement, that the material be characterized only as a low-level radioactive waste, was in effect at the time this report was prepared. The NTS cannot accept mixed (hazardous and radioactive) waste at this time; however, a permit to accept mixed waste is pending. In addition, the material cannot contain PCBs at concentrations greater than 50 parts per million (ppm). All materials shipped to the NTS must be containerized. No bulk material will be accepted. Radioactive materials from the FEMP are currently being shipped to the NTS. Material transportation to the NTS would be by truck, as there is no rail line leading directly to the facility, or by a combination of rail and truck systems.

Effectiveness: The NTS would effectively isolate the waste materials from potential receptors. No apparent impacts to human health and the environment would result from implementing this option since the materials would no longer be present at the FEMP. Since the facility is a federal facility, the life expectancy of the facility would be expected to accommodate the disposal of OU3 materials.

Implementability: This option would be implementable. Appendix F discusses WAC and the FEMP's ability to meet them. Logistical implementation would be moderately difficult due to the distance from the FEMP site. As no rail transportation is available into the site, shipment by truck or rail/truck combination would be required. Administratively, this process option is readily implementable since the FEMP site has an approved NTS waste certification and shipment program already in place. However, the State of Nevada and the local community near the NTS may object to the disposal of FEMP materials.

Cost: The capital cost for waste disposal at NTS is considered high and would include packaging costs in addition to the disposal fees. There would be no O&M costs associated with this option after completion of remedial activities.

This process option will be retained for all material categories except painted light gauge metals and regulated ACM due to the presence of hazardous waste and asbestos contaminants.

Commercial Off-site Disposal Facility

The Envirocare facility is representative of a typical commercial disposal facility. It is licensed by the State of Utah to receive naturally occurring radioactive material (NORM), low-activity radioactive waste, mixed NORM, and chemically hazardous wastes. The facility license restricts the quantities of material that can be actively processed at one time, the maximum quantities of special nuclear material that may be handled, and the maximum concentrations of radionuclide mixtures that may be present in each waste stream. Hazardous wastes that can be accepted at the facility include D-characteristic wastes, and most F-, P-, U-, and K-listed wastes. F-listed dioxin wastes cannot be accepted at the facility. The facility cannot receive materials containing PCBs at concentrations greater than 50 ppm. The facility is designed to dispose of contaminated bulk materials. The Envirocare facility is currently operating under a NEPA categorical exclusion.

The site is located on the eastern edge of the Great Salt Lake Desert in Toole County, Utah, approximately 81 miles west of Salt Lake City. The site occupies approximately 540 acres and has a potential total capacity of approximately 14,000,000 yd^3. The site is zoned for radioactive waste disposal. Envirocare is located approximately one mile south of a railroad switch point identified as Clive, Utah. Much of the land surrounding the site is public domain administered by the United States Bureau of Land Management.

The current total developed and permitted capacity of the facility is 2.5 million yd^3. Of this capacity, 0.5 million yd^3 has already been filled, and 0.5 million cubic yd^3 of capacity was firm contractual commitment.

The Envirocare facility is located within a 100 square mile state-approved Hazardous Waste Zone. Within this zone are three specific areas operated by waste management contractors. Envirocare is one of the contractors located in the mid section of the southern area. The water table within this area is generally at 350 to 400 feet, and the water has salty, brackish characteristics. Perched groundwater can be found at 40 to 100 feet with a multi-day holding period for recharge. The salty, brackish water is used by the Envirocare facility to maintain dust suppression during operations. Precipitation within the area is about five inches per year, with approximately 60 to 70 inches of evaporation per year.

The site is situated in an arid desert rated by the U.S. Bureau of Land Management as poor for grazing or forage production. Vegetation at the site is a homogeneous, semidesert low shrubland, composed primarily of shadescale. No wetlands or other aquatic habitats are present at or in the vicinity of the disposal facility. The nearest stream channel ends approximately 1.9 miles east of the site, and the nearest body of permanent surface water is located about 28 miles east of the facility.

Effectiveness: An operating permitted commercial disposal site would be effective for isolation of the waste materials from potential receptors. The representative site is located near Clive, Utah, an arid western location isolated from the nearby population and aquifer. The facility can accept all contaminated materials from OU3, with the exception of materials containing PCB contamination greater than 50 ppm. No apparent impacts to human health and the environment would result from implementation since the materials would no longer be present at the FEMP. It is anticipated that Envirocare would be able to accept OU3 materials through the year 2000, based on phone conversations with facility representatives. However, disposal capacity past the indicated year is uncertain.

Implementability: This option would be implementable. Similar to the NTS process option, this facility is a relatively long distance from the FEMP. However, direct rail access to the facility presents the possibility of shipping contaminated materials by rail alone. To ship materials to this facility, a new waste certification program would need to be developed and implemented to assure compliance with the disposal facility's WAC. This waste certification program, discussed in Appendix F, would be moderately difficult to implement.

Cost: The capital costs of this process option would be high due to the required shipping containers and facility disposal fees. The O&M costs of this process option are low.

This process option will be retained for all materials meeting the commercial disposal facility's WAC.

D.2.4.3 Unrestricted Release Technologies
The process options evaluated under unrestricted release include sanitary landfills and reuse/recycle.

Sanitary Landfill (Subtitle D)
This process option would utilize a local sanitary landfill for the dispositioning of OU3 materials that meet National Regulatory Commission (NRC) and DOE release limits. Any sanitary landfill that may be utilized must operate in compliance with regulations set forth in 40 CFR Part 257 - Subtitle D and OAC 3745-27-09.

Effectiveness: The use of a sanitary landfill would decrease the overall volume of OU3 materials that would otherwise be dispositioned in the on-property facility or transported to an off-site disposal facility. No apparent impacts to human health and the environment would result from implementing this option since the material would exhibit no contamination.

Implementability: This option would be implementable. The implementation of this process option would include verification that the material to be dispositioned meets all release criteria. This verification could be determined through sampling or field screening efforts. The transportation of the material to the identified sanitary landfill would be required.

Costs: The capital costs of this process option are low. The O&M costs of this process option would be moderate due to landfill disposal fees, labor, and material handling costs.

This process option will be retained for all material categories meeting the unrestricted release criteria.

Unrestricted Reuse/Recycle
The re-use/recycle process option would allow the unrestricted further use of OU3 materials. The materials may require treatment to meet all regulatory release criteria.

Effectiveness: This process option would allow the release of materials to recycling vendors and government agencies for further use. This process option would allow FEMP storage space to be utilized more effectively, and would reduce overall disposal costs. No apparent impacts to human health and the environment would result from implementing this process option.

Implementability: This option would be implementable. The implementation of this process option would include the identification of a recycling vendor or government agency to accept the OU3

material. The material to be released would require verification that it meets unrestricted release criteria. Establishing transport of the material would also be required.

Costs: The capital costs of this process option are moderate. These costs would include the shipping containers required to transport the material to the receiving facility. The O&M costs of this process option would be moderate due to labor and material handling costs.

This process option will be retained for all material categories meeting the unrestricted release criteria.

D.2.4.4 Restricted Release Technologies
The process options evaluated under recycle technologies are unrestricted release and recycling.

Restricted Release/Recycling
The restricted re-use/recycling process option is defined as a form of treatment or processing applied to a recoverable material that will leave radiological contamination exceeding the NRC 1.86 and DOE Order 5400.5 unrestricted release levels. The further use of the recycled material would require continued control by the DOE.

Effectiveness: The restricted use/recycling process option would be effective for reducing the quantity of materials requiring disposal in a low-level waste (LLW) facility and for providing recycled material for future use. The potential uses resulting from this process option may be radiological shield blocks or low-level radiological material containers. No apparent impacts to human health and the environment would result from implementing this process option.

Implementability: This option would be implementable. Several off-site NRC-permitted commercial recycling facilities are available. Any required material size reduction could take place on-property or at the processing facility. The transportation of the material would need to be arranged.

Cost: The capital costs of this process option are low. The O&M costs are moderate due to transportation costs, processing fees, and the treatment and disposal of secondary wastes.
The potential volume, toxicity, and mobility reduction and further use benefits of this process option may offset initial processing costs. Therefore, this process option will be retained for further evaluation.

D.2.4.5 Material Transportation Technologies
The process options evaluated under waste transportation include rail and truck transport.

Rail Transport
The FEMP site could support rail transportation by using existing on-site rail spurs that will be upgraded in accordance with the OU1 Record of Decision (ROD). Some off-site disposal options have facilities with the capability of receiving the waste by rail. In cases where exclusive use shipments are required, the contaminated material would be placed within a container that would be placed on a flat-bed rail car. Although rail transport has a lower percentage of accidents per trip than truck transport, the volume of material transported per trip is many times higher, thereby creating a higher risk of more materials being released in an accident.

Effectiveness: Rail transportation is effective for transportation of contaminated material to the representative off-site disposal facility with railroad spurs or for partial transportation to the NTS. Rail transportation allows large volumes of contaminated material to be transport at one time. Rail

transport is highly reliable. Typically, fewer accidents occur on a per-trip basis by rail than by truck. However, should an accident occur, the public could be exposed to much larger quantities of contaminated material. Exposures could be reduced by the containerization of the transported wastes. No apparent impacts to human health and the environment would result from implementing this process option assuming all transportation requirements are in place and operational.

Implementability: Rail transport could be implementable since the FEMP site has an existing on-site rail spur. However, rail transport is susceptible to route availability and coordination with state and local agencies along the route, and would require full compliance with all applicable United States Department of Transportation (DOT) regulations. In addition, some rail upgrades may be required.

Cost: Capital costs for rail transportation, which include upgrading the on-site rail spur and the loading areas, are considered to be high. O&M costs, which include rail fees, would be low.

This process option will be retained as a support technology for all material categories.

Truck Transport

Truck transport could easily offer portal-to-portal service with the road system available at the FEMP site. Truck transport is currently the primary mode of transportation for shipping wastes to off-site disposal facilities.

Effectiveness: Truck transport is effective for short distances, but is not as effective as rail transport for the distances required for off-site disposal options at NTS or other facilities, depending on the availability of rail spurs. Truck transport would be required for on-property disposal and off-site disposal to facilities without rail spurs. Potential exposures caused by accidents could be reduced by placing the transported wastes into containers. No apparent impacts to human health and the environment would result from implementing this process option, assuming all transportation requirements are in place and operational.

Implementability: Truck transport would be moderately difficult to implement due to the large volume of waste and the long distance involved for off-site disposal. Implementation would be relatively easy for on-property disposal options. For off-site disposal options, truck transport would require full compliance with all applicable DOT regulations. Notification to state and local agencies along the transport route would be required.

Cost: Capital costs for truck transportation, which includes construction of access roads, are considered to be moderate, while O&M costs, which include trucking fees and maintenance of the access roads and loading areas, would also be moderate.

This process option will be retained as a support technology for all material categories.

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TABLE D-1

INITIAL SCREENING OF TECHNOLOGY TYPES AND PROCESS OPTIONS THAT ARE POTENTIALLY APPLICABLE TO THE OU3 MATERIAL CATEGORIES

General Response Action	Technology Type	Process Options	Description	Screening Comments
No Further Action	None	Not Applicable	Under this CERCLA required GRA, the site would remain in an "as is" condition once the interim remedial action is completed. Materials generated by the interim remedial action would be in interim storage in controlled stockpiles. After the interim remedial action and other operable unit remedial actions were completed, DOE would maintain site ownership but no physical presence on-property.	Potentially applicable
Institutional Controls	Monitoring	Short-Term Air Monitoring	Additional monitoring for airborne contaminants during the final remediation activities.	Potentially applicable
Disposition	On-Property Disposal	Landfilling	Disposal of materials in an on-property landfill	Potentially applicable
	Off-site Disposal	Nevada Test Site	Land disposal of low-level radiologically contaminated materials at a permitted facility.	Potentially applicable
		Representative Commercial Disposal Facility	Land disposal of mixed or low-level radiologically contaminated material in a permitted facility.	Potentially applicable
	Unrestricted - Release	Sanitary Landfill (Subtitle D)	Land disposal of materials in a municipal (Subtitle D) sanitary landfill.	Potentially applicable
		Reuse/Recycle	The release of materials to a vendor or government agency of re-use or recycle.	Potentially applicable
	Restricted Recycle	Restricted - Reuse/Recycle	The application of a proven form of treatment or processing to a recoverable material that will leave some radiological contamination, thus requiring continued DOE control.	Potentially applicable
	Material Transportation	Truck Transport	The use of trucks for transporting materials to a disposal area, either on-property or off-site.	Potentially applicable
		Rail Transport	The use of rail transportation to ship materials to an off-site disposal facility.	Potentially applicable

TABLE D-2

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment	Biological	Biodegradation	X	X	X	X	Utilizes microbes with contaminant-specific affinity for biodegradation of organic contaminants.	Not applicable to radiological contaminants.
	Thermal	Smelting	X	X	X	X	The smelting process consists of heating contaminated metal material in a furnace with various fluxes (such as limestone and coke) to high temperatures in the presence of reducing gases to yield molten metal and a slag containing the removed contaminations. Commercially available technology.	Potentially applicable.
		Thermal Desorption			X	X	Thermal desorption separates volatile organic contaminants from soils or solid materials by exposing the material to temperatures that range from 300°F to 800°F. The heating is generally performed in portable or stationary rotary drying kilns, indirect-heated furnaces, or asphalt aggregate dryers.	Potentially applicable.
	Chemical	Catalytic Extraction Process	X	X	X	X	An induction or electric arc furnace is used to form a molten metal bath. It can use the molten bath not only as a means for metal purification but also as a high temperature, high energy density medium for more effective reduction of hazardous waste materials, such as PCBs, hydrocarbons, and cyanide, to nonhazardous materials. The molten metal provides much more effective contact with the material in a smaller volume than is possible with the hot gases in a conventional incinerator. Process in developmental stage.	Not applicable. Not commercially available.
		Chemical Leaching	X	X	X	X	A solvent is applied to a surface to leach the contamination out of the surface. The solvent is removed along with the suspended contamination. Process has been used successfully on metal surfaces.	Potentially applicable.
		Electropolishing	X	X			Electropolishing is an anodic-dissolution process in which controlled amounts of contamination is stripped from the surface of the conductive object being cleaned.	Potentially applicable.

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-2 (Continued)

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment (cont'd)	Chemical (cont'd)	Electrorefining	X	X			A nickel purification method which uses an electrolysis cell that contains a flat anode made from the impure nickel and a flat cathode made from pure nickel. Electrorefining would require that the scrap nickel be smelted and poured into suitable anode molds first. Process in developmental stage for decontamination.	Not applicable. This technology cannot be considered mature concerning its use for decontaminating radioactive metal since this application is much less established.
		Gamma Radiolysis			X		The process involves the radiolytic destruction of halogenated and aromatic compounds. The application on an industrial scale needs additional research, development, and demonstration (RD&D).	Not applicable. Further RD&D needed on process to develop the technology for deployment.
		Gas Phase Decontamination	X				The process of decontaminating the interior (close system) of reactors, vessels, etc. using chlorinetrifluoride (ClF_3) to fluorinate U solid deposits. Process is in developmental stage.	Not applicable. Process is in developmental stage.
		Leach/electro-winning	X	X	X	X	Leach/electro-winning technology combines leaching with electrorefining and avoids the need to smelt the scrap nickel into anodes by substituting a process that leaches the nickel into an electrolytic solution. This process would begin by pulverizing the impure metal and then leaching it (dissolve the metal into an electrolytic solution). Process in developmental stage for decontamination.	Not applicable. Similar to metallurgy refining; further development required for decontamination.
		NAC Process	X	X	X	X	Nitrate to Ammonia and Ceramic (NAC) process. The process causes aluminum to react with nitrate wastes to produce ammonia and a ceramic-like alumina waste form. The NAC process can use contaminated scrap aluminum for denitration and disposal of nitrate wastes. The feasibility of the NAC process has been proven on a bench-scale. However, further research and development needs to be conducted to establish the capabilities of the technology.	Not applicable. Further RD&D needed on the process to develop the technology.

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-2 (Continued)

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment (cont'd)	Chemical (cont'd)	Ozone/ UV Light Activation	X	X	X	X	Oxygen molecules absorb UV to form ozone that dissociates to form atomic oxygen. Furthermore, the contaminant molecules are excited and/or dissociated by the absorption of UV. The excited contaminant molecules and the free radicals produced by dissociation of contaminant molecules react with atomic oxygen to form simplet, volatile molecules, such as carbon dioxide, water, and N_2. Has been used as an effective method in semiconductor industry for organics decontamination. Further development required to determine the applicability to D&D activities.	Not applicable. Must react with O_2, therefore limited applicability, very specialized.
		Proprietary Solvents				X	A solution is applied and agitated into the surface extracting the contaminant from the media. Proprietary solvents have been demonstrated and accepted for PCBs. More information needed regarding effectiveness on radionuclides.	Potentially applicable.
		Surfactants	X	X	X	X	The surfactants loosen the chemical and physical bonds and act as a carrier which suspends the contaminants. Widely used throughout the nuclear industry for effective smearable surface decontamination.	Potentially applicable.
		Turbulator	X	X	X	X	A turbulator systems uses stirring propellers to direct a flow of a decontamination solution, via agitation, across the surfaces of contaminated materials. Commercially available technology.	Potentially applicable.
		Ultrasonic Cleaning	X	X			Ultrasonic cleaning uses the kinetic action of a decontamination liquid excited by ultrasonic frequencies to remove surface deposits of oils, organics, and loosely bound solids from metals, plastic, glass, and other solids. It produces no abrasion, distortion, or changes in most solids, and is ideally suited for delicate materials. Commercially available system for the decontamination of hand tools and other small metallic objects.	Potentially applicable.
	Physical	Abrasive Blasting (A, PR & PLG only)	X	X	X	X	A group of commercial available techniques which use centrifugal force or compressed air to propel an abrasive media against the surface. Techniques vary in aggressiveness from surface cleaning to paint and rust removal. Techniques include but are not limited to: CO_2 pellet, ice, sponge, plastic, sand, shot, soda, and black beauty.	Potentially applicable. Not applicable for inaccessible metals due to the limited surface area contact.
		Compaction (I, PR & PLG only)	X	X	X	X	The process uses hydraulic ram to compress materials reducing burial volume. Commercially available systems for size reduction.	Potentially applicable. Not applicable for accessible metals since the constituent size is large for compaction.

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-2 (Continued)

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment (cont'd)	Physical (Cont'd)	Encapsulation	X	X	X	X	Encapsulation is a process option in which a polymer coating is applied to adhere to a material surface thus reducing the mobility of surface and loosely-bound subsurface contamination.	Potentially applicable.
		Shredding	X	X	X	X	Shredders utilize centrifugal force to force material between cutting wheels or use hammers to size reduce materials. Commercially available systems for size reduction.	Potentially applicable.
		Solidification of Decontamination Residues (A & only PLG)	X	X	X	X	Contaminated materials are mixed with portland cement, siliceous, aluminosilicate, or polymeric materials to create a stable physical and chemical form. Media are placed in a solid matrix to immobilize contaminants.	Potentially applicable.
		Vibratory Finishing	X	X	X	X	A piece of contaminated material is placed into a decontamination solution containing a fine abrasive media that is exited using high frequency vibrations. The exited decontamination creates a scouring effect to remove the contaminants. Commercially available process.	Potentially applicable.
		Water Washing	X	X	X	X	These commercially available techniques use varying pressures, flow rates and temperatures to decontaminate metal surfaces. Surfactants may be added to increase effectiveness. Techniques vary in effectiveness from surface cleaning to coating and rust removal.	Potentially applicable.

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-3

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE BRICK (B); CONCRETE (C); AND MISCELLANEOUS MATERIALS (MM) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment	Biological	Biodegradation			X	X	Utilizes microbes with contaminant-specific affinity for the biodegradation of organic contaminants.	Not applicable for radiological contaminants.
	Thermal	Incineration (MM only)			X	X	Incineration is a method of thermal destruction of waste streams containing toxic or hazardous compounds. It is applicable to a wide range of organic wastes but generally not used for inorganics or radionuclides.	Potentially applicable.
		Thermal Desorption (B & C only)			X	X	Thermal desorption separates volatile organic contaminants from solid materials by exposing the material to temperatures that range from 300°F to 800°F. The heating is generally performed in portable or stationary rotary drying kilns, indirect-heated furnaces, or asphalt aggregate dryers.	Potentially applicable.
	Chemical	Catalytic Extraction Process	X	X	X	X	An induction or electric arc furnace is used to form a molten metal bath. The molten bath can be used not only as a means for metal purification but also as a high temperature, high energy density medium for more effective reduction of hazardous waste materials, such as PCBs, hydrocarbons, and cyanide to elemental forms (e.g. H, C, O, etc.). The molten metal provides much more effective contact with the material in a smaller volume than is possible with the hot gases in a conventional incinerator. Applicability to these materials requires further development.	Not applicable. Not commercially available.
		Chemical Leaching	X	X	X	X	A solvent is applied to scabbled or scarified material, thereby leaching the contamination. The solvent is removed along with the suspended contamination. Process has been used successfully on metal surfaces.	Not applicable for the ex situ, secondary treatment of these materials.
		Gamma Radiolysis			X		The process involves the radiolytic destruction of halogenated and aromatic compounds. The application on an industrial scale needs additional research, development, and demonstration (RD&D).	Not applicable. Further RD&D needed on process to develop the technology for deployment.

Legend: [illegible]minants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-[illegible]s]); P (polychlorinated biphenyls [PCBs]).

TABLE D-3 (Continued)

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE BRICK (B); CONCRETE (C); AND MISCELLANEOUS MATERIALS (MM) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment (cont'd)	Chemical (cont'd)	Proprietary Solvents				X	A solution is applied, agitated into the surface, and vacuumed off extracting the contaminants from the media. Proprietary solvents have been demonstrated and accepted for PCBs. More information needed regarding effectiveness on radionuclides in these materials.	Potentially applicable.
		Surfactants	X	X	X	X	The surfactants break the chemical and physical bonds between the contaminant and the material, and act as a carrier which suspends the contaminants. Widely used throughout the nuclear industry to remove contaminants from surfaces.	Potentially applicable.
	Physical	Compaction (MM only)					The process uses hydraulic ram to compress materials reducing burial volume. Commercially available systems for size reduction.	Potentially applicable.
		Crushing (B & C only)	X	X	X	X	A commercially available impact device which size reduces concrete and brick. Can separate reinforcement bars from the concrete.	Potentially applicable.
		Encapsulation	X	X	X	X	Encapsulation is a process option in which a polymer coating is applied to adhere to a material surface thus reducing the mobility of surface and loosely-bound subsurface contamination.	Potentially applicable.
		Solidification of Decontamination Residues (B & C only)	X	X	X	X	Contaminated materials are mixed with portland cement, siliceous, aluminosilicate, or polymeric materials to create a stable physical and chemical form. Media are placed in a solid matrix to immobilize contaminants.	Potentially applicable for decontamination residues.
		Steam Cleaning	X				Commercially available technique that employs pressurized steam to extract contaminants from surface and near-surface of affected material. May be used in conjunction with scrubbing unit and/or detergent to improve effectiveness.	Not applicable. Primary contaminant is distributed throughout top inch of affected material. Would exceed extraction capability of technique.
		Water Washing	X	X	X	X	These commercially available techniques use varying pressure levels and temperatures to decontaminate material surfaces in situ. Surfactants may be added to increase effectiveness. Techniques vary in effectiveness from surface cleaning to coating and surface removal.	Not applicable for the ex situ, secondary treatment of these materials.

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

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TABLE D-4

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE NON-REGULATED (NON) ASBESTOS-CONTAINING/CONTAMINATED MATERIALS (ACM) AND THE REGULATED ACM (REG) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment	Biological	Biodegradation			X	X	Utilizes microbes with contaminant-specific affinity for the biodegradation of organic contaminants.	Not applicable to radiological contaminants.
	Thermal	Thermal Desorption			X		Thermal desorption separates volatile organic contaminants from soils or solid materials by exposing the material to temperatures that range from 300°F to 800°F. The heating is generally performed in portable or stationary rotary drying kilns, indirect-heated furnaces, or asphalt aggregate dryers.	Not applicable for ACM due to size reduction requirements.
		Vitrification	X	X	X	X	This device adds glass-forming constituents to waste feed to produce a pool of molten glass at the bottom of a reactor in which solid wastes react. Gases produced during combustion are released from the surface of the glass pool. Ash remains in the pool and is periodically removed with the carrier glass matrix. The removed glass is collected in storage containers and solidifies upon cooling. A large database exists for high-level radioactive wastes, but not for low-level radioactive wastes or hazardous wastes.	Potentially applicable.
	Chemical	Chemical Leaching	X	X	X	X	A solvent is applied to a surface to leach the contamination out of the surface. The solvent is removed along with the suspended contamination. Process has been used successfully on metal surfaces.	Not applicable. Further demonstration required for ACM.
		Catalytic Extraction Process	X	X	X	X	An induction or electric arc furnace is used to form a molten metal bath. It can use the molten bath not only as a means for metal purification but also as a high temperature, high energy density medium for more effective reduction of hazardous waste materials, such as PCBs, hydrocarbons, and cyanide, to nonhazardous materials. The molten metal provides much more effective contact with the material in a smaller volume than is possible with the hot gases in a conventional incinerator. Process in developmental stage.	Not applicable. Not commercially available.

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-4 (Continued)

INITIAL SCREENING OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE NON-REGULATED (NON) ASBESTOS-CONTAINING/CONTAMINATED MATERIAL (ACM) AND THE REGULATED ACM (REG) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Description	Screening Comments
			L	I	O	P		
Treatment (cont'd)	Chemical (cont'd)	Proprietary Solvents				X	A solution is applied, agitated into the surface, and vacuumed off extracting the contaminant from the media. Proprietary solvents have been demonstrated and accepted for PCBs on metal and concrete. More information needed regarding effectiveness on radionuclides.	Not applicable. Further development required for ACM.
		Gamma Radiolysis			X		The process involves the radiolytic destruction of halogenated and aromatic compounds. The application on an industrial scale needs additional research, development, and demonstration (RD&D).	Not applicable. Further RD&D needed on process to develop the technology for deployment.
		Chemical Conversion	For ACM Only				ACM is placed in a agitated vessel that contains a weak acid formulation which attaches the weaker bonds in the asbestos fibers. The fibers decompose and are then filtered collecting the nontoxic, sand-like residues. Commercially available process.	Potentially applicable.
		Electromagnetic Processing System	X	X			Integration of multiple existing technologies to remove hazardous and radionuclides from ACM. Developmental process.	Not applicable. Process is in developmental stage.
		Surfactants	X	X	X	X	The surfactants loosen the chemical and physical bonds and act as a carrier which suspends the contaminants. Widely used throughout the nuclear industry for effective smearable surface decontamination.	Potentially applicable.
	Physical	Compaction	X	X	X	X	The process uses hydraulic ram to compress materials reducing burial volume. Commercially available systems for size reduction.	Potentially applicable.
		Encapsulation	X	X	X	X	Encapsulation is a process option in which a polymer coating is applied to adhere to a material surface thus reducing the mobility of surface and loosely-bound subsurface contamination.	Potentially applicable.
		Water Washing	X	X	X	X	These commercially available techniques use varying pressures, flow rates and temperatures to remove loose contamination from ACM. Surfactants may be added to increase effectiveness.	Not applicable for the ex situ, secondary treatment of ACM.

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

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TABLE D-5

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment	Thermal	Smelting	X	X	X	X	Smelting is an effective method for destroying volatile and semi-volatile organic contaminants. Inorganic and radiological contaminants are ideally removed as a constituent of the resultant slag. This process is proven for eliminating the toxicity of organic contaminants and reducing the mobility of inorganic and radiological contaminants.	This process option would be implementable at one of several off-site commercial facilities. An on-site smelting operation would require the acquisition of the required smelting equipment, the training of operating personnel, and regulatory operation permits. Negative public opinion may also have an impact on the use of an on-property smelting operation due to potential airborne releases.	M	H
		Thermal Desorption			X		This process option has been accepted by industry as an ex situ process for the effective removal of volatile organic contamination only from soils and solid materials with diameters of less than three inches. However, contaminants such as mercury, may also be volatilized, thereby creating operations permitting difficulties.	This process option could be implemented at a commercial off-site facility. It would be difficult to implement on-site. A rotary kiln is located at the FEMP. The current material handling and air pollution control systems would require modification based upon the type of material and contaminant type proposed to be treated. Off-gas collection/ treatment media would require appropriate disposal.	H	H
	Chemical	Chemical Leaching	X	X	X	X	This ex situ process option has been commercially demonstrated for the removal of organic, inorganic, PCB, and radiological contamination from contaminated scrap structural steel. The scrap steel components may require size reduction to be compatible with the capacity of the system.	This process option would be implementable at a commercial decontamination facility. The scrap structural steel from the Plant 7 Removal Action has been scheduled to be transported to an off-site commercial treatment facility.	L	M
		Electropolishing	X	X			This ex situ process option has been commercially proven to be effective for the removal of inorganic and radiological contamination from conductive materials. Electropolishing was successfully utilized at the DOE Hanford Reservation. This process option will not treat surfaces that are coated (e.g., paint) with non-conductive materials.	This process option could be implemented using a portable or stationary commercial system. An on-property operation would require the acquisition, installation, and permitting of the electropolishing system.	M	H

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-5 (Continued)

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment (cont'd)	Chemical (cont'd)	Proprietary Solvents				X	Proprietary solvents have been commercially proven for the in situ removal of organic, inorganic, radiological, and PCB contamination from contaminated material surfaces and substrate.	Implementability of this process option would be contingent upon bench and pilot scale testing. Spent solvents would be a secondary waste stream requiring treatment (e.g., filtering) prior to disposal.	M	M
		Surfactants	X	X	X	X	The in situ and ex situ use of surfactants is widely accepted throughout industry for the removal of organic, inorganic, PCB, and radiological surface contamination. This process option has had some success at removing loosely bound subsurface contamination.	This process option would be implementable. The spent surfactant rinse or removal cloth may require treatment prior to disposal or discharge.	L	M
		Turbulator	X	X			This ex situ process option is designed for the removal of surface inorganic, organic, and radiological contamination. This process option has been demonstrated at various DOE facilities for the decontamination of metallic hand tools, valves, pump pistons, etc.	The implementability of this process option would be contingent on bench and pilot scale testing required to determine effectiveness on OU3 materials. The secondary wastes would include the contaminant filtrates and spent decontamination solution.	M	M
		Ultrasonic Cleaning	X	X			This ex situ process option has been commercially proven for the removal of loosely bound organic, inorganic, PCB, and radiological surface contamination. Ultrasonic cleaning is ineffective for tightly bound materials such as paints, varnishes, and other materials that are difficult to remove. This process option has been used especially when the tools or equipment are constructed of exotic metals or specialized alloys.	The implementability of this process option would be contingent upon bench and pilot scale testing to determine the decontamination effectiveness on the OU3 metals categories.	M	M

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-5 (Continued)

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment (cont'd)	Physical	Abrasive Blasting (A,PLG & PR only)	X	X	X	X	Abrasive blasting techniques are generally in situ applications, and effectively remove surface and subsurface organic, inorganic, PCB, and radiological contamination.	This process option would be implementable. Commercial decontamination facilities utilizing abrasive blasting are currently available. The scrap structural steel from the Plant 7 Removal Action has been scheduled to be transported to an off-site commercial treatment facility. Secondary waste includes paint chips, concrete residues, etc.	M	M
		Compaction (I,PLG & PR only)	X	X	X	X	Though not intended for reducing contaminant mobility and/or toxicity, compaction systems will reduce volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. This process option has been widely used throughout industry and the DOE complex for the preparation of wastes scheduled for disposal.	This process option is implementable. Stationary and mobile systems are commercially available. An operational compacting system currently exists on-site. A preventive maintenance program would be required to maintain production rates. The system would require fugitive dust containment measures.	M	M
		Encapsulation	X	X	X	X	The in situ and ex situ application of encapsulants to material surfaces has been commercially proven to provide effective reduction in the mobility of loose radiological, hazardous, asbestos, and PCB contaminants.	This process option is implementable. The encapsulant application could be performed on-property or at an off-site commercial facility.	L	L
		Shredding	X	X	X	X	Though not intended for reducing contaminant mobility and/or toxicity, shredding systems will reduce volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. This process option has been widely used throughout industry and the DOE complex for the preparation of wastes scheduled for disposal.	This process option would be implementable. Stationary and mobile systems are commercially available. A preventive maintenance program would be required to maintain production rates. The system would require fugitive dust containment measures.	M	M

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-5 (Continued)

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE METALS CATEGORIES: ACCESSIBLE (A); INACCESSIBLE (I); PAINTED LIGHT-GAUGE (PLG); AND PROCESS RELATED (PR)

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment (cont'd)	Physical (cont'd)	Solidification of Decontamination Residues (A & PLG only)	X	X	X	X	Solidification is an industry and regulatory accepted in situ or ex situ process option for the treatment of sludges, residues, and liquids contaminated with organic, inorganic, and low-level radiological constituents. The treatment immobilizes contaminants, and in some cases, reduces contaminant toxicity.	The implementability of this process option would be contingent upon bench and pilot scale testing. Mixing formulations would need to be developed and tested for the specific materials intended to be treated. Proper implementation would be necessary to ensure that the waste form tested in the laboratory represents what will be produced in the field.	M	M
		Vibratory Finishing	X	X			This industry accepted ex situ process option is effective for the removal of surface and loosely bound subsurface organic, inorganic, PCB, and radiological contamination. This process option will also remove surface coatings (e.g., paints and enamels).	This process option would be implementable. Commercial vibratory finishing systems are generally designed for tools and small pieces of equipment. The secondary wastes would include the contaminant filtrates and spent decontamination solution and abrasives.	M	M
		Water Washing (A only)	X	X	X	X	The water washing process option is an industry accepted in situ or ex situ method for removing surface and loosely bound subsurface organic, inorganic, PCB, and radiological contamination.	This process option is implementable. Containment systems would be required to collect spent waste waters. Additional secondary wastes would include contaminated paint residues, concrete residues, and loose media.	L	M

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-6
EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE BRICK (B); CONCRETE (C); AND MISCELLANEOUS MATERIALS (MM) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment	Thermal	Incineration (MM only)			X	X	This ex situ process option is a proven, industry-accepted method for destroying volatile organic contamination, destroying or volatilizing semi-volatile organics, and oxidizing inorganic and radiological contamination. The volume of the contaminated material is reduced during the process.	This process option would be implementable. An off-site commercial facility would be available. Stationary and mobile incineration systems would also be commercially available. It would be difficult to implement this process option on-site. A rotary kiln is located at the FEMP. The current material modifications would be required. The treated material residues (ash) would require final characterization prior to disposal as a secondary waste. Negative public opinion may also have an impact on the use of an on-property incinerator.	M	H
		Thermal Desorption			X	X	This process option has been accepted by industry as an ex situ process for the effective removal of volatile organic contamination only from soils and solid materials with diameters of less than three inches. However, contaminants such as mercury may also be volatilized, thereby creating operations permitting difficulties.	This process option could be implementable at a commercial off-site facility. It would be difficult to implement this process option on-site. A rotary kiln is located at the FEMP. The current material handling and air pollution control systems would require modification based upon the type of material and contaminant type proposed to be treated. Off-gas collection/ treatment media would require appropriate disposal.	H	H
	Chemical	Proprietary Solvents				X	Proprietary solvents have been commercially proven for the in situ removal of organic, inorganic, radiological, and PCB contamination from contaminated material surfaces and substrate. An OU3 Treatability Study of the decontamination effectiveness of a proprietary solvent on FEMP non-regulated ACM (transite) is being performed.	Implementability of this process option would be contingent upon bench and pilot scale testing. Spent solvents would be a secondary waste stream requiring treatment (e.g., filtering) prior to disposal.	M	M

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-6 (Continued)

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE BRICK (B); CONCRETE (C); AND MISCELLANEOUS MATERIALS (MM) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment (cont'd)	Chemical (cont'd)	Surfactants	X	X	X	X	The in situ and ex situ use of surfactants is widely accepted throughout industry for the removal of organic, inorganic, PCB, and radiological surface contamination. This process option has had some success at removing loosely bound subsurface contamination.	This process option would be implementable. The spent surfactant rinse or removal cloth may require treatment prior to disposal or discharge.	L	M
	Physical	Compaction (MM only)	X	X	X	X	Though not intended for reducing contaminant mobility and/or toxicity, compaction systems will reduce volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents.	This process option would be implementable. Stationary and mobile systems are commercially available. An operational compacting system currently exists on-site. A preventive maintenance program would be required to maintain production rates. The system would require fugitive dust containment measures.	M	M
		Crushing (B & C only)	X	X	X	X	Though not intended for reducing contaminant mobility and/or toxicity, crushing systems will reduce volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents. This process option has been widely used throughout industry and the DOE complex for the preparation of wastes scheduled for disposal.	This process option would be implementable. Stationary and mobile systems are commercially available. A preventive maintenance program would be required to maintain production rates. The system would require fugitive dust containment measures.	H	M
		Encapsulation	X	X	X	X	The in situ and ex situ application of encapsulants to material surfaces has been commercially proven to provide effective reduction in the mobility of loose radiological, hazardous, asbestos, and PCB contaminants.	This process option is implementable. The encapsulant application could be performed on-property or at an off-site commercial facility.	L	L

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

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TABLE D-6 (Continued)

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE BRICK (B); CONCRETE (C); AND MISCELLANEOUS MATERIALS (MM) CATEGORIES

General Response Action	Technology Type	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment (cont'd)	Physical (cont'd)	Solidification of Decontamination Residues (B & C only)	X	X	X	X	Solidification is an industry and regulatory excepted in situ or ex situ process option for the treatment of sludges, residues, and liquids contaminated with organic, inorganic, and low-level radiological constituents. The treatment immobilizes contaminants, and in some cases, reduces contaminant toxicity.	The implementability of this process option would be contingent upon bench and pilot scale testing. Mixing formulations need to be developed and tested for the specific materials intended to be treated. Proper implementation would be necessary to ensure that the waste form tested in the laboratory represents what will be produced in the field.	M	M

Legend: Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

TABLE D-7

EVALUATION OF TREATMENT TECHNOLOGY TYPES AND PROCESS OPTIONS FOR THE NON-REGULATED ACM (NON) AND REGULATED ACM (REG) CATEGORIES

General Response Action	Remedial Technology	Process Options	Applicable Contaminants				Effectiveness	Implementability	Capital Cost	O&M Cost
			L	I	O	P				
Treatment	Chemical	Chemical Conversion (REG only)	For ACM only				This ex situ process has been commercially proven to destroy asbestos fibers, thereby creating a non-toxic residue. The process will provide volume reduction for the regulated ACM. However, due to the density of unregulated ACM, no significant volume reduction is expected. The process does not address any other contaminants.	This process option would be implementable. Mobile or stationary commercial facilities are available. An on-site facility would require bench-scale and pilot-scale studies. The secondary waste streams would include the spent digestion solution and residues. These wastes may require further treatment prior to disposal.	M	M
		Surfactants	X	X	X	X	The in situ and ex situ use of surfactants is widely accepted throughout industry for the removal of organic, inorganic, PCB, and radiological surface contamination. This process option has had some success at removing loosely bound subsurface contamination.	This process option would be implementable. The spent surfactant rinse or removal cloth may require treatment prior to disposal or discharge.	L	M
	Physical	Compaction	X	X	X	X	Though not intended for reducing contaminant mobility and/or toxicity, compaction systems will reduce volume of materials contaminated with organic, inorganic, PCB, asbestos, or radiological constituents.	This process option would be implementable. Stationary and mobile systems are commercially available. An operational compacting system currently exists on-site. A preventive maintenance program would be required to maintain production rates. The system would require fugitive dust containment measures.	M	M
		Encapsulation	X	X	X	X	The in situ and ex situ application of encapsulants to material surfaces has been commercially proven to provide effective reduction in the mobility of loose radiological, hazardous, asbestos, and PCB contaminants.	This process option is implementable. The encapsulant application could be performed on-property or at an off-site commercial facility.	L	L

Legend Contaminants are as follows: L (low-level radiological); I (inorganics); O (organics [volatiles and/or semi-volatiles]); P (polychlorinated biphenyls [PCBs]).

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Appendix E

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APPENDIX E

COST ESTIMATE

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
CF	cubic feet
D&D	decontamination and dismantlement
DOE	United States Department of Energy
EA.	each
EPA	United States Environmental Protection Agency
FEMP	Fernald Environmental Management Project
FERMCO	Fernald Environmental Restoration Management Corporation
FS	feasibility study
ft^2	square foot
ft^3	cubic foot
IROD	Interim Record of Decision
ITC	intermodel transport containers
J-I-T	just-in-time
lb	pound
LDR	land disposal restriction
LLW	low level (radioactive) waste
LMB	large metal box
MAINT.	maintenance
MAT'L	material
MPH	miles per hour
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NTS	Nevada Test Site
O&M	operation and maintenance
OMB	United States Office of Management and Budget
OPDF	on-property disposal facility
OSWER	Office of Solid Waste and Emergency Response
OU	operable unit
PPE	personal protective equipment
PW	present worth
RFP	request for proposal
RI/FS	Remedial Investigation/Feasibility Study
ROB	roll-off box
RR	railroad
S/C	sub contract
SED	Sitewide Environmental Database
SF	square foot
SWIFTS	Sitewide Waste Inventory Forecasting Tracking System (database)
TSCA	Toxic Substance Control Act
WAC	waste acceptance criteria

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E.0 OPERABLE UNIT 3 COST ESTIMATE

This appendix presents the estimated overall cost of each remedial action alternative being evaluated in the Operable Unit 3 (OU3) Remedial Investigation/Feasibility Study (RI/FS) Report. This cost estimate will be used in Section 6 as support for the cost criterion being considered during the evaluation of alternatives for the OU3 final remedial action.

E.1 INTRODUCTION

The scope of this cost estimate addresses capital and operation and maintenance (O&M) costs associated with the treatment and disposition of all OU3 materials under the final remedial action for OU3. The interim remedial action addresses the decontamination and dismantlement (D&D) of all OU3 components. Presently, a ten-year schedule exists (see Figure 5-1) for all D&D, and it includes both above- and below-grade removal and disposition. When the interim remedial action for a component or group of components (complex) is completed, all dismantled materials will be segregated into one of the RI/FS material categories (A-J; see Section 3). Since this cost estimate addresses the final remedial action (treatment and disposition of the majority of OU3 materials), and does not address materials treated and/or dispositioned under other FEMP programs or actions, Category J (Product, Residues and Special Materials) is being quantified and characterized within Section 3 of this RI/FS Report and will not be included in this cost estimate. Existing Fernald Environmental Management Project (FEMP) programs and actions that govern treatment and/or disposition of these materials are identified in Section 1 of this RI/FS Report.

This appendix has been organized with Section E.2 presenting the methodology used to develop this cost estimate. Section E.3 provides several cost comparisons that are developed to aid decision making. These cost comparisons cover recycling and unrestricted release. Section E.4 provides a summary of the three alternatives from Section 5 and details the assumptions associated with the estimate for each alternative.

Section E.5 provides the detailed cost estimate for Alternatives 2 and 3. (Since Alternative 1 has no scope of work to be performed under the final remedial action, no cost has been developed.) These cost estimates include capital costs, O&M costs, and a risk budget. Sample calculations for developing container amounts are also included. Section E.6 presents the material flow diagrams referenced in Section 5 and this appendix. In addition, two attachments have been developed for this appendix. Attachment E.I provides a detailed cost comparison between various recycling and disposition options. Attachment E.II contains detailed back-up worksheets for the cost calculations being presented in Tables E.5.

E.2 METHODOLOGY

This appendix provides a detailed cost estimate for the two action alternatives. These cost estimates are made up of both capital and O&M costs. The costs identified as capital and O&M are consistent with the United States Environmental Protection Agency (US EPA) Guidance (EPA 1988). Capital costs include expenditures for equipment, materials, burial, transportation, subcontractor costs, and indirect costs necessary to complete the final remedial action. O&M costs include expenditures to handle materials in preparation for disposition, to oversee material management (treatment/disposition activities), and to maintain the on-property disposal facility (in the event Alternative 2 is selected as the preferred alternative) after all remediation is complete; this includes long-term monitoring, facility maintenance, and potential security. The cost estimate is based on a 40-hour work week with no premium time. The risk budget is based on the overrun probability. The total project cost is the sum of the capital, O&M, and risk budget costs for each alternative (in 1995 dollars).

The cost estimate for each alternative is broken down by material category. The direct costs are shown on the estimate detail sheets by material category. The indirect costs are also broken into capital and O&M costs. Indirect capital costs include a bond, capital equipment, and sales tax on project materials. Indirect O&M costs are for staffing, staff travel, personal protective equipment (PPE), training, consumables, maintenance/repair building, support subcontracts, and sales tax on project materials.

Alternative cost estimates were developed in current (1995) dollars. The anticipated annual costs over the established duration of each alternative are summarized and a present-worth (PW) analysis is conducted on the annual distribution of each alternative. The objective of the PW analysis is to use a method of economic evaluation that compares the sums of discounted dollar costs or benefits of capital investments, replacements, and O&M over their anticipated useful life span. The average discount rate used for this analysis was 4.8 percent. The analysis technique identifies the system or operation considered to be the lowest-cost alternative for satisfying a particular need. The PW analysis complies with the requirements described by the United States Office of Management and Budget Circular No. A-94, the National Bureau of Standards Handbook 135 prepared for the U.S. Department of Energy (DOE), US EPA Office of Solid Waste and Emergency Response Directive 9355.3-01, and DOE Order 5700.2D.

All cash flow amounts are stated in present-value constant dollars; hence, all dollars will have the same purchasing power. Constant dollars indicate what the same good or service would cost at various times if no inflation or deflation exists to change the purchasing power of the dollar. A straightforward means is used to express cash flows in constant dollars by establishing a reference (base) year for which the value of the dollar is set.

Recycling cost comparisons are performed based on the information available through Plant 7 proposals. Cost estimates for these options are currently prepared for Category A materials in detail. Details of recycling costs are provided in Attachment E.I. Risk budgets and man hour calculations are provided in detail in Attachment E.II.

Risk budgets are determined using a Monte Carlo-based statistical approach following estimation of potential variabilities of cost elements. The following process was used to determine the risk budget provision provided in Attachment E.II:

1. Each remedial component estimate is divided into cost elements. A cost element is a part of the estimate having similar exposure to the same cost drivers. The resulting cost elements are entered into a cost impact matrix.

2. The cost drivers that may affect the potential cost overrun (as well as underrun) are identified for the individual cost elements. These resulting cost drivers are recorded in the cost impact matrix. Examples of the cost drivers are: degree of project definition, classes of contaminants, labor availability, material prices, material quantity variations, etc. Identification of the cost drivers is based on project information, experience, and professional judgement.

3. The impact of cost drivers is measured in terms of percentages, and the percentages for each cost element are entered into the associated columns of the cost impact matrix. The low and high percentages for the cost drivers are tallied for each of the cost elements. The numbers are then reviewed and refined as necessary. The resulting low and high percentages of a cost element defined the lower and upper

limit of the range for that cost element. The range values and the risk profile for each of the cost elements form the basis for the simulation analysis.

4. The risk profile (i.e., probability distribution) for each of the cost elements is chosen. A risk profile may have a "uniform" or a "triangular" distribution. The profile defines how a sample will be drawn from the specified range of a cost element during simulation.

5. The data are entered from the cost impact matrices onto the "range estimate" spreadsheet within the Monte Carlo cost estimating program. The program uses a mathematical model to represent the estimated elements that are subject to cost variables and the assessed cost range for each variable that suits the project conditions. The simulation program generates 2,000 samples within each of the confirmed ranges of the estimated cost elements and produces a frequency plot from which a curve is then drawn, showing the probability of the estimated overrun or underrun at any given total cost level.

6. The analysis report is reviewed to obtain the risk budget and contingency amounts based on the overrun probability level. The risk budget percentage is the portion of the overrun probability that can be applied to the base estimate to achieve the target estimate. This amount is obtained from the line identified as "50 percent chance of overrun." The amount applied for contingency is the difference between the five percent chance of overrun and the 50 percent chance of overrun. The risk budget and contingency amounts are stated in the Attachment E.II and added to the base estimate value to provide the target estimate.

E.3 COST COMPARISONS

This section presents two types of cost comparisons that were performed to provide data for evaluating disposition options. In most cases, the avenue that shows a lower cost was identified as the preferred disposition option. There are, however, other considerations, such as technical feasibility, which may prevent the least-cost avenue from being selected.

E.3.1 Recycling

This cost comparison looks at recycling versus disposal for Material Category A, Accessible Metals in the on-property disposal facility for Alternative 2 versus disposal at a representative off-site commercial disposal facility for Alternative 3. For costing purposes, a representative commercial disposal facility located in Utah will be used in this estimate. This facility can receive both low-level radioactive wastes and mixed wastes.

Accessible Metals are defined as primary and secondary structural members (primarily carbon steel). These materials have large accessible surface areas with most member thicknesses ≥ 1/4". This was the only category studied for this cost comparison.

Two types of recycling options considered for the structural steel are (1) decontamination for potential unrestricted release and (2) metal melt for restricted use. Details of the estimate and the comparison with Alternative 2 and 3 are described in detail in the Attachment E.I.

Based on the volume and weight estimates in Appendix B, the total unbulked volume and weight of OU3 structural steel is 63,400 ft^3 or 15,200 tons. Only 835 ft^3 of OU3 structural steel, from the total of 63,400 ft^3, is assumed to be available for unrestricted recycling. However, for cost comparison

purposes, the entire quantity of 63,400 ft^3 of structural steel is considered for the calculations. The following listing presents total costs as well as a unit cost per ft^3 for the four options evaluated for structural steel.

Option	Total Cost	Unit Cost
1. On-Property Disposal (Alternative 2)	$1,001,400	$15.79/ft^3
2. Off-Site Disposal (Alternative 3)	$4,742,200	$74.80/ft^3
3. Recycle - Decontamination (Unrestricted Use)	$33,136,700	$522.66/ft^3
4. Recycle - Metal Melt (Restricted Use)	$38,184,200	$602.27/ft^3

At this time, recycling options exist for structural steel as well as for other metal materials; however, because of the radiological component associated with the material, the cost to perform the recycling outweighs available disposal options. Because of the large volume of materials to be disposed of by the FEMP at both on-property and off-site locations, low unit rates for disposal are available.

But cost represents only one factor in the evaluation of recycling as a viable alternative to disposal. Other factors limiting recycling include limited survey capabilities for inaccessible surfaces, few vendors performing recycling, liability for release of materials, and limited uses for contaminated materials. At this time, few companies perform recycling of radiologially contaminated materials and as a result, minimal competition exists to reduce the costs to be incurred. An additional factor that is also limiting the number of companies willing to perform recycling is the requirement for the company to accept potential liability for the release of the materials. Finally, for the materials that cannot be effectively released for unrestricted use, no market currently exists for the processing or reuse of the contaminated materials.

While currently available cost data suggest recycling is significantly more expensive than disposal, it should be noted that new recycling technologies or markets will be evaluated for use as they become available. DOE also recognizes that, while cost is a driving factor in making project-specific recycling decisions, other factors such as stakeholder imput are relevant and should be considered as well. DOE will continue, over the life of the D&D of the former Production Area, to agressively evaluate existing and emerging recycling technologies and markets to identify opportunities for cost-competitive application at the FEMP.

Because of large-scale environmental projects throughout the DOE, funding constraints are imposing limitations on disposition options that can be pursued. Based on current costs and other limiting factors as detailed above, the potential for recycling of metal materials will be limited, as discussed in Sections 4 and Section 5. Recycling of higher value materials (copper, stainless steel, high nickel alloys) is currently being evaluated at the FEMP and throughout DOE to determine actual costs. For costing and evaluation purposes only, the OU3 RI/FS Report will consider recycling options on a potential basis only. However, throughout the performance of the D&D action, DOE commits to evaluate recycling as a viable option. The OU3 RI/FS strives to maintain recycling as an option to be considered for each material at the time of it's intended generation and will continue to evaluate recycling on a case by case basis within each D&D complex implementation plan. To support this approach, a Fernald recycling team has been commissioned to develop a methodology for the evaluation of recycling as an interim measure until the DOE national policy is issued. Once the site plan is drafted, U.S. and Ohio EPA comments on the plan will be solicited.

E.3.2 Unrestricted Release

The cost comparison performed to evaluate the cost-effectiveness of unrestricted release looks at the materials most capable of being released. These materials include non-porous materials located on the administrative side of the FEMP. The materials from the Production Area are expected to be contaminated due to the past processes that occurred and could require extensive decontamination prior to unrestricted release. In contrast, the administrative area materials are relatively uncontaminated and have not been in contact with past processes. For all non-porous material at the FEMP, unrestricted release can occur under DOE Order 5400.5. If there are no recycle or reuse opportunities for the non-porous materials, then they will be sent to a Subtitle D solid waste landfill for disposal. The release of these materials off-site would be subject to a certification program approved by the EPA.

Based on this approach, the materials considered in this evaluation are non-porous materials from the administrative side of the FEMP, including Category A (Accessible Metals) and Category I (Miscellaneous Materials) (see Section 3 for a detailed breakdown of these categories). The non-porous materials that are contained in Category I are non-process trailers and windows. However, during remediation, any non-porous materials from the administrative area would be evaluated for unrestricted release.

Unrestricted release consists of several steps. The first is the sampling/surveying required in order to determine whether these materials meet the unrestricted release criteria set forth in DOE Order 5400.5 and criteria set forth in a site material release certification program, and the second is transportation to, and burial rates for, a Subtitle D solid waste landfill. Section E.5 provides the base unit costs for disposition of materials by unbulked volumes for an on-property disposal facility and at the representative commercial disposal facility.

Tables E-1, E-2, and E-3 provide the cost amounts for these comparisons as follows.

	Category A Cost	Category I Cost	Total Cost
1. Unrestricted-Release (Table 3-1)	$7,800	$442,300	$450,100
2. Alternative 2	$13,300	$1,569,900	$1,583,200
3. Alternative 3	$59,100	$4,086,300	$4,145,400

Based on these results, for both Alternatives 2 and 3, unrestricted release is more cost effective. The estimated cost for the unrestricted release of these materials includes an initial radiological survey of the material prior to D&D followed by additional surveys as the material is containerized for release off-site.

Major assumptions used for this cost comparison are:

- A pre-D&D radiological survey would be performed of all surfaces at 1 hr/100 ft^2 to verify materials eligible for DOE 5400.5.
- There is a post-D&D survey of material as it is placed within the container, to verify meeting requirements of DOE 5400.5.
- No costs for core/chip sampling for laboratory analyses are included.

- These materials are on the administrative side of the FEMP and process knowledge is also used to support release.

- Disposal costs assume no treatment and are based on unbulked volumes.

- The cost of containerization for these materials falls within the interim remedial action. Containerization costs are similar for off-site release, off-site disposal, and on-property disposal hauling.

It is important to note that the unrestricted release criteria provided in DOE Order 5400.5 relates to unbulked, non-porous materials. The criteria listed are presented as guidelines, and in the past have been expanded and applied to similar materials from the FEMP. Based on this comparison, costs for unrestricted release will be provided in the cost estimates for Alternatives 2 and 3.

E.4 SCOPE AND ASSUMPTIONS OF COST ESTIMATE

This section provides a brief overview of the activities that would be involved in implementing each remedial action alternative evaluated in Section 6. It also presents assumptions that were made in preparing this cost estimate.

E.4.1 Alternative 1: No Action

The No Further Action Alternative is retained throughout the RI/FS process, as required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 CFR 300.430(e)(6)]. The No Further Action Alternative provides a comparative performance baseline against which other alternatives can be evaluated. Under the No Further Action Alternative, the DOE would retain ownership of the site. However, an active DOE presence at the site would cease upon the completion of the interim remedial action for OU3 and remedial activities of the other OUs. The assumptions used for costing Alternative 1 follow.

E.4.1.1 Material Management/Generation

For Alternative 1, it is assumed that all activities and costs associated with D&D, containerization of materials, placement of materials in storage, operations and maintenance during the interim action duration are within the scope of the interim remedial action. Therefore, there are no costs associated with implementing Alternative 1.

E.4.2 Alternative 2: On-Property Disposal

This alternative assumes that the materials generated by the interim remedial action will be stored on-property until the on-property disposal facility is available. As stated in Section 5, current estimates indicate that this storage period would last from 1995 through 1997. Material segregation to determine disposition would occur during D&D as part of the interim remedial action. Material that potentially meets unrestricted release criteria has been costed as being sent to a local commercial sanitary landfill in accordance with DOE Order 5400.5. Material Categories C and F and the concrete to be removed to meet the allowable mass limit for technetium-99 would be dispositioned off-site as low level waste (LLW). Category C materials would be transported by truck to the Nevada Test Site (NTS), and the remaining material would be transported by truck to the representative commercial disposal facility because of the potential for mixed waste. All the remaining OU3 material would be placed within the on-property disposal facility.

E.4.2.1 Material Management/Generation

A ten-year schedule has been generated. This schedule includes both above-grade as well as at- and below-grade components (Figure 5-1).

All costs are estimated based on current volumes and analytical results as available within the Sitewide Environmental Database (SED).

All material quantities utilized are from the July 16, 1995 version of the Sitewide Waste Inventory Forecasting and Tracking System (SWIFTS) database, as inputed into source term calculations developed in Appendix B. The final volumes used in this appendix are from Appendix B.

The number of required containers is calculated based on all the material descriptions within each category. Each material description has a unique density. For the container selected, this density is compared to the ratio of the weight restriction/volume restriction. This leads to the material/container combination being weight or volume restricted. From these, the number of containers is calculated by material description and rolledup for a total for that material category.

E.4.2.2 On-Property Disposal

The on-property disposal facility would be operational and ready to receive OU3 materials in August 1997. All OU3 remediation materials generated prior to that time would be stored on-site. Once the on-property disposal facility becomes available, all the stored material would be sent to this disposal facility. After 1997, all materials could be treated and dispositioned on a just-in-time (J-I-T) basis to the on-property disposal facility.

E.4.2.3 Off-Site Disposition

Category C materials will be containerized in large white metal boxes (LMB) and transported by truck to NTS for disposal. Category F materials and concrete residues removed by scabbling process will be containerized in B-25 and B-12 containers respectively, and transported by truck to the representative commercial disposal facility. Materials that are mixed wastes will be treated to meet LDR requirements before disposal. Possible treatment techniques include solidification and encapsulation and would take place at the off-site disposition facility.

Based on the small quantity of material to be disposed of at the representative commercial disposal facility, a unit rate of \$32 per ft^3 is used.

All the material that meets unrestricted release criteria would be transported to a local commercial sanitary landfill.

E.4.3 Alternative 3: Off-Site Disposition

This alternative assumes that all materials would be sent off-site. Off-site treatment would be used as needed. Transportation activities include rail shipment to Envirocare and shipment by truck to the NTS. Material that potentially meets unrestricted release criteria would be sent by truck to a local landfill.

Possible treatment techniques include solidification and encapsulation of materials to meet LDRs and would take place at the off-site disposal facility. All the assumptions used to develop this cost estimate are summarized in Section E.4.4.

E.4.3.1 Material Management

A ten-year schedule has been generated. This schedule includes both above-grade, as well as at- and below-grade components (Figure 5-1). All materials could be transported to the respective disposal facility as it is generated.

All costs are estimated based on current volumes and analytical results as available within the SED. All material quantities utilized are from the July 16, 1995 version of the OU3 SWIFTS database, as inputed into source term calculations developed in Appendix B. The final volumes used in this appendix are from Appendix B.

The number of required containers is calculated based on all the material descriptions within each category. Each material description has a unique density. For the container selected, this density is compared to the ratio of the weight restriction/volume restriction. This leads to the material/container combination being weight or volume restricted. From there, the number of containers is calculated by material description and rolledup for a total for that material category.

E.4.3.2 Off-Site Disposition

All the materials except Category C and materials that meet unrestricted free release criteria would be dispositioned to the representative commercial disposal facility (Envirocare). All shipments to the disposal facility would be done by rail cars and in coordination with OU1 shipments. Since shipments will be very large, a unit rate of $7 per ft^3 would be applied.

For shipment of Category C materials going to the NTS, the same principles apply as Alternative 2.

For shipment of materials that meet unrestricted free release criteria going to landfill, the same principles apply as Alternative 2.

E.4.4 Assumptions

The following assumptions have been made to facilitate costing of the alternatives for OU3.

1. Alternative 2 container maintenance would occur after every other trip to the on-property disposal facility. Alternative 3 containers are estimated to be maintained after every trip due to damage associated with off-site transportation.

2. B-12 and B-25 containers would be shipped off-site in lots of six.

3. All treatment of materials to meet LDRs is assumed to occur at off-site locations.

4. Materials regulated under Toxic Substance Contract Act (TSCA) (transformers) will be flushed during Safe Shutdown activities, therefore, no costs associated with flushing are assumed under Alternatives 2 and 3.

5. For Alternative 2 Category D, lead flashing will be segregated and disposed of at the completion of each complex (there are 21 above-grade complexes).

6. This estimate is based on a ten-hour work day, four-day week with no provision for premium time.

7. Wage rates used for this estimate are current wage rates for Fernald Atomic Trades and Labor Council.

8. Truck travel to the on-property disposal facility is limited to one mile each way at a speed of 5 miles per hour.

9. This estimate includes the purchase of all containers. No allowance has been included to receive, inspect, store or deliver containers to the D&D contractor, since these activities fall into the scope of the former IROD.

10. Hauling activity from the queuing area to the disposal facility is estimated as two workers loading ROBs, ROBs and hauling them one mile for 30 minutes, and then disposing of the contents and returning them to the queuing area for another 30 minutes.

11. Costs to weigh and certify each shipment are based on data provided by on-property waste programs.

12. For Alternative 3, once the ITC is cleared for shipment, a six-worker crew will load the container onto an articulated rail car. A unit rate for this operation is 7.50 hours per ITC.

13. The container maintenance area is assumed to be an existing building. The maintenance area would be refurbished and maintained for the duration of the project. The work area would be approximately 600 ft^2 and would be equipped to handle the container repairs.

14. The labor required to maintain a container (of any kind) is assumed to be two craft workers, a lead worker and an equipment operator. A productivity rate of 14.40 hours per container would allow for delivery to area, inspection for damage, the actual repairs and returning containers to the queuing area.

15. Project stating is based on nine years lasting from late 1996 when ROD is signed until 2005. Staffing includes: Project Manager, 1 at 40 percent; Project Engineer, 1 at 50 percent; Junior Engineers 2 at 50 percent; Safety Engineer 2 at 50 percent; Procurement 1 at 10 percent; Accounting/Finance 1 at 10 percent; Secretarial 2 at 50 percent; General Clerk 1 at 100 percent; Technicians 3 at 50 percent. All positions are extended for nine years.

16. This estimate includes sales tax on appropriate commodities.

17. PPE requirements for this estimate are considered to be low. An allowance for safety and PPE cost are set at $50.00 per man day. It is assumed that respirators would not be required for the shipment purpose and respirator costs are not included in the estimate.

18. A real discount rate of 4.8 percent is used for Present Worth (PW) analysis calculations based on circular by The Office of Management and Budget (1992).

19. The schedule is based on the ten year plan. Details of the material balance model are described in Section 5.

20. Contingency factor used for Alternative 2 is 15.2 percent and for Alternative 3 is 20.6 percent. (The details are provided in Attachment E.II).

21. Risk Budget factor used for Alternative 2 is 23.6 percent and for Alternative 3 is 24.3 percent. (The details are provided in the Attachment E.II).

22. Two-trailers will be used during the last three years of the project for administrative staff as the D&D of last complex is being carried out and below-grade removal occurs. These two trailers will be leased and returned at the end of the project.

23. The O&M for the on-property disposal facility is based on OU2 estimates and is a one time cost of $1.12 per ft^3. The rate for on-property burial is $3.05 per ft^3.

24. The unit rate of one way shipment to NTS is $3200 per LMB. Disposal cost at NTS for containerized material is based on external container dimensions and is $17.00 per ft^3.

25. The unit rate of one way shipment to the commercial disposal facility is $3000 per truck. Treatment cost at Envirocare for solidification and encapsulation of hazardous material is $101 per ft^3.

26. The disposal cost at the commercial disposal facility for Alternative 2 is $32 per ft^3 (based on small volume shipment).

27. The disposal cost at the representative commercial disposal facility for Alternative 3 is $7 per ft^3 (Envirocare 1995). This is based on joint shipment and disposal with OU1 wastes, reflecting the economics of a larger volume contract.

28. Railroad shipping rate from the FEMP to the commercial disposal facility and back is $800 per car. Each car carries 6 ITCs. Based on purchase price of $78,000 per rail car, the unit amortized rate including maintenance for each rail car is $211. Purchase of the rail cars is assumed because of the potential to contaminate the vehicle beyond the reasonable expectation if released and because the cars would be heavily utilized.

29. Reuses of the containers: For ROBs in Alternative 2, Categories A, B, D, and E will have 25 reuses and Categories G, H, and I will have 50 reuses. For ITCs in Alternative 3, all categories will have 50 reuses.

30. There is no provision for disposal of the ROBs or ITCs in Alternatives 2 and 3. It is assumed that they would be disposed of in the same location where the prime material is being disposed, at the respective end of useful service life.

31. Disposal cost at the commercial sanitary landfill for the potential unrestricted free released materials is $310 per ROB container. These ROB containers will be rented from the landfill contractors. The distance to a commercial sanitary landfill is assumed to be eight miles for purposes of this cost estimate.

E.5 DETAILED COST ESTIMATES

The following sections provide the detailed cost estimates for Alternatives 1, 2 and 3.

E.5.1 Alternative 1

No additional costs would be incurred, since no actions are included in the alternative definition.

E.5.2 Alternative 2

This section provides the detailed breakdown of the costs associated with the implementation of Alternative 2. Each material category has a specific or several specific treatment and disposition paths which are identified based on the contaminant type and concentration. Section 3 provides a

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breakdown of each material category by "segregation category." In addition, the material flow diagrams presented in Section E.6 provide the detailed pathways for each material category by segregation category. There are activities shown on the diagrams which occur within the scope of the interim remedial action and will not be costed as part of the final remedial action. The blocks along a given pathway identify "cost blocks" associated with that pathway. Within each "cost block" there are several sub-activities. For example, if we consider Category A below baseline and low level radioactive waste (meets WAC) with a quantity of 62,600 ft^3 (unbulked), the following activities are associated with getting these materials from the interim remedial action configuration to the on-property disposal facility. Category A materials will be staged in covered piles. There is labor associated with loading the materials into ROBs and transporting these materials to the on-property disposal facility. There is a burial cost of $3.05/$ft^3$ associated with placement of these materials in the on-property disposal facility. Once all OU3 materials are placed within the facility, there is a unit rate of $1.12/$ft^3$ applied to the total OU3 volume for annual O&M costs.

Understanding the details of this cost estimate requires cross-referencing between the detailed cost estimate worksheets and the material flow diagrams. Tables E-1 through E-22 describe the details of cost estimates as follows:

- Table E-4 provides the total cost for Alternative 2, including O&M, capital costs, indirect cost, and risk budget.
- Table E-5, an estimate summary sheet, provides man hours and costs per material category.
- Tables E-6 through E-14 describe detailed estimates per material category A through I.
- Table E-15 provides a summary sheet including contingency. However, for the cost estimating calculations contingency is not considered.
- Table E-16 provides levels of effort activity details.
- Table E-17 provides details of FERMCO labor and material costs.
- Table E-18 provides details of teaming partners' and subcontractors' labor costs.
- Table E-19 provides details of other direct costs.
- Table E-20 provides details of annual costs for 40 years to calculate the PW analysis.
- Table E-21 provides PW analysis using a 4.8 percent real discount rate.
- Table E-22 provides types of container shipments for various disposal options.
- Table E-23 provides details of overhead calculations.
- Table E-24 provides details of on-property requirements.

In addition to the detailed cost estimate worksheets, back-up work sheets for risk budget, contingency and manhour calculations are included in Attachment E.II.

Total cost for Alternative 2 is $95 million. This cost includes risk and it is in 1995 constant dollars.

E.5.3 Alternative 3

The detailed cost estimates worksheets for Alternative 3 are presented in the same manner as in Alternative 2. Tables E-22 through E-42 describe the details of cost estimates as follows:

- Table E-25 (same as E-4)
- Table E-26 (same as E-5)
- Table E-27 through E-35 (same as E-6 through E-14)
- Table E-36 (same as E-15)
- Table E-37 (same as E-16)
- Table E-38 (same as E-17)
- Table E-39 (same as E-18)
- Table E-40 (same as E-19)
- Table E-41 (same as E-20)
- Table E-42 (same as E-21)
- Table E-43 (same as E-22)
- Table E-44 (same as E-23)
- Table E-45 (same as E-24)
- Table E-46 provides in details the cost associated with rail shipments.

Total cost for Alternative 3 is $190 million. This cost includes risk and it is in 1995 constant dollars.

E.5.4 Sample Calculations for Containers

Calculations for generating quantities of containers for cost estimating are based on two factors: volume restriction or weight restriction. These calculations are applicable to both Alternatives 2 and 3. Examples of each type are described below.

Example 1: Volume Restriction Calculations:

Category A - Accessible Metals for Alternative 2 are considered for the volume restriction example. Calculations are performed as follows:

Total unbulked volume:	62,600 ft^3
Bulking factor for accessible metals:	16.7
Total bulked volume:	62,600 x 16.7 = 1,054,420 ft^3
Interior volume per ROB:	810 ft^3
No. of ROBs:	1,054,420 / 810 = 1,290

Example 2: Weight Restriction Calculations:

Within Category E - Concrete for Alternative 2 Concrete Slabs is considered for the weight restriction example. Calculations are performed as follows:

002203

Total unbulked volume:	2,260,000 ft^3
Density of concrete:	150 lbs per ft^3
Total weight:	2,260,000 ft^3 x 150 (lbs per ft^3) = 339,000,000 lbs
Weight of material allowed per ROB:	33,000 lbs
No. of ROBs:	339,000,000 / 33,000 = 10,273

E.6 MATERIAL FLOW DIAGRAMS

Diagrams for each material category are provided for Alternatives 2 and 3 which detail material configuration; specific treatment (if required); and final disposition. Diagrams for Alternative 2 are presented in Figures E-1 through E-9, and for Alternative 3, in Figures E-10 through E-18. The material flow diagrams presented in this section provide details on treatment and disposition options for these alternatives for all nine material categories. These flow diagrams detail activities which occur during the interim remedial action but which may be affected by requirements for the final remedial action. The flow diagrams show the potential field segregation pathways for each material category and its material configuration at the completion of the interim remedial action. The final remedial action begins with the materials in interim storage, addresses treatment (in some cases), and then finally addresses disposition, either in the on-property disposal facility or off-site. For pathways that have hatching, no material quantity is estimated and therefore the pathway is not considered.

REFERENCES

Envirocare of Utah, Inc., 1995, letter dated August 24, 1995, from Al Rafati to John Throckmorton, FERMCO, subject: Revised OU3 Feasibility Study Costs.

United States Environmental Protection Agency (U.S. EPA), 1988, "Guidance for Conducting Remedial Investigation and Feasibility Studies under CERCLA," EPA 540/G-89.004, Office of Emergency and Remedial Response, Washington, D.C.

United States Office of Management and Budget, 1992, Circular No. A-94 dated October 29, 1992, from Richard Darmon, Director to Heads of Executive Departments and Establishments. Subject: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs.

OC2210

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-1

UNRESTRICTED–RELEASE COMPARISON

CONTRACT #: 04424321
EST #: C3–95–1–5–R2
BY: JAW
DATE: 02/08/96

COST CAT.	DESCRIPTION UNRESRTICTED RELEASE	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF–SITE DISPOSITION DISPOSAL – LANDFILL													
I	COMMODITY: BELOW BACKGROUND													
	COMMERCIAL LANDFILL VENDER WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D &D CONTRACTOR ASSUME 5 DAY TURNAROUND FOR FILLING NO LABOR BY FERMCO.													
	INITIAL INSPECTION	308,000	CF	0.013	4,004	25.55				$102,300				$102,300
	INSPECTION FOR FREE RELEASE	484	LOAD	15.00	7,260	25.55				$185,500				$185,500
	DAYS ON–PROPERTY TO BE FILLED	2,420	DAY					$3.50				$8,500		$8,500
	TRANSPORTATION AND BURIAL	484	ROB					$301.75				$146,000		$146,000
	UNBULKED MATERIAL VOLUME THIS CATEGORY	308,000	CF										SUB TOTAL	$442,300
	OFF–SITE DISPOSAL – LANDFILL													
A	COMMODITY: BELOW BASELINE													
	COMMERCIAL LANDFILL VENDOR WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D&D CONTRACTOR ASSUME A 5 DAY TURNAROUND FOR FILLING NO DIRECT FERMCO LABOR													
	INITIAL INSPECTION	835	CF	0.013	11	21.35				$200				$200
	INSPECTION FOR FREE RELEASE	12	ROB	15.00	180	21.35				$3,800				$3,800
	DAYS ON–PROPERTY TO BE FILLED	60	DAY					$3.50				$200		$200
	TRANSPORTATION AND BURIAL	12	ROB					$301.75				$3,600		$3,600
	UNBULKED MATERIAL VOLUME THIS CATEGORY	835	CF										SUB TOTAL	$7,800
										$291,800	$0	$158,300	$0	$450,100

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-2
UNRESTRICTED-RELEASE COMPARISON

CONTRACT #: 04424321
EST #: C3-95-1-5-R2
BY: JAW
DATE: 02/12/96
TIME: 09:30 AM

COST CAT.	DESCRIPTION ALTERNATIVE 3	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL													
I	COMMODITY: BELOW BASELINE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	14	EA						$6,920				$96,900	$96,900
	ON-PROPERTY HAULING	718	LOAD	2.40	1,722	21.06				$36,300				$36,300
	WEIGH, CERTIFICATION	718	LOAD	15.00	10,764	24.94				$268,500				$268,500
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	718	I.T.C.	7.50	5,382	21.35				$114,900				$114,900
	INTERMODAL TRANSPORT CONTAINER MAINT.	718	I.T.C.	14.40	10,334	22.64			$100	$234,000	$71,800			$305,800
	RAIL ROAD TRANSPORTATION	718	I.T.C.					$1,333				$956,800		$956,800
	ARTICULATED CONTAINER CAR COST	718	I.T.C.					$211				$151,100		$151,100
	OFF-SITE BURIAL UNBULKED	308,000	CF					$7.00				$2,156,000		$2,156,000
													SUB TOTAL	$4,086,300
	OFF-SITE DISPOSAL													
A	COMMODITY: BELOW BASELINE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	1	EA						$6,920				$6,900	$6,900
	ON-PROPERTY HAULING	18	LOAD	2.40	44	21.06				$900				$900
	WEIGH, CERTIFICATION	18	LOAD	15.00	273	24.94				$6,800				$6,800
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	18	I.T.C.	7.50	137	21.35				$2,900				$2,900
	INTERMODAL TRANSPORT CONTAINER MAINT.	18	I.T.C.	14.40	262	22.64			$100	$5,900	$1,800			$7,700
	RAIL ROAD TRANSPORTATION	18	I.T.C.					$1,333				$24,300		$24,300
	ARTICULATED CONTAINER CAR COST	18	I.T.C.					$211				$3,800		$3,800
	OFF-SITE BURIAL UNBULKED	835	CF					$7				$5,800		$5,800
													SUB TOTAL	$59,100
										$670,200	$73,600	$3,297,800	$103,800	$4,145,400

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-3
UNRESTRICTED-RELEASE COMPARISON

CONTRACT #: 04424321
EST #: C3-95-1-5-R2
BY: JAW
DATE: 02/12/96
TIME: 09:22 AM

COST CAT.	DESCRIPTION ALTERNATIVE 2	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON-PROPERTY DISPOSAL													
I	COMMODITY: BELOW BASELINE													
	CONTAINER COST:													
	ROLL-OF-BOX (ROB) REUSE 50 LOADS PER ROB	14	EA						$7,000				$98,000	$98,000
	ON-PROPERTY HAULING	678	LOAD	3.02	2,047	21.06				$43,100				$43,100
	ROB MAINTENANCE COST	339	ROB	14.40	4,880	22.64			$100	$110,500	$33,900			$144,400
	ON-PROPERTY BURIAL UNBULKED CAPITAL	308,000	CF					$4.17				$1,284,400		$1,284,400
													SUB TOTAL	$1,569,900
	ON-PROPERTY DISPOSAL													
A	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL-OFF-BOX (ROB) REUSE 25 LOADS PER ROB	1	EA.						$7,000				$4,800	$4,800
	ON-PROPERTY HAULING, DISPOSAL & RETURN.	17	ROB	3.02	52	21.06				$1,100				$1,100
	ROB MAINTENANCE COST	9	ROB	14.40	131	22.64			$100	$3,000	$900			$3,900
	ON-PROPERTY BURIAL UNBULKED	835	CF					$4.17				$3,500		$3,500
													SUB TOTAL	$13,300
										$157,700	$34,800	$1,287,900	$102,800	$1,583,200

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-4

CONTRACT #: 04424321
EST #: C3-95-1-5-R2
BY: JAW
DATE: 02/08/96

COST CAT.	DESCRIPTION ALTERNATIVE NUMBER 2	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	TOTAL
	DISPOSAL					
	ON-PROPERTY			$21,539,600		
	OFF-SITE			$12,773,500		
	LANDFILL			$158,300		
	SUB TOTAL			$34,471,400		$34,471,400
	TREATMENT					
	ENCAPSULATION			$539,600		
	SHREDDING			$107,200		
	SUB TOTAL			$646,800		$646,800
	CONTAINERS					
	ROLL-OFF-BOX				$8,113,000	
	B-12				$69,400	
	B-25				$269,200	
	LARGE METAL BOX				$2,997,200	
	SUB TOTAL				$11,448,800	$11,448,800
	TRANSPORTATION					
	ON-PROPERTY HANDLING	$1,688,700				
	ON-PROPERTY INSPECTION	$292,700				
	ON-PROPERTY HAULING	$1,921,800				
	WEIGHING & CERTIFICATION	$262,600				
	OFF- SITE TRANSPORTATION			$1,874,200		
	MAINTENANCE FOR CONTAINERS	$4,854,000	$1,489,000			
	SUB TOTAL	$9,019,800	$1,489,000	$1,874,200		$12,383,000
	INDIRECT COST (STAFF, CAPITAL EQUIPMENT ETC.)	$3,219,000	$5,851,200	$545,000		$9,615,200
	OPERATION AND MAINTENANCE		$7,904,100			$7,904,100
	RISK BUDGET (23.6%)		$18,046,800			$18,046,800
	TOTAL	$12,238,800	$33,291,100	$37,537,400	$11,448,800	$94,516,100

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-5

ALTERNATIVE 2
ESTIMATE SUMMARY

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 02/08/96
TIME: 10:03 AM

COST CAT.		QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	A - ACCESSIBLE METALS				33,707					$731,200	$64,600	$194,700	$371,000	$1,361,500
	B - INACCESSIBLE METALS				133,109					$2,903,800	$368,500	$5,321,900	$2,072,000	$10,666,200
	C - PROCESS-RELATED METALS				8,839					$215,700	$0	$13,370,600	$2,997,200	$16,583,500
	D - PAINTED LIGHT GAUGE METALS				972					$21,400	$4,200	$27,000	$29,000	$81,600
	E - CONCRETE				198,872					$4,410,000	$970,200	$14,447,400	$5,507,400	$25,335,000
	F - BRICK				3,369					$77,000	$0	$1,806,400	$269,200	$2,152,600
	G - NON-REGULATED ACM				2,887					$63,800	$12,500	$217,500	$35,000	$328,800
	H - REGULATED ACM				4,513					$100,900	$25,400	$244,600	$42,000	$412,900
	I - MISCELLANEOUS MATERIALS				20,671					$496,000	$43,600	$1,362,300	$126,000	$2,027,900
	OPERATION AND MAINTENANCE										$7,904,100	$0	$0	$7,904,100
	INDIRECT COST (STAFF, CAPITAL EQUIPMENT ETC.)				123,552					$3,219,000	$5,851,200	$545,000	$0	$9,615,200
	RISK BUDGET (23.6 %)										$18,046,800			$18,046,800
					530,491					$12,238,800	$33,291,100	$37,537,400	$11,448,800	$94,516,100

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WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-6
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3–95–1–5–R1
BY: JAW
DATE: 02/08/96
TIME: 03:00 PM

COST CAT.	DESCRIPTION A – ACCESSIBLE METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON–PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL–OFF–BOX (ROB) REUSE 25 LOADS PER ROB	53	EA.						$7,000				$371,000	$371,000
	ON–PROPERTY MATERIAL (STAGED IN PILE) BULKED	243,000	CF											
	ON–PROPERTY LOADING & HANDLING	300	LOAD	67.75	20,325	21.35				$433,900				$433,900
	ON–PROPERTY HAULING, DISPOSAL & RETURN.	1,290	ROB	3.02	3,896	21.06				$82,000				$82,000
	ROB MAINTENANCE COST	646	ROB	14.40	9,295	22.64			$100	$210,400	$64,600			$275,000
	ON–PROPERTY BURIAL UNBULKED	62,600	CF					$3.05				$190,900		$190,900
													SUB TOTAL	$1,352,800
	OFF–SITE DISPOSAL – LANDFILL													
	COMMODITY: BELOW BASELINE													
	COMMERCIAL LANDFILL VENDOR WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D&D CONTRACTOR ASSUME A 5 DAY TURNAROUND FOR FILLING NO DIRECT FERMCO LABOR													
	INITIAL INSPECTION	835	CF	0.013	11	25.55				$300				$300
	INSPECTION FOR FREE RELEASE	12	ROB	15.00	180	25.55				$4,600				$4,600
	DAYS ON–PROPERTY TO BE FILLED	60	DAY					$3.50				$200		$200
	TRANSPORTATION AND BURIAL	12	ROB					$301.75				$3,600		$3,600
	UNBULKED MATERIAL VOLUME THIS CATEGORY	835	CF										SUB TOTAL	$8,700
					33,707					$731,200	$64,600	$194,700	$371,000	$1,361,500

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-7
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3–95–1–5–R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION B – INACCESSIBLE METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON–PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL–OFF–BOX (ROB) REUSE 25 LOADS PER ROB	293	EA.						$7,000				$2,051,000	$2,051,000
	ON–PROPERTY MATERIAL (STAGED IN PILE)	691,000	CF											
	ON–PROPERTY LOADING & HANDLING	853	LOAD	67.75	57,791	21.35				$1,233,800				$1,233,800
	ON–PROPERTY HAULING, DISPOSAL & RETURN.	7,305	ROB	3.02	22,061	21.06				$464,600				$464,600
	ROB MAINTENANCE COST	3,653	ROB	14.40	52,603	22.64			$100	$1,190,900	$365,300			$1,556,200
	ON–PROPERTY BURIAL UNBULKED	1,730,000	CF					$3.05				$5,276,500		$5,276,500
													SUB TOTAL	$10,582,100
	ON–PROPERTY DISPOSAL													
	COMMODITY: PCB													
	CONTAINER COST:													
	ROLL–OFF–BOX (ROB) REUSE 25 LOADS PER ROB	3	EA.						$7,000				$21,000	$21,000
	ON–PROPERTY HAULING, DISPOSAL & RETURN.	64	ROB	3.02	193	21.06				$4,100				$4,100
	ROB MAINTENANCE COST	32	ROB	14.40	461	22.64			$100	$10,400	$3,200			$13,600
	ON–PROPERTY BURIAL UNBULKED	14,900	CF					$3.05				$45,400		$45,400
													SUB TOTAL	$84,100
					133,109					$2,903,800	$368,500	$5,321,900	$2,072,000	$10,666,200

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-8
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION C - PROCESS-RELATED METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL - NTS													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	LARGE METAL BOX	508	EA.						$5,900				$2,997,200	$2,997,200
	ON-PROPERTY HAULING	508	LMB	2.40	1,219	21.06				$25,700				$25,700
	WEIGH,CERTIFICATION AND STAGE / LOAD OUT	508	LMB	15.00	7,620	24.94				$190,000				$190,000
	TRANSPORTATION TRUCK TO NTS	508	LMB					$3,200				$1,625,600		$1,625,600
	OFF-SITE BURIAL CONTAINERS	508	LMB					$23,120				$11,745,000		$11,745,000
	UNBULKED MATERIAL VOLUME THIS CATEGORY	151,000	CF											
					8,839					$215,700		$13,370,600	$2,997,200	$16,583,500

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WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-9
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION D - PAINTED LIGHT GAUGE METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON-PROPERTY DISPOSAL													
	COMMODITY: POTENTIALLY MIXED WASTE													
	CONTAINER COST:													
	B-12	1	EA.						$960				$1,000	$1,000
	ON-PROPERTY HAULING TO ENCAPSULATION S/C	21	B-12	2.40	50	21.06				$1,100				$1,100
	PROCESSING BY ENCAPSULATION S/C	50	CF					$101.24				$5,100		$5,100
	RELOAD & HAUL TO DISPOSAL CELL & RETURN.	21	B-12	3.02	63	21.06				$1,300				$1,300
	ON-PROPERTY BURIAL UNBULKED	50	CF					$3.05				$200		$200
	NOTE: B-12 EMPTIED AFTER EACH COMPLEX (21)												SUB TOTAL	$8,700
	ON-PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL-OFF-BOX (ROB) REUSE 25 LOADS PER ROB	4	EA.						$7,000				$28,000	$28,000
	ON-PROPERTY HAULING, DISPOSAL & RETURN.	84	ROB	3.02	254	21.06				$5,300				$5,300
	ROB MAINTAIN COST	42	ROB	14.40	605	22.64			$100	$13,700	$4,200			$17,900
	ON-PROPERTY BURIAL UNBULKED	7,100	CF					$3.05				$21,700		$21,700
													SUB TOTAL	$72,900
					972					$21,400	$4,200	$27,000	$29,000	$81,600

WBS NO.–
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-10
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3–95–1–5–R1
BY: JAW
DATE: 02/08/96
TIME: 03:00 PM

COST CAT.	DESCRIPTION E – CONCRETE	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF–SITE DISPOSAL – ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE SCABBLED CONCRETE – EXCEEDS WAC													
	CONTAINER COST:													
	B–12	71	EA						$960				$68,400	$68,400
	ON–PROPERTY HAULING (B–12)	71	B–12	1.65	117	21.06				$2,500				$2,500
	WEIGH,CERTIFICATION AND STAGE / LOAD OUT	71	B–12	6.26	446	23.32				$10,400				$10,400
	TRANSPORTATION (6 CONTAINERS PER TRUCK)	71	B–12					$500.00				$35,600		$35,600
	OFF–SITE BURIAL – UNBULKED	2,400	CF					$32.00				$76,800		$76,800
													SUB TOTAL	$193,700
	NOTE: 1. ENVIROCARE DISPOSAL RATE IS BASED ON LIMITED VOLUME OF MATERIAL.													
	ON–PROPERTY DISPOSAL													
	COMMODITY: BASELINE / LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL–OFF–BOX (ROB) REUSE 25 LOADS PER ROB	777	EA						$7,000				$5,439,000	$5,439,000
	ON–PROPERTY HAULING, DISPOSAL & RETURN.	19,404	ROB	3.02	58,600	21.06				$1,234,100				$1,234,100
	ROB MAINTAIN COST	9,702	ROB	14.40	139,709	22.64			$100	$3,163,000	$970,200			$4,133,200
	ON–PROPERTY BURIAL UNBULKED	4,700,000	CF					$3.05				$14,335,000		$14,335,000
													SUB TOTAL	$25,141,300
					198,872					$4,410,000	$970,200	$14,447,400	$5,507,400	$25,335,000

002290

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-11
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION F - BRICK	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL - ENVIROCARE													
	COMMODITY: POTENTIALLY MIXED WASTE													
	CONTAINER COST:													
	B-25	109	EA						$632				$68,900	$68,900
	ON-PROPERTY HAULING	109	WMB	1.65	180	21.06				$3,800				$3,800
	WEIGH, CERTIFICATION AND STAGE / LOAD OUT	109	WMB	6.26	682	23.32				$15,900				$15,900
	TRANSPORTATION TRUCK TO ENVIROCARE	109	WMB					$500				$54,500		$54,500
	ENCAPSULATION	5,280	CF					$101.24				$534,500		$534,500
	OFF-SITE BURIAL UNBULKED	5,280	CF					$32				$169,000		$169,000
	OFF-SITE SHREDDING OF WMB	2,318	CF					$11.84				$27,400		$27,400
	OFF-SITE BURIAL SHREDDED WMB	2,318	CF					$32				$74,200		$74,200
													SUB TOTAL	$948,200
	OFF-SITE DISPOSAL - ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	B-25	317	EA						$632				$200,300	$200,300
	ON-PROPERTY HAULING	317	WMB	1.65	523	21.06				$11,000				$11,000
	WEIGH, CERTIFICATION AND STAGE / LOAD OUT	317	WMB	6.26	1,984	23.32				$46,300				$46,300
	TRANSPORTATION TRUCK TO ENVIROCARE	317	WMB					$500				$158,500		$158,500
	OFF-SITE BURIAL UNBULKED	15,400	CF					$32				$492,800		$492,800
	OFF-SITE SHREDDING OF WMB	6,740	CF					$11.84				$79,800		$79,800
	OFF-SITE BURIAL SHREDDED WMB	6,740	CF					$32				$215,700		$215,700
	WMB = 106.3 CF EXT. VOL. SHREDDED = 21.3 C												SUB TOTAL	$1,204,400
					3,369					$77,000		$1,806,400	$269,200	$2,152,600

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-12

ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION G - NON-REGULATED ACM	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON-PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL-OFF-BOX (ROB) REUSE 50 LOADS PER ROB	5	EA.						$7,000				$35,000	$35,000
	ON-PROPERTY MATERIAL (STAGED IN PILE)	17,000	CF											
	ON-PROPERTY LOADING & HANDLING	26	ROB	12.90	335	21.35				$7,200				$7,200
	ON-PROPERTY HAULING, DISPOSAL & RETURN.	249	ROB	3.02	752	21.06				$15,800				$15,800
	ROB MAINTENANCE COST	125	ROB	14.40	1,800	22.64			$100	$40,800	$12,500			$53,300
	ON-PROPERTY BURIAL UNBULKED	71,300	CF					$3.05				$217,500		$217,500
					2,887					$63,800	$12,500	$217,500	$35,000	$328,800

002232

2497

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-13
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-5-R1
BY: JAW
DATE: 01/11/96
TIME: 07:31 AM

COST CAT.	DESCRIPTION H - REGULATED ACM	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON-PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL-OFF-BOX (ROB) REUSE 50 LOADS PER ROB	6	EA.						$7,000				$42,000	$42,000
	ON-PROPERTY MATERIAL (STAGED IN LMB CONT.)	3	LMB	14.00	42	21.55				$900				$900
	ON-PROPERTY LOADING & HANDLING	4	ROB	12.75	46	21.35				$1,000				$1,000
	ON-PROPERTY HAULING, DISPOSAL & RETURN.	254	ROB	3.02	767	21.06				$16,200				$16,200
	ROB MAINTENANCE COST	254	ROB	14.40	3,658	22.64			$100	$82,800	$25,400			$108,200
	ON-PROPERTY BURIAL UNBULKED	80,200	CF					$3.05				$244,600		$244,600
					4,513					$100,900	$25,400	$244,600	$42,000	$412,900

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-14
ALTERNATIVE 2
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3–95–1–5–R1
BY: JAW
DATE: 02/08/96
TIME: 03:00 PM

COST CAT.	DESCRIPTION I – MISCELLANEOUS MATERIALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	ON–PROPERTY DISPOSAL													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	ROLL–OFF–BOX (ROB) REUSE 50 LOADS PER ROB	18	EA.						$7,000				$126,000	$126,000
	ON–PROPERTY MATERIAL (STAGED IN LMB CONT.)	17	LMB											
	ON–PROPERTY UNLOADING & HANDLING	17	LMB	14.00	238	21.55				$5,100				$5,100
	ON–PROPERTY LOADING & HANDLING	21	ROB	12.75	268	21.35				$5,700				$5,700
	ON–PROPERTY HAULING, DISPOSAL & RETURN.	871	ROB	3.02	2,630	21.06				$55,400				$55,400
	ROB MAINTENANCE COST	436	ROB	14.40	6,271	22.64			$100	$142,000	$43,600			$185,600
	ON–PROPERTY BURIAL UNBULKED	396,000	CF					$3.05				$1,207,800		$1,207,800
													SUB TOTAL	$1,585,600
	OFF–SITE DISPOSAL – LANDFILL													
	COMMODITY: BELOW BASELINE													
	COMMERCIAL LANDFILL VENDOR WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D&D CONTRACTOR ASSUME A 5 DAY TURNAROUND FOR FILLING NO DIRECT FERMCO LABOR													
	INITIAL INSPECTION	308,000	CF	0.013	4,004	25.55				$102,300				$102,300
	INSPECTION FOR FREE RELEASE	484	ROB	15.00	7,260	25.55				$185,500				$185,500
	DAYS ON–PROPERTY TO BE FILLED	2,420	DAY					$3.50				$8,500		$8,500
	TRANSPORTATION AND BURIAL	484	ROB					$301.75				$146,000		$146,000
	UNBULKED MATERIAL VOLUME THIS CATEGORY	308,000	CF										SUB TOTAL	$442,300
					20,671					$496,000	$43,600	$1,362,300	$126,000	$2,027,900

TABLE E-15

SUMMARY SHEET

EST FILE #: C3-95-1-5-R2
CLIENT: DOE
PROJECT: CRU3 FEASIBILITY STUDY (ALT. 2)
WBS#: 1.1.1.1.3.1.3

FERMCO ESTIMATING SERVICES

DATE: 08-Feb-96
ESTIMATOR: J. WINGATE
LOCATION: FERNALD
TASK#: 3ACA4

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $ / OTHERS	MAT'L $	TOTAL $
	EXCAVATION AND CIVIL						
	CONCRETE						
	STRUCTURAL STEEL						
	BUILDINGS						
	MACHINERY AND EQUIPMENT						
	PIPING						
	ELECTRICAL						
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION						
DIRECT FIELD COSTS							
SUPERVISION - CONTRACTOR							
SM TOOLS/CONSM'BLS							
EQUIPMENT RENTAL							
TEMP. FACILITIES							
TEMP UTL'S HOOK-UP							
JOB CLEAN-UP							
SAFETY							
HEALTH PHYSICS S/C							
CERCLA $1,500 PER PERSON							
BOND							
OVERHEAD & PROFIT							
PAYRL BRD.&BENFT.							
INDIRECT FIELD COSTS							
DIRECT & INDIRECT FIELD COSTS							
	QTY	$/UNIT					
WASTE CONTAINERS							
CERTIFICATION							
TRANSPORTATION							
BURIAL							
RECYCLING							
STORAGE							
WASTE MANAGEMENT COSTS							
FERMCO SUPPORT LABOR			406,939	$9,019,800	$36,992,400	$12,937,800	$58,950,000
FERMCO MGMT. & SUPPORT			123,552	$3,219,000	$545,000	$4,226,300	$7,990,300
O & M COST						$7,904,100	
FERMCO FIELD SUPPORT COSTS				$12,238,800	$37,537,400	$25,068,200	$74,844,400
ENGINEERING/DESIGN/INSPECTION	A/E			FERMCO			
ENGINEERING COSTS							
SALES TAX - SUBCONTRACT		SALES TAX - FERMCO				$1,624,900	$1,624,900
SUB-TOTAL(BASE ESTIMATE)							$76,469,300
G&A-FERMCO (SEE EXCLUSION COMMENTS)							
ESCALATION (SEE EXCLUSION COMMENTS)							
RISK BUDGET	23.6%						$18,046,800
TARGET ESTIMATE (BASE ESTIMATE PLUS RISK BUDGET)							$94,516,100
CONTINGENCY	15.2%						$11,623,300

FY 95 DOLLARS

062325

TABLE E-16

7497

ESTIMATE: C3-95-1-5-R2

DATE : 08-Feb-96

CLIENT: US DOE

FERMCO

LEVEL OF EFFORT SUMMARY SHEET

ESTIMATOR: J.W.

LOCATION: FERNALD, OH

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 2)

WBS NUMBER: 1.1.1.1.3.1.3

ITEM DESCRIPTION	M/H	LABOR $	S/C $	MAT'L $	TOTAL $
FERMCO LABOR AND MATERIALS					
FERMCO LABOR INCL. BENEFITS & BURDENS	123,552	$3,219,000			$3,219,000
FERMCO MATERIAL - OBJCL 200 & OBJCL 300				$4,205,400	$4,205,400
SALES TAX - OBJCL 394				$1,624,900	$1,624,900
SUB-TOTAL 1 FERMCO LABOR & MATERIAL TOTAL	123,552	$3,219,000		$5,830,300	$9,049,300
SUBCONTRACTS					
CONTRACT HIRE ($/HR) & MISC SUBCONTRACTORS			$545,000		$545,000
ENGINEERING (A/E)					
SUB-TOTAL 2 ENGINEERING & SUBCONTRS TOTAL			$545,000		$545,000
TEAMING PARTNERS					
SITE STAFF					
HOME OFFICE SUPPORT					
SUB-TOTAL 3 TEAMING PARTNERS TOTAL					
OTHER DIRECT COSTS					
TRAVEL - OBJCL 600				$20,900	$20,900
RELOCATION - OBJCL 700					
OTHER					
SUB-TOTAL 4 OTHER DIRECT COSTS TOTAL				$20,900	$20,900
TOTAL		$3,219,000	$545,000	$5,851,200	
SUMMARY SHEET TOTAL		*****JAN 95 RATES*****			$9,615,200

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002226

TABLE E-17

ESTIMATE: C3-95-1-5-R2 DATE : 08-Feb-96

CLIENT: US DOE **FERMCO LABOR & MATERIALS** ESTIMATOR: J.W. / T.P.

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 2 LOCATION: FERNALD, OH

WBS NUMBER: 1.1.1.1.3.1.3

GROUP	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
1A	TOP LEVEL & ENGINEERING MANAGERS	7,488	$53.04	$397,200			$397,200
1B	MANUFACTURING MANAGERS		$33.77				
1C	NON-ENGINEERING MANAGERS	1,872	$36.60	$68,500			$68,500
2A	JUNIOR ENGINEER	18,720	$30.55	$571,900			$571,900
2A	SENIOR ENGINEER	9,360	$42.13	$394,300			$394,300
2B	JUNIOR TECHNICAL SUPPORT PROFESSIONALS		$27.58				
2B	SENIOR TECHNICAL SUPPORT PROFESSIONALS		$35.55				
2C	JUNIOR NON - TECH SUPPORT PROFESSIONALS	1,872	$22.56	$42,200			$42,200
2C	SENIOR NON - TECH SUPPORT PROFESSIONALS	18,720	$31.98	$598,700			$598,700
3A	TECHNICIANS	28,080	$20.26	$568,900			$568,900
5A	SECRETARIAL	18,720	$15.48	$289,800			$289,800
5B	GENERAL CLERKS	18,720	$15.36	$287,500			$287,500
6A	CRAFTS		$22.79				
7B	EQUIPMENT OPERATORS		$21.06				
8A&B	GENERAL LABORERS		$17.87				
9A	SECURITY POLICE OFFICERS		$20.21				
9B	GENERAL WORKERS (UTILITY)		$17.76				
SUB-TOTAL 1 FERMCO LABOR INCL BENEFITS & BURDENS		123,552		$3,219,000			$3,219,000

MATERIALS

OBJCL	Description	Totals
261	Bldg & Road Mat. ROB repair	$167,500
262	Hardware & Small Tools	
263	Chemicals & Compounds	
264	Metals & M Alloys	
265	Electrical Materials	
266	Electronic Materials	
267	Mechanical Materials	
268	Custodial Materials	
269	Office Materials	
270	Fuels & Lubricants	
271	Clothes	
273	Laboratory Supplies	
275	Misc. Materials & Supplies	
330	LEASED TRAILER	$29,500
332		
335		
	Total ObjCl 200	$197,000

OBJCL	Description	Totals
310	Main. Matls & Supp.	
315	Repair Matls. / Exps.	
325	Tools, Metal Fabr.	
330	Safety Cloth / Equip. PPE	$2,035,000
332	Training	$438,900
335	BOND @ 1%	$375,400
341	Coal	
342	Diesel Fuel	
343	Gasoline	
345	Propane	
346	Kerosene	
350	Frgt. Nuc. Mat. Sho.	

OBJCL	Description	Totals
355	Pkg. Supp. & Exps.	
360	Equip. Purch. W Op.	
361	Capital Equipment	$1,111,100
363	Construction Materials	
365	Instrumentation	
366	Sampling Mat. & Equip	
367	Laundry & Clean. Supp	
368	Training Materials	
369	Medical Supplies	
370	Office Supplies	$1,100
375	Other Comp. Hardware	$2,400
376	PC Hardware	$7,000
377	PC Software	$5,000
378	Computer Supplies	$1,100
380	PRT Photo & Graphic Supp	$2,700
385	Communication Exp.	$19,400
388	Freight	$5,400
389	Misc. Tools & Ele. Sup.	
390	Office Furniture	$2,300
392	Offsite Office Rent	
393	Permit Fees	
394	Sales Tax	$374,400
395	Periodicals	
396	Memberships	
397	Cafeteria Utensils	
398	Labotatory Supplies	
399	Misc Supp. & Expense	$1,600
O&M	PROJECT MATERIAL SALES TAX @ 6%	$563,600
CAPITAL	PROJECT MATERIAL SALES TAX @ 6%	$686,900
	Total ObjCl 300 (Less Sales Tax)	$4,008,400

Material Total $4,205,40

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062227

TABLE E-18

7497

ESTIMATE: C3-95-1-5-R2 DATE: 11-Jan-96

CLENT: US DOE

TEAMING PARTNERS / SUBCONTRACTS

ESTIMATOR: J.W. / T.P.

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 2)

WBS NUMBER: 1.1.1.1.3.1.3

LOCATION: FERNALD, OH

ITEM DESCRIPTION	WORK HOURS								TOTALS
	FDIS	FDIH	HALLS	HALLH	JACOBSS	JACOBSH	NFSS	NFSH	
General									
Project Management									
Engineering									
Project Controls									
Procurement									
Construction									
General Services									
Finance									
Field Support									
TOTAL HOURS									
$ Per Hour *	$57.00	$78.00	$57.00	$78.00	$57.00	$78.00	$57.00	$78.00	
TOTAL $									

CONTRACT HIRE ($HR) & SUBCONTRACTORS (excluding A/E)

OBJC	Description	Totals
405	Rentals & Leases	
410	Subc – Maintenance	
420	Subc – Not Maint/Rout	
421	Subc – Prof. Services	$250,000
423	Ind. Prof. Subcontr	$250,000
425	Subc. – Routine Analysis	
429	R.M. Parsons	
440	Scientific Ecology	
443	Theta Technologies	
448	Exec.Resource Assoc.	
	Ebasco	
	ASI	

OBJCL	Description	Totals
	IT – Analytical	
	IT – Engineering	
	Penn Drill	
	BURIAL	
460	Temporaries	$20,000
470	Service Agreements	$25,000
471	Site – Wide Serv. Agreements	
480	Outside Laundry, ETC.	

S/C Total $545,000

*****JAN 95 RATES*****

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002223

TABLE E-19

ESTIMATE: C3-95-1-5-R2 DATE: 11-Jan-96

OTHER DIRECT COSTS

CLIENT: US DOE ESTIMATOR:

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 2) LOCATION: FERNALD, OH

WBS NUMBER: 1.1.1.1.3.1.3

Travel - OBJCL 600

Group	No. of Trips			Cost Per Trip			Total Cost
	1 Day	3 Day	5 Day	1 Day	3 Day	5 Day	
General		9			$695		$6,300
Project Management			9			$925	$8,300
Engineering							
Project Controls							
Procurement							
Construction							
General Services							
Finance		9			$695		$6,300
Field Support							
Totals		18	9				$20,900

Relocation - OBJCL 700

Group	Total Relocations		Cost Per Relocation		Total Cost
General					
Project Management					
Engineering					
Project Controls					
Procurement					
Construction					
General Services					
Finance					
Field Support					
Totals					

Other

Item		Total Cost
Employment Interview		
Tuition Refund		
Misc		
Totals		

*****JAN 95 RATES*****

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002229

ALTERNATIVE 2 ANNUAL EXPENDITURES

ESTIMATES FOR PRESENT WORTH ANALYSIS

FISCAL YEAR	OFF-SITE DISPOSAL COSTS	ON-PROPERTY DISPOSAL COSTS	OVERHEAD COSTS	DISPOSAL CELL O&M	RISK BUDGET	TOTAL ANNUAL COST	TOTAL CUMULATIVE COST
1995	$455,500	$0	$0	$0	107498	$562,998	$562,998
1996	$1,418,500	$0	$0	$0	334767	$1,753,267	$2,316,265
1997	$3,258,000	$0	$0	$0	768891	$4,026,891	$6,343,156
1998	$2,997,800	$7,271,900	$1,201,900	$208,003	2756397	$14,436,000	$20,779,156
1999	$2,559,400	$5,513,000	$1,201,900	$208,003	2237832	$11,720,135	$32,499,291
2000	$3,149,600	$6,834,200	$1,201,900	$208,003	2688924	$14,082,627	$46,581,918
2001	$2,326,400	$2,216,000	$1,201,900	$208,003	1404749	$7,357,052	$53,938,970
2002	$1,005,800	$6,041,500	$1,201,900	$208,003	1995907	$10,453,110	$64,392,080
2003	$1,199,900	$7,097,100	$1,201,900	$208,003	2290838	$11,997,741	$76,389,821
2004	$245,800	$3,527,200	$1,201,900	$208,003	1223170	$6,406,073	$82,795,894
2005	$119,400	$1,712,900	$1,201,900	$208,003	765167	$4,007,470	$86,803,364
2006				$208,003	49089	$257,092	$87,060,456
2007				$208,003	49089	$257,092	$87,317,548
2008				$208,003	49089	$257,092	$87,574,640
2009				$208,003	49089	$257,092	$87,831,732
2010				$208,003	49089	$257,092	$88,088,824
2011				$208,003	49089	$257,092	$88,345,916
2012				$208,003	49089	$257,092	$88,603,008
2013				$208,003	49089	$257,092	$88,860,100
2014				$208,003	49089	$257,092	$89,117,192
2015				$208,003	49089	$257,092	$89,374,284
2016				$208,003	49089	$257,092	$89,631,376
2017				$208,003	49089	$257,092	$89,888,468
2018				$208,003	49089	$257,092	$90,145,560
2019				$208,003	49089	$257,092	$90,402,652
2020				$208,003	49089	$257,092	$90,659,744
2021				$208,003	49089	$257,092	$90,916,836
2022				$208,003	49089	$257,092	$91,173,928
2023				$208,003	49089	$257,092	$91,431,020
2024				$208,003	49089	$257,092	$91,688,112
2025				$208,003	49089	$257,092	$91,945,204
2026				$208,003	49089	$257,092	$92,202,296
2027				$208,003	49089	$257,092	$92,459,388
2028				$208,003	49089	$257,092	$92,716,480
2029				$208,003	49089	$257,092	$92,973,572
2030				$208,003	49089	$257,092	$93,230,664
2031				$208,003	49089	$257,092	$93,487,756
2032				$208,003	49089	$257,092	$93,744,848
2033				$208,003	49089	$257,092	$94,001,940
2034				$208,003	49089	$257,092	$94,259,032
2035				$208,003	49089	$257,092	$94,516,124
	$18,736,100	$40,213,800	$9,615,200	$7,904,100	$18,046,810	$94,516,100	

TABLE E - 21

PRESENT WORTH ANALYSIS

LCC TITLE: OU3 FEASIBILITY STUDY
CHARGE NO.: 3ACA4
BASE DATE: FY 1995
CLIENT: EPA
STUDY PERIOD: 12 YEARS
LOCATION: FERNALD, OH
REAL DISCOUNT RATE: 4.8%
ANALYST: J. JACOBOSKI

ALTERNATIVE 2	CASH FLOW YEAR
$562,998	1995
$1,753,276	1996
$4,026,891	1997
$14,436,000	1998
$11,720,135	1999
$14,082,627	2000
$7,357,052	2001
$10,453,110	2002
$11,997,741	2003
$6,406,073	2004
$4,007,470	2005
$5,356,083	2006
$94,516,100	TOTAL
$70,533,700	< = = = = = = (@NPV)

Note: Fiscal year 2006 for Alternative 2 is considered a capitalized cost.

002231

TABLE E-22

ALTERNATIVE 2
ESTIMATE SUMMARY

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV

ESTIMATOR: JAW
DATE: 02/08/96

COST	DESCRIPTION	ON-PROP. QUAN	ON-PROP. QUAN	OFF-SITE NTS QUAN	OFF-SITE LANDFL QUAN	OFF-SITE ENVIRO QUAN	OFF-SITE ENVIRO QUAN	
	NUMBER OF CONTAINERS USED FOR DISPOSITION OF EACH MATERIAL CATEGORY AT THE DESIGANTED LOCATION							
	A - ACCESSIBLE METALS	1,290			12			
	B - INACCESSIBLE METALS	7,369						
	C - PROCESS-RELATED METALS			508				
	D - PAINTED LIGHT GAUGE METALS	84	21					
	E - CONCRETE	19,404					71	
	F - BRICK					426		
	G - NON-REGULATED ACM	249						
	H - REGULATED ACM	254						
	I - MISCELLANEOUS MATERIALS	871			484			
		29,521	21	508	496	426	71	

TABLE E-23

ALERNATIVE 2 **OVERHEAD ESTIMATE SHEET.**

9 YEAR PLAN — BASED ON 2080 HR'S / YEAR

	GROUP	REQ NO.	% REQ.	NO. YR'S.	TOTAL HR'S
PROJECT MANAGER	1A	1	40%	9	7,488
PROJECT ENGINEERS SR.	2A	1	50%	9	9,360
JUNIOR ENGINEERS	2A	2	50%	9	18,720
SAFETY ENGINEER	2C	2	50%	9	18,720
PROCUREMENT	1C	1	10%	9	1,872
ACCOUNTING, FINANCE	2C	1	10%	9	1,872
SECRETARIAL	5A	2	50%	9	18,720
GENERAL CLERKS	5B	1	100%	9	18,720
TECHNICIANS (H. & S.)	3A	1	50%	9	9,360
TECHNICIANS (RADTECH)	3A	2	50%	9	18,720

EMPLOYEE: 14 TOTAL HOURS 123,552

MATERIALS

OBJCL	DESCRIPTION	CALCULATIONS	
370	OFFICE SUPPLIES	9 YEARS * 12 MONTHS * ALLOWANCE @ $10 / MONTH	$1,100
375	OTHER COMP. HARDWARE	2 PRINTERS @ $1200 EACH	$2,400
376	PC HARDWARE	2 COMPUTERS @ $3,500 EACH	$7,000
377	PC SOFTWARE	2 COPIES @ $2,500 EACH FOR LICENCE AGREEMENTS	$5,000
378	COMPUTER SUPPIES	9 YEARS * 12 MONTHS * ALLOWANCE @ $10 / MONTH	$1,100
380	PHOTO & GRAPHIC SUPPORT	9 YEARS * 12 MONTHS * ALLOWANCE @ $25 / MONTH	$2,700
385	COMMUNICATIONS EXP.	9 YEARS * 12 MONTHS * 3 PHONES *ALLOW @ $60 / MONTH	$19,400
388	FREIGHT / POSTAGE	9 YEARS * 12 MONTHS * POSTAGE ETC ALLOW @ $50 / MONTH	$5,400
390	OFFICE FURNITURE	3 WORKERS @ $750 EACH	$2,300
399	MISC. SUPP. & EXPENSE	9 YEARS * 12 MONTHS * ALLOWANCE @ $15 / MONTH	$1,600
		LESS SALES TAX	$48,000
394	SALES TAX @ 6%		$2,900
		TOTAL	$50,900

OBJCL	DESCRIPTION	CALCULATIONS		
330	SAFETY & PPE COST (DIRECT MAN HOURS ONLY)	406,939	HRS./ 10 HRS. PER DAY @ $50.00 / WORKER	$2,035,000
N/A	SUB CONTRACT BOND AT 1%	$37,537,400	TOTAL OF SUB CONTRACTS	$375,400
368	TRAINING	530,491	HRS./ 1813 HRS./ YEAR @ $1500.00 / WORKER	$438,900

ON-PROPERTY REQUIREMENTS

OFFICE SPACE FOR THE LAST THREE YEARS OF PROJECT:

OBJCL # 276 TRAILER LEASING

FROM MEANS CONSTRUCTION DATA BOOK. 1994 PRICING COMMERCIAL STYLE OFFICE TRAILER

50' * 12' TRAILER	2	REQ.	$410	RENT PER MONTH * 36 MONTHS	$29,500
50' * 12' TRAILER	2	REQ.	$13,790	PURCHASE	$27,600
SET UP COST	2	REQ.	$5,000	ALLOW FOR EACH TRAILER	$10,000
MAINTENANCE	2	REQ.	$5,000	ALLOW $2,500 PER YEAR EACH TRAILER	$10,000
				USING THE LEASED PRICING	$49,500

SITE DEVELOPMENT

OBJCL # 261

USING AN EXISTING BUIDING FOR THE CONTAINER REPAIR SHOP (ROB, ITC)

APPORXAMENTLY 100'-0 * 60'-0

INSPECT, CLEAN AND MAKE READY FOR REPAIR SHOP	2,000 HRS	$25.00		$50,000
MATERIALS TO OUT FIT SHOP AREA				
BINS, STORAGE RACKS, BENCHES			ALLOW	$12,000
ELECTRICAL REQUIREMENTS, LIGHTS, OUTLETS ETC.			ALLOW	$8,500
UTILITIES WATER, TELEPHONE, HONEWELL CONTROLS			ALLOW	$15,000
HVAC			ALLOW	$12,000
MAINTENANCE 10 YEARS AT $5,000 PER YEAR				$50,000
SPARE PARTS, REPAIR MATERIAL, STEEL PLATE ETC. IS PRICED WITH IN THE ESTIMATE.				
		TOTAL		$147,500

CAPITAL EQUIPMENT

CONSTRUCTION EQUIPMENT:
OBJCL #361

	NO. REQUIRED	UNIT PRICE		TOTAL COST
TAYLOR TYPE FORK LIFT	1	$110,000		$110,000
MILLER PORTABLE WELDING MACHINES	3	$8,000		$24,000
TRUCK WITH ROB/I.T.C. LOADING/DUMPING CAPABILITIES	3	$80,000		$240,000
TRUCK 2 TON CAPACITY	2	$25,000		$50,000
HYDRAULIC CRANE	2	$120,000		$240,000
50-0 * 12'-0 OFFICE TRAILERS	3	$13,790		$41,400
PORTABLE HYDRAULIC EQUIPMENT	2	$8,500		$17,000
PORTABLE HEATERS	6	$1,500		$9,000
LIGHT PLANTS (FLOOD LIGHTS)	5	$12,000		$60,000
PORTABLE GANTRY CRANE 10 TON CAPACITY	1	$4,500		$4,500
PORTABLE GENERATOR	3	$25,000		$75,000
PORTABLE AIR COMPRESSOR	1	$18,000		$18,000
			SUB TOTAL	$888,900
REPLACEMENT ALLOWANCE AT: 25%				$222,200
			TOTAL	$1,111,100

TABLE E-25

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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CONTRACT #: 0442432
EST #: C3–95–1–7–R2
BY: JAW
DATE: 02/08/96
TIME: 10:19 AM

COST CAT.	DESCRIPTION ALTERNATIVE NUMBER 3	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	DISPOSAL					
	OFF–SITE			$61,325,200		
	LANDFILL			$158,300		
	SUB TOTAL			$61,483,500		$61,483,500
	TREATMENT					
	ENCAPSULATION			$539,600		
	SHREDDING			$500		
	SUB TOTAL			$540,100		$540,100
	CONTAINERS					
	INTERMODAL TRANSPORTATION CONTAINER				$3,702,300	
	B–12				$1,000	
	LARGE METAL BOX				$2,997,200	
	SUB TOTAL				$6,700,500	$6,700,500
	TRANSPORTATION					
	ON–PROPERTY HAULING	$1,367,200				
	ON–PROPERTY HANDLING	$500				
	ON–PROPERTY INSPECTION	$292,700				
	WEIGHING & CERTIFICATION	$10,119,000				
	ON–PROPERETY LOADING OF I.T.C.	$4,250,100				
	TRANSPORTATION			$1,625,600		
	RAIL ROAD TRANSPORTATION			$35,388,000		
	ARTICULATED CONTAINER CAR			$5,587,600		
	MAINTENANCE FOR CONTAINERS	$8,652,900	$2,654,100			
	SUB TOTAL	$24,682,400	$2,654,100	$42,601,200		$69,937,700
	INDIRECT COST (STAFF, CAPITAL EQUIPMENT, ETC.)	$3,219,000	$9,782,000	$545,000	$0	$13,546,000
	RISK BUDGET (24.3%)		$36,986,500			$36,986,500
	TOTAL	$27,901,400	$49,422,600	$105,169,800	$6,700,500	$189,194,300

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-26
ALTERNATIVE 3
ESTIMATE SUMMARY

CONTRACT #: 04424321
EST #: C3–95–1–7–R2
BY: JAW
DATE: 02/08/96
TIME: 10:17 AM

COST CAT.		QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	A – ACCESSIBLE METALS				0					$1,248,100	$136,500	$2,549,400	$186,800	$4,120,800
	B – INACCESSIBLE METALS				303,593					$7,035,800	$772,500	$24,140,600	$1,072,600	$33,021,500
	C – PROCESS–RELATED METALS				8,839					$215,700	$0	$13,370,600	$2,997,200	$16,583,500
	D – PAINTED LIGHT GAUGE METALS				2,790					$64,600	$7,000	$164,000	$15,000	$250,600
	E – CONCRETE				625,263					$14,490,600	$1,591,000	$57,462,800	$2,207,500	$75,751,900
	F – BRICK				2,790					$64,700	$7,100	$789,000	$20,700	$881,500
	G – NON–REGULATED ACM				8,253					$191,300	$21,000	$823,300	$34,600	$1,070,200
	H – REGULATED ACM				10,573					$245,000	$26,900	$976,700	$41,500	$1,290,100
	I – MISCELLANEOUS MATERIALS				47,459					$1,126,600	$92,100	$4,348,400	$124,600	$5,691,700
	INDIRECT COST (STAFF, CAPITAL EQUIPMENT, ETC.)				123,552					$3,219,000	$9,782,000	$545,000	$0	$13,546,000
	RISK BUDGET (24.3 %)										$36,986,500			$36,986,500
					1,133,112					$27,901,400	$49,422,600	$105,169,800	$6,700,500	$189,194,300

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-27
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 02/08/96
TIME: 03:21 PM

COST CAT.	DESCRIPTION A - ACCESSIBLE METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	27	EA.						$6,920				$186,800	$186,800
	ON-PROPERTY HAULING	1,365	LOAD	2.40	3,276	21.06				$69,000				$69,000
	WEIGH, CERTIFICATION	1,365	LOAD	15.00	20,475	24.94				$510,600				$510,600
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	1,365	LOAD	7.50	10,238	21.35				$218,600				$218,600
	INTERMODAL TRANSPORT CONTAINER MAINT.	1,365	LOAD	14.40	19,656	22.64			$100	$445,000	$136,500			$581,500
	RAIL ROAD TRANSPORTATION	1,365	I.T.C.					$1,333				$1,820,000		$1,820,000
	ARTICULATED CONTAINER CAR COST	1,365	I.T.C.					$211				$287,400		$287,400
	OFF-SITE BURIAL UNBULKED	62,600	CF					$7.00				$438,200		$438,200
													SUB TOTAL	$4,112,100
	OFF-SITE DISPOSAL - LANDFILL													
	COMMODITY: BELOW BASELINE													
	COMMERCIAL LANDFILL VENDOR WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D&D CONTRACTOR ASSUME A 5 DAY TURNAROUND FOR FILLING NO DIRECT FERMCO LABOR													
	INITIAL INSPECTION	835	CF	0.013	11	25.55				$300				$300
	INSPECTION FOR FREE RELEASE	12	ROB	15.00	180	25.55				$4,600				$4,600
	DAYS ON-PROPERTY TO BE FILLED	60	DAY					$3.50				$200		$200
	TRANSPORTATION AND BURIAL	12	ROB					$301.75				$3,600		$3,600
	UNBULKED MATERIAL VOLUME THIS CATEGORY	835	CF										SUB TOTAL	$8,700
										$1,248,100	$136,500	$2,549,400	$186,800	$4,120,800

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-28

ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION B - INACCESSIBLE METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	153	EA.						$6,920				$1,058,800	$1,058,800
	ON-PROPERTY HAULING	7,659	LOAD	2.40	18,382	21.06				$387,100				$387,100
	WEIGH, CERTIFICATION	7,659	LOAD	15.00	114,885	24.94				$2,865,200				$2,865,200
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	7,659	I.T.C.	7.50	57,443	21.35				$1,226,400				$1,226,400
	INTERMODAL TRANSPORT CONTAINER MAINT.	7,659	I.T.C.	14.40	110,290	22.64			$100	$2,497,000	$765,900			$3,262,900
	RAIL ROAD TRANSPORTATION	7,659	I.T.C.					$1,333				$10,212,000		$10,212,000
	ARTICULATED CONTAINER CAR COST	7,659	I.T.C.					$211				$1,612,400		$1,612,400
	OFF-SITE BURIAL UNBULKED	1,730,000	CF					$7.00				$12,110,000		$12,110,000
													SUB TOTAL	$32,734,800
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: PCB													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	2	EA.						$6,920				$13,800	$13,800
	ON-PROPERTY HAULING	66	LOAD	2.40	158	21.06				$3,300				$3,300
	WEIGH, CERTIFICATION	66	LOAD	15.00	990	24.94				$24,700				$24,700
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	66	I.T.C.	7.50	495	21.35				$10,600				$10,600
	INTERMODAL TRANSPORT CONTAINER MAINT.	66	I.T.C.	14.40	950	22.64			$100	$21,500	$6,600			$28,100
	RAIL ROAD TRANSPORTATION	66	I.T.C.					$1,333				$88,000		$88,000
	ARTICULATED CONTAINER CAR COST	66	I.T.C.					$211				$13,900		$13,900
	OFF-SITE BURIAL UNBULKED	14,900	CF					$7.00				$104,300		$104,300
													SUB TOTAL	$286,700
					303,593					$7,035,800	$772,500	$24,140,600	$1,072,600	$33,021,500

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-29
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION C - PROCESS-RELATED METALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-NTS													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	LARGE WHITE METAL BOX	508	EA.						$5,900				$2,997,200	$2,997,200
	ON-PROPERTY HAULING	508	LOAD	2.40	1,219	21.06				$25,700				$25,700
	WEIGH, CERTIFICATION AND STAGE FOR LOAD OUT	508	LOAD	15.00	7,620	24.94				$190,000				$190,000
	TRANSPORTATION TO NTS	508	LOAD					$3,200				$1,625,600		$1,625,600
	OFF-SITE BURIAL CONTAINERS	508	LMB					$23,120				$11,745,000		$11,745,000
	OFF-SITE BURIAL UNBULKED	151,000	CF											
					8,839					$215,700		$13,370,600	$2,997,200	$16,583,500

002239

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-30
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/15/96
TIME: 10:01 AM

COST CAT.	DESCRIPTION	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	D - PAINTED LIGHT GAUGE METALS													
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: POTENTIALLY MIXED WASTE													
	CONTAINER COST:													
	B-12 CONTAINERS	1	EA.						$960				$1,000	$1,000
	ON-PROPERTY HAULING OF (B-12)	4	B-12	1.65	7	21.06				$100				$100
	WEIGH, CERTIFICATION	4	B-12	6.26	25	23.32				$600				$600
	ON-PROPERTY LOADING/HANDLING OF (B-12)	4	EA.	5.83	23	21.35				$500				$500
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	1	I.T.C.	7.50	8	21.35				$200				$200
	INTERMODAL TRANSPORT CONTAINER MAINT.	1	I.T.C.	14.40	14	22.64			$100	$300	$100			$400
	RAIL ROAD TRANSPORTATION	1	I.T.C.					$1,333				$1,300		$1,300
	ARTICULATED CONTAINER CAR COST	1	I.T.C.					$210.53				$200		$200
	ENCAPSULATION	50	CF					$101.24				$5,100		$5,100
	OFF-SITE BURIAL UNBULKED	50	CF					$7.00				$400		$400
	OFF-SITE SHREDDING OF B-12	43	CF					$11.84				$500		$500
	OFF-SITE BURIAL SHREDDED B-12	43	CF					$7.00				$300		$300
	B-12 = 52.75 CF EXT. VOL. SHREDDED = 10.55 CF												SUB TOTAL	$10,600
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X	2	EA.						$7,000				$14,000	$14,000
	ON-PROPERTY HAULING	69	LOAD	2.40	166	21.06				$3,500				$3,500
	WEIGH, CERTIFICATION	69	LOAD	15.00	1,035	24.94				$25,800				$25,800
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	69	I.T.C.	7.50	518	21.35				$11,100				$11,100
	INTERMODAL TRANSPORT CONTAINER MAINT.	69	I.T.C.	14.40	994	22.64			$100	$22,500	$6,900			$29,400
	RAIL ROAD TRANSPORTATION	69	I.T.C.					$1,333				$92,000		$92,000
	ARTICULATED CONTAINER CAR COST	69	I.T.C.					$210.53				$14,500		$14,500
	OFF-SITE BURIAL UNBULKED	7,100	CF					$7.00				$49,700		$49,700
													SUB TOTAL	$240,000
					2,790					$64,600	$7,000	$164,000	$15,000	$250,600

NOTES:
1. B-12's ARE HELD IN INTERIM STORAGE.
2. VOLUME NOT INCREASED FOR ENCAPSULATION OF LEAD FLASHING.
3. COST FOR I.T.C. TO HAUL B-12 TO ENVIROCARE IS INCLUDED IN LOW LEVEL WASTE CALCULATION

002240

WBS NO.–
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-31
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION E – CONCRETE	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: BELOW BASELINE / LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	319	EA						$6,920				$2,207,500	$2,207,500
	ON-PROPERTY HAULING	15,910	I.T.C.	2.40	38,184	21.06				$804,200				$804,200
	WEIGH, CERTIFICATION	15,910	I.T.C.	15.00	238,650	24.94				$5,951,900				$5,951,900
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	15,910	I.T.C.	7.50	119,325	21.35				$2,547,600				$2,547,600
	INTERMODAL TRANSPORT CONTAINER MAINT.	15,910	I.T.C.	14.40	229,104	22.64			$100	$5,186,900	$1,591,000			$6,777,900
	RAIL ROAD TRANSPORTATION	15,910	I.T.C.					$1,333				$21,213,300		$21,213,300
	ARTICULATED CONTAINER CAR COST	15,910	I.T.C.					$211				$3,349,500		$3,349,500
	OFF-SITE BURIAL UNBULKED	4,700,000	CF					$7.00				$32,900,000		$32,900,000
					625,263					$14,490,600	$1,591,000	$57,462,800	$2,207,500	$75,751,900

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-32
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION F - BRICK	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: POTENTIALLY MIXED WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X	1	EA						$6,920				$6,900	$6,900
	ON-PROPERTY HAULING	18	LOAD	2.40	43	21.06				$900				$900
	WEIGH, CERTIFICATION	18	LOAD	15.00	270	24.94				$6,700				$6,700
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	18	I.T.C.	7.50	135	21.35				$2,900				$2,900
	INTERMODAL TRANSPORT CONTAINER MAINT.	18	I.T.C.	14.40	259	22.64			$100	$5,900	$1,800			$7,700
	RAIL ROAD TRANSPORTATION	18	I.T.C.					$1,333				$24,000		$24,000
	ARTICULATED CONTAINER CAR COST	18	I.T.C.					$211				$3,800		$3,800
	ENCAPSULATION OF MIXED WASTE	5,280	CF					$101.24				$534,500		$534,500
	OFF-SITE BURIAL UNBULKED	5,280	CF					$7.00				$37,000		$37,000
													SUB TOTAL	$624,400
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X	2	EA						$6,920				$13,800	$13,800
	ON-PROPERTY HAULING	53	LOAD	2.40	127	21.06				$2,700				$2,700
	WEIGH, CERTIFICATION	53	LOAD	15.00	795	24.94				$19,800				$19,800
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	53	I.T.C.	7.50	398	21.35				$8,500				$8,500
	INTERMODAL TRANSPORT CONTAINER MAINT.	53	I.T.C.	14.40	763	22.64			$100	$17,300	$5,300			$22,600
	RAIL ROAD TRANSPORTATION	53	I.T.C.					$1,333				$70,700		$70,700
	ARTICULATED CONTAINER CAR COST	53	I.T.C.					$211				$11,200		$11,200
	OFF-SITE BURIAL UNBULKED	15,400	CF					$7.00				$107,800		$107,800
													SUB TOTAL	$257,100
					2,790					$64,700	$7,100	$789,000	$20,700	$881,500

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-33
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION G - NON-REGULATED ACM	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X	5	EA.						$6,920				$34,600	$34,600
	ON-PROPERTY HAULING	210	I.T.C.	2.40	504	21.06				$10,600				$10,600
	WEIGH, CERTIFICATION	210	LOAD	15.00	3,150	24.94				$78,600				$78,600
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	210	I.T.C.	7.50	1,575	21.35				$33,600				$33,600
	INTERMODAL TRANSPORT CONTAINER MAINT.	210	I.T.C.	14.40	3,024	22.64			$100	$68,500	$21,000			$89,500
	RAIL ROAD TRANSPORTATION	210	I.T.C.					$1,333				$280,000		$280,000
	ARTICULATED CONTAINER CAR COST	210	I.T.C.					$211				$44,200		$44,200
	OFF-SITE BURIAL UNBULKED	71,300	CF					$7.00				$499,100		$499,100
					8,253					$191,300	$21,000	$823,300	$34,600	$1,070,200

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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TABLE E-34
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3–95–1–7–R2
BY: JAW
DATE: 01/11/96
TIME: 02:19 PM

COST CAT.	DESCRIPTION H – REGULATED ACM	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF–SITE DISPOSAL–ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X	6	EA.						$6,920				$41,500	$41,500
	ON–PROPERTY HAULING	269	I.T.C.	2.40	646	21.06				$13,600				$13,600
	WEIGH, CERTIFICATION	269	I.T.C.	15.00	4,035	24.94				$100,600				$100,600
	ON–PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	269	I.T.C.	7.50	2,018	21.35				$43,100				$43,100
	INTERMODAL TRANSPORT CONTAINER MAINT.	269	I.T.C.	14.40	3,874	22.64			$100	$87,700	$26,900			$114,600
	RAIL ROAD TRANSPORTATION	269	I.T.C.					$1,333				$358,700		$358,700
	ARTICULATED CONTAINER CAR COST	269	I.T.C.					$211				$56,600		$56,600
	OFF–SITE BURIAL UNBULKED	80,200	CF					$7.00				$561,400		$561,400
					10,573					$245,000	$26,900	$976,700	$41,500	$1,290,100

WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E-35
ALTERNATIVE 3
ESTIMATE DETAILS

CONTRACT #: 04424321
EST #: C3-95-1-7-R2
BY: JAW
DATE: 02/08/96
TIME: 03:21 PM

COST CAT.	DESCRIPTION I - MISCELLANEOUS MATERIALS	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	O & M LABOR	O & M MATERIAL	CAPITAL SUB CONTRACT	CAPITAL MATERIAL	LINE TOTAL
	OFF-SITE DISPOSAL-ENVIROCARE													
	COMMODITY: LOW LEVEL WASTE													
	CONTAINER COST:													
	INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	18	EA						$6,920				$124,600	$124,600
	ON-PROPERTY HAULING	921	I.T.C.	2.40	2,210	21.06				$46,500				$46,500
	WEIGH, CERTIFICATION	921	I.T.C.	15.00	13,815	24.94				$344,500				$344,500
	ON-PROPERTY LOADING OF I.T.C. ONTO R.R. CAR	921	I.T.C.	7.50	6,908	21.35				$147,500				$147,500
	INTERMODAL TRANSPORT CONTAINER MAINT.	921	I.T.C.	14.40	13,262	22.64			$100	$300,300	$92,100			$392,400
	RAIL ROAD TRANSPORTATION	921	I.T.C.					$1,333				$1,228,000		$1,228,000
	ARTICULATED CONTAINER CAR COST	921	I.T.C.					$211				$193,900		$193,900
	OFF-SITE BURIAL UNBULKED	396,000	CF					$7.00				$2,772,000		$2,772,000
													SUB TOTAL	$5,249,400
	OFF-SITE DISPOSAL - LANDFILL													
	COMMODITY: BELOW BASELINE													
	COMMERCIAL LANDFILL VENDOR WOULD PROVIDE A 30 CY ROB TO BE FILLED BY THE D&D CONTRACTOR ASSUME A 5 DAY TURNAROUND FOR FILLING NO DIRECT FERMCO LABOR													
	INITIAL INSPECTION	308,000	CF	0.013	4,004	25.55				$102,300				$102,300
	INSPECTION FOR FREE RELEASE	484	ROB	15.00	7,260	25.55				$185,500				$185,500
	DAYS ON-PROPERTY TO BE FILLED	2,420	DAY					$3.50				$8,500		$8,500
	TRANSPORTATION AND BURIAL	484	ROB					$301.75				$146,000		$146,000
	UNBULKED MATERIAL VOLUME THIS CATEGORY	308,000	CF										SUB TOTAL	$442,300
					47,459					$1,126,600	$92,100	$4,348,400	$124,600	$5,691,700

002245

2497

TABLE E-36

SUMMARY SHEET

EST FILE #: C3-95-1-7-R2
CLIENT: DOE
PROJECT: CRU3 FEASIBILITY STUDY (ALT. 3)
WBS#: 1.1.1.1.3.1.3

FERMCO ESTIMATING SERVICES

DATE: 08-Feb-96
ESTIMATOR: J. WINGATE
LOCATION: FERNALD
TASK#: 3ACA4

CODE	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $ / OTHERS	MAT'L $	TOTAL $
	EXCAVATION AND CIVIL						
	CONCRETE						
	STRUCTURAL STEEL						
	BUILDINGS						
	MACHINERY AND EQUIPMENT						
	PIPING						
	ELECTRICAL						
	INSTRUMENTS						
	PAINTING AND SCAFFOLD						
	INSULATION						
DIRECT FIELD COSTS							
SUPERVISION - CONTRACTOR							
SM TOOLS/CONSM'BLS							
EQUIPMENT RENTAL							
TEMP. FACILITIES							
TEMP UTL'S HOOK-UP							
JOB CLEAN-UP							
SAFETY							
HEALTH PHYSICS S/C							
CERCLA $1,500 PER PERSON							
BOND							
OVERHEAD & PROFIT							
PAYRL BRD.&BENFT.							
INDIRECT FIELD COSTS							
DIRECT & INDIRECT FIELD COSTS							
	QTY	$/UNIT					
WASTE CONTAINERS							
CERTIFICATION							
TRANSPORTATION							
BURIAL							
RECYCLING							
STORAGE							
WASTE MANAGEMENT COSTS							
FERMCO SUPPORT LABOR		1,064,520		$24,682,400	$104,624,800	$9,354,600	$138,661,800
FERMCO MGMT. & SUPPORT		123,552		$3,219,000	$545,000	$8,414,300	$12,178,300
O & M COST							
FERMCO FIELD SUPPORT COSTS				$27,901,400	$105,169,800	$17,768,900	$150,840,100
ENGINEERING/DESIGN/INSPECTION	A/E			FERMCO			
ENGINEERING COSTS							
SALES TAX - SUBCONTRACT			SALES TAX - FERMCO			$1,367,700	$1,367,700
SUB-TOTAL(BASE ESTIMATE)							$152,207,800
G&A-FERMCO (SEE EXCLUSION COMMENTS)							
ESCALATION (SEE EXCLUSION COMMENTS)							
RISK BUDGET	24.3%						$36,986,500
TARGET ESTIMATE (BASE ESTIMATE PLUS RISK BUDGET)							$189,194,300
CONTINGENCY	20.6%						$31,354,800

FY 95 DOLLARS

002846

TABLE E-37

ESTIMATE: C3-95-1-7-R2

DATE : 08-Feb-96

CLIENT: US DOE

FERMCO

LEVEL OF EFFORT SUMMARY SHEET

ESTIMATOR: JIM WINGATE

LOCATION: FERNALD, OH

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 3)

WBS NUMBER: 1.1.1.1.3.1.3

ITEM DESCRIPTION	M/H	LABOR $	S/C $	MAT'L $	TOTAL $
FERMCO LABOR AND MATERIALS					
FERMCO LABOR INCL. BENEFITS & BURDENS	123,552	$3,219,000			$3,219,000
FERMCO MATERIAL - OBJCL 200 & OBJCL 300				$8,393,400	$8,393,400
SALES TAX - OBJCL 394				$1,367,700	$1,367,700
SUB-TOTAL 1 FERMCO LABOR & MATERIAL TOTAL	123,552	$3,219,000		$9,761,100	$12,980,100
SUBCONTRACTS					
CONTRACT HIRE ($/HR) & MISC SUBCONTRACTORS			$545,000		$545,000
ENGINEERING (A/E)					
SUB-TOTAL 2 ENGINEERING & SUBCONTRS TOTAL			$545,000		$545,000
TEAMING PARTNERS					
SITE STAFF					
HOME OFFICE SUPPORT					
SUB-TOTAL 3 TEAMING PARTNERS TOTAL					
OTHER DIRECT COSTS					
TRAVEL - OBJCL 600				$20,900	$20,900
RELOCATION - OBJCL 700					
OTHER					
SUB-TOTAL 4 OTHER DIRECT COSTS TOTAL				$20,900	$20,900
TOTAL		$3,219,000	$545,000	$9,782,000	
SUMMARY SHEET TOTAL	*****JAN 95 RATES*****				$13,546,000

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TABLE E-38

ESTIMATE: C3-95-1-7-R2 DATE: 08-Feb-96

CLIENT: US DOE

FERMCO LABOR & MATERIALS

ESTIMATOR: J.W.

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 3

LOCATION: FERNALD, OH

WBS NUMBER: 1.1.1.1.3.1.3

GROUP	ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	TOTAL $
1A	TOP LEVEL & ENGINEERING MANAGERS	7,488	$53.04	$397,200			$397,200
1B	MANUFACTURING MANAGERS		$33.77				
1C	NON-ENGINEERING MANAGERS	1,872	$36.60	$68,500			$68,500
2A	JUNIOR ENGINEER	18,720	$30.55	$571,900			$571,900
2A	SENIOR ENGINEER	9,360	$42.13	$394,300			$394,300
2B	JUNIOR TECHNICAL SUPPORT PROFESSIONALS		$27.58				
2B	SENIOR TECHNICAL SUPPORT PROFESSIONALS		$35.55				
2C	JUNIOR NON - TECH SUPPORT PROFESSIONALS	1,872	$22.56	$42,200			$42,200
2C	SENIOR NON - TECH SUPPORT PROFESSIONALS	18,720	$31.98	$598,700			$598,700
3A	TECHNICIANS	28,080	$20.26	$568,900			$568,900
5A	SECRETARIAL	18,720	$15.48	$289,800			$289,800
5B	GENERAL CLERKS	18,720	$15.36	$287,500			$287,500
6A	CRAFTS		$22.79				
7B	EQUIPMENT OPERATORS		$21.06				
8A&B	GENERAL LABORERS		$17.87				
9A	SECURITY POLICE OFFICERS		$20.21				
9B	GENERAL WORKERS (UTILITY)		$17.76				
SUB-TOTAL 1 FERMCO LABOR INCL BENEFITS & BURDENS		123,552		$3,219,000			$3,219,000

MATERIALS

OBJCL	Description	Totals
261	Bldg & Road Mat. ROB repair	$167,500
262	Hardware & Small Tools	
263	Chemicals & Compounds	
264	Metals & M Alloys	
265	Electrical Materials	
266	Electronic Materials	
267	Mechanical Materials	
268	Custodial Materials	
269	Office Materials	
270	Fuels & Lubricants	
271	Clothes	
273	Laboratory Supplies	
275	Misc. Materials & Supplies	
330	LEASED TRAILER	$29,500
332		
335		
	Total ObjCl 200	$197,000

OBJCL	Description	Totals
310	Main. Matls & Supp.	
315	Repair Matls. / Exps.	
325	Tools, Metal Fabr.	
330	Safety Cloth / Equip. PPE	$5,048,100
332	Training	$937,500
335	BOND @ 1%	$1,051,700
341	Coal	
342	Diesel Fuel	
343	Gasoline	
345	Propane	
346	Kerosene	
350	Frgt. Nuc. Mat. Sho.	

OBJCL	Description	Totals
355	Pkg. Supp. & Exps.	
360	Equip. Purch. W Op.	
361	Capital Equipment	$1,111,100
363	Construction Materials	
365	Instrumentation	
366	Sampling Mat. & Equip	
367	Laundry & Clean. Supp	
368	Training Materials	
369	Medical Supplies	
370	Office Supplies	$1,100
375	Other Comp. Hardware	$2,400
376	PC Hardware	$7,000
377	PC Software	$5,000
378	Computer Supplies	$1,100
380	PRT Photo & Graphic Supp	$2,700
385	Communication Exp.	$19,400
388	Freight	$5,400
389	Misc. Tools & Ele. Sup.	
390	Office Furniture	$2,300
392	Offsite Office Rent	
393	Permit Fees	
394	Sales Tax	$806,500
395	Periodicals	
396	Memberships	
397	Cafeteria Utensils	
398	Labotatory Supplies	
399	Misc Supp. & Expense	$1,600
O&M	PROJECT MATERIAL SALES TAX @ 6%	$159,200
CAPITAL	PROJECT MATERIAL SALES TAX @ 6%	$402,000
	Total ObjCl 300 (Less Sales Tax)	$8,196,400

Material Total $8,393,400

F:\LOTUS34\JIM\FINAL-FS\ALT3-10Y.WK3 *****JAN 95 RATES*****

7497

ESTIMATE: C3-95-1-7-R2 DATE: 11-Jan-96

CLENT: US DOE

TEAMING PARTNERS / SUBCONTRACTS

ESTIMATOR: J.W.

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 3)
WBS NUMBER: 1.1.1.1.3.1.3

LOCATION: FERNALD, OH

ITEM DESCRIPTION	WORK HOURS								TOTALS
	FDIS	FDIH	HALLS	HALLH	JACOBSS	JACOBSH	NFSS	NFSH	
General									
Project Management									
Engineering									
Project Controls									
Procurement									
Construction									
General Services									
Finance									
Field Support									
TOTAL HOURS									
$ Per Hour *	$57.00	$78.00	$57.00	$78.00	$57.00	$78.00	$57.00	$78.00	
TOTAL $									

CONTRACT HIRE ($HR) & SUBCONTRACTORS (excluding A/E)

OBJ(	Description	Totals
405	Rentals & Leases	
410	Subc – Maintenance	
420	Subc – Not Maint/Rout	
421	Subc – Prof. Services	$250,000
423	Ind. Prof. Subcontr	$250,000
425	Subc. – Routine Analysis	
429	R.M. Parsons	
440	Scientific Ecology	
443	Theta Technologies	
448	Exec.Resource Assoc.	
	Ebasco	
	ASI	

OBJCL	Description	Totals
	IT – Analytical	
	IT – Engineering	
	Penn Drill	
	BURIAL	
460	Temporaries	$20,000
470	Service Agreements	$25,000
471	Site – Wide Serv. Agreements	
480	Outside Laundry, ETC.	

S/C Total $545,000

*****JAN 95 RATES*****

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TABLE E-40

ESTIMATE: C3-95-1-7-R2 DATE: 11-Jan-96

OTHER DIRECT COSTS

CLIENT: US DOE ESTIMATOR: J.W.

PROJECT TITLE: CRU3 FEASIBILITY STUDY (ALT. 3) LOCATION: FERNALD, OH

WBS NUMBER: 1.1.1.1.3.1.3

Travel - OBJCL 600

Group	No. of Trips			Cost Per Trip			Total Cost
	1 Day	3 Day	5 Day	1 Day	3 Day	5 Day	
General		9			$695		$6,300
Project Management			9			$925	$8,300
Engineering							
Project Controls							
Procurement							
Construction							
General Services							
Finance		9			$695		$6,300
Field Support							
Totals		18	9				$20,900

Relocation - OBJCL 700

Group	Total Relocations		Cost Per Relocation		Total Cost
General					
Project Management					
Engineering					
Project Controls					
Procurement					
Construction					
General Services					
Finance					
Field Support					
Totals					

Other

Item		Total Cost
Employment Interview		
Tuition Refund		
Misc		
Totals		

*****JAN 95 RATES*****

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002250

ALTERNATIVE 3 ANNUAL EXPENDITURES

ESTIMATES FOR PRESENT WORTH ANALYSIS

FISCAL YEAR	OFF-SITE DISPOSAL COSTS	ON-PROPERTY DISPOSAL COSTS	OVERHEAD COSTS	DISPOSAL CELL O&M	RISK BUDGET	TOTAL ANNUAL COST	TOTAL CUMULATIVE COST
1995	$2,870,098	$0	$0	$0	$697,434	$3,567,532	$3,567,532
1996	$5,867,009	$0	$0	$0	$1,425,683	$7,292,692	$10,860,224
1997	$11,418,368	$0	$0	$0	$2,774,664	$14,193,032	$25,053,256
1998	$9,965,595	$0	$1,693,250	$0	$2,833,100	$14,491,945	$39,545,201
1999	$19,021,333	$0	$1,693,250	$0	$5,033,644	$25,748,227	$65,293,428
2000	$23,685,050	$0	$1,693,250	$0	$6,166,928	$31,545,228	$96,838,656
2001	$9,084,036	$0	$1,693,250	$0	$2,618,881	$13,396,167	$110,234,823
2002	$18,747,243	$0	$1,693,250	$0	$4,967,040	$25,407,533	$135,642,356
2003	$22,098,692	$0	$1,693,250	$0	$5,781,443	$29,573,385	$165,215,741
2004	$10,705,573	$0	$1,693,250	$0	$3,012,914	$15,411,737	$180,627,478
2005	$5,198,801	$0	$1,693,250	$0	$1,674,769	$8,566,820	$189,194,298
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
2022							
2023							
2024							
2025							
2026							
2027							
2028							
2029							
2030							
2031							
2032							
2033							
2034							
2035							
	$138,661,798	$0	$13,546,000	$0	$36,986,500	$189,194,300	

TABLE E - 42

PRESENT WORTH ANALYSIS

LCC TITLE: OU3 FEASIBILITY STUDY
CHARGE NO.: 3ACA4
BASE DATE: FY 1995
CLIENT: EPA
STUDY PERIOD: 12 YEARS
LOCATION: FERNALD, OH
REAL DISCOUNT RATE: 4.8%
ANALYST: J. JACOBOSKI

ALTERNATIVE 3	CASH FLOW YEAR
$3,567,532	1995
$7,292,692	1996
$14,193,032	1997
$14,491,945	1998
$25,748,227	1999
$31,545,228	2000
$13,396,167	2001
$25,407,533	2002
$29,573,385	2003
$15,411,737	2004
$8,566,820	2005
$0	2006
$189,194,298	TOTAL
$145,801,300	< = = = = = = (@NPV)

Note: Fiscal year 2006 for alternative 2 is considered a capitalized cost.

002252

TABLE E-43

WBS NO.– 1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
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ALTERNATIVE 3
ESTIMATE SUMMARY

JAW
02/08/96

COST CAT.	DESCRIPTION CONTAINER QUANTITIES	OFF-PROP. ENVIRO. QUAN I.T.C.	OFF-PROP. NTS QUAN LMB	OFF-PROP. ENVIRO. QUAN B-12	S/C LANDFL QUAN LOADS	
	NUMBER OF CONTAINERS USED FOR DISPOSITION OF EACH MATERIAL CATEGORY AT THE DESOGNATED LOCATION					
	A – ACCESSIBLE METALS	1,365			12	
	B – INACCESSIBLE METALS	7,725				
	C – PROCESS-RELATED METALS		508			
	D – PAINTED LIGHT GAUGE METALS	70		4		
	E – CONCRETE	15,910				
	F – BRICK	71				
	G – NON-REGULATED ACM	210				
	H – REGULATED ACM	269				
	I – MISCELLANEOUS MATERIALS	921			484	
		26,541	508	4	496	

002253

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TABLE E-44

ALERNATIVE 3 **OVERHEAD ESTIMATE SHEET.**

	9 YEAR PLAN GROUP	REQ NO. REQ.	%	NO. YR'S.	BASED ON 2080 HR'S / YEAR TOTAL HR'S
PROJECT MANAGER	1A	1	40%	9	7,488
PROJECT ENGINEERS SR.	2A	1	50%	9	9,360
JUNIOR ENGINEERS	2A	2	50%	9	18,720
SAFETY ENGINEER	2C	2	50%	9	18,720
PROCUREMENT	1C	1	10%	9	1,872
ACCOUNTING, FINANCE	2C	1	10%	9	1,872
SECRETARIAL	5A	2	50%	9	18,720
GENERAL CLERKS	5B	1	100%	9	18,720
TECHNICIANS (H. & S.)	3A	1	50%	9	9,360
TECHNICIANS (RADTECH)	3A	2	50%	9	18,720
	EMPLOYEE:	14		TOTAL HOURS	123,552

MATERIALS

OBJCL	DESCRIPTION	CALCULATIONS	
370	OFFICE SUPPLIES	9 YEARS * 12 MONTHS * ALLOWANCE @ $10 / MONTH	$1,100
375	OTHER COMP. HARDWARE	2 PRINTERS @ $1200 EACH	$2,400
376	PC HARDWARE	2 COMPUTERS @ $3,500 EACH	$7,000
377	PC SOFTWARE	2 COPIES @ $2,500 EACH FOR LICENCE AGREEMENTS	$5,000
378	COMPUTER SUPPIES	9 YEARS * 12 MONTHS * ALLOWANCE @ $10 / MONTH	$1,100
380	PHOTO & GRAPHIC SUPPORT	9 YEARS * 12 MONTHS * ALLOWANCE @ $25 / MONTH	$2,700
385	COMMUNICATIONS EXP.	9 YEARS * 12 MONTHS * 3 PHONES *ALLOW @ $60 / MONTH	$19,400
388	FREIGHT / POSTAGE	9 YEARS * 12 MONTHS * POSTAGE ETC ALLOW @ $50 / MONTH	$5,400
390	OFFICE FURNITURE	3 WORKERS @ $750 EACH	$2,300
399	MISC. SUPP. & EXPENSE	9 YEARS * 12 MONTHS * ALLOWANCE @ $15 / MONTH	$1,600
		LESS SALES TAX	$48,000
394	SALES TAX @ 6%		$2,900
		TOTAL	$50,900

OBJCL	DESCRIPTION	CALCULATIONS			
330	SAFETY & PPE COST (DIRECT MAN HOURS ONLY)		1,009,560	HRS./ 10 HRS. PER DAY @ $50.00 / WORKER	$5,048,100
N/A	SUB CONTRACT BOND AT 1%		$105,175,400	TOTAL OF SUB CONTRACTS	$1,051,800
368	TRAINING		1,133,112	HRS./ 1813 HRS./ YEAR @ $1500.00 / WORKER	$937,500

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ON-PROPERTY REQUIREMENTS

OFFICE SPACE FOR THE LAST THREE YEARS OF PROJECT:

OBJCL # 276 TRAILER LEASING

FROM MEANS CONSTRUCTION DATA BOOK. 1994 PRICING COMMERCIAL STYLE OFFICE TRAILER

50' • 12' TRAILER	2	REQ.	$410	RENT PER MONTH • 36 MONTHS	$29,500
50' • 12' TRAILER	2	REQ.	$13,790	PURCHASE	$27,600
SET UP COST	2	REQ.	$5,000	ALLOW FOR EACH TRAILER	$10,000
MAINTENANCE	2	REQ.	$5,000	ALLOW $2,500 PER YEAR EACH TRAILER	$10,000
				USING THE LEASED PRICING	$49,500

SITE DEVELOPMENT

OBJCL # 261

USING AN EXISTING BUIDING FOR THE CONTAINER REPAIR SHOP (ROB, ITC)

APPORXAMENTLY 100'-0 • 60'-0

INSPECT, CLEAN AND MAKE READY FOR REPAIR SHOP	2,000 HRS	$25.00	$50,000
MATERIALS TO OUT FIT SHOP AREA			
BINS, STORAGE RACKS, BENCHES		ALLOW	$12,000
ELECTRICAL REQUIREMENTS, LIGHTS, OUTLETS ETC.		ALLOW	$8,500
UTILITIES WATER, TELEPHONE, HONEWELL CONTROLS		ALLOW	$15,000
HVAC		ALLOW	$12,000
MAINTENANCE 10 YEARS AT $5,000 PER YEAR			$50,000
SPARE PARTS, REPAIR MATERIAL, STEEL PLATE ETC. IS PRICED WITH IN THE ESTIMATE.			
		TOTAL	$147,500

CAPITAL EQUIPMENT

CONSTRUCTION EQUIPMENT:
OBJCL #361

	NO. REQUIRED	UNIT PRICE	TOTAL COST
TAYLOR TYPE FORK LIFT	1	$110,000	$110,000
MILLER PORTABLE WELDING MACHINES	3	$8,000	$24,000
TRUCK WITH ROB/I.T.C. LOADING/DUMPING CAPABILITIES	3	$80,000	$240,000
TRUCK 2 TON CAPACITY	2	$25,000	$50,000
HYDRAULIC CRANE	2	$120,000	$240,000
50-0 • 12'-0 OFFICE TRAILERS	3	$13,790	$41,400
PORTABLE HYDRAULIC EQUIPMENT	2	$8,500	$17,000
PORTABLE HEATERS	6	$1,500	$9,000
LIGHT PLANTS (FLOOD LIGHTS)	5	$12,000	$60,000
PORTABLE GANTRY CRANE 10 TON CAPACITY	1	$4,500	$4,500
PORTABLE GENERATOR	3	$25,000	$75,000
PORTABLE AIR COMPRESSOR	1	$18,000	$18,000
		SUB TOTAL	$888,900
REPLACEMENT ALLOWANCE AT: 25%			$222,200
		TOTAL	$1,111,100

TABLE E-46

RAIL ROAD COST SPREAD SHEET

INTERMODAL TRANSPORT CONTAINER

INTERMODAL TRANSPORT CONTAINER COST (3 PURCHASED)			$8,000
DISCOUNTED AT 80% FOR VOLUME ORDER		80%	$6,400
LOCKING PINS FOR TOP TWO I.T.C. (4 REQUIRED)			
AT $65 PER LOCK PIN • FOUR CORNERS • TWO I.T.C.			$520
ARTICULATED CONTAINER CAR CAPABLE OF CARRING SIX I.T.C.			6
INTERMODAL TRANSPORT CONTAINER COST FOR ONE ARTICULATED RAIL CAR			$41,520
COST FOR ONE INTERMODAL TRANSPORT CONTAINER.	CAPITAL		$6,920
I.T.C. CAPACITY AT 28.4 CY			
CUBIC FEET PER 28.4 CY I.T.C. @ 766 CF			
WEIGHT LIMIT PER I.T.C. (LBS) 40,550 #			

OUT RIGHT PURCHASE ONE ARTICULATED CONTAINER RAIL CAR.

COST FOR ONE ARTICULATED CONTAINER RAIL CAR.	$78,000
COST PER CAR @ $78,000/ 152 TRIPS/ 6 I.T.C.'s	$85.53
MAINT PER TRIP @ 750 PER CAR / 6 I.T.C.'s	$125.00
	$210.53

RAIL ROAD TRANSPORTATION

TRAIN COST PER ROUND TRIP PULL	$8,000 PER RAIL CAR/ 6 I.T.C.'s	$1,333

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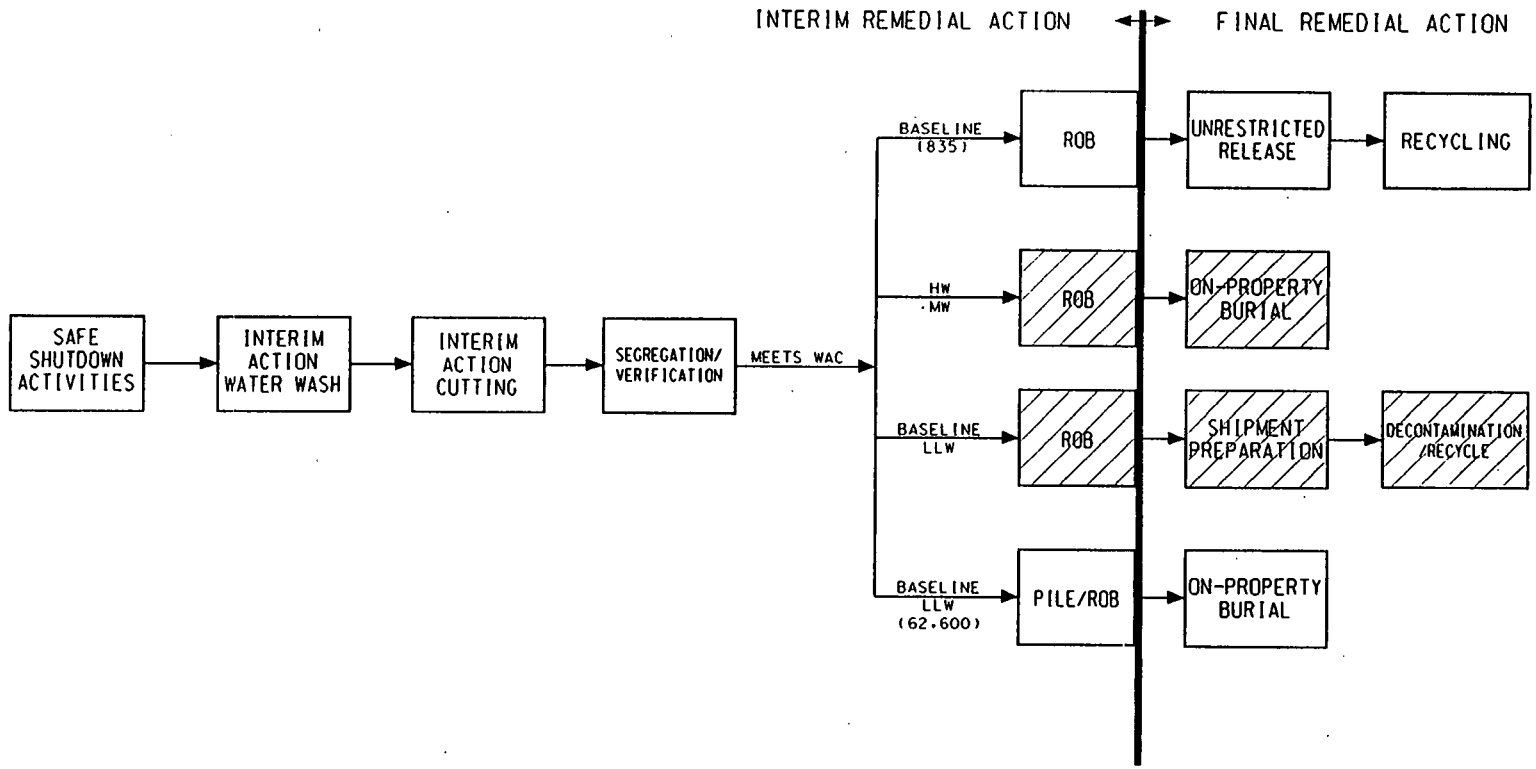
FIGURE E-1

ALTERNATIVE 2
A-ACCESSIBLE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

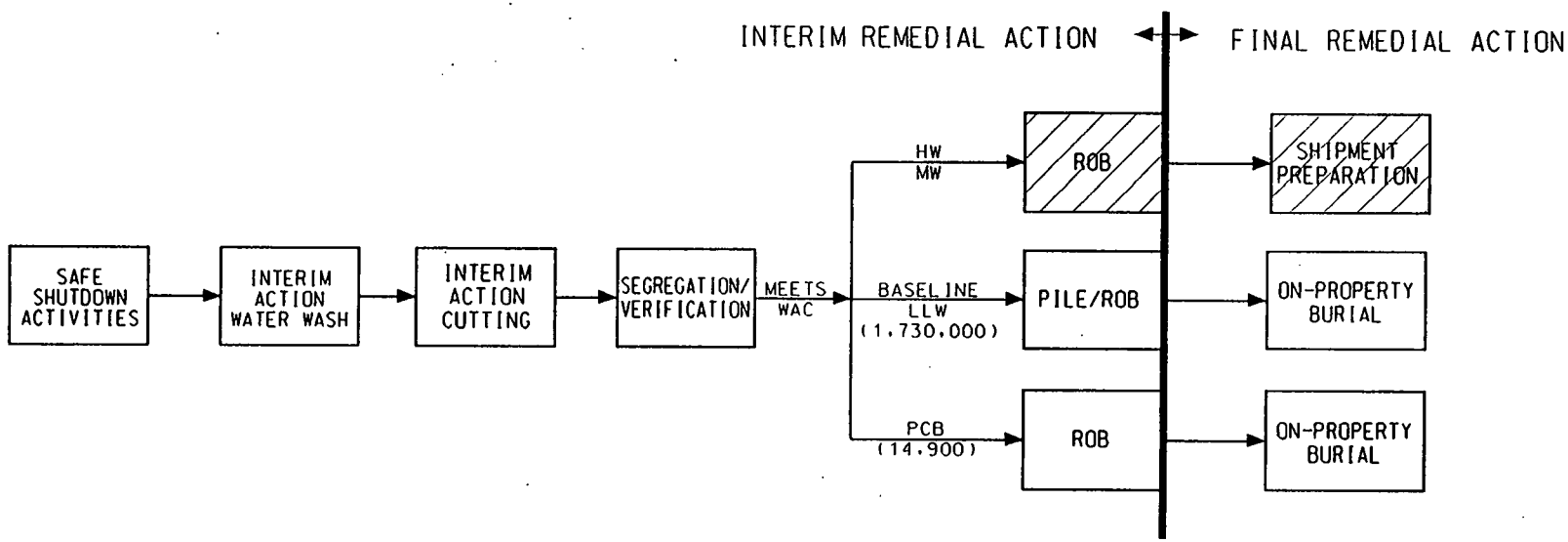
WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

FINAL

/usr/erma/3aca4/dgn/ACCMETAL.DGN 02/09/96

FIGURE E-2

ALTERNATIVE 2
B-INACCESSIBLE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE = ≤ Baseline Concentrations
LLW = Low Level Waste
HW = Hazardous Waste
MW = Mixed Waste
TSCA = PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities.

Quantities are in (CF)

ACRONYMS

WAC = Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB = Roll-Off Box
ITC = Intermodal Transport Container
B-25 = White Metal Box (6,800 lb. Capacity)
B-12 = White Metal Box (9,000 lb. Capacity)
LMB = Large Metal Box (35,000 lb. Capacity)

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/usr/ermo5/3aca4/dgn/INACMETAL.DGN 11/29/95

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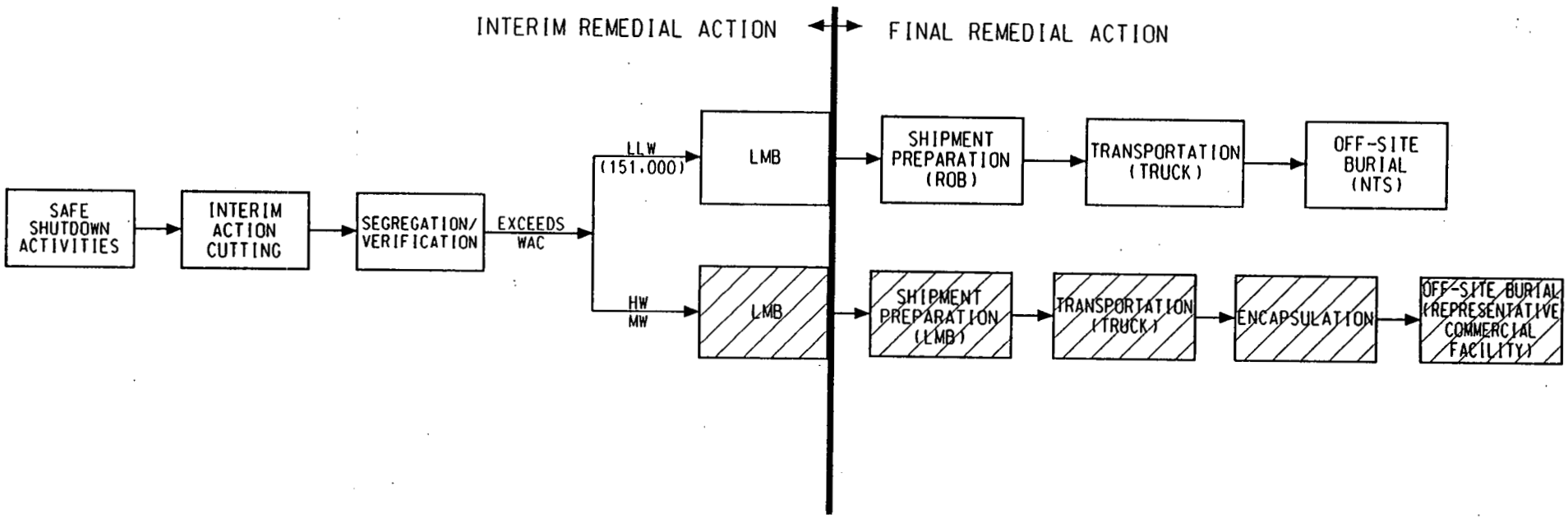
FIGURE E-3

ALTERNATIVE 2
C-PROCESS RELATED METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Baseline Segregation Category N/A

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
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LMB	= Large Metal Box (35,000 lb. Capacity)

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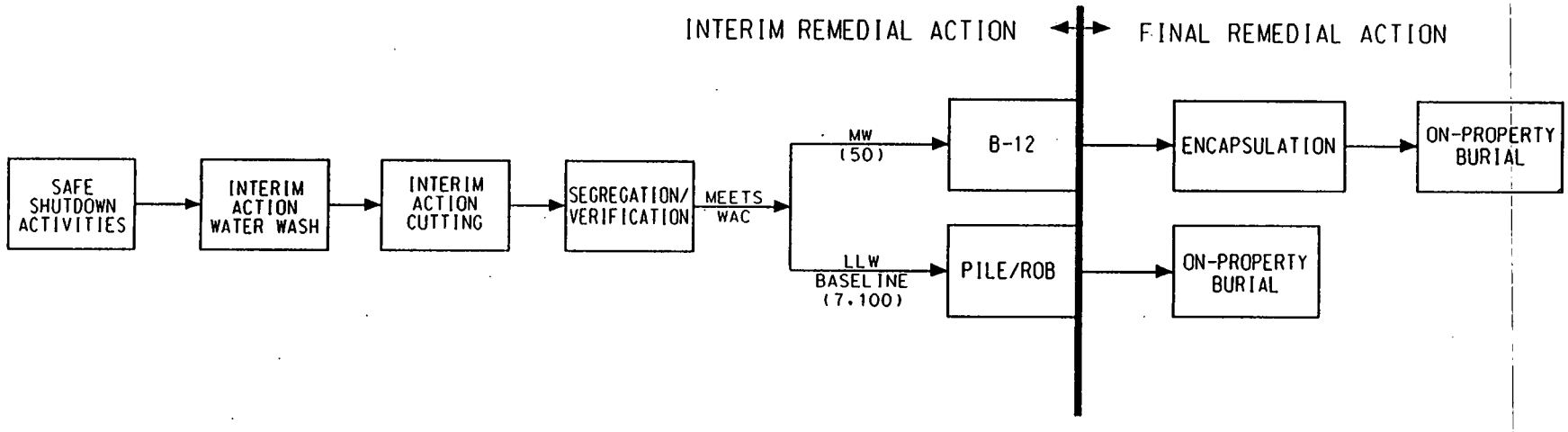
FIGURE E-4

ALTERNATIVE 2
D-PAINTED LIGHT GAUGE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE = ≤ Baseline Concentrations
LLW = Low Level Waste
HW = Hazardous Waste
MW = Mixed Waste
TSCA = PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC = Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB = Roll-Off Box
ITC = Intermodal Transport Container
B-25 = White Metal Box (6,800 lb. Capacity)
B-12 = White Metal Box (9,000 lb. Capacity)
LMB = Large Metal Box (35,000 lb. Capacity)

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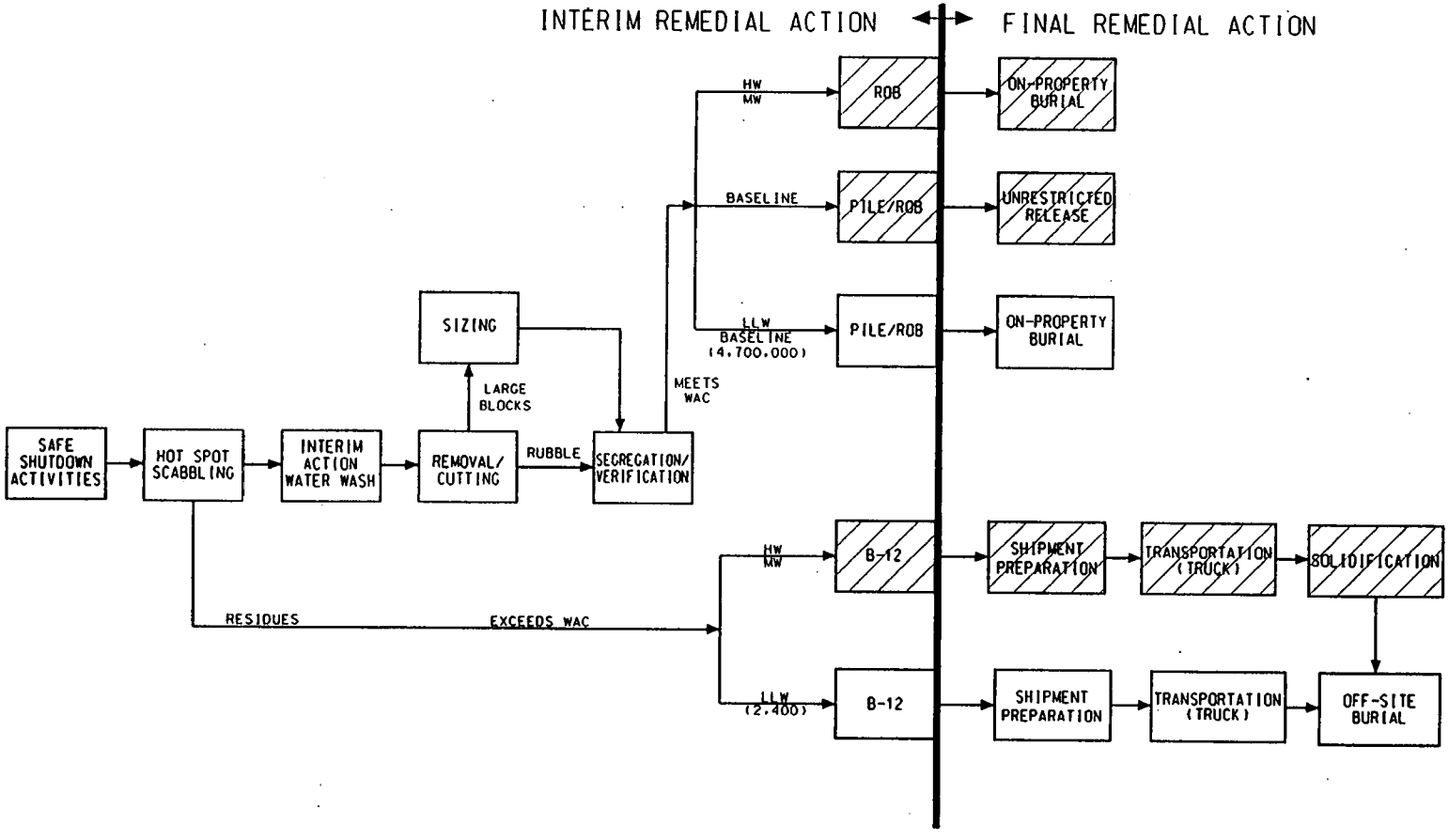
FIGURE E-5

ALTERNATIVE 2
E-CONCRETE



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Catergories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

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B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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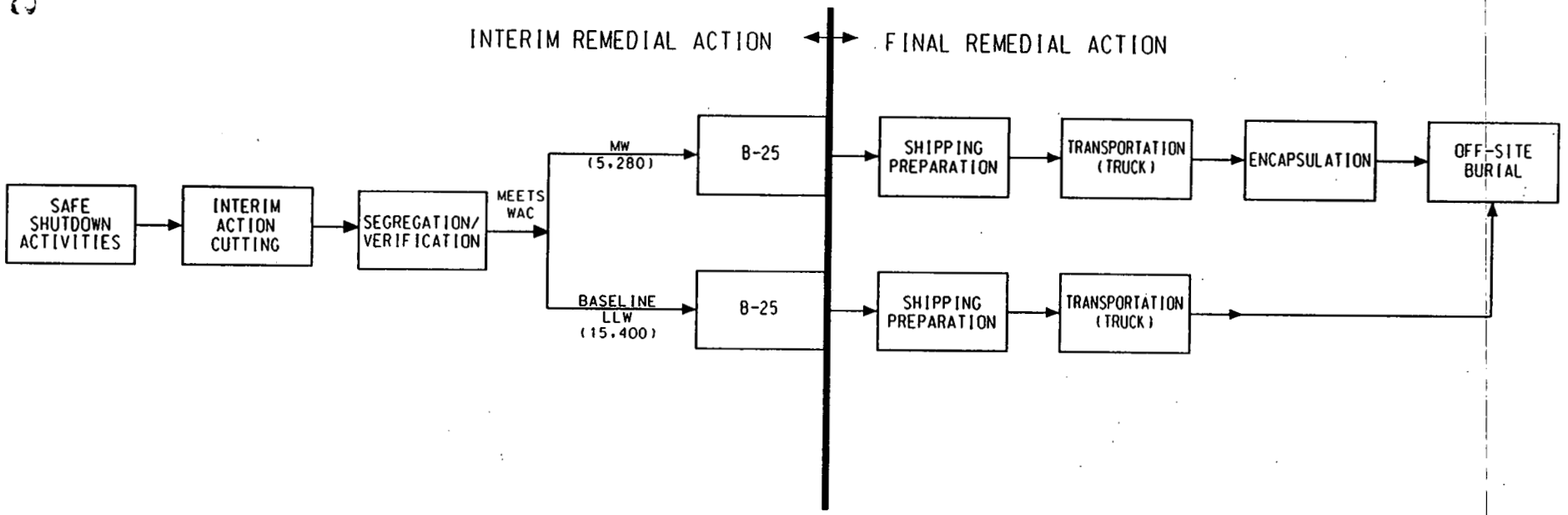
FIGURE E-6

ALTERNATIVE 2
F-BRICK



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
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MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

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B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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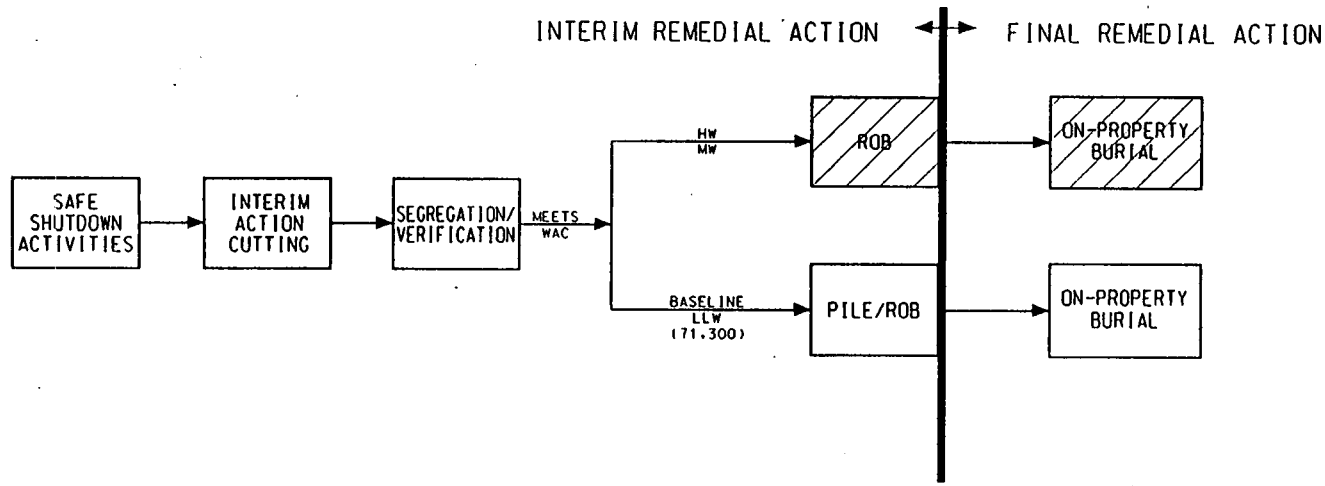
FIGURE E-7

ALTERNATIVE 2
G-NON-REGULATED ACM



MATERIAL SEGREGATION CATEGORIES

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MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

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Quantities are in (CF)

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B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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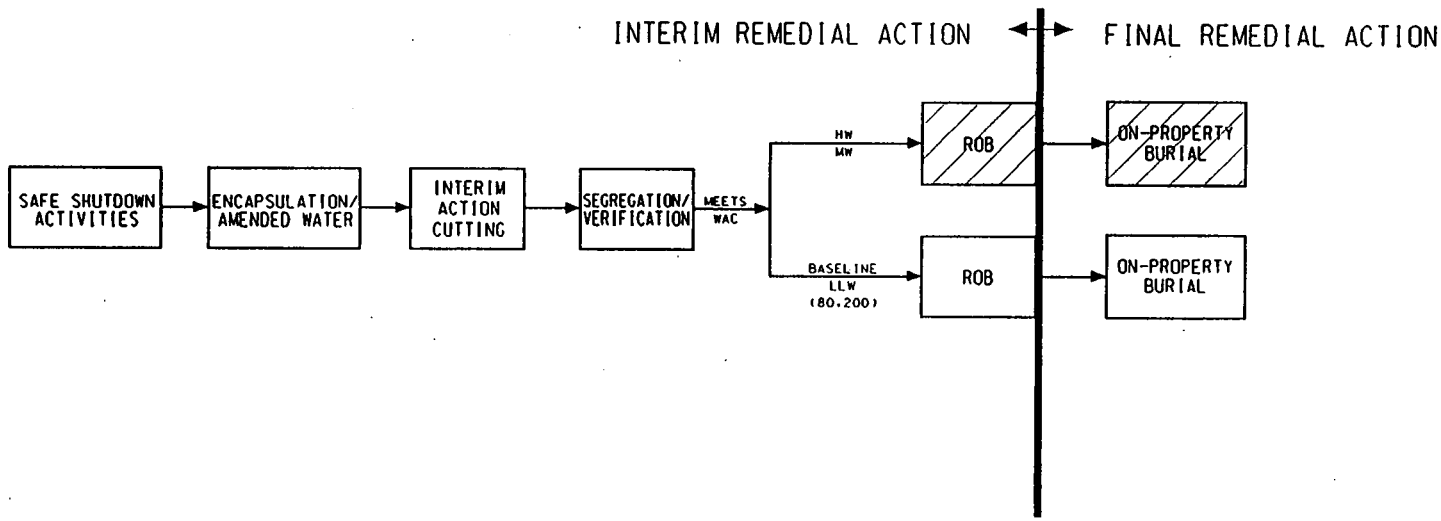
FIGURE E-8

ALTERNATIVE 2
H-REGULATED ACM



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
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MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

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LMB	= Large Metal Box (35,000 lb. Capacity)

/usr/erma5/3oca4/dgn/REGUACM.DGN 11/29/95

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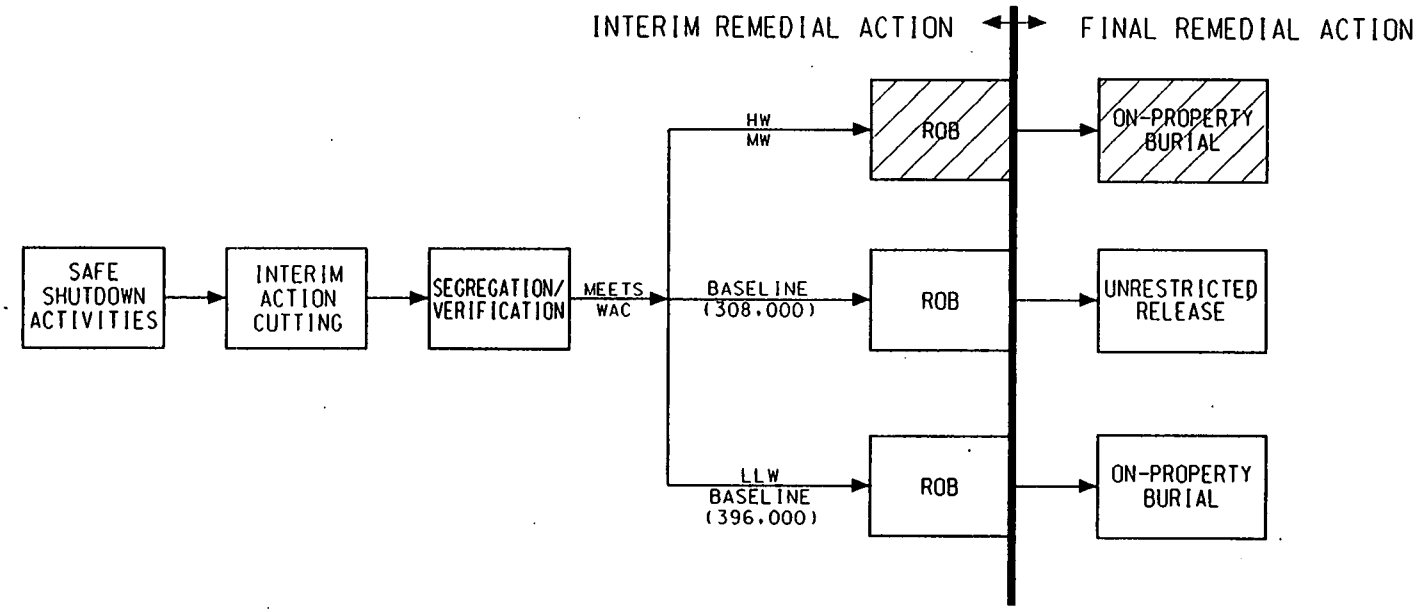
FIGURE E-9

ALTERNATIVE 2
I-MISCELLANEOUS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
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ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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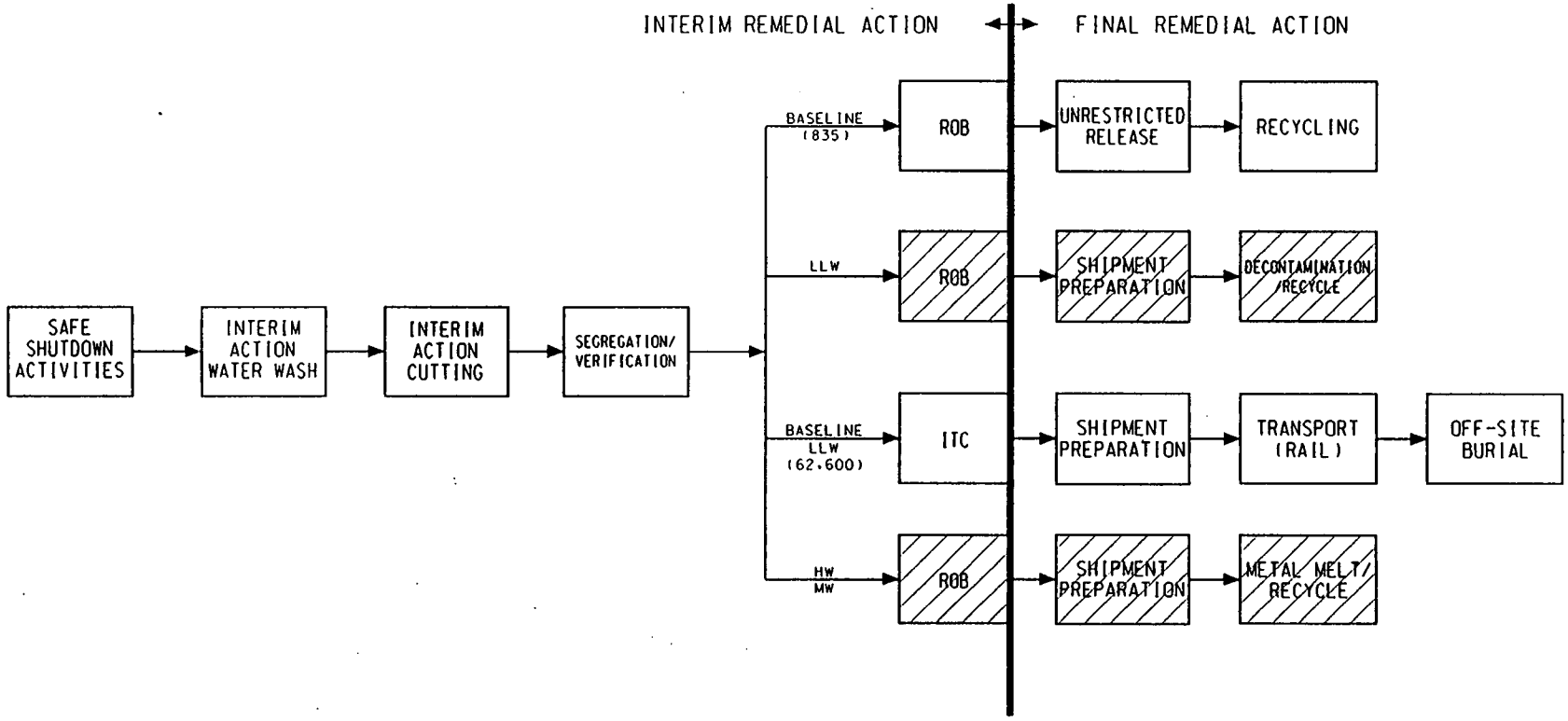
/usr/ermo5/3aca4/dgn/MICELL.DGN 02/09/96

FIGURE E-10

ALTERNATIVE 3
A-ACCESSIBLE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
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MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

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LMB	= Large Metal Box (35,000 lb. Capacity)

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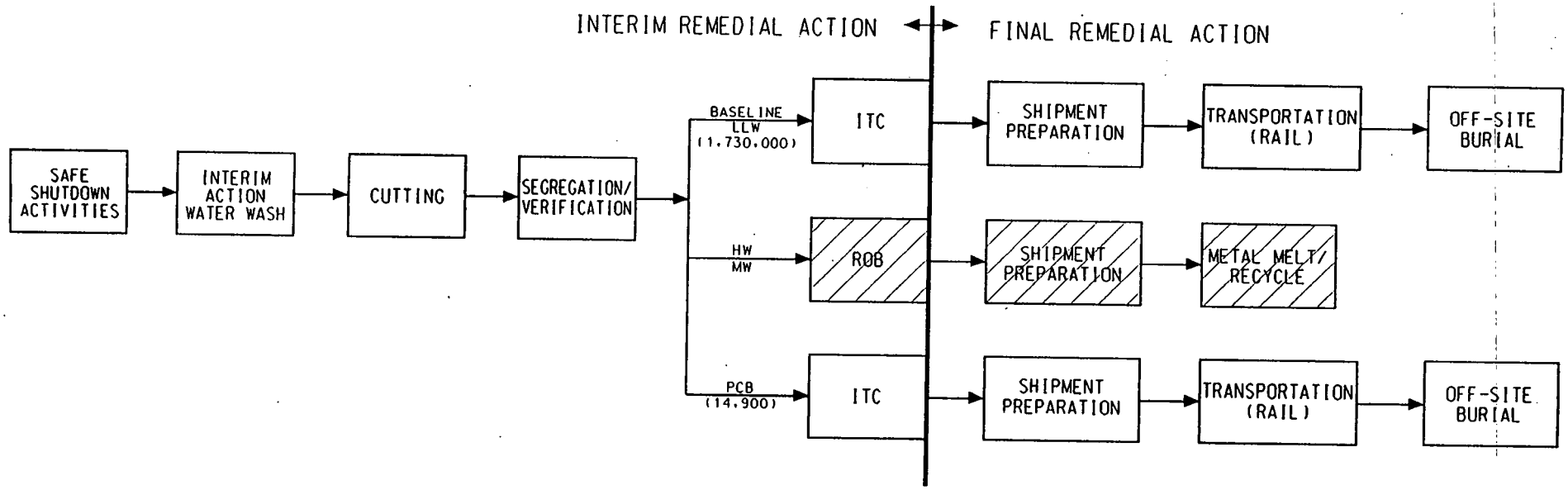
FIGURE E-11

ALTERNATIVE 3
B-INACCESSIBLE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
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MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

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B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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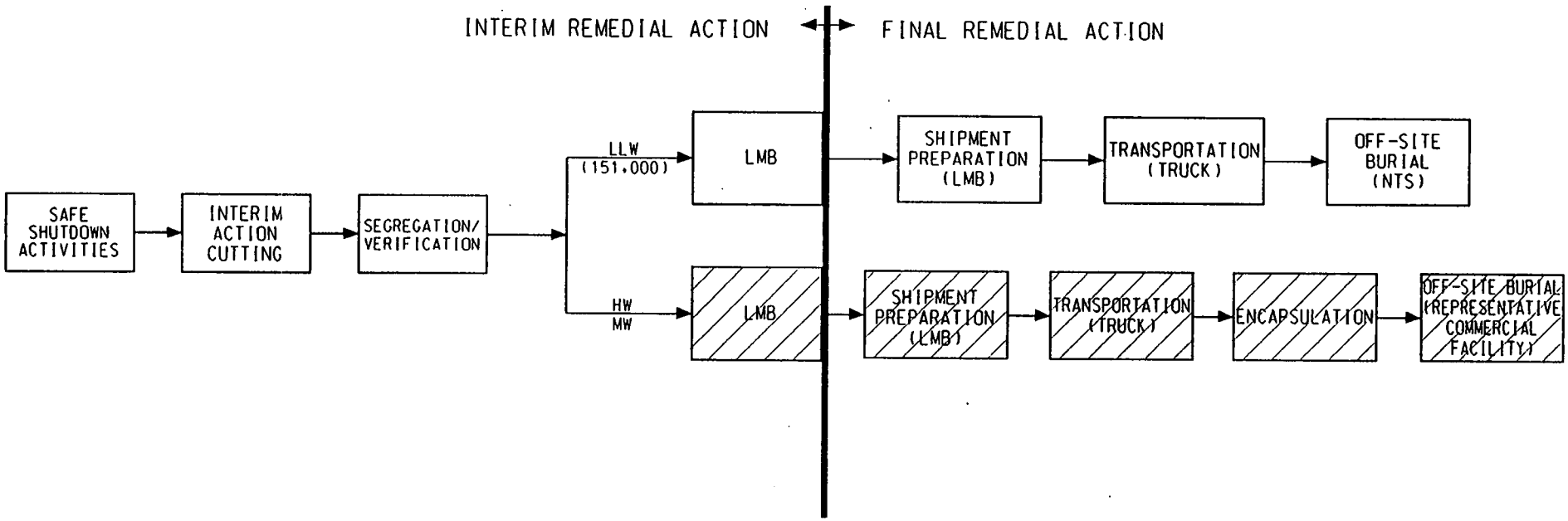
FIGURE E-12

ALTERNATIVE 3

C-PROCESS RELATED METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Background Segregation Category N/A

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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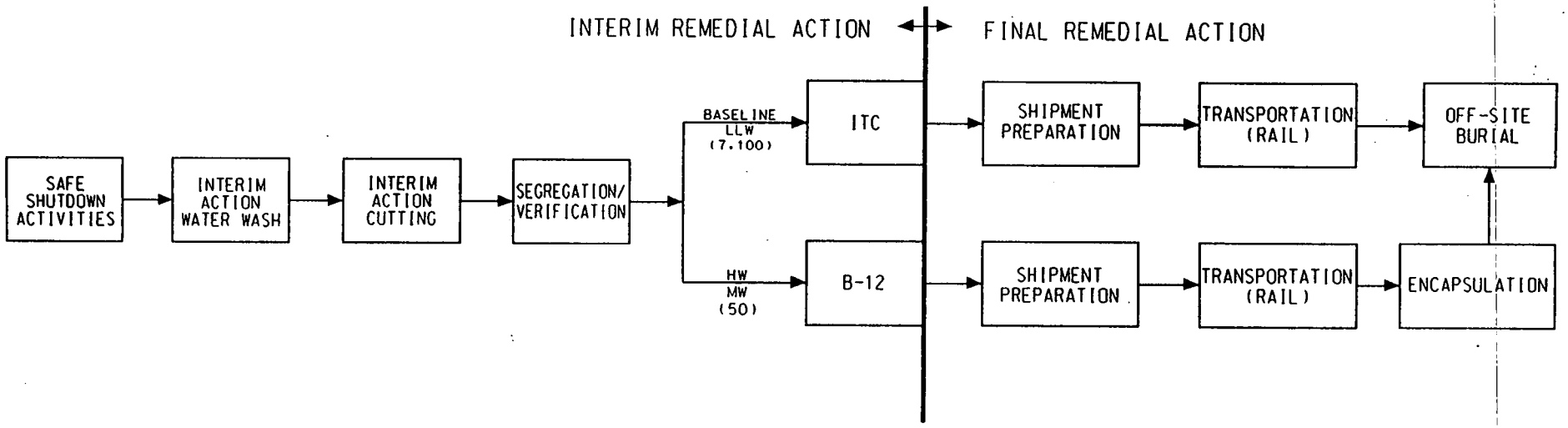
/usr/ermo5/3aca4/dgn/PROREMET.DGN 11/29/95

FIGURE E-13

ALTERNATIVE 3
D-PAINTED LIGHT GAUGE METALS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

/usr/ermo5/3aca4/dgn/PLGMETAL.DGN 11/29/95

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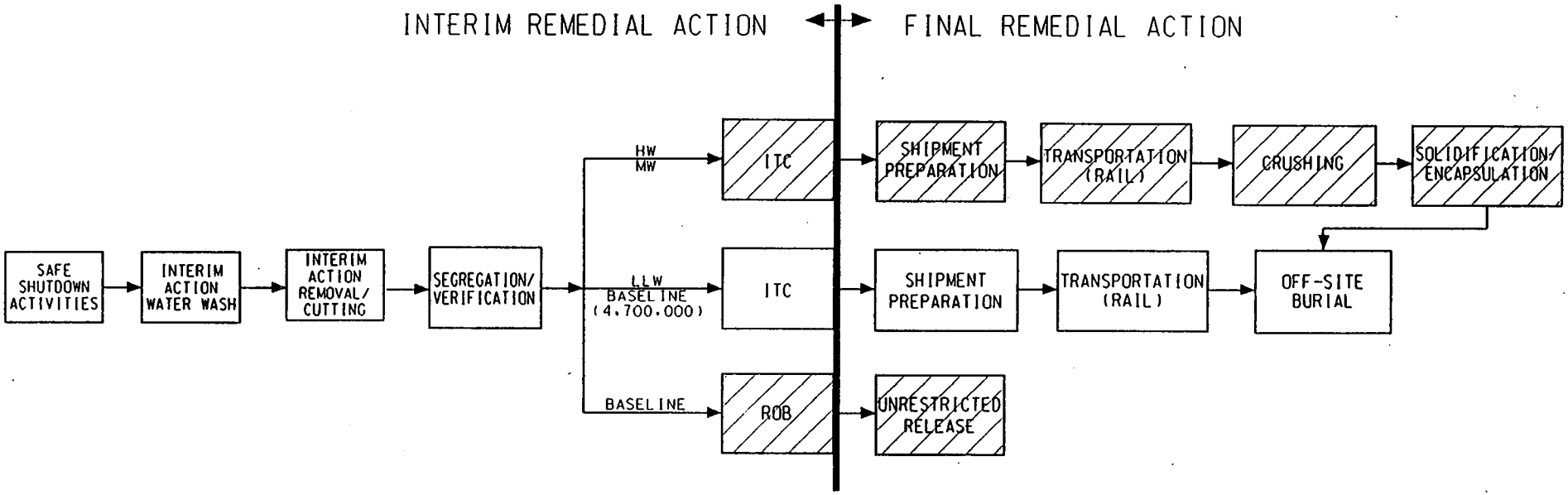
FIGURE E-14

ALTERNATIVE 3
E-CONCRETE



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Catergories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

FINAL

/usr/ermo5/3aca4/dgn/CONCRETE.DGN 11/29/95

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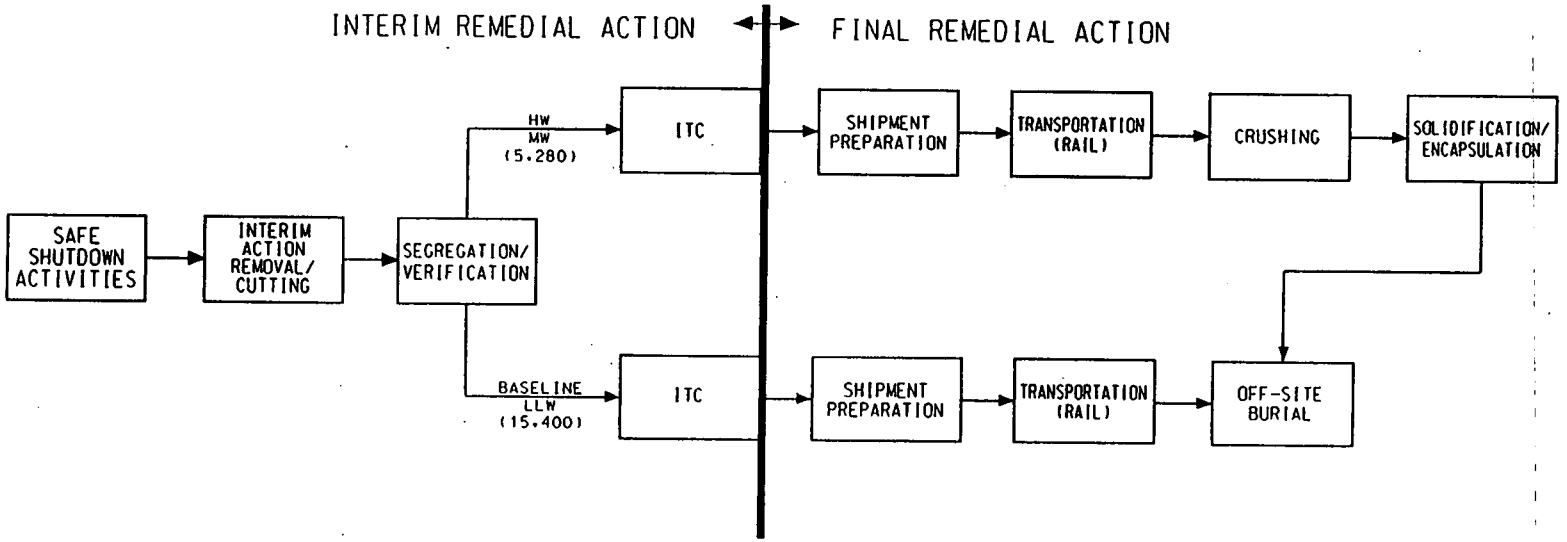
FIGURE E-15

ALTERNATIVE 3
F-BRICK



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

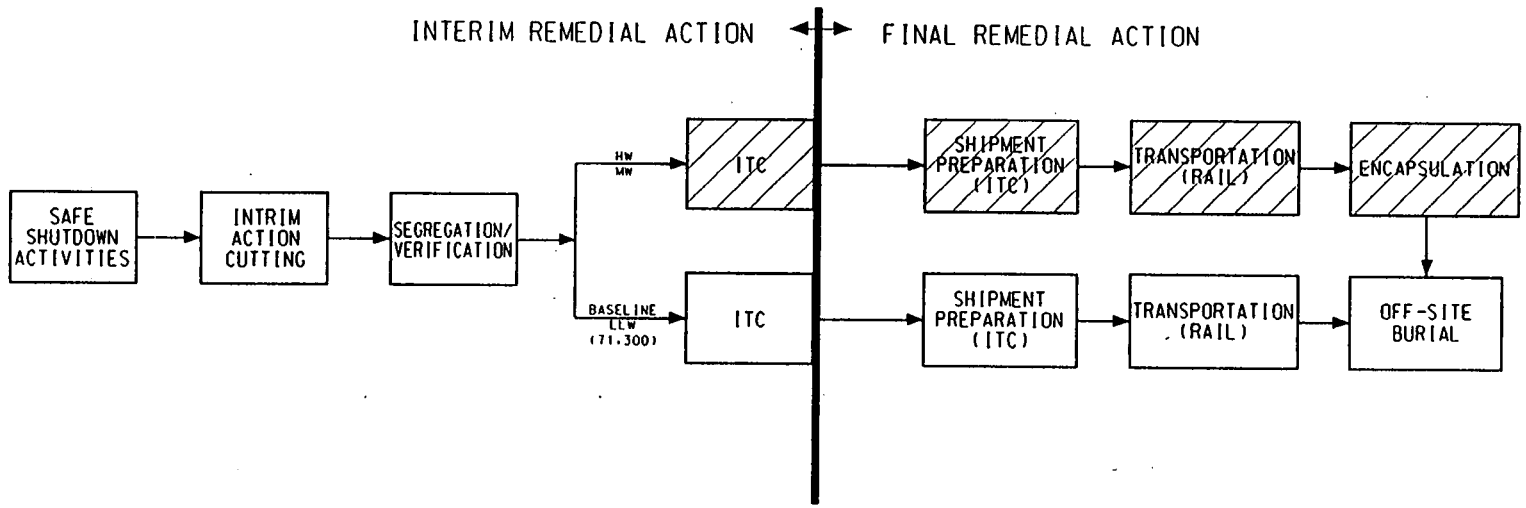
WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

/usr/ermd5/3aca4/dgn/BRICK.DGN 11/29/95

FINAL

FIGURE E-16

ALTERNATIVE 3
G-NON-REGULATED ACM



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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/usr/ermo5/3aca4/dgn/NONREGACM.DGN 11/29/95

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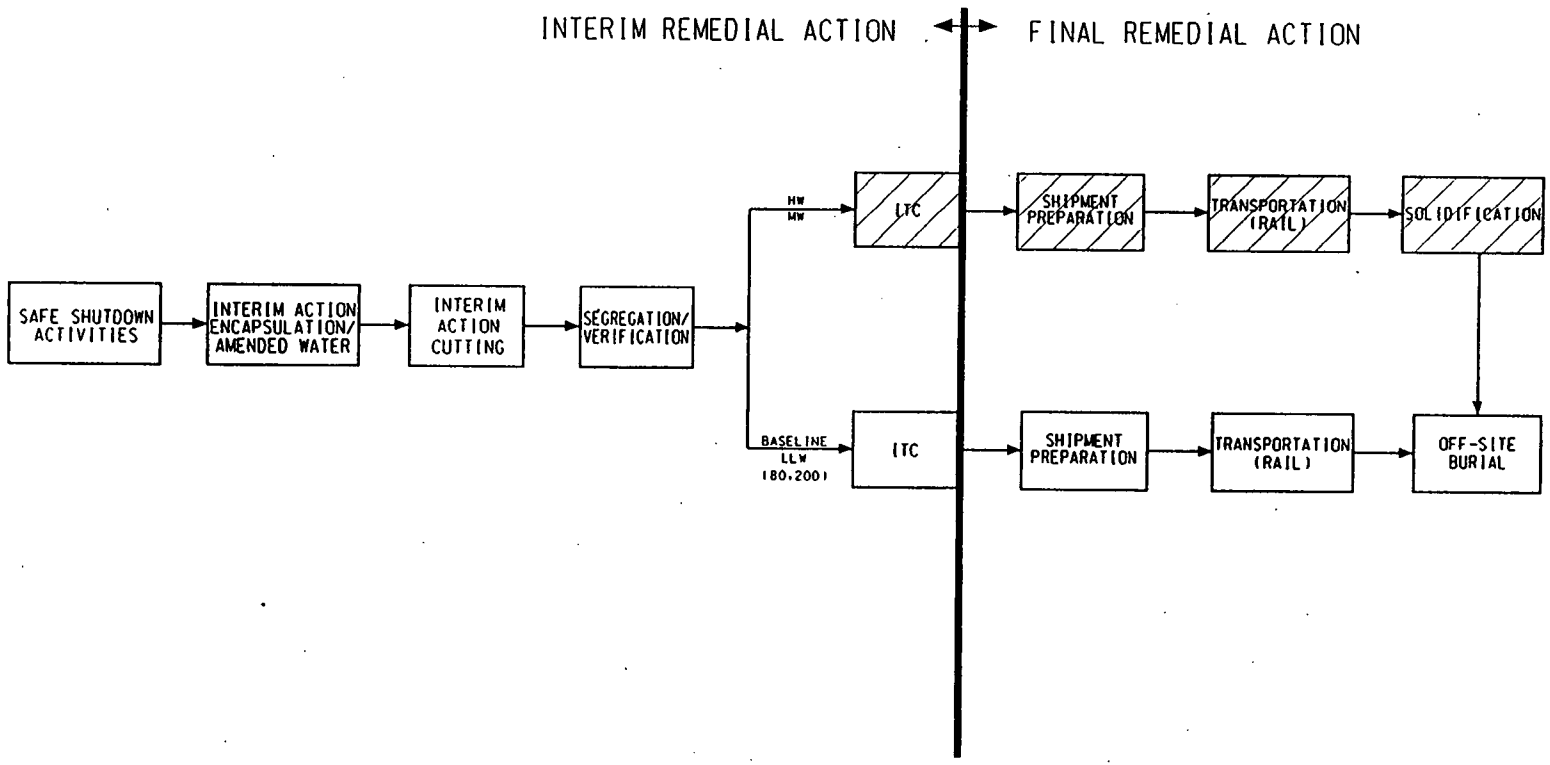
FIGURE E-17

ALTERNATIVE 3
H-REGULATED ACM



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

/usr/ermd5/30004/dgn/REGUACM.DGN 11/29/95

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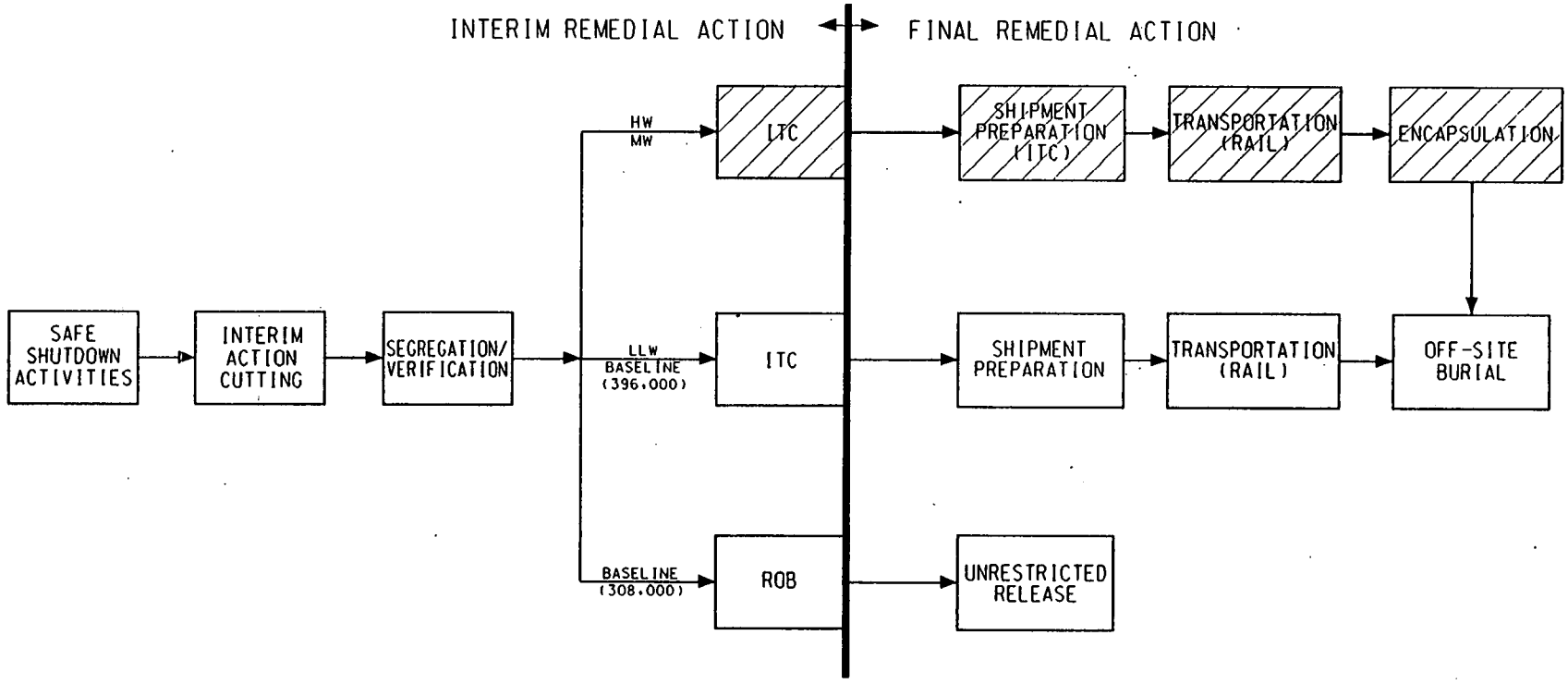
FIGURE E-18

ALTERNATIVE 3
I-MISCELLANEOUS



MATERIAL SEGREGATION CATEGORIES

BASELINE	= ≤ Baseline Concentrations
LLW	= Low Level Waste
HW	= Hazardous Waste
MW	= Mixed Waste
TSCA	= PCB Waste

NOTES

Blocks Remain Unshaded for Segregation Categories with Non-Zero Quantities

Quantities are in (CF)

ACRONYMS

WAC	= Risk-Based Waste Acceptance Criteria for On-Property Disposal
ROB	= Roll-Off Box
ITC	= Intermodal Transport Container
B-25	= White Metal Box (6,800 lb. Capacity)
B-12	= White Metal Box (9,000 lb. Capacity)
LMB	= Large Metal Box (35,000 lb. Capacity)

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E.1

ATTACHMENT E.I

RECYCLING COST COMPARISON

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LIST OF ACRONYMS AND ABBREVIATIONS

CDF	central distribution facility
CF	cubic feet
CY	cubic yard
D&D	decontamination and dismantlement
DOE	United States Department of Energy
FS	feasibility study
ft^3	cubic feet
FEMP	Fernald Environmental Management Project
FERMCO	Fernald Environmental Restoration Management Corporation
HAZWAT	hazardous material remediation worker
HR	hour
ITC	intermodal transport containers
lb	pound
LMB	large metal box
MH	man hour
MAT'L	material
O&M	operation and maintenance
OU	operable unit
RI/FS	remedial investigation/feasibility study
ROB	roll-off box
RR	railroad
SWIFTS	Sitewide Waste Inventory Forecasting and Tracking System (database)
SWMB	small white metal box
T/L	top loader
TSCA	Toxic Substance Control Act

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E.I RECYCLING COST COMPARISON

E.I.1 INTRODUCTION

This attachment to Appendix E discusses the cost estimates for recycling materials in Operable Unit 3 (OU3). Structural steel has been selected amongst potential recyclable materials for the following reasons:

- A large quantity of structural steel is present in various buildings;
- Most of the structural steel has surface contamination;
- Cost estimates exist from the current Plant 7 structural steel recycling effort; and
- A potential end use exists for the recycled material in the commercial sector.

In addition, structural steel represents the most practical and least expensive material to decontaminate for unrestricted recycle because of the large exposed surface areas and the limited quantity of inaccessible areas. Other materials with a greater quantity of inaccessible areas would have increased recycling costs associated with the decontamination and survey of the material for unrestricted release and would also typically involve lower total metal mass per exposed surface area. Therefore, this attachment focuses on the cost comparison of available options for structural steel.

E.I.2 BASIS FOR COST COMPARISON

Two methods considered for recycling structural steel are (1) decontamination from radionuclides and hazardous materials, followed by unrestricted release; and (2) metal melt for restricted end use. The costs calculated for these two recycling options have been compared with the two disposal options: (1) on-property disposal facility (Alternative 2); and (2) off-site disposition at a facility such as the Envirocare commercial facility located near Clive, Utah (Alternative 3), as discussed in detail in Appendix E.

Calculations and comparisons of recycling costs and disposition options were based on the following general assumptions:

- Not all of the structural steel would be recycled. For example, it is assumed that a portion of the material would be rejected based on inability to recycle the material. The rejected material would be dispositioned at the on-property disposal facility or at a commercial facility such as Envirocare (respectively).
- The on-property disposal facility would not accept any secondary waste generated by the recycling process. This secondary waste would be treated by the vendor before disposal at the Envirocare commercial disposal facility.
- The decontamination and dismantlement (D&D) contractor would cut the structural steel into appropriately sized pieces before packaging in the boxes for recycling options.
- No repackaging would be done for recycling purposes.
- All the structural steel quantities are generated from the Sitewide Waste Inventory Forecasting and Tracking System (SWIFTS). A bulking factor of 16.7 is used for

evaluating containerized disposition of the structural steel. The density of the structural steel is assumed at 490 lbs per ft^3 prior to considering bulking to 29.34 lbs per ft^3.

Specific assumptions relating to each option are included with the description, as well as with the notes, at the bottom of each estimate summary sheet.

Each of the four options is discussed in detail in the following paragraphs.

E.I.2.1 On-Property Disposal (Alternative 2)
The on-property disposal facility can accept all the structural steel.

The following assumptions are made while calculating disposal costs for the on-property facility:

- Costs for staging and on-property disposal include transporting the roll-off boxes (ROBs) from the work zone queue area to and from the disposal facility staging area.
- The on-property disposal facility would be shut down for three months of the year because of frost conditions.
- Structural steel material placed into the on-property disposal facility would be calculated as unbulked volumes, since it would not need to be containerized.
- The unit rate of \$4.17 per ft^3 is based on a \$3.05 per ft^3 construction cost and a \$1.12 per ft^3 operation and maintenance (O&M) cost. The burial rate is a total project cost and includes construction, placement, construction management, radiation/safety management, engineering support, annual monitoring, and maintenance.
- ROBs used for the transportation of the structural steel to the on-property disposal facility would have 25 reuses. Costs of ROBs are prorated per use.

Additional assumptions are detailed on the estimate summary sheet (Table E.I-1).

E.I.2.2 Off-Site Disposition - Commercial Facility (Alternative 3)
As discussed in Alternative 3, all the structural steel would be dispositioned off-site. Envirocare has been selected as the representative commercial disposal facility.

The following assumptions are made while calculating off-site disposal costs:

- The waste streams would be sampled and analyzed before shipment to Envirocare.
- Intermodal transport containers (ITCs) would be shipped via rail from the FEMP to Envirocare. Contents would be dumped for unbulked burial at Envirocare. Empty ITCs would be shipped via rail from Envirocare back to the FEMP.
- ITCs used for the transportation of the structural steel to Envirocare would have 50 reuses. Costs of ITCs are prorated per use.

- A burial rate of $7 per ft^3 of unbulked material is used for Envirocare (Envirocare, 1995). This value is based on the total volume of OU3 material, assuming joint disposal with OU1 wastes.

Additional assumptions are detailed on the estimate summary sheet (Table E.I-2).

E.I.2.3 Recycle - Decontamination for Unrestricted Release (and Subsequent Recycling)
The decontamination method for the potential unrestricted release of the structural steel to be assessed includes removal of the radionuclides and other contaminants from the surface of the structural steel using a combination of blasting and chemical decontamination technologies. Materials scheduled for unrestricted release would be required to meet criteria set forth in a site material release certification program. The recycling costs are based on actual data and proposals submitted by the vendors for recycling structural steel from the D&D of Plant 7 and include the steel reclamation market values.

The following assumptions are made for the structural steel decontamination process.

- Structural steel would be shipped in ROBs to a commercial decontamination facility;
- ROBs used to transport the structural steel to a commercial decontamination facility would have 25 reuses (cost of ROBs are prorated per use);
- The secondary wastes generated because of the decontamination processes would be dispositioned at Envirocare;
- Based on Plant 7 data, eight percent of the total structural steel would be rejected and dispositioned in the on-property disposal facility.

Additional assumptions are detailed on the estimate summary sheet (Table E.I-3).

E.I.2.4 Recycle - Metal Melt for Restricted Use
The metal-melt decontamination method used for structural steel includes melting the steel components and molding them into end products, such as containers that can be used under radiological control. The surface contamination is stabilized as a result of the melting process. The recycling costs are based on actual data and proposals submitted by the vendors for recycling structural steel from the D&D of Plant 7.

The following assumptions are made for the structural steel metal-melt process.

- The structural steel would be shipped in ROBs to a commercial metal-melt facility;
- ROBs used for the transportation of the structural steel to a commercial metal-melt facility would have 25 reuses (cost of ROBs are prorated per use);
- The secondary wastes, such as slag and molten waste generated as a result of the metal-melting processes, would be dispositioned at Envirocare; and
- A portion of the material would be rejected for the metal-melt process due to the presence of other metal and contaminants, and it would therefore be dispositioned in the on-property disposal facility.

Additional assumptions are detailed on the estimate summary sheet (Table E.I-4).

E.I.3 COST COMPARISONS

Based on the volume and weight estimates in Appendix B, the total unbulked volume and weight of OU3 structural steel is 63,400 ft^3 and 15,200 tons, respectively. The following listing presents total costs as well as a unit cost per ft^3 for the four options evaluated for structural steel.

Option	Total Cost	Unit Cost
1. On-Property Disposal (Alternative 2)	$1,001,400	15.79/ft^3
2. Off-Site Disposition (Alternative 3)	$4,742,200	74.80/ft^3
3. Recycle - Decontamination (Unrestricted Use)	$33,136,700	522.66/ft^3
4. Recycle - Metal Melt (Restricted Use)	$38,184,200	602.27/ft^3

E.I.4 CONCLUSIONS

At this time, recycling options exist for structural steel as well as for other metal materials; however, because of the radiological component associated with the material, the cost to perform the recycling outweighs available disposal options. Because of the large volume of materials to be disposed of by the FEMP at both on-property and off-site locations, low unit rates for disposal are available.

But cost represents only one factor in the evaluation of recycling as a viable alternative to disposal. Other factors limiting recycling include limited survey capabilities for inaccessible surfaces, few vendors performing recycling, liability for release of materials, and limited uses for contaminated materials. At this time, few companies perform recycling of radiologially contaminated materials and as a result, minimal competition exists to reduce the costs to be incurred. An additional factor that is also limiting the number of companies willing to perform recycling is the requirement for the company to accept potential liability for the release of the materials. Finally, for the materials that cannot be effectively released for unrestricted use, no market currently exists for the processing or reuse of the contaminated materials.

While currently available cost data suggest recycling is significantly more expensive than disposal, it should be noted that new recycling technologies or markets will be evaluated for use as they become available. DOE also recognizes that, while cost is a driving factor in making project-specific recycling decisions, other factors such as stakeholder imput are relevant and should be considered as well. DOE will continue, over the life of the D&D of the former Production Area, to agressively evaluate existing and emerging recycling technologies and markets to identify opportunities for cost-competitive application at the FEMP.

Because of large-scale environmental projects throughout the DOE, funding constraints are imposing limitations on disposition options that can be pursued. Based on current costs and other limiting factors as detailed above, the potential for recycling of metal materials will be limited, as discussed in Sections 4 and Section 5. Recycling of higher value materials (copper, stainless steel, high nickel alloys) is currently being evaluated at the FEMP and throughout DOE to determine actual costs. For costing and evaluation purposes only, the OU3 RI/FS Report will consider recycling options on a potential basis only. However, throughout the performance of the D&D action, DOE commits to evaluate recycling as a viable option. The OU3 RI/FS strives to maintain recycling as an option to be considered for each material at the time of it's intended generation and will continue to evaluate recycling on a case by case basis within each D&D complex implementation plan. To support this

approach, a Fernald recycling team has been commissioned to develop a methodology for the evaluation of recycling as an interim measure until the DOE national policy is issued. Once the site plan is drafted, U.S. and Ohio EPA comments on the plan will be solicited.

E.I.5 REFERENCES

Envirocare of Utah, Inc., 1995, letter dated August 24, 1995, from Al Rafati to John Throckmorton, FERMCO, subject: Revised OU3 Feasibility Study Costs.

Request for Proposal (RFP) JC-97686, dated June 1, 1994, submitted by Scientific Ecology Group (SEG) Inc., Oak Ridge, TN, on Recycle Metal Melt (Restricted Use) Costs.

RFP JC-97686, dated June 1, 1994, submitted by Alaron Inc., Wompum, PA, on Recycle Decontamination (Unrestricted Use) Costs.

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WBS NO.-1.1.1.1.3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
F:\LOTUS34\JIM\DEC95-FS\RECYCLE3.WK3

TABLE E.1-1
COST STUDY
ESTIMATE SUMMARY

CONTRACT #: 0442432

BY: KDM / JAW
DATE: 12/09/95
TIME: 03:52 PM

	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	LINE TOTAL
ON-PROPERTY DISPOSITION (ALTERNATIVE 2)												
COMMODITY: LOW LEVEL STRUCTURAL STEEL												
ROLL-OFF BOXES (ROB) REUSE 25 LOADS PER ROB	53	EACH						$7,000			$372,900	$372,900
ON-PROPERTY HAULING ROB (from CDF to queue area)	53	LOAD	2.40	128	21.06				$2,700			$2,700
ROB MAINTENANCE (every other load)	653	LOAD	14.40	9,410	22.64			$100	$213,000		$65,300	$278,300
ON-PROPERTY HAULING, DISPOSAL & RETURN.	1,307	LOAD	3.02	3,947	21.06				$83,100			$83,100
ON-PROPERTY BURIAL IN CELL (UNBULKED)	63,400	CF					$4.17			$264,400		$264,400
SUBTOTAL				13,484					$298,800	$264,400	$438,200	$1,001,400

NOTES

1. Costs based on Alternative 2 with On-property disposal of structural steel.
2. Roll-off box prices were provided by Waste Management.
3. Number of ROB loads needed were based on the following :

BULKED CF	1,058,592
DIVIDED BY INTERIOR CF VOLUME LIMIT OF ROB	810
EQUALS TOTAL NUMBER OF ROB LOADS	1307
DIVIDED BY ASSUMPTION 25 REUSES PER ROB	25
EQUALS NUMBER OF ROBS NEEDED	53

NOTES CONTINUED

4. ROB maintenance manhour units were provided in OU3 FS. Material costs to cover replacement of the tarp and general repairs such as rivets, tears or welds.
5. On-property burial rate provided by OU2 and is consisting of longterm ground-water monitoring and disposal facility monitoring and maintenance.
6. This estimate does not include risk or contingency.

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WBS NO.– 1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
F:\LOTUS34\TIM\DEC95–FS\RECYCLE3.WK3

TABLE E.1–2
COST STUDY
ESTIMATE SUMMARY

CONTRACT #: 0442432

BY: KDM / JAW
DATE: 12/09/95
TIME: 03:49 PM

	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	LINE TOTAL
OFF–SITE DISPOSITION – ENVIROCARE (ALTERNATIVE 3)												
COMMODITY: LOW LEVEL STRUCTURAL STEEL												
INTERMODAL TRANSPORT CONTAINER (REUSE 50 X)	28	EA.						$6,920			$191,300	$191,300
ON–PROPERTY HAULING ITC (from CDF to queue area)	1,382	LOAD	2.40	3,317	21.06				$69,900			$69,900
ON–PROPERTY HAULING ITC (from queue area to shipping area)	1,382	LOAD	2.40	3,317	21.06				$69,900			$69,900
WEIGH AND CERTIFICATION OF ITC	1,382	LOAD	15.00	20,730	24.94				$517,000			$517,000
ON–PROPERTY LOADING OF ITC ONTO RR CAR	1,382	LOAD	7.50	10,365	21.35				$221,300			$221,300
ITC MAINTENANCE/SURVEY	1,382	LOAD	14.40	19,900	22.64			$100	$450,500		$138,200	$588,700
RAIL ROAD TRANSPORTATION	1,382	I.T.C.					$1,333			$1,842,200		$1,842,200
ARTICULATED CONTAINER CAR COST	1,382	I.T.C.					$211			$290,900		$290,900
SAMPLING, STORAGE, MONITORING, WASTE PROFILING	63,400	CF							$507,200			$507,200
OFF–SITE BURIAL – ENVIROCARE (UNBULKED)	63,400	CF					$7.00			$443,800		$443,800
SUBTOTAL				57,628					$1,835,800	$2,576,900	$329,500	$4,742,200

NOTES

1. ITCs are $6920 each. This price was provided in the OU3 FS.
2. Number of ITC loads needed were based on the following calculations
   BULKED CF 1,058,592
   DIVIDED BY INTERIOR CF VOLUME LIMIT OF ITC 766
   EQUALS TOTAL NUMBER OF ITC LOADS 1382
3. Assumption made that ITC would be reused 50 times, based on data provided by the vendor and on–site judgement.
   TOTAL NUMBER OF ITC LOADS 1382
   DIVIDED BY REUSE NUMBER 50
   EQUALS TOTAL NUMBER OF ITC NEEDED 28
4. ITC maintenance hours were provided in OU3 FS, the hours include survey/paperwork time to get the ITC back on site. Material costs to cover replacement of the tarp and general repairs such as rivets, tears and/or welds.

NOTES CONTINUED

5. Railroad transportation cost were provided in OU3 FS.
6. Articulated container car costs were provided in OU3 FS.
7. Envirocare burial rate provided in OU3 FS.
8. Bulked volumes were used to calculate number of ROB/loads, and ITCs.
9. This estimate does not include risk or contingency.

WBS NO.-1[illegible]3.1.3
CLIENT- U.S. DEPT. OF ENERGY
PROJECT- OU3 FEASIBILITY STUDY
LOCATION- FERNALD, OHIO
PROJ.CTL.- TJV
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TABLE E.I-3
COST STUDY
ESTIMATE SUMMARY

CONTRACT #: 0442432

BY: KDM / JAW
DATE: 12/09/95
TIME: 03:50 PM

	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	LINE TOTAL
OFF-SITE DISPOSITION - DECON-RECYCLE												
COMMODITY: LOW LEVEL STRUCTURAL STEEL												
ROLL-OFF BOXES (ROB) REUSE 25 LOADS PER ROB	53	EACH						$7,000			$372,900	$372,900
ON-PROPERTY HAULING ROB (from CDF to queue area)	53	LOAD	2.40	128	21.06				$2,700			$2,700
ON-PROPERTY HAULING (from queue area to ship area)	1,307	LOAD	2.40	3,137	21.06				$66,100			$66,100
WEIGH, CERTIFICATION & STAGE FOR VENDOR	1,307	LOAD	15.00	19,604	24.94				$488,900			$488,900
ROB MAINTENANCE/SURVEY	1,307	LOAD	14.40	18,819	22.64			$100	$426,100		$130,700	$556,800
SHOT AND PAINT CHIPS - BURIAL AT ENVIROCARE	761	CF					7.00			$5,300		$5,300
ON-PROPERTY HAULING, DISPOSAL	102	LOAD	3.02	309	21.06				$6,500			$6,500
REJECTED STEEL - BURIAL IN CELL	4,963	CF					4.17			$20,700		$20,700
COMPACTIBLE WASTE - BURIAL IN CELL	190	CF					4.17			$800		$800
DECON - RECYCLE VENDOR COST PER LBS.	30,400,000	LBS					$1.04			$31,616,000		$31,616,000
SUBTOTAL				41,996					$990,300	$31,642,800	$503,600	$33,136,700

NOTES

1. Roll-off box prices were provided by Waste Management.
2. Number of ROB and ROB loads needed were based on the following :

BULKED CF	1,058,592
DIVIDED BY INTERIOR CF VOLUME LIMIT OF ROB	810
EQUALS TOTAL NUMBER OF ROB LOADS	1307
DIVIDED BY ASSUMPTION 25 REUSES PER ROB	25
EQUALS NUMBER OF ROBS NEEDED	53

3. Weigh, certification, and load rates provided by Waste Management.
4. ROB maintenance hours were provided in OU3 FS, the hours include survey/paperwork time to get the ROB back on site. Material costs to cover replacement of the tarp and general repairs such as rivets, tears and/or welds.
5. Envirocare burial rate provided in OU3 FS.
6. Rejected steel volume based on actuals and vendor's quotes on Plant 7. The same percentage is then used for this project. A factor of 490 lbs per cf was used for the conversion.

TOTAL OF STRUCTURAL STEEL (LBS)	30,400,000
TIMES PERCENTAGE FROM PLANT 7	0.08
EQUALS STEEL TO BE REJECTED (lbs)	2,432,000
DIVIDED BY FACTOR (lbs per cf)	490
EQUALS STEEL TO BE REJECTED (cf)	4963

NOTES CONTINUED

7. Secondary waste (shot and paint chips) volume based on actuals and vendors quotes from Plant 7. The same percentage is then used for this project. The number is then doubled due to treatment. (solidification)

UNBULKED VOLUME OF STRUCTURAL STEEL (cf)	63,400
TIMES PERCENTAGE FROM PLANT 7	0.006
EQUALS PAINT CHIPS (cf)	380

8. Assumption made that compactible waste volume was 3% of the total unbulked volume based on actuals and vendors quote from Plant 7. The same percentage then used for this project.
9. Recycle rates were provided by vendor proposals for recycling Plant 7 metals. This rate includes:
   Shipment of structural steel to vendor, sort and resize, use of hand tools to remove paint before size reduction, grit blast, spin blast, chem dcon, free release survey, shipment of empty ROB back to FERMCO, treatment of secondary waste, report/schedules to FERMCO, shipment of secondary waste to Envirocare for burial, and shipment of compactable waste to Fernald for burial in the cell.
10. On-property burial rate provided by OU2 and is consisting of longterm ground-water monitoring and disposal facility monitoring and maintenance.
11. This estimate does not include risk or contingency.

WBS NO.–1.1.1.1.3.1.3
CLIENT– U.S. DEPT. OF ENERGY
PROJECT– OU3 FEASIBILITY STUDY
LOCATION– FERNALD, OHIO
PROJ.CTL.– TJV
F:\LOTUS34\JIM\DEC95–FS\RECYCLE3.WK3

TABLE E.I–4
COST STUDY
ESTIMATE SUMMARY

CONTRACT #: 0442432
BY: KDM / JAW
DATE: 12/11/95
TIME: 09:57 AM

	QUAN	UNIT	MANHOURS UNIT	MANHOURS TOTAL	MANHOURS RATE	COST/UNIT LABOR	COST/UNIT SUB	COST/UNIT MAT'L	LABOR	SUB CONTRACT	MATERIAL	LINE TOTAL
OFF–SITE DISPOSITION – METAL MELT–RECYCLE												
COMMODITY: LOW LEVEL STRUCTURAL STEEL												
ROLL–OFF BOXES (ROB) REUSE 25 LOADS PER ROB	53	EACH						$7,000			$372,900	$372,900
ON–PROPERTY HAULING ROB (from CDF to queue area)	1,307	LOAD	2.40	3,137	21.06				$66,100			$66,100
ON–PROPERTY HAULING (from queue area to ship area)	1,307	LOAD	2.40	3,137	21.06				$66,100			$66,100
WEIGH,CERTIFICATION & STAGE FOR VENDOR	1,307	LOAD										
ROB MAINTENANCE/SURVEY	1,307	LOAD	14.40	18,819	22.64			$100	$426,100		$130,700	$556,800
SLAG AND MISC MOLTEN WASTE – BURIAL ENVIROCARE	45	SWMB					$735			$33,400		$33,400
ON–PROPERTY HAULING, DISPOSAL	1	LOAD	3.02	3	21.06				$100			$100
COMPACTIBLE WASTE – BURIAL IN CELL	190	CF					$4.17			$800		$800
METAL MELT VENDER COST PER LBS.	30,400,000	LBS					$1.22			$37,088,000		$37,088,000
SUBTOTAL				25,096					$558,400	$37,122,200	$503,600	$38,184,200

NOTES

1. Roll–off box prices were provided by Waste Management.

2. Number of ROB and ROB loads needed were based on the following :

BULKED CF	1,058,592
DIVIDED BY INTERIOR CF VOLUME LIMIT OF ROB	810
EQUALS TOTAL NUMBER OF ROB LOADS	1307
DIVIDED BY ASSUMPTION 25 REUSES PER ROB	25
EQUALS NUMBER OF ROBS NEEDED	53

3. Weigh, certification, and load rates provided by Waste Management.

4. ROB maintenance hours were provided in OU3 FS, the hours include survey/paperwork time to get the ROB back on site. Material costs to cover replacement of the tarp and general repairs such as rivets, tears

5. and/or welds.

6. Envirocare burial rate provided in OU3 FS.

7. Percentages used to figure volume of slag and misc molten waste were taken from vendors proposals for recyling Plant 7 metals.

7. Costs for the burial of the SWMB of slag and misc molten metal developed using this formula.... ext cf (105) x burial rate (7)...105*7=735.

8. Assumption made that compactible waste volume was 3% of the total unbulked volume based on actuals and vendors quote from Plant 7. The same percentage is then used for this project.

9. Metal melt rates were provided by vendor proposals for recycling Plant 7 metals. This rate includes:
   Shipment of structural steel to vendor, sort and resize, melt
   provide reports and schedules to FERMCO
   metal into shield blocks, ship of rejected and secondary waste
   to FERMCO, shipment of empty ROB back to FERMCO,
   provide reports and schedules to FERMCO

10. On–property burial rate provided by OU2 and is consisting of longterm ground–water monitoring and disposal facility monitoring and maintenance.

11. This estimate does not include risk or contingency.

ATTACHMENT E.II

OU3 COST ESTIMATE SUPPORTING INFORMATION

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002291

LIST OF ACRONYMS AND ABBREVIATIONS

CDF	central distribution facility
CF	cubic feet
CY	cubic yard
D&D	decontamination and dismantlement
DISP.	disposal
DOE	United States Department of Energy
FS	feasibility study
ft^3	cubic feet
FEMP	Fernald Environmental Management Project
FERMCO	Fernald Environmental Restoration Management Corporation
HAZWAT	hazardous material remediation worker
HR	hour
ITC	intermodal transport containers
lb	pound
LMB	large metal box
MH	manhour
MAT'L	material
O&M	operation and maintenance
OU	operable unit
RI/FS	remedial investigation/feasibility study
ROB	roll-off box
RR	railroad
S/C	subcontract
SWIFTS	Sitewide Waste Inventory Forecasting and Tracking System (data base)
SWMB	small white metal box
T/L	top loader
TSCA	Toxic Substances Control Act

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E.II OU3 COST ESTIMATE SUPPORTING INFORMATION

E.II.1 INTRODUCTION

This attachment to Appendix E contains backup information supporting each alternative cost estimate. For both Alternatives 2 and 3, this attachment contains information associated with the calculation of the risk budget and the determination of manhour rates for each material category activity.

E.II.2 RISK BUDGETS

The risk budget information consists of two tables and two figures, which develop probability for error based on each activity of the estimate and the cost for that activity. The risk budget for Alternative 2 is 23.5 percent and 24.1 percent for Alternative 3 and represents a 50 percent chance of project overrun. This value is included in the total cost for each alternative. The contingency estimated for each alternative represents the difference between a 5 percent chance of overrun and a 50 percent chance of overrun. The contingency cost is not added to the overall cost estimate.

E.II.3 MANHOUR ESTIMATES

The last tables for each alternative include the manhour calculations for each material category. These calculations include types of workers, crew sizes, and wage rates as input parameters to determine unit rates of manhours per activity and wage rate per activity. Activities assessed include loading materials from a pile into a container, loading containers onto trucks, and transporting containers to a disposal facility or a transportation facility. The information from these calculations is used within each material category summary estimate contained in the tables in Appendix E.

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Alternative 2
Tables E.II - (1-13)
Risk Budget and Man Hour Calculations

RISK BUDGET/OVERRUN ANALYSIS OUTPUT

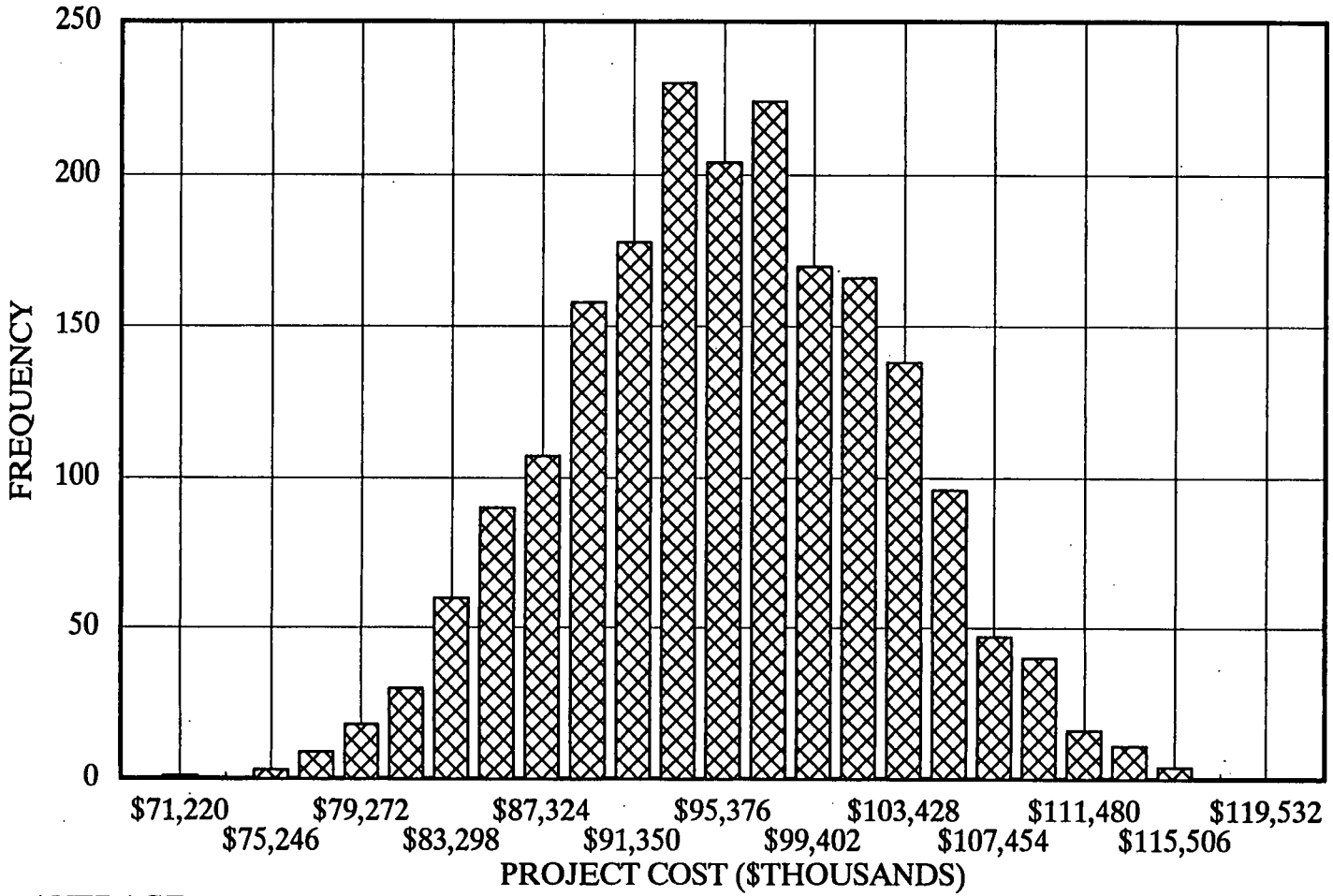
PROJECT: OU3 FEASIBILITY STUDY
CLIENT: DOE — DATE: 07-Feb-96
CONTRACT: C3-95-01-05-R2 — BASE ESTIMATE: $76,469,300

CHANCES OF OVERRUN	PROJECT COST W/RISK BUDGET	RISK BUDGET ADDED TO BASE ESTIMATE	%RISK BUDGET OF BASE ESTIMATE
0.00%	$132,864,940	$56,395,640	73.7%
0.05%	$114,174,858	$37,705,558	49.3%
5.00%	$106,155,099	$29,685,799	*38.8%*
10.00%	$103,760,254	$27,290,954	35.7%
15.00%	$102,055,694	$25,586,394	33.5%
20.00%	$100,877,078	$24,407,778	31.9%
25.00%	$99,659,239	$23,189,939	30.3%
30.00%	$98,381,200	$21,911,900	28.7%
35.00%	$97,271,921	$20,802,621	27.2%
40.00%	$96,479,336	$20,010,036	26.2%
45.00%	$95,544,377	$19,075,077	24.9%
50.00%	$94,539,004	$18,069,704	*23.6%*
55.00%	$93,624,333	$17,155,033	22.4%
60.00%	$92,534,881	$16,065,581	21.0%
65.00%	$91,767,905	$15,298,605	20.0%
70.00%	$90,821,182	$14,351,882	18.8%
75.00%	$89,604,803	$13,135,503	17.2%
80.00%	$88,269,005	$11,799,705	15.4%
85.00%	$86,987,143	$10,517,843	13.8%
90.00%	$85,116,984	$8,647,684	11.3%
95.00%	$82,855,826	$6,386,526	8.4%
99.95%	$73,435,961	($3,033,339)	-4.0%
100.00%	$56,023,871	($20,445,429)	-26.7%

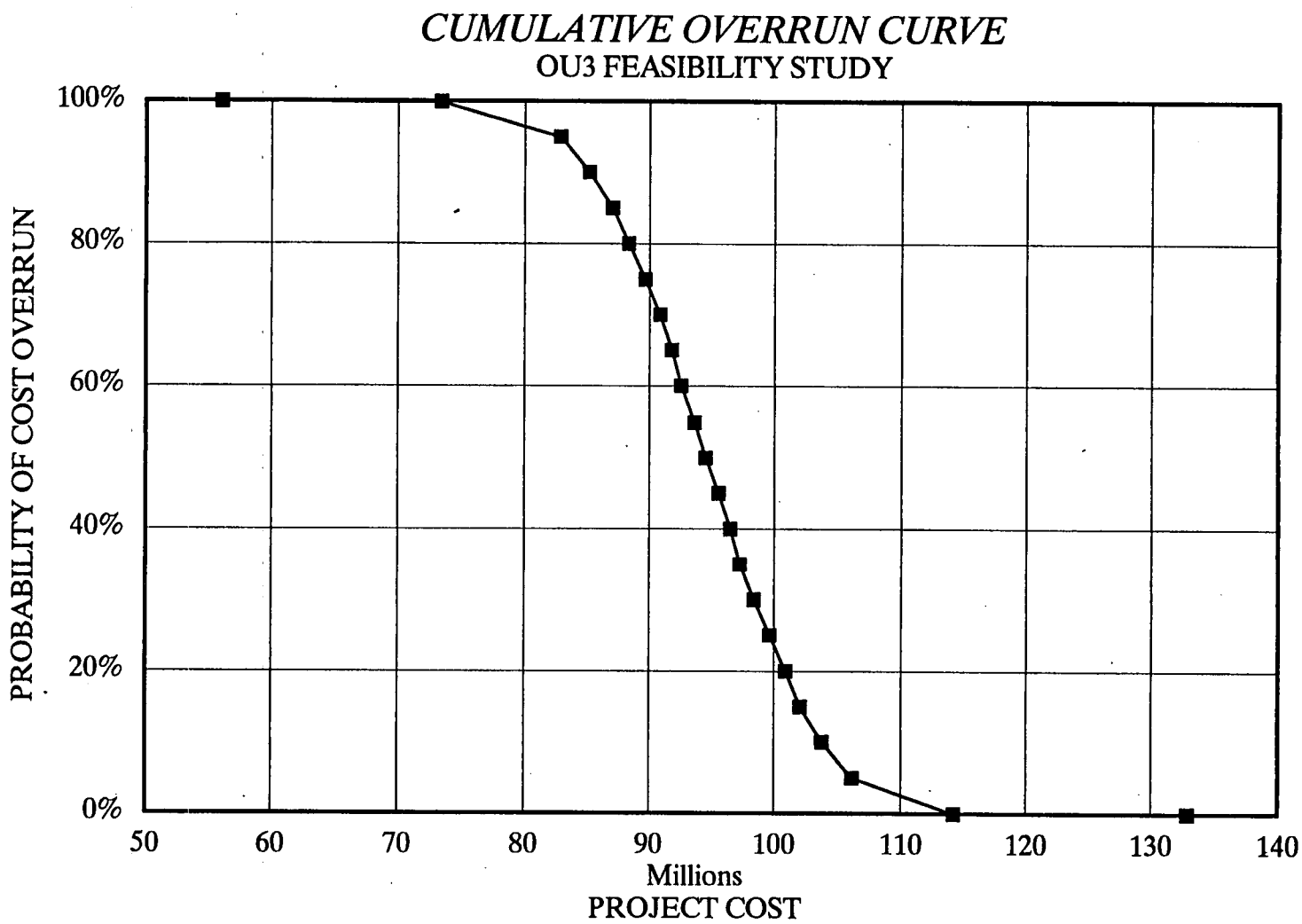
002504

DISTRIBUTION OF 2,000 SAMPLES

OU3 FEASIBILITY STUDY



AVERAGE
$94,506,218



BASE ESTIMATE:
$76,469,300

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FERMCO RISK BUDGET ESTIMATING
INPUT DATA TABLE

PROJECT: OU3 FEASIBILITY STUDY
CLIENT: DOE
CONTRACT: C3-95-01-05-R2

ACCOUNT NO.	ITEM DESCRIPTION	ESTIMATE BASE$	LOW%	LOW$	HIGH%	HIGH$	DIST. TYPE	RELA-TIONS	RANGE FACTOR
1	ACCESSIBLE METALS – LABOR	$731,200	-33%	$489,904	80%	$1,316,160	U		29%
2	ACCESSIBLE METALS – S/Cs	194,700	-25%	146,025	75%	340,725	U		25%
3	ACCESSIBLE METALS – MAT'L	435,600	-25%	326,700	65%	718,740	U		28%
4	INACCESSIBLE METALS – LABOR	2,903,800	-33%	1,945,546	80%	5,226,840	U		29%
5	INACCESSIBLE METALS – S/Cs	5,321,900	-25%	3,991,425	75%	9,313,325	U		25%
6	INACCESSIBLE METALS – MAT'L	2,440,500	-25%	1,830,375	65%	4,026,825	U		28%
7	PROCESS RELATED METALS – LABOR	215,700	-33%	144,519	80%	388,260	U		29%
8	PROCESS RELATED METALS – S/Cs	13,370,600	-25%	10,027,950	75%	23,398,550	U		25%
9	PROCESS RELATED METALS – MAT'L	2,997,200	-25%	2,247,900	65%	4,945,380	U		28%
10	PAINTED LIGHT GAUGE METALS – LABOR	21,400	-33%	14,338	80%	38,520	U		29%
11	PAINTED LIGHT GAUGE METALS – S/Cs	27,000	-25%	20,250	80%	48,600	U		24%
12	PAINTED LIGHT GAUGE METALS – MAT'L	33,200	-25%	24,900	65%	54,780	U		28%
13	CONCRETE – LABOR	4,410,000	-33%	2,954,700	80%	7,938,000	U		29%
14	CONCRETE – S/Cs	14,447,400	-25%	10,835,550	75%	25,282,950	U		25%
15	CONCRETE – MAT'L	6,477,600	-25%	4,858,200	65%	10,688,040	U		28%
16	BRICK – LABOR	77,000	-33%	51,590	80%	138,600	U		29%
17	BRICK – S/Cs	1,806,400	-25%	1,354,800	75%	3,161,200	U		25%
18	BRICK – MAT'L	269,200	-25%	201,900	65%	444,180	U		28%
19	NON-REGULATED ACM – LABOR	63,800	-33%	42,746	80%	114,840	U		29%
20	NON-REGULATED ACM – S/Cs	217,500	-25%	163,125	75%	380,625	U		25%
21	NON-REGULATED ACM – MAT'L	47,500	-25%	35,625	65%	78,375	U		28%
22	REGULATED ACM – LABOR	100,900	-33%	67,603	80%	181,620	U		29%
23	REGULATED ACM – S/Cs	244,600	-25%	183,450	75%	428,050	U		25%
24	REGULATED ACM – MAT'L	67,400	-25%	50,550	65%	111,210	U		28%
25	MISCELLANEOUS COSTS – LABOR	496,000	-33%	332,320	80%	892,800	U		29%
26	MISCELLANEOUS COSTS – S/Cs	1,362,300	-25%	1,021,725	75%	2,384,025	U		25%
27	MISCELLANEOUS COSTS – MAT'L	169,600	-25%	127,200	65%	279,840	U		28%
28	O&M COST – MAT'L	7,904,100	-30%	5,532,870	80%	14,227,380	U		27%
29	FIELD SUPPORT COSTS – LABOR	3,219,000	-25%	2,414,250	60%	5,150,400	U		29%
30	FIELD SUPPORT COSTS – S/Cs	545,000	-25%	408,750	70%	926,500	U		26%
31	FIELD SUPPORT COSTS – MAT'L	4,226,300	-30%	2,958,410	75%	7,396,025	U		29%
32	SALES TAX – MAT'L	1,624,900	-25%	1,218,675	75%	2,843,575	U		25%
33				0		0			0%
34				0		0			0%
35				0		0			0%
36				0		0			0%
37				0		0			0%
38				0		0			0%
39				0		0			0%
40				0		0			0%
41				0		0			0%
42				0		0			0%
43				0		0			0%
44				0		0			0%
45	C:\RISK\CRU3\1996\C39535R4.WK3			0		0			0%
		$76,469,300		$56,023,871		$132,864,940			

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A - ACCESSIBLE METALS
ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL, STAGED IN A PILE @ INTERIM QUEUING AREA. AFTER CELL IS OPENED, MATERIAL IS STAGED IN TARPED ROB'S @ INTERIM QUEUING AREA FOR PICK UP.

1. POSITION ROB FOR LOADING.
2. SHAKE OUT PILED UP STRUCTURAL STEEL MEMBERS.
3. LOAD PIECES OF STRUCTURAL STEEL MEMBERS INTO ROB.
4. MOVE ROB TO ON-PROPERTY DISPOSAL CELL (TRAVEL 1 MILE)
5. ROB IS UNLOADED AND RETURNES TO QUEUING AREA.

CREW SIZE:				COST	COST
LOADING ACTIVITY			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG HOURLY RATE:	$21.35				
ROB HANDLING AND HAULING ACTIVITIES.					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG HOURLY RATE:	$21.06				

EQUIPMENT:
HYDRAULIC CRANE
TRUCK EQUIPED WITH ROB LOADING/DUMPING CAPABILITIES
ASSORTED CUTTING EQUIPMENT & LIFTING CABLES,CHAINS ETC.

CALCULATIONS:		
POSITION ROB FOR LOADING	0.76	
ROB CAP.--- LBS.	33,500	
ROB CAP.--- TONS	16.75	
UNIT RATE--MH/TON	4.00	
EST. HOURS PER ROB	67.76	
POSITION ROB ON TRUCK	0.95	WITH CREW OF 2 WORKERS
HAUL ROB TO DISPOSAL CELL	0.46	SAME
UNLOAD AT DISPOSAL CELL	1.15	
RETURN TO QUEUING AREA	0.46	SAME
ON-PROPERTY HAULING	3.02	HOURS

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B - INACCESSIBLE METALS

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL IS STAGED IN A PILE AT THE INTERIM QUEUING AREA.
AFTER CELL IS OPENED, MATERIAL IS STAGED IN TARPED ROB @ INTERIM QUEUING AREA FOR PICK UP
PCB MATERIALS, STAGED IN ROB, FLUSHING IS DONE BY OTHERS

1. POSITION TRUCK TO LOAD ROB.
2. SHAKE OUT PILED MATERIAL FOR LOADING INTO ROB.
3. LOAD INTO ROB, TARP WHEN FULL.
4. MOVE ROB TO ON-PROPERTY DISPOSAL CELL (TRAVEL 1 MILE)
5. ROB IS UNLOADED AND RETURNED TO QUEUING AREA.

CREW SIZE:				COST	COST
LOADING ACTIVITY			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG. HOURLY RATE:	$21.35				
ROB HANDLING, HAULING, AND DISPOSAL ACTIVITIES.					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
HYDRAULIC CRANES FOR LOADING ROB
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES

CALCULATIONS: BASED ON EACH ROB HAVING 17 TONS OR 810 CF OF MATERIAL		
POSITION ROB FOR LOADING	0.76	WITH A CREW OF 2 WORKERS
ROB CAP.---LBS.	33,500	
ROB CAP.---TONS	16.75	
UNIT RATE--MH/TON	4.00	
EST HOURS PER ROB	67.76	
POSITION ROB ON TRUCK	0.95	WITH A CREW OF 2 WORKERS
HAUL ROB TO DISPOSAL CELL	0.46	
UNLOAD AT DISPOSAL CELL	1.15	
RETURN TO QUEUING AREA	0.46	
ON-PROPERTY HAULING	3.02	HOURS

C - PROCESS RELATED METALS

OFF-SITE DISPOSAL - NTS

COMMODITY: LOW LEVEL WASTE MATERIALS, STAGED IN LWMB FOR OFF-SITE BURIAL

1. POSITION TRUCK TO LOAD LWMB AND HAUL TO TRANSPORTATION CENTER.
2. WEIGH, CERTIFICATION & LOAD ON TO TRANSPORTATION CARRIER.
3 RETURN TO QUEUING AREA. (TRAVEL 1 MILE)

CREW SIZE:				COST	COST
ON-PROPERTY HANDLING & HAULING ACTIVITIES.			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK

CALCULATIONS:		
LOAD LWMB ONTO TRUCK	0.75	SAME
HAUL TO TRANSPORTATION CENTER	0.45	SAME
AT TRANSPORTATION CENTER	0.75	SAME
RETURN TO QUEUING AREA.	0.45	SAME
ON-PROPERTY HAULING	2.40	HOURS

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D - PAINTED LIGHT GAUGE METALS

ON-PROPERTY DISPOSAL

COMMODITY: POTENTIALLY MIXED WASTE, STAGED IN B-12's. MATEREIAL WILL BE DISPOSED OF AT THE COMPLETION OF EACH COMPLEX.

1. POSITION TRUCK TO MOVE B-12
2. HAUL B-12 TO ON-PROPERTY ENCAPSULATION S/C FOR PROCESSING
2. RELOAD ONTO TRUCK AND HAUL B-12 TO DISPOSAL CELL. (TRAVEL 1 MILE)
3. RETURN TO QUEUING AREA. (TRAVEL 1 MILE)

CREW SIZE:				COST	COST
HANDLING AND HAULING			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK EQUIPED WITH B-12 LOADING / DUMPING CAPABILITIES

CALCULATIONS:		
POSITION B-12 ON TRUCK.	0.79	WITH CREW OF 2 WORKERS
HAUL TO ENCAPSULATION S/C	0.46	SAME
RETURN TO QUEUING AREA.	0.79	SAME
ON-SITE HAULING	2.04	HOURS

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL MATERIAL, STAGED IN TARPED ROB AT THE QUEUING AREA

1. POSITION TRUCK TO MOVE ROB.
2. HAUL ROB TO DISPOSAL CELL (TRAVEL 1 MILE)
3. ROB IS UNLOADED AND RETURNED TO QUEUING AREA.

CREW SIZE:				COST	COST
HANDLING AND HAULING			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES

CALCULATIONS:		
POSITION ROB ON TRUCK.	0.95	WITH CREW OF 2 WORKERS
HAUL TO TRANSPORTATION CTR.	0.46	SAME
AT TRANSPORTATION CTR.	1.15	SAME
RETURN TO QUEUING AREA.	0.46	SAME
ON-SITE HAULING	3.02	HOURS

E - CONCRETE

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL, STAGED IN TARPED ROB's AT QUEUING AREA

1. POSITION TRUCK TO MOVE ROB.
4. HAUL ROB TO ON-PROPERTY DISPOSAL CELL. (TRAVEL 1 MILE)
5. UNLOAD ROB, AND RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
MATERIAL HANDLING			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG. HOURLY RATE:	$21.35				
HAULING AND DISPOSAL					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES.

CALCULATIONS:		
POSITION ROB ON TRUCK	0.95	WITH CREW OF 2 WORKERS
HAUL TO DISP. CELL	0.46	SAME
DISCHARGE LOAD	1.15	SAME
RETURN TO QUEUING AREA	0.46	SAME
ON-PROPERTY HAULING	3.02	HOURS

OFF-SITE DISPOSAL - ENVIROCARE

COMMODITY: POTENTIALLY MIXED WASTE MATERIAL STAGED IN B-12's.

1. POSITION FLAT BED TRUCK TO LOAD CONTAINERS
2. HAUL TO THE TRANSPORTATION CENTER. (TRAVEL 1 MILE)
3. WEIGH, CERTIFICATION & LOAD ONTO TRANSPORTATION CARRIER.
4. RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
MATERIAL HANDLING / HAULING			WAGE	/HR	/8 HR DAY
B-12 HAULING AND HANDLING					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TAYLOR FORKLIFT
FLAT BED TRUCK.

CALCULATIONS:		
HAUL TO TRANSPORTATION CENTER	0.45	SAME
AT TRANSPORTATION CENTER	0.75	SAME
RETURN TO QUEUING AREA	0.45	SAME
ON-PROPERTY HAULING	1.65	HOURS

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F - BRICK

OFF - SITE DISPOSAL - ENVIROCARE

COMMODITY: POTENTIALLY MIXED MATERIAL, STAGED IN B-25's AT QUEUING AREA.

1. POSITION TRUCK TO MOVE B-25's
3. HAUL B-25 TO TRANSPORTATION CENTER. (TRAVEL 1 MILE)
4. WEIGH, CERTIFICATION, AND LOAD ONTO TRANSPORTATION CARRIER.
5. RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
HANDLING AND HAULING.			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TAYLOR FORKLIFT
FLAT BED TRUCK.

CALCULATIONS:		
POSITION TRUCK TO LOAD B-25	0.19	WITH CREW OF 3 WORKERS
LIFT B-25 ONTO TRUCK.	0.19	SAME
HAUL TO TRANSPORT. CTR.	0.45	SAME
AT TRANSPORTATION CENTER	0.36	SAME
RETURN TO QUEUING AREA.	0.45	SAME
ON-PROPERTY HAULING	1.65	HOURS

G - NON-REGULATED ACM

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL
COMMODITY: LOW LEVEL WASTE MATERIAL STAGED IN PALLETIZED BUNDELS AND SHRINK WRAPED AT THE QUEUING AREA. AFTER THE DISPOSAL CELL IS OPERATIONAL MATERIAL WILL BE STAGED IN TARPED ROB'S AT QUEUING AREA FOR PICK UP.

1. POSITION ROB TO LOAD.
2. USING SLINGS AND HYDRAULIC CRANE, LOAD PALLETIZED MATERIALS INTO ROB AND TARP WHEN FULL.
3. HAUL ROB TO ON-PROPERTY DISPOSAL CELL. (TRAVEL 1 MILE)
4. UNLOAD ROB, AND RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
LOADING ACTIVITY			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG. HOURLY RATE:	$21.35				
HANDLING AND HAULING.					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
HYDRAULIC CRANE
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES.

CALCULATIONS:		
POSITION ROB FOR LOADING	0.75	
ROB CAP.---CF	810	
UNIT RATE--MH/CF	0.015	
EST. HOURS PER ROB	12.90	
POSITION ROB ON TRUCK	0.95	
HAUL TO DISPOSAL CELL	0.46	
UNLOAD AT DISPOSAL CELL	1.15	
RETURN TO QUEUING AREA	0.46	
ON-PROPERTY HAULING	3.02	HOURS

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H – REGULATED ACM

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL STAGED IN T/L CONTAINERS AT INTERIM STORAGE AREA.

1. PREP T/L FOR UNLOADING.
2. USING A HYDRAULIC CRANE TO LIFT AND OVERTURN CONTENTS OF T/L INTO A PILE
3. USING A FRONT END LOADER TO SCOOPE UP MATERIAL AND LOAD ROB
4. LABORER CREW TO DIRECT WORK AND MAINTAIN AREA. ROB IS TARPED FOR ON-PROPERTY HAULIN
5. HAUL ROB TO ON-PROPERTY DISPOSAL CELL. (TRAVEL 1 MILE)
6. UNLOAD ROB, AND RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
T/L AND ROB LOADING ACTIVITIES			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		2.0	$22.79	$45.58	$364.64
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		7.0		$150.88	$1,207.04
AVG. HOURLY RATE:	$21.55				
HAULING AND DISPOSAL					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
HYDRAULIC CRANE
FRONT END LOADER W/ 1 CY BUCKET.
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES.

CALCULATIONS:		
PREP T/L FOR UNLOADING	10.50	WITH CREW OF 6 WORKERS
LIFT AND UNLOAD T/L	3.50	SAME
ON-PROPERTY HANDLING OF T/L	14.00	HOURS
POSITION ROB FOR LOADING	0.75	
ROB CAP.---CY	30.00	
UNIT RATE--MH/CY	0.40	
HOURS TO FILL ROB	12.75	
POSITION ROB ON TRUCK	0.95	WITH CREW OF 2 WORKERS
HAUL TO DISP. CELL	0.46	SAME
DISCHARGE LOAD	1.15	SAME
RETURN TO QUEUING AREA	0.46	SAME
ON-PROPERTY HAULING	3.02	HOURS

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I - MISCELLANEOUS MATERIALS

ON-PROPERTY DISPOSAL

COMMODITY: LOW LEVEL WASTE MATERIAL STAGED IN TARPED ROB'S AT QUEUING AREA.

1. POSITION TRUCK TO MOVE ROB
3. ROB IS HAULED TO THE ON-PROPERTY DISPOSAL CELL. (TRAVEL 1 MILE)
3. MATERIAL IS DEPOSITED AT CELL AND ROB IS RETURNED TO QUEUING AREA.

CREW SIZE:				COST	COST
ROB HANDLING AND HAULING.			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$6.11	$48.86
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$48.23	$385.82
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES.

CALCULATIONS:		
POSITION ROB ON TRUCK	0.95	WITH CREW OF 2 WORKERS
HAUL TO DISPOSAL CELL	0.46	SAME
UNLOAD AT DISPOSAL CELL	1.15	SAME
RETURN TO QUEUING AREA	0.46	SAME
ON-PROPERTY HAULING	3.02	HOURS

UNRESTRICTED RELEASE

COMMODITY: BELOW BASELINE MATERIAL STAGED VENDOR SUPPLIED ROB @ VARIOUS LOCATIONS CLOSE TO D&D CONTRACTOR WORK AREA.

1. BEFORE THE D&D CONTRACTOR IS ALLOWED TO REMOVE ANY MATERIAL IT IS SURVEYED BY FERMCO RAD-TECH'S.
2. ONCE THE AREA HAS BEEN RELEASED TO THE D&D CONTRACTOR, THE MATERIAL IS SURVEYED ON A RANDOM BASIS AS THE MATERIAL IS BEING LOADED INTO THE COMMERCIAL LANDFILL ROB.
3. AN ALLOWANCE OF FIVE (5) DAYS PER ROB TO BE FILLED AND TARPED FOR OVER THE HIGHWAY HAULING.
4. THE COMMERCIAL LANDFILL CONTRACTOR IS CONTACTED FOR A ROB PICK UP.
5. A ROB IS DROPED OFF WHEN ONE IS PICKED UP.

CREW SIZE:				COST	COST
SURVEY TECH'S.			WAGE	/HR	/8 HR DAY
RAD TECHNICIANS (3A)		1.0	$20.26	$20.26	$162.08
		1.0		$20.26	$162.08
AVG. HOURLY RATE:	$20.26				

EQUIPMENT:
RADIATION SURVEY EQUIPMENT

CALCULATIONS:		
INITAL SURVEY	0.013	PER CUBIC FOOT
RANDOM SURVEY	15.00	PER ROB LOAD

Alternative 3
Tables E.II - (14-21)
Risk Budget and Man Hour Calculations

RISK BUDGET/OVERRUN ANALYSIS OUTPUT

PROJECT: OU3 FEASIBILITY STUDY
CLIENT: DOE
CONTRACT: C3-95-01-05-R3

DATE: 07-Feb-96
BASE ESTIMATE: $152,207,800

CHANCES OF OVERRUN	PROJECT COST W/RISK BUDGET	RISK BUDGET ADDED TO BASE ESTIMATE	%RISK BUDGET OF BASE ESTIMATE
0.00%	$266,160,410	$113,952,610	74.9%
0.05%	$234,998,825	$82,791,025	54.4%
5.00%	$220,525,083	$68,317,283	***44.9%***
10.00%	$214,550,952	$62,343,152	41.0%
15.00%	$210,031,026	$57,823,226	38.0%
20.00%	$206,964,361	$54,756,561	36.0%
25.00%	$203,512,188	$51,304,388	33.7%
30.00%	$200,491,869	$48,284,069	31.7%
35.00%	$198,013,443	$45,805,643	30.1%
40.00%	$194,932,886	$42,725,086	28.1%
45.00%	$192,063,514	$39,855,714	26.2%
50.00%	$189,217,358	$37,009,558	***24.3%***
55.00%	$186,404,886	$34,197,086	22.5%
60.00%	$183,654,574	$31,446,774	20.7%
65.00%	$180,801,881	$28,594,081	18.8%
70.00%	$177,927,102	$25,719,302	16.9%
75.00%	$174,610,974	$22,403,174	14.7%
80.00%	$171,548,624	$19,340,824	12.7%
85.00%	$167,380,253	$15,172,453	10.0%
90.00%	$163,433,119	$11,225,319	7.4%
95.00%	$157,596,444	$5,388,644	3.5%
99.95%	$139,453,176	($12,754,624)	-8.4%
100.00%	$111,760,543	($40,447,257)	-26.6%

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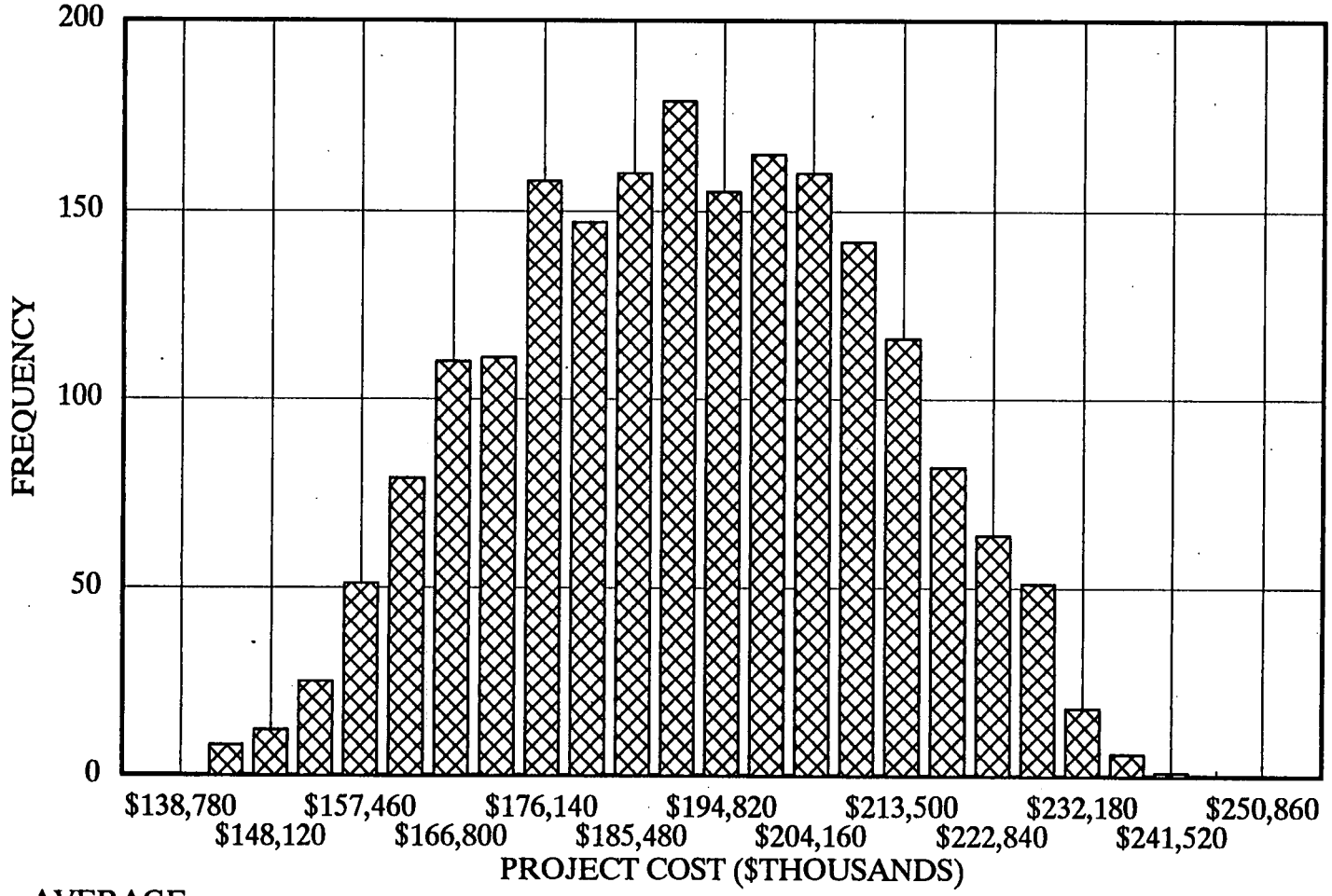
DISTRIBUTION OF 2,000 SAMPLES

OU3 FEASIBILITY STUDY



AVERAGE
$189,132,523

FERMCO RISK BUDGET ESTIMATING
INPUT DATA TABLE

PROJECT: OU3 FEASIBILITY STUDY
CLIENT: DOE
CONTRACT: C3-95-01-05-R3

ACCOUNT NO.	ITEM DESCRIPTION	ESTIMATE BASE$	LOW%	LOW$	HIGH%	HIGH$	DIST. TYPE	RELA-TIONS	RANGE FACTOR
1	ACCESSIBLE METALS – LABOR	$1,248,100	-33%	$836,227	80%	$2,246,580	U		29%
2	ACCESSIBLE METALS – S/Cs	2,549,400	-25%	1,912,050	75%	4,461,450	U		25%
3	ACCESSIBLE METALS – MAT'L	323,300	-25%	242,475	65%	533,445	U		28%
4	INACCESSIBLE METALS – LABOR	7,035,800	-33%	4,713,986	80%	12,664,440	U		29%
5	INACCESSIBLE METALS – S/Cs	24,140,600	-25%	18,105,450	75%	42,246,050	U		25%
6	INACCESSIBLE METALS – MAT'L	1,845,100	-25%	1,383,825	65%	3,044,415	U		28%
7	PROCESS RELATED METALS – LABOR	215,700	-33%	144,519	80%	388,260	U		29%
8	PROCESS RELATED METALS – S/Cs	13,370,600	-25%	10,027,950	75%	23,398,550	U		25%
9	PROCESS RELATED METALS – MAT'L	2,997,200	-25%	2,247,900	65%	4,945,380	U		28%
10	PAINTED LIGHT GAUGE METALS – LABOR	64,600	-33%	43,282	80%	116,280	U		29%
11	PAINTED LIGHT GAUGE METALS – S/Cs	164,000	-25%	123,000	80%	295,200	U		24%
12	PAINTED LIGHT GAUGE METALS – MAT'L	22,000	-25%	16,500	65%	36,300	U		28%
13	CONCRETE – LABOR	14,490,600	-33%	9,708,702	80%	26,083,080	U		29%
14	CONCRETE – S/Cs	57,462,800	-25%	43,097,100	75%	100,559,900	U		25%
15	CONCRETE – MAT'L	3,798,500	-25%	2,848,875	65%	6,267,525	U		28%
16	BRICK – LABOR	64,700	-33%	43,349	80%	116,460	U		29%
17	BRICK – S/Cs	789,000	-25%	591,750	75%	1,380,750	U		25%
18	BRICK – MAT'L	27,800	-25%	20,850	65%	45,870	U		28%
19	NON-REGULATED ACM – LABOR	191,300	-33%	128,171	80%	344,340	U		29%
20	NON-REGULATED ACM – S/Cs	823,300	-25%	617,475	75%	1,440,775	U		25%
21	NON-REGULATED ACM – MAT'L	55,600	-25%	41,700	65%	91,740	U		28%
22	REGULATED ACM – LABOR	245,000	-33%	164,150	80%	441,000	U		29%
23	REGULATED ACM – S/Cs	976,700	-25%	732,525	75%	1,709,225	U		25%
24	REGULATED ACM – MAT'L	68,400	-25%	51,300	65%	112,860	U		28%
25	MISCELLANEOUS COSTS – LABOR	1,126,600	-33%	754,822	80%	2,027,880	U		29%
26	MISCELLANEOUS COSTS – S/Cs	4,348,400	-25%	3,261,300	75%	7,609,700	U		25%
27	MISCELLANEOUS COSTS – MAT'L	216,700	-25%	162,525	65%	357,555	U		28%
28	FIELD SUPPORT COSTS – LABOR	3,219,000	-25%	2,414,250	60%	5,150,400	U		29%
29	FIELD SUPPORT COSTS – S/Cs	545,000	-25%	408,750	70%	926,500	U		26%
30	FIELD SUPPORT COSTS – MAT'L	8,414,300	-30%	5,890,010	75%	14,725,025	U		29%
31	SALES TAX – MAT'L	1,367,700	-25%	1,025,775	75%	2,393,475	U		25%
32				0		0			0%
33				0		0			0%
34				0		0			0%
35				0		0			0%
36				0		0			0%
37				0		0			0%
38				0		0			0%
39				0		0			0%
40				0		0			0%
41				0		0			0%
42				0		0			0%
43				0		0			0%
44				0		0			0%
45	C:\RISK\CRU3\1996\C39517R4.WK3			0		0			0%
		$152,207,800		$111,760,543		$266,160,410			

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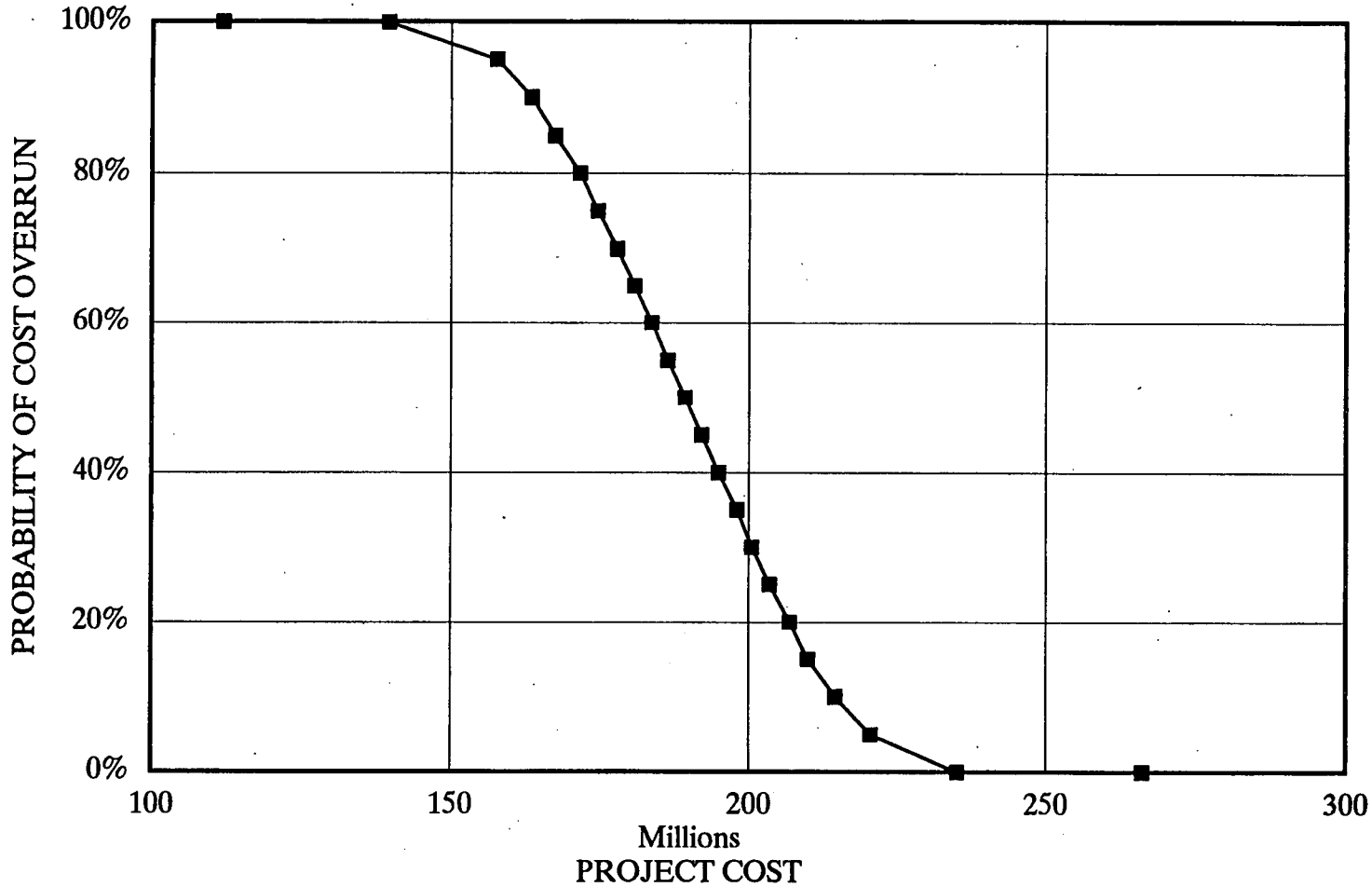
CUMULATIVE OVERRUN CURVE

OU3 FEASIBILITY STUDY



BASE ESTIMATE:
$152,207,800

A - ACCESSIBLE METALS
B - INACCESSIBLE METALS
E - CONCRETE
F - BRICK MATERIALS
G - NON-REGULATED ACM
H - REGULATED ACM

OFF-SITE DISPOSAL - ENVIROCARE

COMMODITY: LOW LEVEL WASTE MATERIALS ARE STAGED IN I.T.C. @ INTERIM QUEUING AREA.

1. POSITION TRUCK TO MOVE INTERMODAL TRANSPORT CONTAINERS
2. HAUL INTERMODAL TRANSPORT CONTAINER TO TRANSPORTATION CENTER. (TRAVEL 1 MILE)
3. WEIGH, CERTIFICATION AND LOAD ONTO ARTICULATED CONTAINER RAIL CAR.
4. TRUCK RETURNS TO QUEUING AREA.

CREW SIZE:				COST	COST
INTERMODAL TRANSPORT CONTAINER HANDLING			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG. HOURLY RATE:	$21.35				
INTERMODAL TRANSPORT CONTAINER HAULING					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
LABORER FOREMAN		0.3	$21.06	$5.27	$42.12
LABORER		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
INTERMODAL TRANSPORT CONTAINER LOADING EQUIPMENT (PIGGY PACKER)

CALCULATIONS:		
SECURE I.T.C. ON R.R. CAR	7.50	WITH CREW OF 6 WORKERS
POSITION I.T.C. ON TRUCK	0.75	WITH CREW OF 2 WORKERS
HAUL TO TRANSPORTATION CENTER	0.45	WITH CREW OF 2 WORKERS
WEIGH, CERTIFICATION	0.75	WITH CREW OF 2 WORKERS
RETURN TO QUEUING AREA	0.45	WITH CREW OF 2 WORKERS
ON-PROPERTY HAULING	2.40	HOURS

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C - PROCESS RELATED METALS

OFF-SITE DISPOSAL - NTS

COMMODITY: LOW LEVEL WASTE MATERIALS, STAGED IN LWMB FOR OFF-SITE BURIAL

1. POSITION TRUCK TO LOAD LWMB AND HAUL TO TRANSPORTATION CENTER.
2. WEIGH, CERTIFICATION & LOAD ON TO TRANSPORTATION CARRIER.
3 RETURN TO QUEUING AREA. (TRAVEL 1 MILE)

CREW SIZE:				COST	COST
ON-PROPERTY HANDLING & HAULING ACTIVITIES.			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TRUCK

CALCULATIONS:		
LOAD LWMB ONTO TRUCK	0.75	SAME
HAUL TO TRANSPORTATION CENTER	0.45	SAME
AT TRANSPORTATION CENTER	0.75	SAME
RETURN TO QUEUING AREA.	0.45	SAME
ON-PROPERTY HAULING	2.40	HOURS

D - PAINTED LIGHT GAUGE METALS

OFF-SITE DISPOSITION DISPOSAL - ENVIROCARE

COMMODITY: LOW LEVEL WASTE MATERIAL STAGED IN COVERED INTERMODAL TRANSPORT CONTAINERS STAGED AT THE QUEUING AREA.

1. POSITION TRUCK TO MOVE INTERMODAL TRANSPORT CONTAINERS.
2. HAUL I.T.C. TO TRANSPORTATION CENTER. (TRAVEL 1 MILE)
3. WEIGH, CERTIFICATION AND LOAD ONTO ARTICULATED CONTAINER CAR.
4. TRUCK RETURNS TO QUEUING AREA.

CREW SIZE:				COST	COST
INTERMODAL TRANSPORT CONTAINER HANDLING			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG HOURLY RATE:	$21.35				
HANDLING AND HAULING			WAGE	/HR	/8 HR DAY
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG HOURLY RATE:	$21.06				

EQUIPMENT:
INTERMODAL TRANSPORT CONTAINER LOADING EQUIPMENT.
TRUCK EQUIPED WITH ROB LOADING / DUMPING CAPABILITIES

CALCULATIONS:		
SECURE I.T.C. ON R.R. CAR	7.50	
POSITION ROB ON TRUCK.	0.75	WITH CREW OF 2 WORKERS
HAUL TO TRANSPORTATION CTR.	0.45	SAME
AT TRANSPORTATION CENTER.	0.75	SAME
RETURN TO QUEUING AREA.	0.45	SAME
ON-PROPERTY HAULING	2.40	HOURS

OFF-SITE DISPOSITION DISPOSAL - ENVIROCARE

COMMODITY: POTENTIALLY MIXED WASTE MATERIAL STAGED IN B-12's.

1. POSITION FLAT BED TRUCK TO LOAD CONTAINERS
2. HAUL TO THE TRANSPORTATION CENTER. (TRAVEL 1 MILE)
3. WEIGH, CERTIFICATION & LOAD ONTO TRANSPORTATION CARRIER.
4. RETURN TO QUEUING AREA.

CREW SIZE:				COST	COST
MATERIAL HANDLING / HAULING			WAGE	/HR	/8 HR DAY
B-12 HAULING AND HANDLING					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
TAYLOR FORKLIFT
FLAT BED TRUCK.

CALCULATIONS:		
HAUL TO TRANSPORTATION CENTER	0.45	SAME
AT TRANSPORTATION CENTER	0.75	SAME
RETURN TO QUEUING AREA	0.45	SAME
ON-PROPERTY HAULING	1.65	HOURS

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I - MISCELLANIOUS MATERIALS

OFF-SITE DISPOSAL - ENVIOCARE

COMMODITY: LOW LEVEL WASTE MATERIALS ARE STAGED IN I.T.C. @ QUEUING AREA.

1. POSITION TRUCK TO MOVE INTERMODAL TRANSPORT CONTAINER.
2. HAUL INTERMODAL TRANSPORT CONTAINER TO TRANSPORTATION CENTER. (TRAVEL 1 MILE)
3. WEIGH, CERTIFICATION AND LOAD ONTO ARTICULATED CONTAINER RAIL CAR.
4. TRUCK RETURNS TO QUEUING AREA.

CREW SIZE:				COST	COST
I.T.C. LOADING ACTIVITY ONTO RAIL CAR			WAGE	/HR	/8 HR DAY
EQUIPMENT OPERATOR		1.0	$22.79	$22.79	$182.32
HAZWAT LEAD		1.0	$21.06	$21.06	$168.48
HAZWAT		4.0	$21.06	$84.24	$673.92
		6.0		$128.09	$1,024.72
AVG. HOURLY RATE:	$21.35				
I.T.C. HAULING ACTIVITIES.					
MOTOR VEHICAL OPERATOR		1.0	$21.06	$21.06	$168.48
HAZWAT LEAD		0.3	$21.06	$5.27	$42.12
HAZWAT		1.0	$21.06	$21.06	$168.48
		2.3		$47.39	$379.08
AVG. HOURLY RATE:	$21.06				

EQUIPMENT:
INTERMODAL TRANSPORT CONTAINER LOADING EQUIPMENT
TRUCK EQUIPED WITH ROB OR I.T.C LOADING / DUMPING CAPABILITIES.

CALCULATIONS:		
SECURE WASTE PACKER ON R.R. CAR	7.50	WITH CREW OF 6 WORKERS
POSITION W.P. ON TRUCK	0.75	WITH CREW OF 2 WORKERS
HAUL TO TRANSPORTATION CENTER	0.45	WITH CREW OF 2 WORKERS
WEIGH, CERTIFICATION	0.75	WITH CREW OF 2 WORKERS
RETURN TO STORAGE AREA	0.45	WITH CREW OF 2 WORKERS
ON-PROPERTY HAULING	2.40	HOURS

UNRESTRICTED RELEASE TO COMMERCIAL LANDFILL

COMMODITY: BELOW BASELINE MATERIAL STAGED IN VENDOR SUPPLIED ROB @ VARIOUS LOCATIONS CLOSE TO D&D CONTRACTOR WORK AREA.

1. BEFORE D&D CONTRACTOR IS ALLOWED TO REMOVE ANY MATERIALIT IS SURVEYED BY FERMCO RAD-TECH'S.
2. ONCE THE AREA HAS BEEN RELEASED TO THE D&D CONTRACTOR THE MATERIAL IS SURVEYED ON A RANDOM BASIS AS THE MATERIAL IS BEING LOADED INTO THE COMMERCIAL LANDFILL ROB.
3. AN ALLOWANCE OF FIVE (5) DAYS PER ROB TO BE FILLED AND TARPED FOR OVER THE HIGHWAY TRAVEL.
4. THE COMMERCIAL LANDFILL CONTRACTOR IS CONTACTED FOR A ROB PICK UP.
5. A ROB IS DROPED OFF WHEN ONE IS PICKED UP.

CREW SIZE:				COST	COST
SURVEY TECH'S			WAGE	/HR	/8 HR DAY
RAD TECHNICIANS (3A)		3.0	$19.25	$57.75	$462.00
		3.0		$57.75	$462.00
AVG. HOURLY RATE:	$19.25				

EQUIPMENT:
RADIATION SURVEY EQUIPMENT

CALCULATIONS:	
INITIAL SURVEY	0.013
RANDOM SURVEY	15.00

Appendix F

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LIST OF ACRONYMS AND ABBREVIATIONS

DOE	United States Department of Energy
DOE-NV	United States Department of Energy - Nevada Field Office (Las Vegas, Nevada)
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
GRA	general response action
LARW	Low Activity Radioactive Waste
LDR	Land Disposal Restriction(s)/Restricted
LLW	low-level radioactive waste
MW	mixed waste
NEPA	National Environmental Policy Act (DOE 5440.1C, April 9, 1985)
NORM	Naturally Occurring Radioactive Material
NTS	Nevada Test Site
PCB	polychlorinated biphenyl(s)
RCRA	Resource Conservation and Recovery Act, 1976 (Title 42)
TSCA	Toxic Substance Control Act
WAC	waste acceptance criteria

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F.0 OFF-SITE DISPOSITION REQUIREMENTS AND CRITERIA

This appendix summarizes the waste acceptance criteria (WAC) of two representative facilities currently being considered for the off-site disposal options. The WAC are based on each facility's requirements as well as federal, state and local laws and regulations. In addition, this appendix identifies the steps necessary to comply with the requirements of each facility's WAC. Since this site is a government project, all contracts for commercial disposal facilities are subject to United States Department of Energy (DOE) procurement policies and the National Environmental Policy Act (NEPA) review. The facilities discussed within this section are intended as representative to support the evaluation to determine the availability and/or acceptability of a representative off-site facility. Due to DOE procurement practices, any facility meeting the requirements as specified within the alternatives and within this appendix are capable of bidding on the contract for off-site disposal of these wastes.

F.1 GENERAL INFORMATION FOR POTENTIAL DISPOSAL FACILITIES

Two existing facilities have been identified as potential recipients of contaminated material resulting from the Operable Unit 3 (OU3) final remedial action. One facility is the Nevada Test Site (NTS), owned and operated by the DOE. The second site is Envirocare of Utah, a permitted commercial disposal facility at Clive, Utah. The WAC of the Clive site are used as representative of a commercial operation, considering that during the course of the remedial action, other similar commercial disposal facilities may be identified as potential recipients of OU3 waste materials.

F.1.1 Nevada Test Site

The NTS is located in Nye County, Nevada, with the southeast corner lying about 65 miles northwest of Las Vegas. The NTS encompasses about 1,350 square miles, an area larger than the State of Rhode Island. Dimensions vary from 28 to 35 miles in width (eastern to western border) and from 40 to 55 miles in length (northern to southern border). The NTS is surrounded on the east, north, and west sides by public access exclusion areas that provide a buffer zone between the test areas and public lands.

The NTS has been the primary location for testing the nation's nuclear explosive devices since January, 1951. The NTS is owned and operated by the DOE as the on-continent nuclear weapons test site. Since 1978, the NTS has also served as a major disposal facility for low-level radioactive waste (LLW) generated at the facility and other DOE sites. The majority of the waste is placed in shallow pits and trenches for disposal. The shallow pits are subsidence craters formed as a result of subsurface nuclear bomb testing.

The Fernald Environmental Management Project (FEMP) has been shipping LLW to NTS since August, 1984. Shipments have historically consisted of backlog LLW that has accumulated since on-site disposal ceased in 1986. Under the FEMP's current operating application to NTS (FEMP Application to Ship Waste to the NTS, Rev. 1, June 1992), the FEMP is approved to ship ten waste streams, consisting of historical and backlog LLW, to NTS. Mixed waste (MW), transuranic and transuranic mixed waste, friable asbestos containing materials, and poly-chlorinated biphenyl (PCB) wastes greater than 50 parts per million (ppm) are excluded under the FEMP's current application at this time. Other than the waste streams listed above, all construction debris generated by the interim remedial action is expected to fall within the existing approved waste streams under the NTS application. For the excluded waste streams, a revision to this application would be required to allow for disposal at NTS.

F.1.2 Envirocare of Utah Commercial Disposal Facility

The Envirocare of Utah commercial disposal facility is located on the eastern edge of the Great Salt Lake Desert, three miles west of the Cedar Mountains, near Clive, Utah, adjacent to the Vitro Uranium Mill Tailings Remedial Action Project disposal cell. The desert area extends for approximately 60 miles from the Nevada border on the west to a series of north-south trending mountain ranges on the east. A ten-mile area of state-owned land surrounds the site, which is rarely used for recreational purposes because it is extremely remote from urbanized centers.

On February 2, 1988, Envirocare received its license for the disposal of naturally occurring radioactive material (NORM) and later for LLW and MW. The site meets the requirements of 40 CFR 192 - "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings," and the Utah Radiation Control Rules of R447-25, which conforms to 10 CFR 61 - "License Requirements for Land Disposal of Radioactive Waste." The facility also holds a Resource Conservation and Recovery Act (RCRA) Part B Permit from the Utah Division of Solid and Hazardous Waste. The permit allows the facility to accept, treat, and dispose of solid mixed waste that requires stabilization in order to meet Land Disposal Restrictions (LDRs). The total developed and permitted capacity of the facility is 2.5 million cubic yards (yd^3). Of this capacity, 0.5 million yd^3 are subject to contractual commitments, leaving 1.5 million yd^3 available. The OU1 selected remedy calls for the shipment of 630,000 yd^3 to this facility. The facility's available capacity could be expanded, but this would require a revision to its current permit.

F.2 REQUIREMENTS AND CRITERIA FOR OFF-SITE DISPOSAL FACILITIES

F.2.1 Nevada Test Site

The DOE's Nevada Field Office (DOE-NV) establishes the NTS general criteria and requirements for waste certification and transfer under document number NVO-325. NVO-325 establishes procedures, requirements, and criteria for safe transfer and disposal of LLW and MW, and storage of transuranic and transuranic mixed waste at the NTS. The NTS criteria are consistent, and in compliance, with DOE Order 5820.2A, "Radioactive Waste Management," and all applicable federal, state, and local regulatory requirements. The NTS may only accept waste from generators designated by DOE-Headquarters and approved by DOE-NV.

Before shipping waste to the NTS, the generator must complete the application process and obtain DOE-NV approval. As part of the application process, the applicant must provide general information such as facility location, operating information, organizational charts, plans for waste handling and traceability, waste minimization plan, and funding, as well as specific information on the waste streams to be dispositioned at the facility. Waste stream information requirements include radiological and chemical characterization of the waste. Once the application is approved, changes or additions to the application can be made. DOE-NV will also conduct annual audits at the generating facility to ensure compliance with its criteria.

Waste Characterization

As part of the NTS criteria, a generator is required to demonstrate compliance with 40 CFR 261 through 268 and to provide information required under DOE Order 5820.2A for a performance assessment of the waste disposal site.

The NTS will not accept waste regulated as hazardous waste under RCRA or waste containing 50 ppm or more of PCBs which are regulated under the Toxic Substances Control Act (TSCA). All regulated (friable) asbestos waste must be segregated into a separate waste stream and must meet all requirements on regulated asbestos (40 CFR 61.140 through 61.157). However, the NTS is currently

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not accepting regulated asbestos materials since it currently does not have a state-approved TSCA permit for these materials. Further information on NTS requirements for the FEMP is included in the FEMP Application to Ship Waste to the NTS, Rev. 1, June 1992. Process knowledge and/or sampling and analysis may be used to demonstrate compliance with these requirements. All waste streams considered for shipment to NTS must have a sampling and analysis plan generated for each specific waste stream; the plan must be submitted to, and approved by, DOE-NV prior to sampling the waste stream. A detailed guidance on preparation of the plan is provided in NVO-325.

Waste Stream Information

The NTS requires the generator to provide specific information for each waste stream that will be dispositioned at the facility. Physical data (such as particle size, moisture content, and waste form) and chemical data (such as radiological and hazardous) must be provided for each waste stream being offered for disposal. As one approved application to NTS states, "The FEMP is required to report the following radioactive constituents from dry solid demolition materials from maintenance, construction, remedial and/or removal actions which generate soils, gravel, concrete, scrap wood, scrap metal, plastic, paper, glass and asphalt:

- U-238: 0.1% to 1.0% total U
- U-235: 0.2% to 1.0% on a total U basis
- U-234: 0.001% to 0.01% on a total U basis."

In addition, the generator is required to submit a three-year forecast summary for each waste stream to be shipped that includes information such as container type and size, number of shipments, and expected volume to be shipped.

Waste Certification

The NTS requires generators to develop a waste certification program to ensure that all WAC are met. The program must be documented in the waste certification program plan, which defines the generator's quality assurance program as it applies to waste certification and characterization. The NTS requires the generator to designate a waste certification official to certify that all criteria are met before shipment. The FEMP may also designate a package certifier, who must be independent of waste generation activities, and who certifies that the package to be shipped and its contents meet United States Department of Transportation (DOT), DOE, and Environmental Protection Agency (EPA) requirements.

F.2.2 Envirocare of Utah Commercial Disposal Facility

The Envirocare of Utah commercial disposal facility confirms compliance with its criteria through an application process. The Envirocare of Utah Material Acceptance Process Manual establishes procedures, requirements, and criteria for safe transfer and disposal of NORM/Low Activity Radioactive Waste (LARW) and MW material. Table F-1 lists the radionuclide constituents of concern for OU3 at the FEMP and the maximum average concentrations permissible in waste disposed of at Envirocare of Utah. Mixed waste loads must not exceed the maximum limits as stated in Table F-1 or they will be rejected by Envirocare. If a low-level waste load exceeds these maximum limits, this material may be blended and values averaged.

Before shipping waste to the facility, the generator is required to complete several forms as appropriate, which include but may not be limited to: low-activity profile sheet (EC-0200), physical properties form (EC-0500), radiological evaluation (EC-0650), and/or a mixed waste profile form (EC-0175). Each form requests specific information about the waste stream and establishes sampling and analysis requirements. All RCRA analyses must be performed by a Utah-certified laboratory.

Radiological analysis may be performed on-site if at least ten percent of the samples are sent to a Utah certified laboratory for Quality Assurance (QA) purposes. Five two-pound, pre-shipment grab samples must be taken and sent to Envirocare for additional analysis. Once a generator has completed the appropriate forms, submitted analytical lab results and pre-shipment samples and received Envirocare's approval, waste shipments may begin. Envirocare of Utah's Material Acceptance Process Manual has further information on sampling and analysis requirements.

The radioactive materials license for the facility also places restrictions on the amount of waste the facility may have in active processing, maximum quantities of special nuclear material that may be handled, and maximum concentrations of mixtures of radionuclides that may be present in each waste stream.

Waste Characterization

The facility's radioactive material license, granted by the Utah Department of Environmental Quality, Division of Radiation Control, establishes maximum average concentrations permissible in the waste that is to be dispositioned. Concentrations are considered by individual isotope. If the waste is natural or depleted uranium, it must be under a specified activity level.

The facility is permitted by the Utah Bureau of Solid and Hazardous Waste to accept NORM/LARW and MW for disposal. Hazardous waste on the permit includes all D-characteristic waste and most F-, P-, U- and K-listed wastes. The facility is not permitted to accept any F-listed dioxins for disposal (refer to 40 CFR 261.21 through 261.33 for waste code definitions). The waste profile forms that must be completed before shipment provide the facility with the appropriate information to ensure compliance with these requirements prior to shipment. The generator is also required to send a waste sample to verify that all WAC are met.

Waste Certification

The facility is responsible for waste certification under the terms of its license. The facility maintains a waste characterization plan that establishes the procedures for characterizing, sampling, and accepting incoming shipments at the facility. The first step is the generator's waste characterization, as explained above.

In order for Envirocare to determine the range of tolerances or parameters for a particular waste stream, the generator must send five two-pound samples of the waste stream to be shipped. Ideally, these samples should represent the high and low ranges for all radiological and RCRA constituents for this waste stream. For example, these samples should include two (2) high range, two (2) low range and one (1) middle range. The next step requires Envirocare to analyze the pre-shipment samples of the incoming waste for radiological and chemical parameters. The results of the analyses will be used to establish the range of tolerance, or parameters (High/Low range) for the FEMP's incoming waste shipments to Envirocare. These ranges are based on current LDRs per 40 CFR 268, Envirocare's current RCRA Part B permit, and current radioactive materials license (UT # 2300249). The facility then accepts or rejects the shipment based on the analytical results and its determined range of tolerances, regulated by current LDRs and Envirocare's radiological and RCRA license, which will serve as this particular waste stream's WAC for this particular shipment. If all required analyses fall within acceptable tolerance ranges, Envirocare approves shipment and sends a notice of transport to the generator.

Before the waste is unloaded at the facility, Envirocare will visually inspect the incoming shipments and take samples for "fingerprinting" analysis and independent third party analysis. Fingerprint analyses of the random samples must fall within the pre-determined parameters (High/Low range) or

tolerance ranges set forth as discussed previously. Once fingerprint parameters are verified, unloading and final disposition takes place. If fingerprint analyses fall outside these parameters, Envirocare may require written and/or verbal explanation as to the reasons for this occurrence and/or may require a full Hazardous Solid Waste Amendment (HSWA) analysis. Envirocare will then determine if rejection of the shipment is necessary.

F.2.3 Compliance with Waste Acceptance Criteria

Tables F-2 through F-4 provide specific waste acceptance requirements for NTS and Envirocare. The tables identify specific parameters each facility will use to determine if incoming waste is acceptable for disposal.

F.3 GENERAL INFORMATION FOR POTENTIAL ALTERNATE DISPOSITION OF MATERIAL

Unrestricted release and recycling have been identified as potential remedial technologies under the disposition general response action (GRA) for some materials resulting from the OU3 interim remedial action. The following discussion will highlight specific site, state, and federal requirements for the unrestricted release and recycling options.

F.3.1 Unrestricted Release

FEMP Site Procedure SP-P-35-010 - "Unrestricted Release of Materials from the FEMP" - and DOE Order 5400.5 - "Radiation Protection of the Public and the Environment" - establish requirements for the unrestricted release of materials from the FEMP. The text below reiterates the qualitative discussion within these procedures. This discussion does not apply to the release of liquids or bulk material such as soil and concrete. The material which will be considered for unrestricted release includes all non-porous materials (e.g., steel, tools, office equipment, etc.) and porous material (e.g., concrete and cinder blocks). The two potential unrestricted release process options are Subtitle D landfill (solid waste landfill) and reuse/recycle. Appendix D provides more detail on the disposition GRA and related remedial technologies and process options. A description of the process options for the unrestricted release remedial technology is provided below.

Sanitary Landfill - Subtitle D

The first process option under unrestricted release is release to a Subtitle D Landfill (Solid Waste Landfill). Materials following this path would typically be non-recoverable (no inherent or salvage value) materials and would be able to meet unrestricted release limits shown in Table F-5.

Reuse/Recycle

The second process option under unrestricted release is reuse or recycle. The reuse of an unrestricted release material would be the further use of a material for its original or a modified purpose. The recycling of an unrestricted release material would be the application of some treatment or process to modify the material (i.e. configuration) for further use.

Recyclable materials which are non-contaminated initially can be administratively released from the FEMP. Materials in this category include metals from facilities outside the FEMP Production Area which have not been contaminated by site production activities. Release of these materials requires random statistical radiological surveys for verification.

The predominant radionuclides of concern at the FEMP are natural and slightly-enriched uranium and their short-lived decay products. Contamination with thorium and radium is also possible in some areas.

Acceptable surface contamination limits for known radionuclides are set forth in Table F-5. Surveys for removable contamination need not be performed when direct survey indicates contamination levels are below the removable contamination limits.

Surveys are conducted using hand-held monitoring equipment according to FEMP procedure SP-P-35-023, "Radiological Contamination Surveys." Materials with inaccessible surfaces which are likely to be contaminated, but are of such size, construction, or location as to make them inaccessible for survey, shall be assumed to exceed the limits, making them ineligible for unrestricted release.

F.3.2 Restricted Release

Restricted Recycling/Reuse

This process option under the disposition GRA considers the possible restricted recycling/reuse of a radioactively contaminated material for its original purpose or a modified purpose. Items such as radiologically contaminated equipment deemed recoverable/salvageable would fall under this process option. In addition, office trailers from the Production Area could fall under this process option if a further use were identified within DOE control.

REFERENCES

Envirocare of Utah, "Material Acceptance Process Manual."

FEMP Site Procedure SP-P-35-010, "Unrestricted Release of Materials from the FEMP."

FEMP Site Procedure SP-P-35-023, "Radiological Contamination Surveys."

U.S. Department of Energy (DOE), June 1992, "FEMP Application to Ship Waste to the NTS," Rev. 1.

U.S. Department of Energy (DOE), DOE Order 5400.5, "Radiation Protection of the Public and the Environment," Office of Environment, Safety, and Health (February 1990).

U.S. Department of Energy (DOE), DOE Order 5820.2A, "Radioactive Waste Management."

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TABLE F-1

CHARACTERIZATION OF WASTE FOR DISPOSAL AT ENVIROCARE OF UTAH DISPOSAL FACILITY

RADIONUCLIDE CONSTITUENTS OF CONCERN	MAXIMUM AVERAGE CONCENTRATION IN WASTE FOR DISPOSAL (pCi/gm)
Americium-241	2.3E + 02
Cesium-137	5.6E + 02
Lead-210	2.3E + 05
Neptunium-237	2.0E + 03
Plutonium-238	1.0E + 04
Plutonium-239	9.9E + 03
Plutonium-240	1.0E + 04
Plutonium-241	3.5E + 05
Polonium-210	2.0E + 04
Radium-226	2.0E + 03
Radium-228	1.8E + 03
Strontium-90	2.0E + 04
Technetium-99	1.0E + 05
Thorium-228	6.8E + 02
Thorium-230	1.5E + 04
Thorium-232	6.8E + 02
Uranium-234	3.7E + 04
Uranium-235	7.7E + 02
Uranium-236	3.6E + 04
Uranium-238	2.8E + 04

TABLE F-2

COMPLIANCE WITH GENERAL CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Packaging	Packaging must be strong and tight and of a type used specifically for shipping low-specific-activity waste. Type A packaging must meet the requirements of 49 CFR 173.411 and 49 CFR 173.412. Type A packaging must also meet certification requirements of MLM- 3245. Type B packaging must meet the requirements of 10 CFR 71.	Licensed material shall not be dispositioned unless concentrations of radionuclides are appropriately homogeneous with the physical form of the waste. Bulk shipment of waste is preferred. Dept. of Transportation (DOT) packaging requirements are applicable.	The waste shipment program for NTS can be easily developed for compliance with the referenced requirements. Shipment to Envirocare of Utah permitted commercial disposal facility would be in bulk by rail. Containerization in bags and covered rail cars would meet DOT packaging requirements.
Bulk	Only low-level waste (LLW) is accepted in bulk and must be shipped in closed transport vehicles. Bulk waste is to be contained such that personnel can off load the waste without contaminating personnel or equipment. Bulk waste must meet the requirements of 49 CFR 173.425. Bulk waste containers may be returned to the waste generator. Mixed Waste (MW) is excluded from the FEMP's application.	LLW and MW may be shipped as volumetric bulky materials or structural debris.	Materials shipped to Envirocare would be transported in bulk and would meet the moisture content requirement. Decon washing residuals may require drying or the addition of adsorbents to meet free liquid requirements.
Criticality	The quantity of fissile material within a package shall be limited so that an infinite array of such packages will remain subcritical. The quantity of fissile material shall be determined on the basis of a waste-specific nuclear safety analysis (49 CFR 173.451).	Envirocare of Utah facility limits on radionuclide concentrations in wastes preclude criticality concerns.	The radiological characteristics of the OU3 materials and the envisioned characteristics of treatment residuals preclude criticality concerns on a per shipment basis.

TABLE F-2 (Continued)

COMPLIANCE WITH GENERAL CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Decay heat	The quantity of radioactive material in a package or waste matrix shall be limited to the extent that the effects of nuclear decay heat will not adversely affect the physical integrity of a package or the chemical stability of its contents or the waste matrix generally (49 CFR 173.442).	Envirocare of Utah limits on radionuclide concentrations in wastes preclude decay heat concerns.	The radiological characteristics of the OU3 materials and the envisioned characteristics of treatment residuals preclude decay heat concerns on a per shipment basis.
Radiation	The external radiation levels for packages shall not exceed 200 mrem/hr on contact during handling, shipment, and disposal (49 CFR 173.441). DOT regulatory exceptions will be acceptable on a case-by- case basis. Type B containers that require remote handling will be addressed on a case-by-case basis.	DOT requirements are applicable.	Waste shipment certification shall be implemented to comply with this requirement.
External contamination	Packages shall be within DOT contamination limits upon receipt at NTS (49 CFR 173.443).	DOT requirements are applicable for incoming vehicles or equipment.	Shipments will be made such that all DOT requirements are met. A shipment certification program shall be developed accordingly.
Activity	Transport requirements for LLW shall be met for strong, tight packages (49 CFR 173.421, 49 CFR 173.425). Where applicable, activity limits for Type A and Type B packages shall be met (49 CFR 173.431).	Allowable radionuclide activity levels are lower than DOT allowable.	Shipments to NTS would meet all DOT packaging requirements. Representative facility activity levels for shipment would be met to preclude DOT concerns.
Multiple Hazards	Material shall be packaged according to the most severe level of hazard (49 CFR 173.2).	DOT requirements are applicable.	Shipments will be made such that all DOT requirements are met.

TABLE F-2 (Continued)

COMPLIANCE WITH GENERAL CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Marking/Labeling	All waste received from off-site generators shall be marked and labeled (49 CFR 172). MW packages of 110 gallons or less shall be marked in accordance with 49 CFR 262.32(b). Chemically hazardous material shall be labeled in accordance with 49 CFR 173.2. All packages shall be marked with a unique package identifier. Bar coding denoting shipment, package, and waste stream identification is required. Bulk waste shipments must be accompanied by appropriate waste identification documentation.	DOT requirements are applicable.	All shipments will meet DOT requirements for marking and labeling.

TABLE F-3

COMPLIANCE WITH PACKAGE SPECIFIC CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Closure	The package closure shall not be breached under normal handling conditions and shall not be the weakest structural element in the package.	DOT requirements are applicable.	Shipments to NTS would meet DOT container requirements; bulk shipments to the Envirocare facility would meet DOT requirements for bulk shipping.
Strength	Packages (contents considered) shall be capable of supporting a uniformly distributed load of 4,000 psf on any of the surfaces. (Sea/land containers, steel drums and bulk waste are exempt from this requirement.)	DOT requirements are applicable.	Shipments to NTS would meet DOT container requirements; bulk shipments to the Envirocare facility would meet DOT requirements for bulk shipping.
Handling	All waste packages shall be provided with a permanently attached auxiliary lifting device to allow lifting by means of forklift, crane, or similar equipment. Auxiliary Lifting devices on the packages must not inhibit the stacking ability of the package. Lifting devices must have a 5:1 safety factor based on the devices ultimate strength.	DOT requirements are applicable.	Bulk shipments to the Envirocare facility would meet DOT requirements for bulk rail shipping. Because the Fernald Environmental Management Project (FEMP) is currently shipping waste to NTS, compliance with the handling and shipping container safety requirements has been implemented.

TABLE F-3 (Continued)

COMPLIANCE WITH PACKAGE SPECIFIC CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Size	Department of Energy-Nevada Field Office (DOE-NV) recommends that 4x4x7 or 4x2x7 boxes, 55 gallon drums, or DOT approved sea/land containers be used. Other size containers are acceptable with approval of DOE/NV.	Bulk or packaged waste is permitted. Unpackaged debris shall be less than 10 inches in at least one dimension and no longer than 8 feet in any other dimension.	Bulk shipments to the Envirocare facility would be treated before shipment to ensure compliance with size requirements. Because the FEMP is currently shipping waste to NTS, compliance with the size requirements has been implemented.
Weight	NTS imposes limits of 9,000 pounds (4,082 kg) per box and 1,200 pounds (544 kg) per 55 gallon drum. Packages in excess of 9,000 lbs will result in additional disposal cost to the waste generator.	DOT requirements are applicable.	Bulk shipments to the Envirocare facility would meet DOT requirements for bulk rail shipping. Because the FEMP is currently shipping waste to NTS, compliance with the container weight requirements has been implemented.
Void Space	Waste packages shall be loaded to ensure that the interior is as efficiently and compactly loaded as practical. Void spaces should be minimized.	Void space in packages should be minimized.	Disposal at the Envirocare facility would be in bulk; therefore, void space requirements for containers do not apply. For disposal at NTS, void spaces will be limited during packaging as materials are generated.

TABLE F-3 (Continued)

COMPLIANCE WITH PACKAGE SPECIFIC CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Nonstandard Type A Packagings	Use of DOT Type A packages not previously evaluated under the DOE Type A Package Certification Program will not be accepted.	DOT requirements are applicable.	Shipments to NTS would meet DOT container requirements - waste would not be shipped in packaging not evaluated under the DOE program; shipments to the Envirocare facility would meet DOT requirements for bulk shipping.
Packaging Protection	Each waste package shall be prepared for shipment so as to minimize damage during transit. Pre-shipment shall be controlled to avoid adverse effects of weather or other factors on the containment capability of the waste packaging during handling, storage, and transport. The accumulation of moisture on or in packages before arrival at NTS shall be avoided. A form of Tamper Indicating Device (TID) shall be applied to each container, once certification actions have been completed.	DOT requirements are applicable.	There would be no pre-shipment storage before transport to the Envirocare facility. Because the FEMP is currently shipping waste to NTS, compliance with the package protection requirements has been implemented.

TABLE F-4

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Transuranics	Low-level waste (LLW) must have a transuranic nuclide concentration not greater than 100 nCi/g. Transuranic waste must meet all NTS acceptance criteria. Transuranic waste exceeding these requirements is accepted at NTS only for interim storage before shipments to the Waste Isolation Pilot Project (WIPP) facility. Certification that the waste form meets WIPP minimum waste acceptance criteria is required.	Acceptable activity limits preclude acceptance of transuranic waste.	Material control and accountability (MC&A) records at the FEMP indicate there are no materials at the FEMP with TRU concentrations above the 100 nCi/g level.
Radioactive waste	Radioactive waste must be treated in accordance with 40 CFR 268 Subpart D as applicable. Low-level waste (LLW) containing explosive or pyrophoric material in a form that may spontaneously explode or combust if the container is breached will not be accepted. Cyanide- and sulfide-bearing wastes in concentrations greater than 10 percent be weight (CN or S) will not be accepted. (Potentially incompatible waste must be identified by the most appropriated compatibility group listed in 40 CFR 264, Appendix V, if accepted for disposal.)	Acceptance criteria for radioactive waste must be met to be accepted by the Envirocare of Utah facility. Results of analyses from pre-shipment samples will be used by Envirocare to establish the range of tolerances for the FEMP's incoming shipments. These tolerances are based on Envirocare's current radioactive materials license (UT # 2300249).	Acceptance criteria for radioactive waste for the Envirocare facility would be attained for all materials to be shipped.

TABLE F-4 (Continued)

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Hazardous waste	LLW offered for disposal at NTS waste management sites shall not exhibit any characteristics of or be listed as hazardous waste as identified in 40 CFR 261.	Mixed waste is accepted by the Envirocare of Utah facility. Results of analyses from pre-shipment samples will be used by Envirocare to establish the range of tolerances for the FEMP's incoming shipments. These tolerances are based on current LDR's per 40 CFR 268 and Envirocare's current RCRA Part B permit.	Because the FEMP is currently shipping waste to NTS, compliance with the hazardous waste requirement has been implemented. The FEMP would conform to the Envirocare facility's material acceptance process requirements to comply with their hazardous waste requirement.
Asbestos	Radioactively contaminated asbestos capable of giving off friable asbestos dust must be wetted with water and surfactant (absorbent additive required to control free liquid) and stored in double plastic bags having a combined wall thickness of at least 6 mil. The plastic bags must be must be overpacked in leak-proof metal or wood containered. Sea/land containers containing radioactive asbestos will be considered on a case-by-case basis. Any regulated asbestos waste must be segregated into a segregated into a separate stream. The NTS currently is not accepting regulated asbestos materials. A TSCA permit is not in place for NTS as the State of Nevada has not approved this permit at this time.	Waste regulated as asbestos may not be accepted by the facility.	Not applicable.

TABLE F-4 (Continued)

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Poly-chlorinated biphenyls (PCBs)	PCB-contaminated waste will not be accepted for disposal at NTS unless the PCB concentration meets municipal solid waste disposal levels (40 CFR 761.60).	PCB-contaminated waste will not be accepted for disposal unless PCB concentrations meet municipal solid waste disposal levels.	Any PCB-contaminated material exceeding waste acceptance requirements will be pretreated before shipment.
Free Liquids	Minor liquid residue remaining in well-drained containers, or liquids which have been entrapped, are acceptable. In no case shall the free liquid content exceed 0.5 percent by volume. Use of Method 9095 (Paint Filter Test EPA Publication SW-846) may be required to demonstrate compliance with this requirement.	Radioactive waste containing liquid shall not be accepted for disposal except as provided by the groundwater discharge permit number 450005, issued by the Executive Secretary of the Utah Water Quality Board.	Contaminated material will be transported with the addition of absorbent to the extent required to ensure the waste form criteria are attained.
Particulate	Fine particulate waste with radioactive contamination shall be immobilized so that the waste package contains no more than one weight percent of less than 10-μm-diameter or 15 weight percent of less than 200-μm-diameter particles. When immobilization is impractical, waste packaging shall include a sealed liner and be overpacked.	Department of Transportation (DOT) requirements are applicable.	DOT containerization requirements for bulk shipment of LLW to the Envirocare facility would be met according to required specifications for soil and/or truck. Sealed boxes would be used for shipments to NTS.
Gases	Radioactive gases shall be stabilized or absorbed so that pressure in the waste package does not exceed 1.5 atmosphere at 20°C. Compressed gases (49 CFR 173.300) will not be accepted for disposal.	Not accepted for disposal.	Not applicable.

TABLE F-4 (Continued)

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Stabilization	Where practical, waste shall be treated to reduce volume and provide a more physically and chemically stable waste form. Wastes shall not significantly react with the packaging during normal storage, shipping, and handling time.	No direct requirement.	No stabilization is necessary for shipment of contaminated materials. Stabilization of residuals will be completed, if required, to meet waste form requirements.
Etiologic agents	LLW containing pathogens, infectious waste, or other etiologic agents (49 CFR 173.386) will not be accepted for disposal.	LLW containing pathogens, infectious wastes, or other etiologic agents (49 CFR 173.386) will not be accepted for disposal.	These requirements do not apply to OU3 materials because the materials do not contain pathogens or infectious wastes.
Chelating agents	LLW containing chelating or complexing agents at concentrations greater than one percent by weight will not be accepted.	Identification of wastes containing more than 0.1% by weight of chelating agents.	These requirements do not apply to OU3 materials because they do not contain chelating agents.
Bulk	Shall be solid and meet the requirements of 49 CFR 173.425(c)(3). Bulk mixed waste will not be accepted for disposal Area 3.	Bulk LLW is the preferred waste form for disposal.	All materials offered for shipment would meet the waste-form criteria and the DOT's definition of solid waste. All material will meet all DOT requirements for shipping in bulk, by rail or truck for the Envirocare facility or by containers on trucks for NTS.

TABLE F-4 (Continued)

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Treated waste	Treated waste must meet requirements set forth in the FEMP Application to Ship Waste to the Nevada Test Site, Rev. 1. June 1992.	Treated waste may be accepted. Non-radioactive hazardous waste must not be mixed with radioactive waste.	Resource Conservation and Recovery Act characteristic waste will meet treatment standards as required under 40 CFR 268 before disposal off-site.
Waste generator	All Department of Energy (DOE) defense facilities are eligible to use the NTS as a disposal or storage site provided NTS acceptance criteria are satisfied.	The Envirocare of Utah facility does not accept LLW generated outside the region comprised of the states party to the Northwest Interstate Compact with Alaska, Hawaii, Idaho, Montana, Oregon, Utah, and Washington unless the provisions of Article IV and V of the Compact are met.	The FEMP is a DOE site eligible to use the NTS for disposal. The FEMP has satisfied the provisions of Article IV and V of the Northwest Interstate Compact.
Documentation	Extensive documentation, package labeling and permitting is required; see NVO-325 for details.	Specific forms must be filled out which describe waste stream information and waste physical properties.	All documentation will be completed before shipment of waste for off-site disposal.

TABLE F-4 (Continued)

COMPLIANCE WITH WASTE-FORM CRITERIA

REQUIREMENTS	NEVADA TEST SITE	ENVIROCARE OF UTAH COMMERCIAL DISPOSAL FACILITY	COMPLIANCE WITH REQUIREMENTS
Analytical data	Documentation and analysis of waste streams required; see NVO-325 for details.	Analytical results should be submitted. All RCRA analyses must be performed by a Utah Certified Laboratory. Radiological analysis may be performed at the FEMP if at least 10% of the samples are sent to a Utah Certified Laboratory for QA purposes. Pre-shipment samples of waste must be sent to Envirocare of Utah.	Sampling and analysis requirements and frequencies will be completed before shipment for off-site disposal.

TABLE F-5

SURFACE CONTAMINATION LIMITS[a]

NUCLIDE	FIXED PLUS REMOVABLE		REMOVABLE[b,e]
	AVERAGE[b,c]	MAXIMUM[b,d]	
U-nat, U-235, U-238, and associated decay products,alpha emitters.	5,000 dpm/100 cm^2	15,000 dpm/100 cm^2	1,000 dpm/100 cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm^2	300 dpm/100 cm^2	20 dpm/100 cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm^2	3,000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-Gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5,000 dpm/100 cm^2	15,000 dpm/100 cm^2	1,000 dpm/100 cm^2

[a] Where surface contamination by both alpha and beta-gamma emitting nuclides exists, the limits established for alpha and beta-gamma emitting nuclides should apply independently.

[b] As used in this table, dpm (desinegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c] Measurements of average containment should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each object.

[d] The maximum contamination level applies to area of not more than 100 cm^2.

[e] The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

APPENDIX G

WASTE ACCEPTANCE CRITERIA FOR ON-PROPERTY DISPOSAL

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
ARAR	applicable or relevant and appropriate requirement
AWWT	Advanced Wastewater Treatment (facility)
CAMU	corrective action management unit
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
cm	centimeter
COC	contaminant of concern
CRARE	comprehensive response action risk evaluation
DOE	United States Department of Energy
ECTran	Excel Crystal Ball Transport model
EPA	United States Environmental Protection Agency
FEMP	Fernald Environmental Management Project
FS	feasibility study
ft	feet
ft^3	cubic feet
g	gram
GMA	Great Miami Aquifer
HDPE	high density polyethylene
HELP	hydraulic evaluation of landfill performance
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
kg	kilogram
L	liter
lb	pound
LDR	land disposal restriction
LLW	low-level radioactive waste
MCL	maximum contaminant level
mg	milligram
mrem	millirem
OU	Operable Unit
PCB	polychlorinated biphenyl
pCi	picocurie
PP	proposed plan
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
RME	reasonable maximum exposure
ROD	Record of Decision
sec	second
TBC	to be considered (standard)
TCLP	toxicity characteristic leaching procedure
UMTRA	Uranium Mill Tailings Remedial Action
WAC	waste acceptance criteria
yd^3	cubic yards
μg	microgram

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G.0 WASTE ACCEPTANCE CRITERIA FOR ON-PROPERTY DISPOSAL

G.1 INTRODUCTION

The purpose of this appendix is to establish acceptability criteria for disposing construction debris generated from the decontamination and dismantlement of Operable Unit 3 (OU3) buildings and structures in an on-property disposal facility. These criteria combine requirements related to both the physical size/form of materials and contamination levels acceptable for on-property disposal in an engineered on-property disposal facility. This appendix provides a description of the conceptual design of the disposal facility, the expected physical configuration of materials in the on-property disposal facility, and the methodology used to establish contaminant-specific waste acceptance criteria (WAC), based on contaminant type, level, and form.

G.1.1 Background Information

In support of both the OU2 and OU5 Feasibility Study (FS) Reports/Proposed Plans (PPs) (DOE 1994a; DOE 1995a) and the Records of Decision (RODs) (DOE 1995b; DOE 1995c), contaminant-specific WAC have been established for disposing contaminated soils, sediment, flyash, and dried sludges in an on-property disposal facility. These WAC were developed to protect groundwater in the underlying Great Miami Aquifer from contaminants that could leach from the waste materials in the disposal facility into infiltration water and migrate through the lining system and overburden into the aquifer. Leaching parameters were used to predict contaminant concentrations in the leachate based on initial solid phase soil concentrations. However, criteria for soil contamination levels, as defined in the OU2 and OU5 RODs, could not be directly applied to OU3 materials since material-specific leachability was unknown. Therefore, establishing material-specific WAC for disposing OU3 materials in the on-property disposal facility was required to demonstrate protection of the aquifer.

The WAC development processes for OU2 and OU5 are documented in the respective FS Reports. The primary difference between the WAC development approach used for each OU was due to the differences in the respective constituent of concern (COC) lists. Uranium isotopes are the only COCs identified for OU2 in the groundwater pathway, while the OU5 COC list is more extensive. This is logical because OU2 contains distinct types of wastes generated at the Fernald Environmental Management Project (FEMP) during the production years. Contamination in OU5 environmental media resulted from emissions and spills associated with production (OU3) and releases from the Waste Pits (OU1) and Silos (OU4).

Since production in OU3 facilities was a major source of contamination in environmental media, many COCs identified for OU3 are identified as OU5 COCs as well. As a result, the approach for developing WAC for OU3 remediation materials has several similarities to the approach developed and approved in the OU5 FS. This approach is designed to meet groundwater protectiveness criteria for the Great Miami Aquifer for a period of 1,000 years. Thus, the objective of WAC development for OU3 materials under the on-property disposal remedy is to meet equivalent groundwater protection criteria as those established for OU2 and OU5 materials, once OU3 remediation materials are dispositioned in the common engineered disposal facility.

The WAC development process considers both the natural hydrogeology at the FEMP and the engineering controls provided in the conceptual design of the disposal facility. The feasibility of constructing such a facility is primarily evaluated in the OU2 FS. The selected location and description of engineering controls presented in this appendix are consistent with the conceptual design of the facility in the OU2 ROD and the draft OU2 Pre-Design Investigation and Site Selection

Report for the On-Site Disposal Facility (DOE 1995d). In addition to a summary of the conceptual design, the overall construction and waste placement strategies are discussed, as related to disposal of OU3 remediation materials in the facility.

Although engineering controls play a major role in the design of the on-property disposal facility, a sitewide concept known as the "balanced approach" was adopted based on the evaluation of on-property disposal in the FS Reports for OU1 and OU4 (DOE 1994b; DOE 1994c). Under the balanced approach, highly contaminated wastes will be administratively disposed off-site at a permitted disposal facility, while on-property disposal of the larger quantity of wastes at lower contamination levels is preferred. This approach is reflected in the RODs for each of the OUs at the FEMP. Highly contaminated materials in OU3, similar to the wastes in OU1 and OU4, include Product, Residues, and Special Materials (Material Category J). As previously discussed in Section 1 of this report and documented in a letter to the United States Environmental Protection Agency (US EPA) regarding disposal of low-level waste and nuclear materials (DOE 1994d), Category J materials will be handled and dispositioned off-site through the existing procedures under Removal Action No. 9 (Removal of Waste Inventories). Process-Related Metals (Category C) are considered to be highly contaminated materials because of the presence of visible residues or holdup remaining after decontamination, and Brick (Category F) was found to have high contaminant levels through the characterization process, as discussed in Section 3 of this report. Based on the balanced approach concept developed through previous site decisions, on-property disposal of these materials is not evaluated. Therefore, WAC for on-property disposal will not be developed for Categories J, C or F, and material quantities and source terms for these material categories are not considered in the WAC development process. All other materials are considered potentially acceptable materials for on-property disposal, which must be screened against contaminant-specific WAC developed in this appendix.

G.1.2 Integration with Other Operable Units

As discussed in Section 5 of this report, the number of alternatives identified and evaluated for final remediation of OU3 is limited in part due to previous site decisions. During the Remedial Investigation/Feasibility Study (RI/FS) development process for each of the other OUs, on-property disposal of remediation wastes was evaluated. Acceptability criteria for disposing remediation wastes in an on-property disposal facility were established to support remedial alternatives involving on-property disposal. The OU2 and OU5 RODs document on-property disposal as a major component of the respective selected remedies.

In the development of Alternative 2 for OU3, it is assumed that OU3 construction debris would be consolidated with excavated soils from OU2 and OU5 in a common disposal facility. The design of the on-property disposal facility is currently in its conceptual stages. The design provides capacity for disposing OU3 construction materials within the facility, as the quantities of OU3 materials, relative to the combined quantity estimates for OU2 and OU5, are minimal. The final design of the facility may stipulate acceptance criteria for debris in addition to the WAC established in this report. Any additional WAC applicable to OU3 debris that are developed during the final design and approved by the regulatory agencies will be met in order to dispose OU3 debris in the on-property disposal facility.

Under the RODs for OU1 (DOE 1994e) and OU4 (DOE 1994f), it is documented that the final decision for disposition of OU1 and OU4 construction debris will be in accordance with the disposition decision for OU3 materials, as appropriate. The largest portion of OU4 construction debris is cement. If the on-property disposal remedy is selected for OU3, cement WAC would be applied to OU4 cement to determine its acceptability for on-property disposal, if on-property disposal

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is pursued for OU4 construction debris. Similarly, OU1 is expected to accumulate a small quantity of construction debris during excavation of the waste pits. These materials were originally disposed in the waste pits during the years of plant operations. These materials will be evaluated against the OU3 WAC as well. If contaminants are detected in OU1 and OU4 construction materials that were not evaluated for OU3 materials, or if contaminants are detected at higher levels than the maximum levels detected in OU3 materials, further evaluation of on-property disposal for these materials may be required.

G.1.3 Objective

As stated in the introduction, this appendix establishes WAC for disposing OU3 remediation materials in the on-property disposal facility. This appendix addresses the numerous types of restrictions (ranging from size limitations to contaminant-specific WAC) and imposed criteria resulting from regulatory stipulations. Section G.2 provides a description of the engineering design for the on-property disposal facility, which provides the basis for determining the various WAC. Determination of size limitations and regulatory constraints is provided in Sections G.3 and G.5, respectively, while the focus of the appendix describing the technical approach used to develop contaminant-specific WAC is provided in Section G.4. Section G.6 provides a summary of all OU3-specific WAC.

The overall objective for developing contaminant-specific WAC is to meet groundwater protection criteria, which are established in the OU5 ROD. To be consistent with the OU5 ROD, Great Miami Aquifer exposure criteria for the reasonable maximum exposure (RME) Resident Farmer/Child exposure scenario applied in the risk-based WAC development was an incremental lifetime cancer risk (ILCR) of 1×10^{-5}. For toxicants, WAC using exposure criteria at a hazard quotient (HQ) of 0.2 were developed. For contaminants that have maximum contaminant levels (MCLs) (e.g., total uranium), WAC corresponding to MCLs are the preferred criteria. Evaluating material- and contaminant-specific leachability would normally be conducted to meet this objective. However, OU3 is unique for two reasons: 1) it is comprised of a large number of material types, and 2) accepted leaching parameters are not available for construction materials. The intent of WAC development for OU3 is to effectively utilize tools and site-specific information developed to support WAC development for other OUs to the maximum extent practical. Conservative assumptions are applied when possible to simplify the overall process and to narrow the scope of required additional investigations. Results of the WAC development process are used in Section 5, in conjunction with characterization data, to assess which materials can be safely placed in the on-property disposal facility.

G.2 DESCRIPTION OF ON-PROPERTY DISPOSAL FACILITY

This section provides an overview of the conceptual design of the on-property disposal facility, and identifies key features of the facility. This description of the facility, summarized from the draft OU2 Pre-design Investigation and Site Selection Report for the On-Site Disposal Facility, is used to support the development and detailed analysis of Alternative 2 (Section 5 of this report) and to describe the engineering controls assumed in the contaminant-specific WAC development process. The detailed design submittals will be developed to support the upcoming OU2 remedial design phase. The on-property disposal facility is being designed as an above-grade disposal facility to provide permanent storage of contaminated OU2 and OU5 materials which meet established soil WAC. Capacity will be available for disposing OU3 materials if Alternative 2 is selected as the preferred alternative and OU3 materials meet protective WAC.

The major features of the above-grade disposal facility include a multilayered composite cap system and a multilayered composite liner with a leachate collection/detection system. Placement of contaminated materials in the disposal facility would reduce the potential for direct contact, incidental

ingestion/inhalation, or direct radiation exposure by minimizing the migration of contaminants to air and surface water pathways. Contaminant transport to the groundwater pathway will be minimized through engineering controls. Thus, protection of human and environmental receptors from contaminant exposure can be achieved.

G.2.1 Siting Criteria

The rationale employed for siting the disposal facility was to select a location that has the most protective geology, that facilitates implementation of remediation schedules for all operable units, and that is consistent with current and future land use needs. Thus, the eastern section of the site was selected as the proposed location for the disposal facility, as documented in the draft OU2 Pre-design Investigation and Site Selection Report for the On-Site Disposal Facility.

A disposal facility geotechnical investigation program is currently underway at the FEMP to collect supplemental data on the properties of the glacial overburden. These data will be used during the OU2 remedial design to finalize the location and design configuration. The optimum location would have a maximum thickness of gray clay with a minimum presence of coarse granular materials.

In addition to locating the disposal facility in the area with the most suitable hydrogeology at the FEMP, siting will be consistent with the Department of Energy (DOE) Orders and regulatory requirements. The boundary of the disposal facility must be at least 1,000 feet away from existing residential wells and 300 feet from the site boundary. Based on preliminary data and regulatory requirements, the selected on-property disposal facility location is depicted in Figure G-1.

G.2.2 General Design

The following items describe key general design features of the on-property disposal facility:

General Design Considerations

- Attain regulatory and DOE Order-based design and performance-based criteria, including Resource Conservation and Recovery Act (RCRA) and State of Ohio hazardous waste landfill design requirements, Uranium Mill Tailing Radiation Control Act (UMTRCA) requirements, and DOE 5820.2A criteria.

- Be effective for up to 1,000 years, to the extent practical and reasonably achievable, and in any case, for at least 200 years (40 CFR 192.02).

- Minimize the presence of standing water in the facility by incorporating a design such that the hydraulic conductivity of the liner is slightly greater than that of the cap.

- Minimize the rate of contaminant transport out of the disposal facility by minimizing the hydraulic transport of contaminants through the liner.

- Minimize erosion of the cap and promote evapotranspiration through the use of a vegetative cover.

- Protect against animal and plant intrusion and minimize the potential for inadvertent human intrusion through the use of stone barriers within the disposal facility cap.

- Minimize or completely attenuate radon migration from the contained radioactively contaminated materials.
- Minimize the potential for settlement through compaction of the contaminated material.
- Minimize the need for long-term monitoring and maintenance.
- Provide for deed restrictions and monuments identifying the disposal facility to further reduce the potential for inadvertent human intrusion.
- Minimize the potential for gas formation within the disposal facility by distributing degradable organic material throughout the disposal facility to the extent practical.

Multilayer Composite Cap and Liner

The details of the cap and liner configurations are depicted in Figure G-2. The cap is based upon a composite design employing both natural materials (e.g., gravel and clay) and synthetic materials (e.g., high density polyethylene [HDPE] and bentonite geocomposite barriers), and it would slope at a minimum of three percent from the crown out to the berms. The liner would be constructed on a subgrade of clean compacted native soil and consists of both natural and synthetic materials.

Size and Capacity of Disposal Facility

As mentioned in Section G.1, the disposal facility design will provide capacity for disposing remediation materials from OU3 if on-property disposal is selected for OU3 materials that meet protective WAC. The estimated volume of contaminated materials for on-property disposal from OU2, OU3, and OU5 combined would be 2,500,000 yd^3; OU3 materials would represent a small portion of this total. The total unbulked volume of OU3 construction materials considered for on-property disposal is estimated to be 273,000 yd^3. Although some of these OU3 materials may be dispositioned off-site (i.e., materials exceeding WAC or materials available for unrestricted release), this maximum quantity represents approximately ten percent of the total volume of waste materials. Based on the estimated capacity of 2,500,000 yd^3 of waste materials, the footprint of the disposal facility, as shown in Figure G-1, would cover approximately 70 to 80 acres of land and have a maximum range in height (including the cap) from 40 to 65 feet.

G.2.3 Material Placement

Waste placement operations would be conducted concurrently with berm construction and final cap installation. The active working face of the waste placement area would be kept relatively small over a short time, thus minimizing contaminated storm water runoff and exposure to wind erosion. The materials placed in the disposal facility would include contaminated construction materials, soil, flyash, dried sludges, sediment, and gravel. Construction of the disposal facility would need to accommodate the OU2 and OU5 soil remediation schedules and the OU3 decontamination and dismantlement schedule.

From the staging area, remediation materials would be ready for waste placement. Based on the conceptual design of the facility, soils that meet soil WAC would be placed above the liner to prevent odd-shaped pieces of debris and earthmoving equipment from puncturing the composite liner. Similarly, select soils would be used next to the cover and the sidewall liner. Construction debris would be placed in a manner that maximizes the ability to compact the material and minimizes void space by using practices such as blending the debris with soils and soil-like materials. Compaction of

materials will occur as necessary to minimize the potential of settling. Acceptable compaction and minimization of void space within the fill materials are critical to minimize the potential for settlement of the final cap. The soil and construction material mixture would be spread and compacted with standard earthmoving equipment.

Certain assumptions have been made regarding waste placement of debris in the facility to estimate the *minimum* waste placement footprint for disposal of OU3 materials, based on the OU2 conceptual design of the facility. These assumptions regarding the waste placement area have been made in order to update and support source loading assumptions in the fate and transport modeling for developing OU3 contaminant-specific WAC and are subject to change based on the OU2 final waste placement design plans. Based on typical design constraints at UMTRA disposal facilities and the debris generation schedule in the OU3 Remedial Design Prioritization and Sequencing Report (DOE 1995e), a minimum soil to debris ratio of 2:1 by volume was assumed. A maximum height of 20 feet was assumed, based on a 5 foot soil cushion between debris layers and the cap. Applying these assumptions and considering the estimated volume of debris considered for on-property disposal before WAC screening (7,290,000 ft^3), a minimum area of 1,094,000 ft^2 was calculated. The soil to debris ratios in the facility would be more likely to range from 3:1 to 9:1 based on the debris generation schedule. Conservative assumptions have been applied so that current modeling results will bound impacts on the aquifer from variation in the final specifications. Therefore, the uncertainty associated with the assumptions is acceptable. The application of this information is discussed further in Section G.4.2.

Control measures, such as water misting or surfactants, would be used to mitigate fugitive dust emissions during waste placement operations. Periodic monitoring, including sampling and analysis of airborne particulates, would be conducted to ensure the effectiveness of dust control measures.

G.2.4 Monitoring, Maintenance, and Institutional Requirements

A long-term groundwater monitoring program at the disposal facility would be implemented prior to the start of waste placement operations. A series of monitoring wells would be installed around the boundary of the disposal facility. The on-property disposal facility would require long-term maintenance and monitoring to ensure continued performance. The leak detection system would be monitored to ascertain the system's performance and efficiency. Collected leachate would be removed by pipeline to the AWWT facility for treatment. After the AWWT facility ceases operations, leachate flow rates are expected to be small enough to allow treatment by alternative methods such as mobile treatment units or vendor operated systems. Periodic maintenance, including inspection and groundskeeping of the vegetative cover, clearing of engineered surface water drainage ways, and inspection of the cap and berm integrity, would be required. Inspections are assumed to be completed when groundwater monitoring samples are collected. Maintenance, except as specifically required in response to inspection findings, is assumed to be conducted twice per year.

The footprint of the disposal facility and any surrounding buffer areas would be fenced, delineated with permanent monuments, and maintained under the perpetual ownership of the federal government. Deed restrictions would be recorded to note the existence of the buried materials and to prohibit intrusive activities into these areas. Through perpetual rights of ownership for the affected land parcels, and continued surveillance and maintenance of the disposal facility, the potential for human intrusion to the buried contaminated materials would be eliminated. The potential for development of the disposal area would be minimized or completely eliminated. Perpetual care of the disposal facility area would continue under the DOE or another federal agency, such as the US Department of Interior.

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the terms of the Amended Consent Agreement, reviews would be conducted every five years, at a minimum, after completion of remedial actions to assure that human health and the environment are continuously protected. These reviews would be performed by US EPA, in consultation with DOE and the Ohio Environmental Protection Agency (OEPA). If, upon completion of such review, US EPA determines that additional remedial actions or modifications to existing remedial systems are required, such actions would be implemented pursuant to the terms of the Amended Consent Agreement.

G.3 PHYSICAL CONFIGURATION OF MATERIALS

This section provides a physical description of OU3 materials as they would be segregated for potential on-property disposal under Alternative 2. Sizing requirements would be met during dismantlement activities associated with the interim remedial action. OU3 materials that meet the contaminant-specific WAC and are designated for on-property disposal will meet this description until specifications are finalized in the waste placement design. Anticipated physical conditions of OU3 materials in the sitewide disposal facility will be used, in part, to estimate contaminant leaching potential from these materials during the risk-based WAC development process.

G.3.1 Material Categories and Quantities

This section identifies OU3 materials and associated material quantities for potential on-property disposal. As discussed in more detail in Section G.4, contaminant-specific WAC need to be developed for these materials. WAC development is generally based on these material groupings and quantities.

Table G-1 provides estimated quantities for OU3 materials. Material groupings in this table are primarily based on the material categories as discussed in Sections 3 and 5 of this report. However, certain material types within these categories are distinguished because they are expected to have different leachabilities or because they represent a significant portion of materials within a given category.

For these reasons, two material categories have been sub-divided. The concrete material category (Material Category E) is divided into two sub-groups: concrete/masonry and asphalt/clay piping. The non-regulated asbestos containing material (ACM) material category (Material Category G) is also divided into two sub-groups: transite and nonregulated ACM (excluding transite).

G.3.2 Size Constraints for On-Property Disposal

Although material groupings as discussed in this appendix are slightly different from those presented in Section 3 of this report, materials will be sized, segregated, and handled according to the general RI/FS material categories. Under Alternative 2, size constraints would be applied to facilitate ease of material handling during waste placement operations in the on-property disposal facility. General requirements are to minimize projections for all construction materials (to the extent practical) to improve material handling abilities and to facilitate incorporation of individual pieces of debris into surrounding soils. Individual pieces of debris will range in size, depending on the type of equipment used during dismantlement and removal operations. In addition, on a limited basis material sizes could potentially exceed the maximum size limits. Materials that are in a monolithic form that are not compressible, do not have inaccessible areas, and do not contain interior void spaces can be handled separately allowing individual placement within the disposal facility. An example of a material satisfying these criteria is a concrete beam (e.g., 3 foot by 3 foot by 10 foot block).

Overall dimensions would be constrained such that a piece of debris could be readily picked up or pushed around by a dozer or front-end loader and separated from other debris. Material dimensions would be limited in length to accommodate spreading and compaction equipment and limited in height to meet a specified lift thickness for placement of construction materials in layers. Waste placement plans would be incorporated into the detailed design of the facility. Lift thicknesses for debris at UMTRA disposal facilities or other low level radioactive waste (LLW) disposal facilities typically range from one to two feet in height (DOE 1990; DOE 1991; DOE 1992). Therefore, it is assumed that the average lift thickness for placing OU3 construction materials would be 1.5 feet, based on the typical designs for UMTRA debris and LLW disposal facilities. Material handling requirements, packaging requirements, and off-site disposal facility WAC are also considered in developing size constraints (i.e., materials which exceed concentration-based WAC will require off-site disposition or treatment).

Table G-2 provides size constraints for materials with potential for on-property disposal under Alternative 2 to meet these general design requirements and assumptions. These size requirements are consistent with specifications in implementation plans which have previously been developed under the OU3 Remedial Design/Remedial Action Work Plan for Interim Remedial Action (DOE 1995f). Future implementation plans would continue to impose these criteria on materials segregated for on-property disposal until final specifications are established in the waste placement plan.

The size constraints would permit rather large pieces of debris in the on-property disposal facility. Since larger pieces of debris could be incorporated into soil layers within the disposal facility without compromising the overall stability, the need to crush debris is avoided. There are several advantages to this approach; one is the elimination of fugitive emissions that would be produced from crushing debris, which would significantly increase the potential risk to human health and the environment. Secondly, significant additional costs associated with extensive sizing of materials could be avoided. The third advantage of placing larger pieces of debris in the facility is that the total surface area of debris would be minimized. Crushing debris would increase the total surface area of debris, thereby increasing the potential of contaminant release in infiltration waters. Infiltration is expected to follow the path around pieces of debris more readily than traveling through it because of the expected higher permeability of soils used to fill voids in the debris layers. Therefore, contaminants below debris surfaces are less likely to be released into infiltration waters. Figure G-3 illustrates this process. For these reasons, larger pieces of debris are preferred unless otherwise dictated by the final design of the on-property disposal facility.

G.4 CONTAMINANT-SPECIFIC WASTE ACCEPTANCE CRITERIA DEVELOPMENT

As discussed in Section G.1, contaminant-specific WAC are necessary for on-property disposal in order to demonstrate protectiveness of the underlying drinking water aquifer. Acceptable levels of protection have been defined in the OU5 ROD, and the intent of OU3 WAC development is to meet equivalent protective levels of the Great Miami Aquifer. As specified in the OU5 ROD, Great Miami Aquifer exposure criteria for the RME Resident Farmer/Child exposure scenario applied in the risk-based WAC development was an ILCR of 1×10^{-5}. For toxicants, WAC using exposure criteria at a HQ of 0.2 were developed. For contaminants that have MCLs (e.g., total uranium), WAC corresponding to MCLs are the preferred criteria. Fate and transport modeling was conducted to determine acceptable leachate concentrations in the facility to maintain these protectiveness criteria in the aquifer for a 200 to 1,000-year timeframe.

G.4.1 Overview

Because of the diversity of materials and numerous COCs in OU3, the WAC development process to ensure protection of the aquifer is conducted in steps with increasing complexity. The overall process is designed so that the more complex analyses are limited to critical contaminants and material categories, while simpler but more conservative approaches are used to verify safe on-property disposal of non-critical OU3 contaminants and material categories. The objective and approach of each step in the OU3 contaminant-specific WAC development process is provided in this section.

Contaminants identified as COCs for construction debris considered for on-property disposal are evaluated based on a "bounding screening approach." Travel times for contaminants to reach the Great Miami Aquifer underlying the disposal facility are first calculated to identify mobile contaminants that could potentially reach the aquifer within 1,000 years under natural conditions. These mobile COCs are termed potential breakthrough COCs. Among the potential breakthrough COCs, contaminants at maximum levels detected which would exceed the acceptable groundwater criteria (when leachate from the disposal facility reaches the aquifer) are identified as post-remediation COCs. Material categories which contain significant sources of post-remediation COCs are also identified. These screening steps are discussed in Section G.4.3.

Based on results of the bounding screening approach, experimental leachability studies were conducted for the post-remediation COCs in critical material categories to determine contaminant- and material-specific leachability. Section G.4.4.2 provides a summary of the OU3 leachability tests. Results from the leachability study will be used to determine appropriate source loading assumptions in the fate and transport modeling and to develop contaminant-specific WAC. This procedure is further described in Section G.4.5.

To support the already conservative bounding screening process, geochemical model simulations were conducted to predict chemical conditions in the disposal facility created by mixtures of OU2, OU3, and OU5 remediation materials. The results are used to show that the assumptions used in the bounding screening approach are conservative and to compare concentrations with the results of experimental leachability tests.

In addition to determining contaminant-specific WAC, implementation issues are addressed in summary level detail. Overall, the detection, mobility, quantity, and leachability of each constituent are considered in this systematic procedure.

G.4.2 Fate and Transport Modeling

The general modeling approach followed in all operable units for WAC development is summarized in this section to provide the basis for the bounding screening steps and WAC development procedure applied to OU3 COCs. Four major factors that affect the contaminant fate and transport from the disposal facility are considered for modeling. A brief summary of each of these factors is provided in the following paragraphs. A more detailed discussion of these factors is provided in Appendix F of the OU5 FS.

Effects of Engineering Controls

Protective requirements of the on-property disposal facility will be achieved in part by relying on engineering controls. For example, the multilayer cap is designed to reduce the infiltration rate and prevent future bio-intrusion. A clay liner is also designed to retard vertical contaminant migration at the bottom of the facility. Long-term effectiveness and expected performances of these major components in the disposal facility were considered in the WAC development process. However, the

effects of engineering controls were not considered in the first bounding screening step to identify post-remediation COCs.

Hydrogeological Conditions

The disposal facility will be located in an area with the best hydrogeological conditions within the FEMP property boundary. The better hydrogeological conditions will compliment the engineering controls to ensure long-term protection of the environment. Any contaminated leachate from the bottom of the disposal facility would travel vertically through the glacial overburden before reaching the Great Miami Aquifer. The gray clay layer, unsaturated Great Miami Aquifer sand and gravel layer, and groundwater flow rate in the aquifer under the disposal facility are also considered in the WAC development process to different extents. Because of the higher vertical flow rate due to existence of fractures, the weathered brown clay layer in the glacial overburden was not included in the contaminant fate and transport modeling.

Size of Disposal Facility

The preliminary footprint of the disposal facility is shown in Figure G-1. As discussed in the Draft OU2 Predesign Investigation and Site Selection Report, this area was selected based on the best hydrogeological conditions within the FEMP property boundary and preliminary estimates for total volumes of contaminated materials from OU2, OU3, and OU5 considered for on-property disposal. As discussed in Section G.2.4, assumptions were made regarding the waste placement strategy for OU3 materials in order to determine a minimum source loading area for OU3 materials, based on available details of the conceptual design. This minimum area was calculated to be 1,094,000 ft^2. The width of the facility (east-west) is a more sensitive parameter in the model since the groundwater flows across the facility from west to east; for this reason, the maximum width of this area was assumed to be 400 ft. The actual width is expected to range from 250 ft to 350 ft based on the conceptual design. However, since contaminant accumulation in the Great Miami Aquifer drives the modeling results, a 50 ft contingency was added to account for unanticipated changes in the final design. Therefore, minimum areal dimensions for disposal of OU3 materials in the facility are assumed to be 400 ft (east-west) x 2,700 ft (north-south). These updated dimensions have been used to support OU3-specific modeling.

Material- and COC-Specific Characteristics

Contaminant fate and transport modeling was conducted to determine the contaminant-specific acceptable leachate concentrations in the disposal facility which would be protective of the Great Miami Aquifer for 1,000 years. These acceptable leachate concentrations are contaminant-specific but are generally independent of material type since most source loading patterns were near constant during the simulated 1,000-year timeframe were applied. Since material-specific leachabilities were only determined for some OU3 construction materials, source loading assumptions were modified for construction materials while all other assumptions regarding contaminant fate and transport in the natural environment were based on modeling for other operable units and available details of the disposal facility design.

G.4.2.1 Modeling Tools

Contaminant migration through the liner and overburden to the Great Miami Aquifer was simulated by ECTran (i.e., Excel Crystal Ball Transport model) (DOE 1993a) to develop WAC. The ECTran model is a very efficient contaminant fate and transport model for the groundwater pathway. Model simulations were conducted to support the OU2 and OU5 FS Reports to back-calculate acceptable leachate concentrations in the disposal facility, based on the exposure criteria set at groundwater receptor locations. The SWIFTLOAD/SWIFT is the sitewide model used to determine the residual impacts from all the remaining sources after remediation, as described in the OU5 CRARE.

However, the ECTran model is appropriate for WAC development for several reasons: it is more conservative, it can be used efficiently to develop numerous COC-specific WAC, and the disposal facility can be simulated individually as a single source.

G.4.2.2 Summary of Modeling Assumptions

Assumptions are usually necessary to simplify or conceptualize natural environmental and contaminant migration processes so that they can be simulated by models. Conservative modeling assumptions were made for developing WAC to ensure that they will be acceptable when multiple sources and contaminants are combined with the evaluation of the final residual impacts. Major modeling assumptions used in the WAC development process are summarized below, and Figure G-4 can be used to illustrate the fate and transport of source contaminants in the facility to the aquifer, which supports modeling assumptions.

- The brown, weathered clay was considered part of the till layer for infiltration calculations made using the Hydraulic Evaluation of Landfill Performance (HELP) model. Since it is more permeable than the unweathered gray clay, including the brown clay in the infiltration calculations results in higher infiltration rates than using only the gray clay.

- The brown, weathered clay was not considered part of the till layer during contaminant fate and transport simulations using the ECTran model. The brown clay is weathered and fractured and has a limited ability to impede contaminant migration. By not considering this layer, higher contaminant concentrations would reach the Great Miami Aquifer faster in modeling than under natural conditions.

- A 1,000-year modeling period was chosen for WAC development (i.e., the predicted maximum impact within 1,000 years should not exceed the groundwater exposure criteria).

- Source loading assumptions are dependent on material type and contaminant leachability information.

- The minimum mixing depth of the Great Miami Aquifer was assumed to be ten feet under the on-property disposal facility, once the saturated zone is reached.

- Perched groundwater under the potential on-property disposal facility will be remediated prior to construction of the facility.

- Based on the conceptual design of the facility and waste placement assumptions discussed in Sections G.2.4 and G.4.2, the source loading area for OU3 materials would be based on dimensions of 400 ft (east-west) by 2700 ft (north-south).

G.4.2.3 General Calculation Procedure

The general modeling procedure to determine COC-specific acceptable leachate concentrations and the material-specific solid-phase WAC in the on-property disposal facility is summarized below for review purposes.

- The entire disposal facility was considered one future contaminant source.

- The potential exposure point for developing the WAC was the Great Miami Aquifer under the disposal facility.

- Material- and contaminant-specific source loading assumptions were incorporated into the simulation.

- An iterative procedure was used to back calculate an acceptable leachate concentration from the contaminated materials (i.e., initial liquid-phase WAC) based on the respective source loading assumptions applied and the goal to meet groundwater exposure criteria for 1,000-years. The Great Miami Aquifer groundwater criteria were MCLs or criteria developed for the RME Resident Farmer/Child exposure scenario at 1×10^{-5} ILCR or HQ of 0.2.

- The acceptable leachate concentrations are then converted to solid-phase WAC using material- and contaminant-specific leaching characteristics or conservative assumptions regarding leachability.

This procedure is consistent among all OUs. Additional details of the procedure regarding the model input parameters, infiltration rate calculation, and conceptual long-term performance evaluation of the on-property disposal facility can be found in Appendix F of the OU5 FS.

G.4.3 Bounding Screening Approach

In order to focus the WAC development process for the numerous OU3 material types and COCs identified for construction materials, a screening process was applied to minimize additional investigations. This section explores the following bounding screening steps for focusing the resource- and time-intensive leaching tests and WAC development process:

- Identifying potential breakthrough COCs by determining COC travel times through the underlying overburden under the natural infiltration rate (i.e., 6 in/yr);

- Comparing the maximum OU3 concentrations detected for potential breakthrough COCs to the OU5 soil WAC (due to differences in soil and construction debris leachabilities, this step is only for demonstration purposes and not for screening out COCs);

- Identifying post-remediation COCs by comparing the allowable mass of OU3 COCs in the disposal facility based on the EPA 70-year rule (EPA 1988) to the estimated source terms; and

- Identifying the material categories that contribute significantly to the post-remediation COC source terms, based on available characterization data.

Figure G-5 outlines the above listed steps.

There are many COCs identified for OU3; however, not all of these COCs would have future impacts on the aquifer after materials are safely disposed in the on-property disposal facility. Out of the sixty total COCs identified for OU3 materials, thirteen were identified based only on concentrations

detected in loose media, sediment, or soil (materials in Category J), as discussed in Appendix A. This list includes the following constituents: 2,4-Dinitrotoluene, Benzene, Benzo(k)fluoranthene, bis(2-Ethylhexyl)phthalate, Carbazole, Chrysene, Dibenzo(a,h)anthracene, N-Nitroso-di-n-dipropylamine, Pentachlorophenol, Indeno(1,2,3-cd)pyrene, Selenium, Silver, and Styrene. As presented in Appendix A, none of these COCs were detected at concentrations above the part B screening criteria for any construction materials. Loose media and sediment will be collected during Safe Shutdown (Removal Action No. 12) and building decontamination activities; these materials will be dispositioned off-site in accordance with Removal Action No. 9 (removal actions are discussed in Section 1.2.2.1). All OU3 soils will be dispositioned with OU5 soil in accordance with soil WAC. Therefore, these constituents have been removed from further consideration in the WAC development process for construction materials.

G.4.3.1 Constituent of Concern Screening

The remaining OU3 COC list consists of 44 contaminants (i.e., 17 radionuclides, 14 inorganics, and 13 organics). Two screening steps and a comparison check that were used to identify post-remediation COCs from this initial COC list are described in the following subsections. Travel time, maximum concentration, and allowable mass are the three factors considered in this bounding screening approach.

G.4.3.1.1 Travel Time Screening

Once disposal of wastes is completed, vertical migration through the liner system and overburden to the Great Miami Aquifer is the primary exposure pathway of contaminants to receptors. The OU5 RI (DOE 1994g) presented a screening process based on the contaminant's mobility, or travel time in the vertical direction, under natural conditions. The natural infiltration rate used in this screening was 6 inches/year, which is much higher than the representative infiltration rate of the disposal facility (i.e., 0.89 inches/year) used for WAC development purposes (see Section F.5 of the OU5 FS). Because the required maximum protective timeframe is 1,000 years, those contaminants that failed to reach the aquifer in 1,000 years are screened out. In addition, this screening process considered the organic or radiological decay rate for contaminants. A COC is screened out if it would proceed through 30 half-lives during a minimum calculated travel time, since the contaminant mass remaining after 30 half-lives for any decaying contaminant would be insignificant regardless of the initial mass. Travel time calculation input parameters are provided in Table F.3.5-3 of the OU5 RI, and the results of the travel time screening are presented in Table F.3.5-2 of the OU5 RI Report. Table G-3 of this appendix lists the initial 44 OU3 COCs and screens out those contaminants that meet the travel time screening criteria. Several contaminants which were not COCs for OU5 are also included in the table. The same calculation procedure used in the OU5 RI was conducted for these contaminants to complete the COC travel time screening in this appendix.

As shown in Table G-3, 34 initial COCs were removed from further consideration for WAC development through the travel time screening procedure. The remaining ten contaminants have the potential to migrate through the overburden to the aquifer within the 1,000-year period and, therefore, are considered potential breakthrough COCs based on characteristics of the individual contaminants. This screening step does not consider the actual source terms found in OU3 materials.

G.4.3.1.2 Maximum Concentration Comparison

The purpose of this comparison is to demonstrate that concentrations of most of the ten OU3 potential breakthrough COCs are below allowable soil concentrations (i.e., soil WAC). The maximum concentrations detected in OU3 materials considered for on-property disposal (excluding Material Categories C, F, and J) are compared to the OU5 soil WAC, which are listed in Tables F.5-8 and F.5.I-9 of the OU5 FS. This comparison, presented in Table G-4, shows that uranium,

technetium-99, and tetrachloroethene are the only contaminants detected at concentrations which exceed the corresponding soil WAC. For gamma-Chlordane and nitrobenzene, no soil WAC were developed; therefore, a comparison cannot be made.

It is important to note that this comparison does not imply that construction debris would have the same leachability as soil. Since the actual leachabilities of OU3 materials are not considered, results of this comparison cannot be used as a screening step. Specific leaching coefficients for post-remediation COCs and critical materials are presented in Section G.4.4.2. However, this simple comparison evaluates the relative impacts to the Great Miami Aquifer from contaminant concentrations detected in OU3 materials.

G.4.3.1.3 70-Year Rule Allowable Mass Screening

Conservative assumptions regarding contaminant leachability, which can be defined from the lifetime exposure risk standpoint, are applied to determine the contaminant mass that can be safely placed in the disposal facility. Before OU3 leaching parameters are defined, the "allowable mass" of potential OU3 breakthrough COCs is used to screen out those COCs that could not create unacceptable future impacts on the aquifer, based on current and maximum source inventories of these COCs.

Allowable Mass Determination

The method used to determine the allowable OU3 contaminant mass in the disposal facility conservatively assumes that all contaminant mass associated with OU3 materials will dissolve into infiltrating water through the waste layer within a 70-year period. This assumption is consistent with the EPA 70-year rule (EPA 1988), which considers the maximum potential lifetime impact to human health. The 70-year rule is intended for determining the maximum lifetime average exposure concentration for risk assessment purposes and has been applied to estimate the worst case leaching potential for contaminants when more specific information is not available (see Figure F.3.4-3 in the OU5 RI). Two steps are followed to determine the allowable OU3 contaminant mass in the disposal facility. The first step determines the acceptable total mass in the disposal facility regardless of sources under the 70-year rule assumption. The second step calculates the portion of the total allowable mass that could be contributed from OU3 materials, considering estimated contributions from other OUs and making no assumptions about actual leachability from OU3 materials. This exercise simulates the worst-case impacts on a human life from OU3 materials buried in an engineered disposal facility.

In general, the acceptable liquid-phase concentration under a 70-year constant source loading pattern was modeled using the same protective timeframe (1,000 years), infiltration rate, groundwater criteria, hydrogeological assumptions, and modeling tools as for developing the soil WAC. A summary of the geochemical parameters for the potential breakthrough COCs used for OU5 WAC development in this allowable mass screening is provided in Table G-5. The K_d value describes the adsorption/desorption processes in the respective environmental layers and does not influence source leaching rates, as illustrated in Figure G-4. It should be noted that the adsorption coefficient (K_d) for technetium-99 in the natural gray clay and disposal facility liner was updated in the allowable mass determination, based on adsorption/desorption studies conducted to determine site-specific geochemical parameters (IT 1993). The most conservative K_d value (0.118 L/kg) found in a literature search was assumed for OU5 WAC development purposes. However, the site-specific K_d value (0.6 L/kg) available from adsorption/desorption studies on samples taken from the unweathered gray clay in the area of the future disposal facility are more representative of site conditions. This site-specific K_d value is reasonable when compared to the range of values identified in the literature search (0.118 -1.3 L/kg). In addition to updating the K_d value for technetium-99 based on site-specific information, the disposal facility dimensions were updated in the model based on the findings of the

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draft OU2 Pre-Design Investigation and Site Selection Report for On-Site Disposal, as discussed in Sections G.2 and G.4.2 of this appendix.

The ECTran model was used to simulate the 70-year loading pattern to determine an allowable mass of each of the ten potential breakthrough COCs. The significant difference between this simulation and simulations used to develop soil WAC was the source loading pattern assumed. Instead of using a source leaching coefficient to model a 1,000-year source loading pattern, a 70-year constant loading pattern was assumed for this scenario. This loading pattern was selected to match the 70-year rule requirement, which assumes that all the contaminant mass will dissolve in the disposal facility within 70 years.

The ripple effects of this loading pattern are illustrated in Figure G-6, which demonstrates the concentration of leachate in the various layers of the underlying overburden and saturated Great Miami Aquifer over time. These example curves for technetium-99 demonstrate the constant source loading of technetium-99 mass into infiltration water, until the total leachable mass is depleted in 70 years. During this period, technetium-99 mass is migrating and accumulating in the clay layer of the liner until the 70-year mark when leachable technetium-99 sources are depleted. When significant technetium-99 mass starts to migrate from the liner, technetium-99 mass in the gray clay layer increases noticeably from around 100 years to about 325 years. The contaminant is transported quickly through the unsaturated sand and graval and into the saturated Great Miami Aquifer. Technetium-99 concentrations reach maximum acceptable groundwater concentrations about 375 years after the start of initial 70-year constant source loading. For technetium-99, it is interesting to note that groundwater concentrations are at the maximum level for only about a 25 year period, as shown in the figure. In developing the allowable mass using the 70-year rule, it is assumed that the receptor is exposed to maximum groundwater concentrations for a 70-year period. Therefore, the simulated 70-year rule impact due to technetium-99 is still lower than targeted risk level associated with exposure to the contaminated aquifer.

Simulations were conducted to determine the acceptable liquid-phase concentrations in the leachate under the 70-year constant source loading. In order to differentiate between this concentration and the acceptable liquid-phase concentration developed for OU5 soils (which assumes more realistic loading patterns), this concentration is designated as the 70-year WAC. The acceptable total mass of each potential breakthrough COC allowed to leach within a 70-year period in the disposal facility was then calculated by multiplying the liquid-phase 70-year WAC by the total infiltration volume in 70 years (1.58×10^8 L). The total infiltration volume was calculated by multiplying the assumed areal dimensions of the fill materials in the disposal facility (i.e., 2,700 ft by 400 ft) and the infiltration rate (0.89 inches/yr) by 70 years. The total allowable mass as allowed to leach within a 70-year period from potential breakthrough COCs in the disposal facility, regardless of the source, are provided in Table G-6.

The second step was to determine the allowable contaminant mass for OU3 materials by considering contributions from sources other than OU3 within a 70-year period. The additional allowable contaminant mass for OU3 is obtained by subtracting out the contaminant mass contributed from soils (OU2 and OU5 soils combined) that will dissolve in 70 years, based on estimated initial soil leachate concentrations (defined in the OU5 Comprehensive Response Action Risk Evaluation [CRARE]) from the total acceptable mass. Therefore, the 70-year rule is only applied to the OU3 materials, and the specific soil leaching coefficients are used for sources other than OU3. The following procedures were necessary to complete this calculation:

- Estimate the contaminant mass that will dissolve from soil by multiplying the initial leachate concentration (based on soil source leaching coefficient (K_L) and the average initial soil concentration) for each potential breakthrough COC and the total infiltration volume in 70 years. However, this mass cannot exceed the total contaminant mass in soil.

- Compute the acceptable additional mass from OU3 materials that can be placed in the disposal facility by subtracting the dissolved soil contaminant mass from the total allowable mass under the 70-year rule.

The results of calculating the additional acceptable mass from OU3 materials using the approach described above are summarized in Table G-7.

Source Term Comparison

In addition to comparing the source term estimates for the potential breakthrough COCs to the OU3 allowable masses, maximum source terms, which were calculated to support a sensitivity analysis of the source term estimates in Appendix B, are also compared. For WAC development purposes, this upper bound on source terms associated with OU3 construction materials builds an additional layer of conservatism in the already conservative allowable mass screening.

Table G-8 compares the OU3 allowable mass to these source term estimates. Among the potential breakthrough COCs, only source terms for uranium and technetium-99 exceed the conservatively determined OU3 allowable mass. Although the total uranium source term is less than the allowable mass, the maximum source term is higher. Uranium will be evaluated further because of the high detection frequency in all OU3 characterization samples. The upper bound source terms for all other potential breakthrough COCs are at least one order of magnitude lower than the allowable mass, and in most cases, source terms are several orders of magnitude lower than allowable. Therefore, only uranium and technetium-99 are identified as post-remediation COCs. Post-remediation COCs are defined as the COCs that could potentially impact groundwater quality once materials are buried in the engineered disposal facility, therefore the leachability of these COCs will be evaluated further.

As described in Section G.4.1, groundwater criteria at 1×10^{-5} ILCR (or equivalent) levels are used to determine the acceptable mass for individual COCs without MCLs. Because there are only ten potential breakthrough COCs, accumulated impacts are not expected to exceed the intended overall protective level of 1×10^{-4} ILCR (or equivalent) in the groundwater pathway, even under the 70-year rule. Furthermore, the ten potential breakthrough COCs were identified using the natural infiltration rate. It is expected that, after placed in the disposal facility, much fewer constituents would reach the aquifer within the protective timeframe.

G.4.3.2 Critical Material Category Identification

While it is assumed the leaching potential would be lower for large blocks of solid construction materials buried in the disposal facility than for bulk materials such as soils, it is evident from the previous screening steps that defining a realistic leaching potential from OU3 construction materials is necessary for uranium and technetium-99. Performing experimental leaching studies was necessary to define the leachability of these two post-remediation COCs. However, OU3 is comprised of many material types, and time constraints prohibited performing leachability studies on all types of construction materials. Additional costs associated with conducting leaching studies for every material type in OU3 could not be justified either, since many materials do not contribute significantly to the contaminant sources or the relative material quantities are minimal. Therefore, materials in OU3 were evaluated in order to identify critical materials that would require leachability studies.

Materials are evaluated based on relative material quantities, uranium source terms, and technetium-99 source terms.

In order to effectively evaluate materials in OU3, certain materials that are expected to have similar physical and chemical properties were grouped and evaluated together. For example, Material Categories A, B, and D include all the metals in OU3 with potential for on-property disposal. In the OU3 RI/FS Work Plan Addendum (WPA) (DOE 1993b), it was assumed in developing the OU3 characterization program that construction metals are non-porous materials and therefore would not be contaminated at depth. This assumption was used to support WAC development as well. At-depth contamination of metals, regardless of the type of metal, is not anticipated (although background levels are considered). However, contaminated metal surfaces (i.e., paint coatings or a contaminated "film" on unpainted surfaces) are expected and would be independent of the metal on which it is found. Any leaching studies for OU3 construction metals would be performed on paint coatings from metal surfaces rather than on the metal itself. For this reason, all metals are grouped and evaluated together.

The other materials that are grouped and evaluated together are concrete/masonry (Material Category E) and transite (Material Category G) because of similar physical and chemical characteristics that would affect leaching potential from these materials. All materials identified as masonry are expected to be comprised of concrete block. Concrete, masonry, and transite are anticipated to have similar leaching potential for uranium and technetium-99 due to their similar chemical composition. The primary constituent of these materials that would affect the chemical composition of the leachate is the cement due to the high calcium content. These three materials also have similar densities (between 100 and 150 lbs/ft^3), which would affect contaminant diffusion rates. Concrete, masonry, and transite are hereinafter collectively referred to as "cementicious materials."

All other materials are evaluated based on the respective RI/FS material categories. The relative volume of these material groupings and associated source terms for total uranium and technetium-99 are presented in Table G-9. The table shows that cementicious materials comprise the largest quantity of OU3 materials considered for on-property disposal. These materials represent approximately 80 percent of the total weight and 57 percent of the total unbulked material volume of OU3 materials with potential for on-property disposal. The metals grouping comprises the second largest material grouping (approximately 11 percent of the total weight and 25 percent of the unbulked volume). Therefore, concrete and paint coatings on metals were selected as critical material categories for conducting leachability studies.

In evaluating the uranium and technetium-99 source terms for the critical material categories (i.e., concrete and paint coatings on metals), concrete is by far the largest contributor to technetium-99. Approximately 90 percent of the technetium-99 source term is associated with concrete. Concrete is the predominant source of uranium as well (approximately 82 percent). This is consistent with selecting concrete as a critical material category. Metals contribute the second highest technetium-99 contribution (approximately five percent) and uranium contribution (approximately ten percent). All other materials contribute less than ten percent of the contaminant source terms for both uranium and technetium-99.

The remaining material categories represent a wide range of material descriptions, including: asphalt/clay piping (Material Category E), non-regulated ACM (excluding Transite) (Material Category G), regulated ACM (Material Category H), and miscellaneous materials (Material Category I). Reasons for separating these materials in the development of alternatives are based on process options applicable to these materials and the special material handling requirements of all ACM.

However, none of these factors affects leachability. It was assumed that excluding certain materials with minimal quantities (i.e., less than ten percent of the total OU3 material quantity for potential on-property disposal) from on-property disposal would be more cost-effective than performing leachability studies to determine acceptability criteria. Conservative assumptions (i.e., 70-year rule) will continue to be applied to these materials collectively for establishing their acceptability in the on-property disposal facility. Figure G-7 illustrates how material categories were broken down to perform this evaluation and re-grouped based on the results.

G.4.3.3 Summary of Bounding Screening Approach Results

A summary of the COC screening process is provided in Table G-10, which results in two OU3 post-remediation COCs: technetium-99 and total uranium. The critical materials which have the most significant sources of uranium and technetium-99 are cementicious materials and paint coatings on metals. All other materials are grouped and evaluated together, as shown in Figure G-7. Leachability studies were necessary for the post-remediation COCs and critical material categories to aid in the determination of OU3-specific WAC, which provides the basis for estimating quantities of materials that meet the WAC and post-remediation source terms.

G.4.4 Determination of Contaminant Leaching Potential

The need for determining uranium and technetium-99 leaching potential in concrete and paint coatings was evident from the above discussion. Determining the contaminant leaching potential from these materials was used to properly assess the impact of placing these construction materials in a facility with contaminated soils and soil-like materials from other OUs. The leachability of these materials was determined through experimental leaching studies, similar to leaching studies conducted to support the OU2 and OU5 FS Reports.

In addition to experimental studies, geochemical principles were applied to experimental leaching study results to provide a theoretical explanation of chemical processes occurring during the leaching studies and to support experimental results. Experimental leaching study results were then used in a geochemical model to predict chemical conditions in a disposal facility containing soils from OU2 and OU5 combined with OU3 construction materials. Geochemical modeling results verify that chemical reactions between the leachate from construction materials mixed with leachate from contaminated soils would not significantly change the leachability from either construction debris or soils, as determined from separate leaching experiments. The following sections present the definition of leaching study parameters, general conclusions from leaching study data, and geochemical modeling results in summary level detail. Detailed technical information on the leaching studies and geochemical modeling is presented in Attachments G.I and G.II, respectively.

G.4.4.1 Definition of Leaching Parameters

The two geochemical leaching coefficients, K_L and K_e, describe the leachability of a contaminant from a source material and the percent of the contaminant which is extractable from the source material, respectively. K_L is a source leaching coefficient which is a measure of a contaminant's mobility due to dissolution and desorption from the source. This parameter is used to define the equilibrium between the aqueous phase concentration and the solid phase concentration based on the extractable portion (i.e., K_e) or total mass of the contaminant from the source material. K_e defines the portion of the contaminant which is relatively more extractable from the source material. In general, the longer a contaminant remains adsorbed to the surface of a solid, the more likely it is to be incorporated into the solid by surface reactions where it is no longer available for desorption under environmental conditions. K_e is the parameter which can be used to define the extractable fraction of a contaminant which can be mobilized due to desorption. The general equations for these parameters, using information obtained from a two-step desorption test are as follows:

$$K_e = \frac{(C_{W1})^2 (V)(100\%)}{(C_{S0})(W)(C_{W1} - C_{W2})} \quad \text{and} \quad K_L = \frac{(C_{W2})(V)}{(C_{W1} - C_{W2})(W)}$$

where,

C_{S0} = Initial concentration of contaminant in solid phase (μg/g or pCi/g)
C_{W1} = Concentration of contaminant in leachate at equilibrium in first batch test (μg/L or pCi/L)
C_{W2} = Concentration of contaminant in leachate at equilibrium in second batch test (μg/L or pCi/L)
W = Mass of test media for each test (g)
V = Volume of water used during each test (L)

For the special case when C_{W1} is less than or equal to C_{W2}, K_e is undefined and the following equation can be used to estimate K_L. K_e is assumed to be 100 percent under these conditions.

$$K_L = \frac{(C_{S0} \times W) - (C_{W1} \times V)}{(W \times C_{W1})}$$

A more detailed discussion on the description of the two-phase batch test, the derivation of equations for K_e and K_L, and a summary of preliminary results is provided in Attachment G.I.

G.4.4.2 Summary of Leaching Test Procedure and Results

To determine the leachability of uranium and technetium-99 in concrete and paint coatings, a series of two-step desorption batch tests were conducted. Concrete and paint coating samples were used in the batch tests in a leaching solution to determine material-specific leaching coefficients for uranium and technetium-99. Periodic sampling of uranium concentration in the leachate was performed to determine when equilibrium conditions were obtained. Because of the large volume of solution required to perform the technetium-99 analyses, periodic sampling to determine equilibrium conditions could not be performed for technetium-99. It was assumed, for the purposes of the study, that technetium-99 concentrations would be under equilibrium conditions when uranium equilibrium conditions were observed.

Concrete and paint sampling locations were biased toward areas of known high uranium and technetium-99 levels in process buildings at the FEMP, based on available RI/FS sampling results. Because of the diverse processing steps used at the FEMP, uranium and technetium-99 are present in many chemical forms with varying degrees of solubility. Samples were taken in areas with contaminant forms of different solubility classes, to the extent supported by process knowledge, to provide representative leachability study information on OU3 materials in different locations. The leachability study program strategy is also discussed in more detail in Attachment G.I.

In general, the results of the two-step desorption batch test confirm that construction materials have very low leachability for uranium, as compared to soils. On the other hand, the leachability of technetium-99 from concrete and paint coatings was higher than expected. Leaching coefficients calculated from leachability study data are presented in Tables G.I-13 through G.I-15.

Uranium

As discussed in Attachment G.I, concrete and paint samples in the leaching study were collected in areas of highest uranium concentrations in all concrete and paint in OU3. The leachate concentrations from all samples in the leaching study were first compared to the liquid phase WAC established in the OU5 FS to determine if any leachate concentrations exceeded this criterion. The OU5 liquid phase

WAC is approximately 69,000 μg/L, and the leachate concentrations detected in the study from both batch tests range from approximately 1 to 26,400 μg/L. All leachate concentrations from all samples in the study were less than half the OU5 liquid phase WAC, and in some cases, leachate concentrations were four orders of magnitude lower than acceptable levels for on-property disposal. The OU5 soil WAC allows all leachate in the disposal facility could be a constant 69,000 μg/L over the 1,000 year modeling period, and groundwater concentrations would still be acceptable. Since leachate concentrations from the highest uranium contaminated concrete and paint samples do not approach this level, it was determined that critical material categories contaminated with uranium will not create a post-remediation concern in the disposal facility. Nevertheless, geochemical leaching coefficients were calculated to demonstrate the low leaching levels and for use as reference information.

Uranium in the paint matrix leached less readily than the uranium in concrete, as indicated by K_L values which were significantly higher for paint. The K_L values for paint ranged from approximately 55 to 5,170 L/kg as compared to the range from approximately 0.6 to 7 L/kg in concrete. In general, the extractable percentage of uranium in paint was higher than the uranium in concrete. The K_e values for paint generally ranged from less than 1 to 20 percent, while the K_e values for concrete generally were less than 1 percent. For one concrete sample, where the uranium concentration in solution in the second batch test was higher than in the first batch test solution, a K_e of 100 percent was assumed, and the K_L was calculated based on the total initial contaminant mass rather than just the leachable portion. Therefore, the K_L value was much higher under this assumption. For this sample, uranium in concrete still leached more readily than the uranium in paint (as evident from the K_L of approximately 92,000 L/kg for concrete compared to the higher K_L of approximately 207,000 L/kg for paint coatings). Little correlation was observed among concrete or paint samples expected to contain uranium forms with similar solubility levels.

In general, the uranium results exhibited relatively low K_L values and extremely low K_e values. This implies that the extractable fraction of uranium mass in the contaminated material is low, but leaches fairly readily.

Technetium-99

Unlike uranium, technetium-99 leachate concentrations detected in the leachability study were generally high relative to the initial solid-phase concentrations and indicate that not all critical material categories in OU3 would be acceptable for on-property disposal. The leachate concentrations from samples in the leaching study were compared to the OU5 liquid phase WAC, and several leachate concentrations detected did exceed this criterion. The OU5 liquid phase WAC is approximately 970 pCi/L, and the leachate concentrations detected in the study from both batch tests range from approximately 3 to 12,900 pCi/L. Therefore, it is still necessary to develop a contaminant-specific WAC for technetium-99 in critical material categories.

Technetium-99 in the paint matrix leached less readily than the technetium-99 in concrete, as indicated by K_L values which were significantly higher for paint. The K_L values for paint ranged from approximately 40 to 420 L/kg as compared to the range from approximately 2 to 10 L/kg in concrete. The extractable percentage of technetium-99 in paint was similar to that in concrete. The K_e values for both paint and concrete ranged from less than 6 to 86 percent. In all cases, the leachate concentrations in the second batch test were lower than in the first batch test; therefore, it was not necessary to assume a K_e of 100 percent for any sample. Little correlation was observed among concrete or paint samples expected to contain technetium-99 forms with similar solubility levels.

In general, the technetium-99 samples exhibited very low K_L values for concrete and relatively high K_L values for paint. A wide range of K_e values were determined for both concrete and paint. This implies that the extractable technetium-99 mass in the contaminated material leaches readily (low K_L) for concrete and less readily for paint (high K_L), but the extractable percentage of overall technetium-99 mass is moderate (range of K_e values were calculated).

G.4.4.3 General Chemical Conditions in the Disposal Facility

This section summarizes the geochemical conditions in the disposal facility for soil leachate, cement leachate, and a mixture of soil and cement leachate as simulated with a thermodynamic geochemical model. Potential breakthrough COCs that are considered in the geochemical model include chromium, mercury, strontium-90, technetium-99, neptunium-237, and uranium. The model is developed for an inorganic system, as thermodynamic data are unavailable for the organic post-remediation COCs. Geochemical simulations of conditions in the disposal facility highlight COCs that reach a solubility limit, which is generally the maximum concentration a COC can have in solution. The predicted COC solubility limits are compared to COC concentrations developed using the 70-year rule to demonstrate that this approach for COC screening and WAC development is conservative. Details on the principal chemical reactions and geochemical model used for this analysis are presented in Attachment G.II.

Chemical conditions in the on-property disposal facility will be controlled by the interaction of infiltrating water with the materials placed in the facility. As discussed in Section G.3, approximately 67 percent by volume of the materials placed in the disposal facility will be contaminated soils from other OUs, and approximately 33 percent by volume will consist of construction debris. It is assumed that concrete and cementicious materials will control the chemical conditions in the leachate produced from construction debris, since these materials represent approximately 57 percent of the volume and 80 percent of the total weight of construction debris (Table G-9). Since soils and cement are assumed to control the chemical conditions in the disposal facility, this discussion will focus on infiltrating water reacting with these contaminated materials.

The conceptual configuration of materials in the disposal facility assumes that contaminated soils will be used as void fill between blocks of rubble such as concrete. Therefore, infiltrating water will be in contact with the soil matrix and concrete rubble, yielding leachate that is a mixture of a cement endmember and a soil endmember. The geochemistry of the leachate will be dominated by dissolution/leaching reactions between water and soil, as soil comprises approximately 67 percent by volume of the material placed into the disposal facility (based on a 2:1 soil to debris ratio). In Attachment G.II, chemical conditions in the water/soil system and in the water/cement conditions are determined separately. The end result of the geochemical modeling is a water/soil/cement leachate mixture in the proper proportions.

G.4.4.3.1 Soil Leachate Endmember

The estimated initial soil leachate concentrations and acceptable leachate concentrations under the 70-year constant loading assumption are compared to the modeled solubility concentrations for potential breakthrough COCs in Table G-11. Chromium, mercury, neptunium-237, and uranium concentrations are predicted to be controlled by the solubility of CrO_2, Hg_2Cl_2, NpO_2, and $(UO_2)_2SiO_4 \bullet 2H_2O$, respectively. The chromium, mercury, neptunium-237, and uranium solubility concentrations are approximately four times, five orders of magnitude, nine times, and eight times lower than the estimated initial soil leachate concentration, respectively. The solubility limit for strontium-90 could not be evaluated because the total strontium in the system is unknown (see Attachment G.II). Additional details on the development of the soil leachate endmember are provided in Attachment G.II.

G.4.4.3.2 Cement Leachate Endmember

The measured COC concentrations in leachate obtained from leaching tests (Attachment G.I) and acceptable leachate concentrations under the 70-year constant loading assumption are compared to the modeled solubility concentrations for potential breakthrough COCs in Table G-12. The mercury concentration is predicted to be controlled by the solubility of HgO, at 2.09×10^{-11} μg/L. This value is 18 orders of magnitude lower than the 70-year concentration and is in general agreement with the less-than-detection-limit value reported from the leaching test. Neptunium-237 behavior in cement leachate is predicted to be controlled by the solubility of NpO_2 at a concentration of 3.01×10^{-2} μg/L, a concentration ten orders of magnitude lower than the 70-year rule and two orders of magnitude greater than the leaching test result. A modeled solubility limit greater than the leaching test result suggests an insufficient source of neptunium is available to reach the predicted solubility level or enough time was not allowed to reach equilibrium with respect to saturation of NpO_2. The uranium concentration is predicted to be controlled by the solubility of $CaUO_4$, and this concentration is seven orders of magnitude lower than the concentration obtained from batch leaching tests. This difference may arise from the formation of colloidal uranium in the contact solution used in the batch leaching tests, as colloid formation is not considered in the solubility calculation. Colloids are commonly smaller than the 0.45 micron filters used to process the samples removed from the batch tests, which results in elevated analytical levels for uranium (see Section G.I.5). The solubility limit for strontium-90 could not be evaluated because the total strontium in the system is unknown (see Attachment G.II). Chromium and technetium-99 are unconstrained by solubility. Additional details on the development of the cement leachate endmember are provided in Attachment G.II.

G.4.4.3.3 Soil/Cement Leachate Mixture

The estimated initial soil leachate concentrations and acceptable leachate concentrations under the 70-year constant loading assumption are compared to the solubility concentrations of potential breakthrough COCs in the soil/cement leachate mixture in Table G-13. A mixture of two parts soil leachate to one part cement leachate is based on volume percentages of soil and debris in the disposal facility. The initial concentrations for chromium, mercury, strontium-90, technetium-99, neptunium-237, and uranium in the soil/cement leachate mixture are obtained by summing 0.67 times the initial soil concentration in Table G-11 and 0.33 times the initial cement leachate concentration in Table G-12. Additional details on the leachate mixing analysis are provided in Attachment G.II. Solubility values in Table G-13 are calculated for a CO_2 partial pressure of $10^{-2.2}$ atmospheres, which is the median value for reported CO_2 partial pressures in soils (Freeze and Cherry, 1979).

Chromium, mercury, neptunium-237, and uranium concentrations are predicted to be controlled by the solubility of CrO_2, Hg_2Cl_2, NpO_2, and $(UO_2)_2SiO_4 \bullet 2H_2O$. The chromium, mercury, neptunium-237, and uranium solubility concentrations are approximately four times, 4 orders of magnitude, three times, and thirty times lower than the estimated initial leachate mixture concentration, respectively. Strontium-90 and technetium-99 are unconstrained by solubility.

In summary, the predicted solubility concentrations for chromium, mercury, neptunium-237, and uranium indicate that the acceptable leachate concentrations under the 70-year constant loading assumption are very conservative. With respect to comparison of the initial leachate concentrations and modeled solubility limits, chromium, neptunium-237, and uranium agree within an order of magnitude for the soil leachate endmember (Table G-11) and chromium and neptunium-237 agree within an order of magnitude with the initial concentrations for the mixture (Table G-13). The lack of correlation between modeled and initial concentrations for the cement leachate can be attributed to very low solubility products for most metal phases at high pH and instrument detection limits that are above calculated solubility limits. Additionally, the formation of colloids at high pH results in elevated levels of COCs in solution that are not accounted for in the geochemical model.

As shown in Tables G-11 through G-13, the potential leachate concentrations from the waste materials in the disposal facility are overestimated when the 70-year concentrations are used, relative to the estimated initial concentrations derived from leach tests and calculated solubility concentrations. Realistically, the estimated initial concentrations derived from leaching tests and calculated solubility limits are closer to actual conditions relative to the acceptable 70-year concentrations. Therefore, the application of the 70-year rule is a conservative approach to screen potential breakthrough COCs.

G.4.4.4 Impacts of the Leaching Study Results to WAC Determination

Conclusions from the leachability and geochemical studies are used as key information in determining WAC. For uranium, the sampling results show that the fraction of extractable uranium is very low for both concrete and paint coatings, although the low extractable fraction of uranium will leach in solution. Samples were taken in areas of high uranium concentrations in OU3 critical materials. The uranium leachate concentrations detected in the leachability study indicate that all critical material categories in OU3 would be acceptable for on-property disposal. Since all leachate concentrations were lower than the OU5 liquid phase WAC and calculated solid-phase WAC would be no less than pure product based on the results, specific WAC will not be calculated. In addition, the geochemical modeling discussed in Section G.4.2.3 simulated leachate concentrations in the disposal facility based on a mixture of soil and cement leachate and showed that uranium leachate concentrations in the disposal facility would be lower than the OU5 liquid phase WAC since uranium concentrations are limited by solubility. The accuracy of the model to predict leachate concentrations is demonstrated in Attachment G.I by correlating theoretical modeling results and experimental leachability data. This information combined sufficiently demonstrates that uranium levels leaching from critical material categories are acceptable for on-property disposal.

The sampling results for technetium-99 show that the fraction of extractable technetium-99 can be moderate to high for both concrete and paint coatings, and the extractable fraction of technetium-99 will readily leach in solution for concrete. However, the extractable fraction of technetium-99 in paint coatings does not leach readily. This can be explained by the high organic content of the paint. As discussed in "Technetium-99 in the Environment" (Stalmans 1986), the organic matter fraction in soils was found to constitute a geochemical sink for technetium-99. Based on this information, concrete would not be expected to bind the technetium-99 since it does not contain organic matter. As illustrated in Figure G.I-23, it is interesting to note that higher solid technetium-99 concentrations in paint coatings did not necessarily produce high leachate concentrations. For the concrete samples, however, liquid concentrations were all similar (high) regardless of initial contaminant concentration.

Although the technetium-99 leaches less readily from paint than concrete, WAC still need to be developed for critical material categories since some leachate concentrations exceed the OU5 liquid phase WAC from both concrete and paint coatings. Also, results of the geochemical modeling show that technetium-99 leachability in the disposal facility would not be limited by solubility constraints.

G.4.5 Final Contaminant-specific Waste Acceptance Criteria

The leachability study results were used as the basis for deciding the final approach to determining WAC for OU3 materials. Specifying mass-based WAC rather than concentration-based WAC was the result of careful evaluation of leachability study data. This section will incorporate the conclusions from the leachability study into the approach for establishing final WAC.

G.4.5.1 Mass-based Constraints

Conclusions from the leachability study regarding uranium and technetium-99 leachability from OU3 materials were quite different for the two post-remediation COCs. Therefore, this section will address the mass-based constraints separately for these contaminants.

Uranium

It was clear that uranium leachability from critical material categories would meet acceptable leachate concentrations for the facility. However, material-specific uranium leachability information was not determined for non-critical material categories. Therefore, to be consistent with the earlier allowable mass screening steps, the uranium source term for all non-critical materials needs to be evaluated against the conservative 70-year rule allowable mass screening. While considering realistic information about uranium leachability from critical material categories determined through leachability studies, source term estimates for all other materials will be evaluated collectively against OU3 allowable mass estimates developed through use of the 70-year rule, as presented in Table G-8.

Similar to the allowable mass development for OU3 materials in the disposal facility using the 70-year rule, an allowable mass of uranium for non-critical material categories will be developed based on more realistic assumptions regarding uranium leachability from critical material categories. The total allowable mass for uranium in OU3 construction materials considered for on-property disposal is 65,800 kg. In order to be conservative, the maximum mass of uranium that is expected to leach within a 70-year period from OU3 construction materials is based on the maximum leachate concentrations detected in the leachability study for concrete and paint (1,060 μg/L and 26,400 μg/L, respectively) multiplied by the estimated volume of infiltration water in a 70-year period (1.58×10^8 L). For concrete and paint leachate combined, approximately 4,300 kg of uranium would leach into infiltration water within a 70-year period. Subtracting this amount from the total allowable uranium mass for OU3 materials would result in an allowable mass of approximately 61,500 kg for all other materials. The total source term for OU3 materials considered for on-property disposal is even lower than this limit (58,400 kg), and the uranium source term for non-critical materials is much lower than this allowable mass (4,170 kg). This simplified and conservative calculation demonstrates the overall minimal impact expected from OU3 materials contaminated with uranium on the underlying aquifer. Because the source term estimates are significantly lower (approximately 15 times) than the allowable mass for these materials, and because of the inherent conservatism in the calculation, no material-specific uranium WAC need to be established as a performance specification.

Technetium-99

The leachability study results for technetium-99 also indicated that use of the allowable mass under the 70-year rule is most appropriate as a contaminant-specific WAC for OU3 materials. However, due to the findings of the leachability study related to technetium-99, a mass-based WAC for all material categories, not solely non-critical material categories, will need to be applied. In the leachability study, results showed that a significant amount of the technetium-99 leached from the samples within a three month period. In addition, regardless of the solid concentrations for the concrete samples, leachate concentrations were all high. Although technetium-99 leachability was much lower for paint than concrete, it is simpler to develop an implementation strategy and more conservative to specify an allowable mass of technetium-99 for all OU3 materials considered for on-property disposal. As presented in Table G-8, the final allowable mass for OU3 materials in the on-property disposal facility would be 105 grams of technetium-99. The mass of technetium-99 will be the only contaminant-specific WAC for OU3 materials for which an implementation strategy to meet this WAC needs to be developed. A general strategy for meeting this WAC is provided in Section G.4.6. Section 5 of the RI/FS report contains the details of how this allowable mass will be met.

G.4.5.2 Summary of Additional Conservative Assumptions

This section summarizes many of the additional conservative aspects of the modeling assumptions used to develop the mass-based WAC and does not attempt to itemize the conservative assumptions previously discussed in detail.

Engineering Design

- The synthetic cap and liner materials are not considered in the modeling. Synthetic materials in the cap would significantly reduce infiltration water into the facility, and synthetic materials in the liner would retard contaminant transport to the aquifer.

- The leachate collection system is not considered in the modeling. The collection system will be operating during the times of highest leachate concentrations (i.e., during cell construction when infiltration volume is highest). This operation will prevent the highest contaminant concentrations from migrating to the groundwater, since leachate concentrations should decrease over time.

- Contaminant adsorption to the soil cushion below the debris is not considered, and soil could act as a geochemical sink for many contaminants.

Leachability

- The leaching tests are conducted under saturated conditions, while the disposal facility will be designed to maintain unsaturated conditions.

- All contaminants are assumed to leach in 70 years under the 70-year rule, when actual leaching times could be significantly longer. Additionally, some contaminants will not leach 100 percent of their initial mass.

- The surface area to volume ratio in the leaching study (e.g. using paint chips instead of painted metal) is significantly higher than anticipated in the disposal facility. With materials in the facility having a lower surface area to volume ratio than used in the study, and if unsaturated conditions are maintained, contaminant leaching from blocks of debris will be minimal (see Figure G-3).

G.4.6 WAC Application Issues

The results of the WAC development process demonstrate that an allowable mass of technetium-99 of 105 grams is the only contaminant specific WAC which will be used to screen materials for on-property disposal. A detailed WAC implementation approach is described in Section 5; however, this section provides the general strategy to be used.

G.4.6.1 Sufficiency of Existing Data

Because of the conservative nature of the characterization program for OU3 materials, there is inherent conservatism built into the source term and contaminant distribution estimates provided in Section 3. Therefore, using existing data should be sufficient to make conservative decisions regarding how to meet the allowable mass of technetium-99. The implementation strategy to meet the technetium-99 WAC is developed in Section 5 of this report.

G.4.6.2 Estimation of Post-remediation Source Terms

Based on the detailed implementation strategy to meet the allowable mass of technetium-99, certain materials will need to be dispositioned off-site or treated to reduce technetium-99 sources in addition to the administrative decisions to disposition Material Categories C, F, and J off-site. Source term estimates for these specific materials can be subtracted out from the total source terms and material quantities for on-property disposal in order to describe anticipated OU3 post-remediation conditions.

By removing materials to meet the technetium-99 WAC, source terms for most other COCs will be reduced as well.

G.4.6.3 Decontamination Process

Source term estimates that will be used to identify OU3 materials that would meet the allowable technetium-99 mass do not assume removal of contaminant sources through decontamination. Therefore, any decontamination applied to materials anticipated for on-property disposal would reduce contaminant source terms even further. This adds another layer of conservatism in ensuring that groundwater protection criteria will be met.

G.5 REGULATORY CONSTRAINTS

Because the on-property disposal facility will contain some LLW, some mixed wastes, and some hazardous materials, waste disposal will be regulated by EPA and DOE requirements. These potential statutory and regulatory requirements impacting on-property disposal of OU3 materials are listed in Appendix C. Many of these requirements relate to storage, treatment, handling, and packaging of materials. However, those regulatory requirements that specifically address disposal are discussed in this section to establish regulatory constraints. Determining pertinent regulatory constraints is dependent on the correct identification of the applicable or relevant and appropriate requirements (ARARs) and to be considered (TBCs) standards, which provide requirements for disposal of materials contaminated with chemical and radiological constituents. Table G-14 identifies the ARARs and TBCs which will be used to establish regulatory constraints. A comprehensive list of ARARs and TBCs for OU3 is provided in Appendix C.

A pre-proposal draft regulation issued by the US EPA (in 12/94) concerning LLW disposal requirements (40 CFR 193) evaluates the potential for "some types of LLW to be disposed in regulated facilities other than the LLW disposal system." The Atomic Energy Act, 42 U.S.C. 2014(e)(2), (ee), and Nuclear Waste Policy Act, 42 U.S.C. 10101 (12), (16), (23) define the term LLW to mean radioactive material that is not high-level radioactive waste (the highly radioactive material resulting from the reprocessing of spent nuclear fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing, is not transuranic waste [material contaminated with elements that have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 100 nCi/g]; or byproduct material [the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content]). All OU3 materials are considered LLW (or "other regulated LLW" under this EPA draft), mixed wastes, hazardous wastes, toxic substances control act (TSCA) wastes, or below baseline.

A total dose standard of 15 mrem/year total from all pathways would be established for a LLW disposal facility under this EPA draft; this would mandate a revision to the current DOE requirement under DOE Order 5820.2A of 25 mrem/year from all pathways except air (which is regulated by the National Emissions Standard for Hazardous Air Pollutants dose standard of 10 mrem/year). The OU2 remedial design submittals for construction of the on-property disposal facility will address these requirements.

Under the OU5 FS/PP, the FEMP was designated as a Corrective Action Management Unit (CAMU), as defined in 40 Code of Federal Regulations (CFR) 260.10 and developed in 40 CFR 264 Subpart S, which provides that "placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes." Adoption of the CAMU rule under the OU5 FS and ROD will have an impact on the final disposition of wastes from OU3. Under this rule, remediation waste can be

treated and consolidated from a portion of the site or from the total site without invoking the land disposal restrictions (LDRs) under RCRA; LDRs prohibit the placement of hazardous wastes in land disposal units unless the waste has been treated to certain concentration levels or by using specified technologies. In addition, minimum technological requirements (MTRs) are not invoked under the CAMU Rule. The decisions for US EPA to designate a CAMU are related to the function and purpose of managing remediation waste on site during cleanup, rather than to the areal extent and the contiguousness of the contamination prior to cleanup. Through the application of this rulemaking, contaminated media and any hazardous or solid waste generated during the remediation of OU3 may be managed in the CAMU, or moved between CAMUs, without triggering the applicability of the LDRs. The use of waste acceptance criteria for disposal in the on-property disposal facility will ensure protection of the underlying Great Miami Aquifer, allowing a more cost-effective disposal method than off-site shipment or meeting LDRs for on-property disposal.

There is the potential that, during the decontamination and dismantling of structure within OU3, waste material will be generated that is contaminated with polychlorinated biphenyls (PCBs). If these non-liquid wastes (in the form of contaminated soil, rags, or other debris) contain concentrations of PCBs in excess of 50 parts per million, then it will be necessary for the disposal facility to meet the requirements of 40 CFR 761.75 for chemical waste landfills. These requirements include soil, synthetic liners, hydrologic conditions, flood protection, topography, monitoring systems, leachate collection, and operations requirements. The on-property disposal facility as designed (per the OU2 ROD) will meet or exceed these requirements.

In addition to the requirements stated above, the requirements pertaining to disposing ACM are defined in the National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, Subpart M (40 CFR 61.154). Specifically, there must be no visible emissions from the disposal of asbestos containing material; cover must be placed over the area where the material has been disposed, which must consist of 6 inches of compacted non-asbestos containing material or a resinous or petroleum-based dust suppressant. Additionally, unless natural barriers prevent access by the public to the disposal site, there must be adequate warning signs posted at the entrance to and around the perimeter of the disposal site. These requirements will be addressed in the OU2 remedial design submittals. There are requirements for asbestos disposal that are related to material packaging and handling; the Ohio asbestos handling and packaging requirements are found in OAC 3745-2.

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TABLE G-1

MATERIAL QUANTITIES CONSIDERED FOR ON-PROPERTY DISPOSAL BY MATERIAL CATEGORY

RI/FS Material Category	Total Weight (kg)	Unbulked Volume (ft^3)
A - Accessible Metals	13,800,000	63,400
B - Inaccessible Metals	23,200,000	1,740,000
D - Painted Light Guage Metals	1,230,000	7,150
E - Concrete/Masonry	270,000,000	4,140,000
E - Asphalt/Clay Piping	20,800,000	560,000
G - Transite	2,470,000	48,600
G - Non-Regulated ACM (excluding transite)	941,000	22,700
H - Regulated ACM	1,300,000	80,200
I - Miscellaneous Materials	4,130,000	704,000
Totals	**338,000,000**	**7,370,000**

Note: Material Categories C, F, and J are excluded from potential on-property disposal.

TABLE G-2

MATERIAL SIZE CONSTRAINTS FOR ON-PROPERTY DISPOSAL

RI/FS Material Category	Associated Size Constraints
General for all categories	Any piece ≤ 10' in any dimension Any piece ≤ 1.5' height
A - Accessible Metals	Maximum length = 10' Maximum width = 4' Maximum height (including projections) = 1.5'
B - Inaccessible Metals	Maximum length = 10' Maximum width = 4' Maximum height (including projections) = 1.5' Pipes with diameter ≥ 12" split in half
D - Painted Light Gauge Metals	Maximum length = 10' Maximum width = 4' Maximum height (including projections) = 1.5'
E - Concrete	Maximum length = 6' Maximum width = 4' Maximum height = 1.5'
G - Non-regulated ACM	Maximum length = 8' Maximum width = 4' Maximum height = 1.5' (Bundled stacks)
H - Regulated ACM	Maximum volume/piece = 27 cu ft For Pipes: Maximum length = 10' Maximum width = 4' Maximum height (including projections) = 1.5' Pipes with diameter ≥ 12" split in half
I - Miscellaneous Materials	All miscellaneous materials will be compacted. Maximum length = 8' Maximum width = 4' Maximum height = 1.5' Rubber tires cut in half radially

Note: Material categories C, F and J are excluded from potential on-property disposal.

Monolithic objects that are not compressible and do not contain interior void space can exceed the maximum size limits on a limited basis.

TABLE G-3

NATURAL CONDITION TRAVEL TIME SCREENING

Analyte	Travel Time[d] (Yr)	Half Life (Yr)	Screened Out
Radionuclides			
Americium-241[a]	1,070	432	Yes
Cesium-137	36,800	30.2	Yes
Lead-210	28,000	22.3	Yes
Neptunium-237	581	2,140,000	No
Plutonium-238	17,000	87.9	Yes
Plutonium-239/240	17,000	24,100	Yes
Plutonium-241[a]	17,000	13.2	Yes
Polonium-210	29,700	0.379	Yes
Radium-226	7,940	1,600	Yes
Radium-228	7,940	5.76	Yes
Strontium-90	132	28.6	No
Technetium-99	10.5	213,000	No
Thorium-227	100,000	18.2	Yes
Thorium-228	100,000	1.91	Yes
Thorium-230	100,000	77,000	Yes
Thorium-232	100,000	14,000,000,000	Yes
Total Uranium[b]	58.6	4,470,000,000	No
Inorganics			
Antimony	2,960	NA	Yes
Arsenic	4,780	NA	Yes
Barium	10,700	NA	Yes
Beryllium	15,600	NA	Yes
Cadmium	4,760	NA	Yes
Chromium VI[c]	397	NA	No
Copper	1,660	NA	Yes
Lead	28,000	NA	Yes
Manganese	2,390	NA	Yes
Mercury	243	NA	No
Nickel	11,800	NA	Yes
Thallium	35,800	NA	Yes
Vanadium	12,100	NA	Yes
Zinc	24,900	NA	Yes

Analyte	Travel Time[d] (Yr)	Half Life (Yr)	Screened Out
Organics			
1,4-Dichlorobenzene	166	1.00	Yes
alpha-Chlordane	43.9	NA	No
Aroclor-1248[a]	70,800	NA	Yes
Aroclor-1254	70,800	NA	Yes
Aroclor-1260	85,300	NA	Yes
Benzo(a)anthracene	26,500	7.60	Yes
Benzo(b)fluoranthene	246,000	6.78	Yes
Benzo(a)pyrene	63,100	7.60	Yes
Dieldrin	818	7.00	Yes
gamma-Chlordane	43.9	NA	No
Hexachlorobutadiene	3,990	1.00	Yes
Nitrobenzene	8.71	1.10	No
Tetrachloroethene	26.5	4.52	No

[a] Additional OU3 COCs screened out using same methodology presented in OU5 RI
[b] Total uranium represents isotopic uranium
[c] Assume Chromium analytical results represent Chromium VI
[d] Input parameters used to calculate travel time are provided in Table F.3.5-3 of the OU5 RI. Parameters for Zone III were used since this is the area wth a minimum grey clay thickness in the vicinity of the on-property disposal facility.

TABLE G-4

COMPARISON OF MAXIMUM CONCENTRATIONS OF POTENTIAL BREAKTHROUGH COCs TO SOIL WAC

Potential Breakthrough COCs	OU5 Solid Phase Soil WAC	Maximum Concentration Detected in OU3 Materials[a]
Radionuclides		
Neptunium-237 (pCi/g)	3.12×10^{9}	4.90×10^{1}
Strontium-90 (pCi/g)	5.67×10^{10}	5.97×10^{1}
Technetium-99 (pCi/g)	2.91×10^{1}	8.10×10^{3}
Total Uranium[b] (μg/g)	1.03×10^{3}	6.50×10^{4}
Inorganics		
Chromium VI[c] (mg/kg)	Pure product	1.73×10^{4}
Mercury (mg/kg)	5.66×10^{4}	3.26×10^{1}
Organics		
alpha-Chlordane (mg/kg)	2.89×10^{0}	7.10×10^{-2}
gamma-Chlorodane (mg/kg)	NA	7.60×10^{-2}
Nitrobenzene (mg/kg)	NA	5.66×10^{2}
Tetrachloroethene (mg/kg)	1.28×10^{2}	1.18×10^{3}

[a] Excludes Material Categories C, F, and J
[b] Uranium isotopes are represented by total uranium
[c] Assumes chromium analytical results represent chromium VI

TABLE G-5
GEOCHEMICAL AND CHEMICAL PARAMETERS FOR CALCULATING ALLOWABLE MASS

COC	Clay Liner K_d (L/kg)	Gray Clay K_d (L/kg)	UNSAT.GMA K_d (L/kg)	GMA K_d (L/kg)	Half Life (Years)
Radionuclides					
Neptunium-237	5.50E+1	5.50E+1	5.00E+1	5.00E+0	2.14E+6
Strontium-90	1.00E+1	1.00E+1	2.50E+1	2.50E+1	2.86E+1
Technetium-99	6.00E-1	6.00E-1	7.00E-2	7.00E-2	2.13E+5
Total Uranium	2.40E+1	3.10E+0	1.78E+0	1.78E+0	4.47E+9
Chromium (VI)[a]	3.70E+1	3.70E+1	3.70E+0	3.70E+0	NA
Mercury	1.00E+1	1.00E+1	1.00E+1	1.00E+1	NA
Organics					
Tetrachloroethene	1.88E+0	1.88E+0	3.55E-1	3.55E-1	4.52E+0
Nitrobenzene	3.92E-1	3.92E-1	7.40E-2	7.40E-2	1.10E+0
alpha-Chlordane	3.34E+0	3.34E+0	6.31E-1	6.31E-1	NA
gamma-Chlordane	3.34E+0	3.34E+0	6.31E-1	6.31E-1	NA

[a] Technetium-99 K_d in clay liner and gray clay was based on site-specific value reported in "Adsorption of Select Metals and Radionuclides on Glacial Overburden Present at the FEMP" (IT 1993).

TABLE G-6

DEVELOPMENT OF TOTAL ALLOWABLE MASS

Potential Breakthrough COCs	Great Miami Aquifer Risk Criteria	Acceptable Concentration Under 70-Year Constant Source Loading (μg/L)	Total Infiltration Volume for 70 Years[a] (L)	Total Allowable Mass Under 70-Year Constant Source Loading (kg)
Radionuclides				
Neptunium-237	1×10^{-5} ILCR	3.18×10^{8}	1.58×10^{8}	5.05×10^{7}
Strontium-90	1×10^{-5} ILCR	2.33×10^{5}	1.58×10^{8}	3.70×10^{4}
Technetium-99	1×10^{-5} ILCR	6.65×10^{-1}	1.58×10^{8}	1.06×10^{-1}
Total Uranium	MCL	4.21×10^{5}	1.58×10^{8}	6.69×10^{4}
Inorganics				
Chromium VI	HQ=0.2	3.14×10^{11}	1.58×10^{8}	4.99×10^{10}
Mercury	MCL	2.08×10^{7}	1.58×10^{8}	3.30×10^{6}
Organics				
alpha-Chlordane	MCL	6.10×10^{3}	1.58×10^{8}	9.69×10^{2}
gamma-Chlordane	MCL	6.10×10^{3}	1.58×10^{8}	9.69×10^{2}
Nitrobenzene	HQ=0.2	Pure Product	1.58×10^{8}	Pure Product
Tetrachloroethene	MCL	Pure Product	1.58×10^{8}	Pure Product

[a] Infiltration rate = 0.89 in/yr, Constant source leachate concentration for 70 years, Time frame = 1000 years.

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TABLE G-7

DEVELOPMENT OF OPERABLE UNIT 3 ALLOWABLE MASS

Potential Breakthrough COCs	Allowable Total Mass Based on 70-year WAC* (kg)	Estimated Initial Soil Leachate Concentration (mg/L)	Estimated Mass Dissolved in 70 years from Soil (kg)	Remaining Allowable Additional Mass from OU3 Materials Under 70-Year Constant Source Loading (kg)
Radionuclides				
Neptunium-237	5.05×10^{7}	2.64×10^{-5}	4.19×10^{-3}	5.05×10^{7}
Strontium-90	3.70×10^{4}	2.77×10^{-9}	4.40×10^{-7}	3.70×10^{4}
Technetium-99	1.06×10^{-1}	3.33×10^{-6}	5.29×10^{-4}	1.05×10^{-1}
Total Uranium	6.69×10^{4}	6.67×10^{0}	1.06×10^{3}	6.58×10^{4}
Inorganics				
Chromium VI	4.99×10^{10}	8.43×10^{-8}	1.34×10^{1}	4.99×10^{10}
Mercury	3.30×10^{6}	5.44×10^{-2}	8.64×10^{0}	3.30×10^{6}
Organics				
alpha-Chlordane	9.69×10^{2}	4.18×10^{-5}	6.64×10^{-3}	9.69×10^{2}
gamma-Chlordane	9.69×10^{2}	4.18×10^{-5}	6.64×10^{-3}	9.69×10^{2}
Nitrobenzene	Pure Product	NA	NA	Pure Product
Tetrachloroethene	Pure Product	NA	NA	Pure Product

* Referenced from Table G-6

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TABLE G-8

COMPARISON OF SOURCE TERM ESTIMATES TO ALLOWABLE MASS

Potential Breakthrough COCs	Source Term[c] (kg)	Maximum Source Term[c] (kg)	OU3 Allowable Mass Under 70-Year Constant Source Loading (kg)
Radionuclides			
Neptunium-237	6.99×10^{-2}	6.84×10^{0}	5.05×10^{7}
Strontium-90	7.96×10^{-6}	1.17×10^{-4}	3.70×10^{4}
Technetium-99	1.16×10^{-1}	1.25×10^{2}	1.05×10^{-1}
Total Uranium[a]	5.84×10^{4}	1.72×10^{7}	6.58×10^{4}
Inorganics			
Chromium VI[b]	2.21×10^{6}	2.39×10^{6}	4.99×10^{10}
Mercury	2.88×10^{1}	3.39×10^{3}	3.30×10^{6}
Organics			
alpha-Chlordane	4.00×10^{-2}	1.87×10^{1}	9.69×10^{2}
gamma-Chlordane	4.26×10^{-2}	2.00×10^{1}	9.69×10^{2}
Nitrobenzene	1.55×10^{2}	1.40×10^{3}	Pure Product
Tetrachloroethene	3.51×10^{2}	2.92×10^{3}	Pure Product

[a] Total uranium represents isotopic uranium
[b] Assumes chromium analytical results represents chromium VI
[c] Excludes Material Categories C, F, and J (developed in Appendix B)

TABLE G-9
MATERIAL CATEGORY EVALUATION

Material Description	Total Weight		Unbulked Volume		Technetium-99		Uranium, Total	
	Weight (kg)	Relative Percent	Volume (cu.ft.)	Relative Percent	Source Term (kg)	Relative Percentage	Source Term (kg)	Relative Percentage
Cementicious Materials (E and G)	272,000,000	80.60%	4,190,000	56.88%	1.04E-01	89.53%	49,400	82.66%
Metals (A, B, and D)	38,300,000	11.35%	1,810,000	24.57%	6.42E-03	5.53%	6,190	10.36%
Asphalt/Clay Piping (E)	20,800,000	6.16%	560,000	7.60%	5.05E-03	4.35%	2,570	4.30%
Miscellaneous Materials (I)	4,130,000	1.22%	704,000	9.56%	1.37E-04	0.12%	248	0.41%
Non-Regulated ACM (excluding transite)(G)	941,000	0.28%	22,700	0.31%	4.90E-04	0.42%	1,240	2.07%
Regulated ACM (H)	1,300,000	0.39%	80,200	1.09%	5.99E-05	0.05%	116	0.19%
Total	337471000	100.00%	7366900	100.00%	1.16E-01	100.00%	59764	100.00%

Note: Categories C, F, and J are excluded from potential on-property disposal.

TABLE G-10

SUMMARY OF COC SCREENING

Constituents of Concern[a]	COCs Associated with Construction Materials Considered for On-Property Disposal	COCs Remaining After 1000 Year Travel Time Screening (Potential Breakthrough COCs)	COCs Remaining After Screening Using 70 Year Rule (Post-remediation COCs)
Radionuclides			
Americium-241	•		
Cesium-137	•		
Lead-210	•		
Neptunium-237	•	•	
Plutonium-238	•		
Plutonium-239/240	•		
Plutonium-241	•		
Polonium-210	•		
Radium-226	•		
Radium-228	•		
Strontium-90	•	•	
Technetium-99	•	•	•
Thorium-227	•		
Thorium-228	•		
Thorium-230	•		
Thorium-232	•		
Total Uranium	•	•	•
Inorganics			
Antimony	•		
Arsenic	•		
Barium	•		
Beryllium	•		
Cadmium	•		
Chromium VI	•	•	
Copper	•		
Lead	•		
Manganese	•		

TABLE G-10 (Continued)

SUMMARY OF COC SCREENING

Constituents of Concern*	COCs Associated with Construction Materials Considered for On-Property Disposal	COCs Remaining After 1000 Year Travel Time Screening (Potential Breakthrough COCs)	COCs Remaining After Screening Using 70 Year Rule (Post-remediation COCs)
Inorganics (Cont'd)			
Mercury	•	•	
Nickel	•		
Selenium			
Silver			
Thallium	•		
Vanadium	•		
Zinc	•		
Organics			
1,4-Dichlorobenzene	•		
2,4-Dinitrotolulene			
alpha-Chlordane	•	•	
Aroclor-1248	•		
Aroclor-1254	•		
Aroclor-1260	•		
Benzene			
Benzo(a)anthracene	•		
Benzo(a)pyrene	•		
Benzo(k)fluoranthene			
Benzo(b)fluoranthene	•		
bis(2-Ethylhexyl)phthlate			
Carbazole			
Chrysene			
Dibenzo(a,h)anthracene			
Dieldrin	•		
gamma-Chlordane	•	•	
Hexachlorobutadiene	•		
Indeno (1,2,3-cd) pyrene			

TABLE G-10 (Continued)

SUMMARY OF COC SCREENING

Constituents of Concern[a]	COCs Associated with Construction Materials Considered for On-Property Disposal	COCs Remaining After 1000 Year Travel Time Screening (Potential Breakthrough COCs)	COCs Remaining After Screening Using 70 Year Rule (Post-remediation COCs)
Organics (Cont'd)			
N-Nitroso-di-n-dipropylamine			
Nitrobenzene	•	•	
Pentachlorophenol			
Stryene			
Tetrachloroethene	•	•	

[a] COCs were identified based on toxicological screening in Appendix A

TABLE G-11

CONCENTRATION COMPARISON FOR SOIL LEACHATE ENDMEMBER

Potential Breakthrough COCs	Estimated Initial Concentration (μg/L)	Acceptable Concentration Under 70-Year Constant Source Loading (μg/L)	Solubility Concentration (μg/L)
Chromium	8.44×10^{1}	3.14×10^{11}	2.15×10^{1}
Mercury	5.44×10^{1}	2.08×10^{7}	4.18×10^{-4}
Neptunium-237	2.64×10^{-2}	3.18×10^{8}	3.57×10^{-3}
Strontium-90	2.77×10^{-6}	2.33×10^{5}	[a]
Technetium-99	3.33×10^{-3}	6.65×10^{-1}	[b]
Total Uranium	6.67×10^{3}	4.21×10^{5}	8.23×10^{2}

[a] Constituent was not evaluated for solubility constraint because total strontium is unknown.

[b] Constituent is undersaturated with respect to precipitation of solid phases at the estimated initial concentration and at the acceptable concentration under 70-year constant source loading.

TABLE G-12

CONCENTRATION COMPARISON FOR CEMENT LEACHATE ENDMEMBER

Potential Breakthrough COCs	Estimated Initial Concentration[a] (μg/L)	Acceptable Concentration Under 70-Year Constant Source Loading (μg/L)	Solubility Concentration (μg/L)
Chromium	3.4×10^{0}	3.14×10^{11}	[b]
Mercury	1.0×10^{-1}	2.08×10^{7}	2.09×10^{-11}
Neptunium-237	2.84×10^{-4}	3.18×10^{8}	3.01×10^{-2}
Strontium-90	2.93×10^{-9}	2.33×10^{5}	[c]
Technetium-99	9.15×10^{-2}	6.65×10^{-1}	[d]
Total Uranium	1.68×10^{2}	4.21×10^{5}	3.53×10^{-5}

[a] Values obtained from Tables G.I-6 (Tc), G.I-7 (Cr, Hg), and G.I-8 (Sr, Np, U).

[b] Constituent did not reach a solubility limit at a chromium concentration of 50,000 ug/L.

[c] Constituent was not evaluated for solubility constraint because total strontium is unknown.

[d] Constituent is undersaturated with respect to precipitation of solid phases at the estimated initial concentration and at the acceptable concentration under 70-year constant source loading.

TABLE G-13

CONCENTRATION COMPARISON IN LEACHATE MIXTURE

Potential Breakthrough COCs	Estimated Initial Concentration (μg/L)	Acceptable Concentration Under 70-Year Constant Source Loading (μg/L)	Solubility Concentration (μg/L)
Chromium	5.77×10^{1}	3.14×10^{11}	1.61×10^{1}
Mercury	3.65×10^{1}	2.08×10^{7}	1.37×10^{-3}
Neptunium-237	1.78×10^{-2}	3.18×10^{8}	6.18×10^{-3}
Strontium-90	1.86×10^{-6}	2.33×10^{5}	[a]
Technetium-99	3.24×10^{-2}	6.65×10^{-1}	[b]
Total Uranium	4.52×10^{3}	4.21×10^{5}	1.51×10^{2}

[a] Constituent was not evaluated for solubility constraint becuase total strontium is unknown.

[b] Constituent is undersaturated with respect to precipitation of solid phases at the estimated initial concentration and at the acceptable concentration under 70-year constant source loading.

TABLE G-14

REGULATORY CONSTRAINTS

Citation	Description	Requirements
1) Corrective Action Management Unit RCRA 40 CFR 264.552, Subpart S 58 FR 865829 February 16, 1993	A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility. For the purposes of implementing remedies under 40 CFR 264.101 or RCRA Section 3008(h), the Regional Administrator may designate an area at a facility as a CAMU, as defined above. One or more CAMUs may be designated at a facility under the following conditions: (1) Emplacement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes. (2) Consolidation or emplacement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements. Note: A CAMU might be designated at the site as areas where remediation wastes might be handled and/or disposed during the remedial action. Note: RCRA regulated hazardous waste management units (HWMUs) within a CAMU are fully subject to RCRA Closure regulations.	The substantive (concentration-based and characteristic-based) requirements of the Land Disposal Restrictions (LDR) of 40 CFR 268.41 and .43 will be applied to OU3 materials. The technology-based LDR of 40 CFR 268.42, Tables 2 and 3, shall be met to the extent practicable, or to the substantive levels of 40 CFR 268.41 and .43.
2) PCB Manufacturing Processing, Distribution, and Use Prohibitions 40 CFR 761.3 and .60(a)(4)	Any non-liquid PCB at concentrations of 50 ppm or greater in the form of contaminated soil, rags, or other debris shall be disposed at a facility authorized to manage this type of PCB material.	Only material containing <50 ppm PCB will be accepted for on-property disposal.
3) ACM 40 CFR 61.154	No visible emissions from disposal of asbestos containing materials. Access restrictions. Marking of disposal area.	Daily cover placed over asbestos containing waste. Waste will be double bagged to prevent fugitive/ visible emissions. Signs placed at the entrance to and around disposal facility.

002504

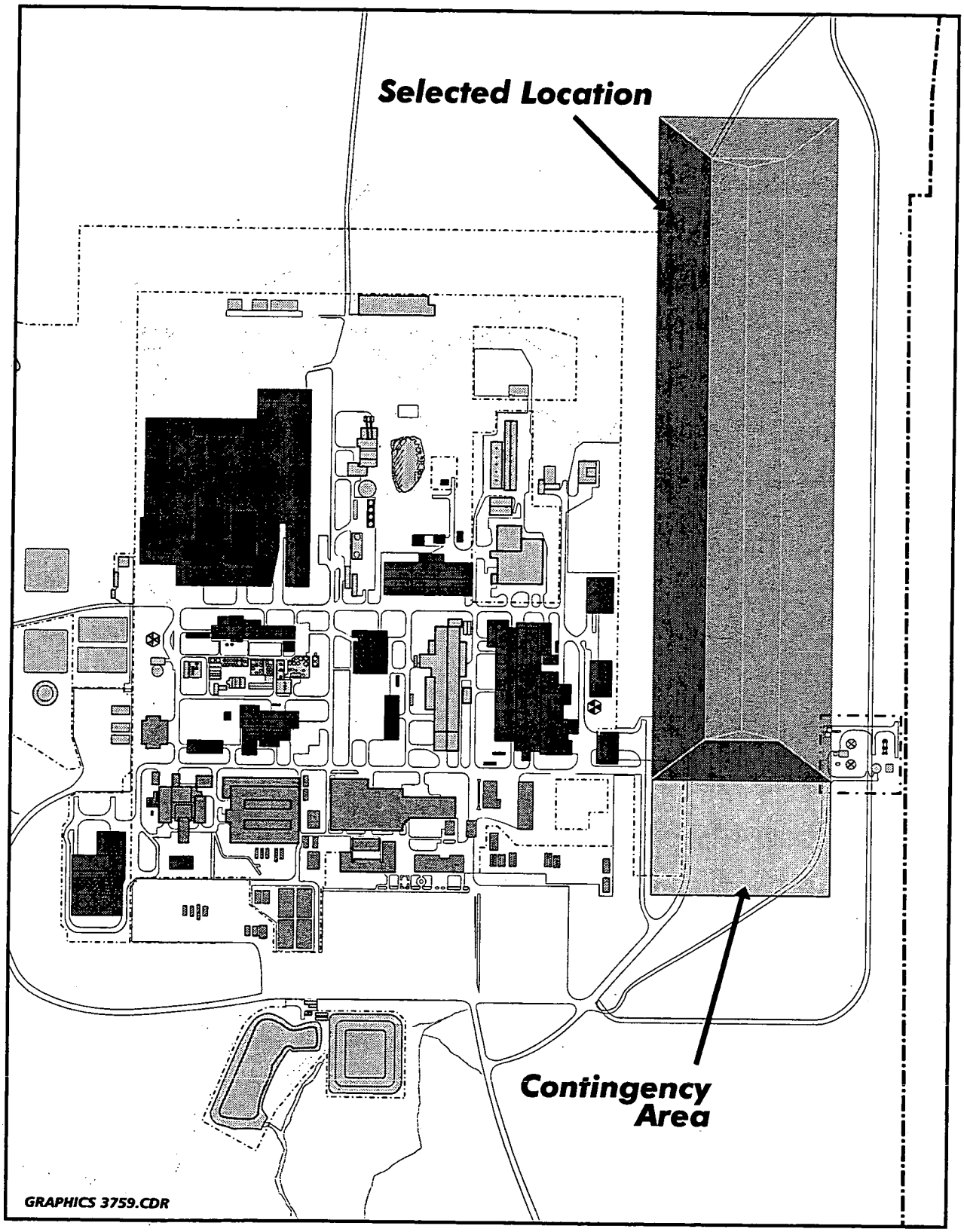

FIGURE G-1 SELECTED LOCATION FOR THE ON-PROPERTY DISPOSAL FACILITY

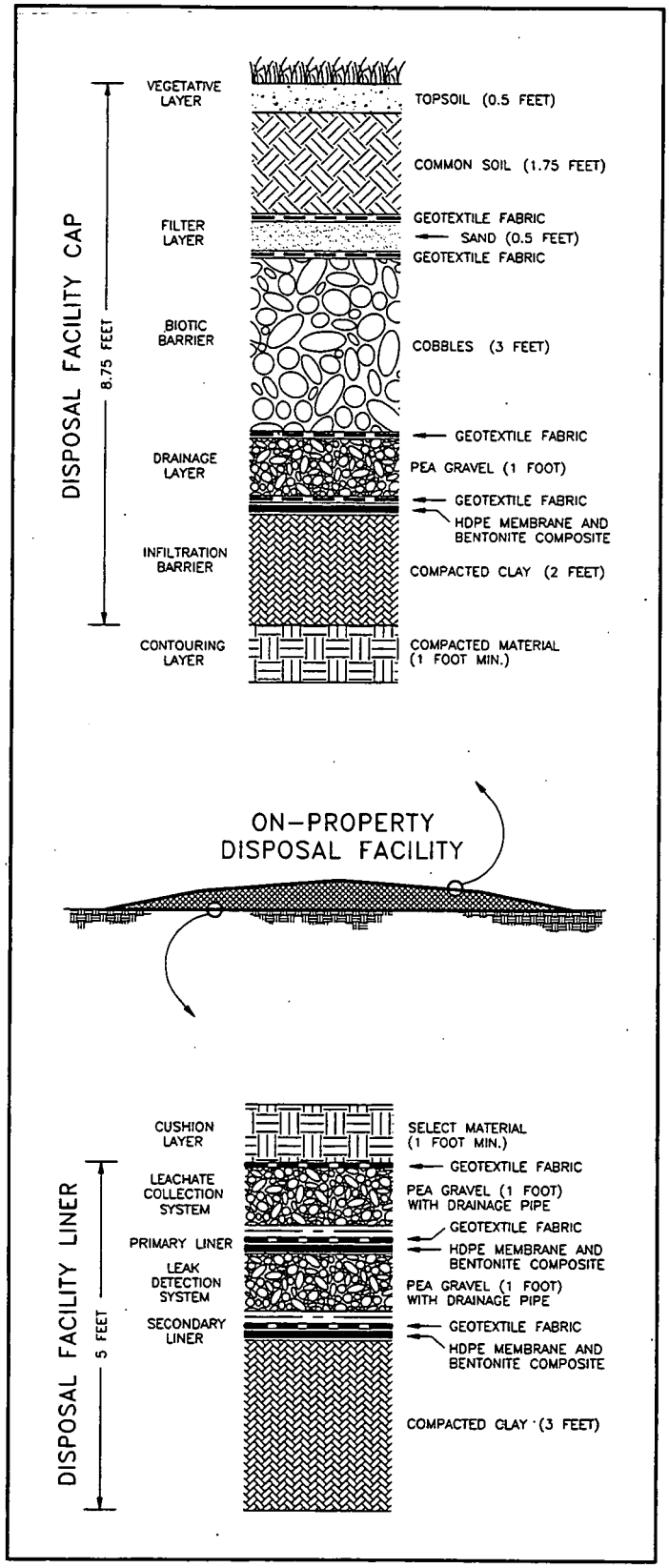

FIGURE G-2

MULTI-LAYER LINER AND CAPPING SYSTEM FOR THE ON-PROPERTY DISPOSAL FACILITY

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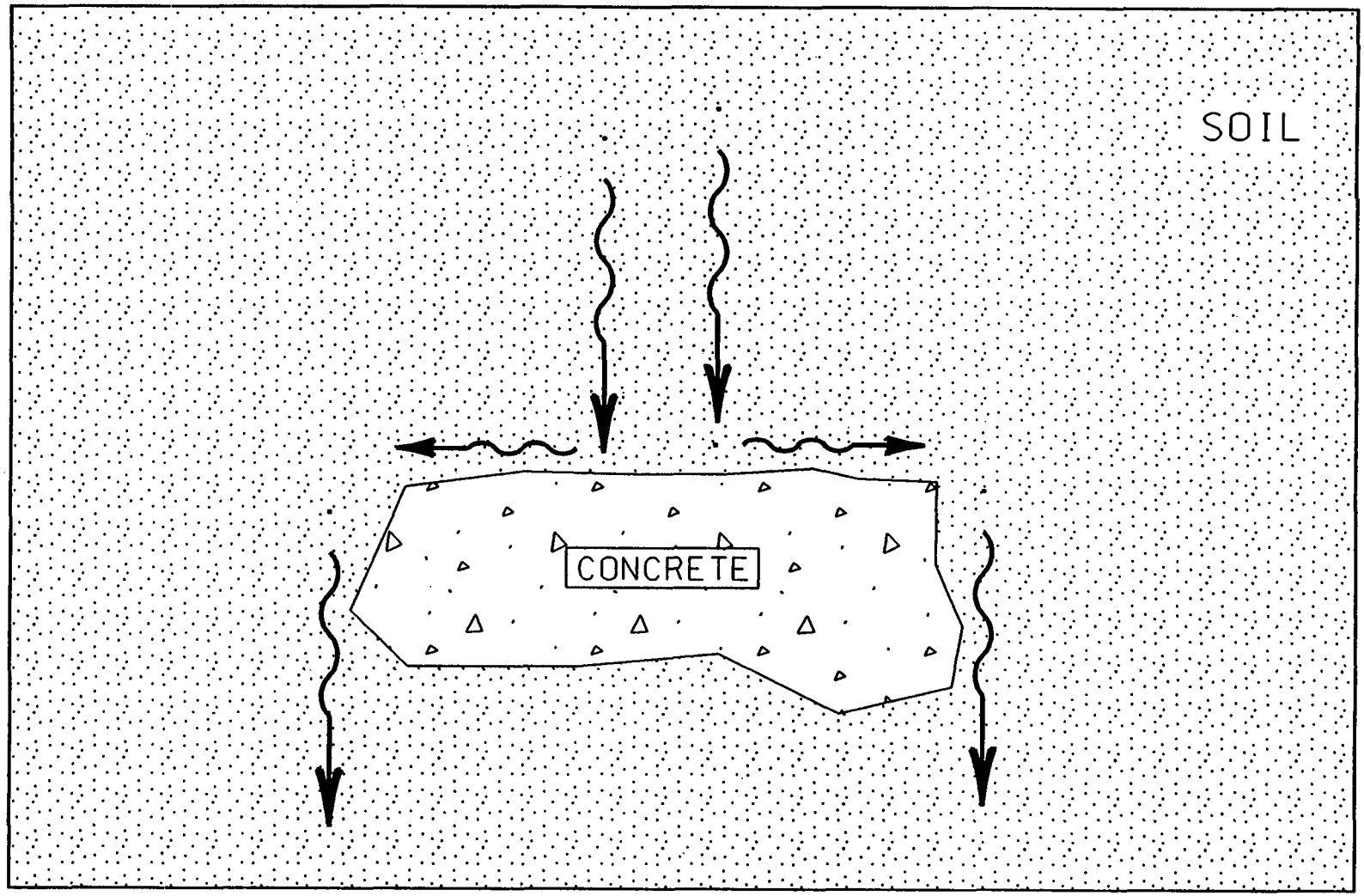

NOTE: ROUTE OF INFILTRATING WATER FOLLOWING THE PATHWAY OF LEAST RESISTANCE DUE TO HIGHER PERMEABILITY IN SOILS THAN CONCRETE

FIGURE G-3 WATER MIGRATION THROUGH DISPOSAL FACILITY

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/usr/ermo5/3oco4/dgn/celldwg.dgn

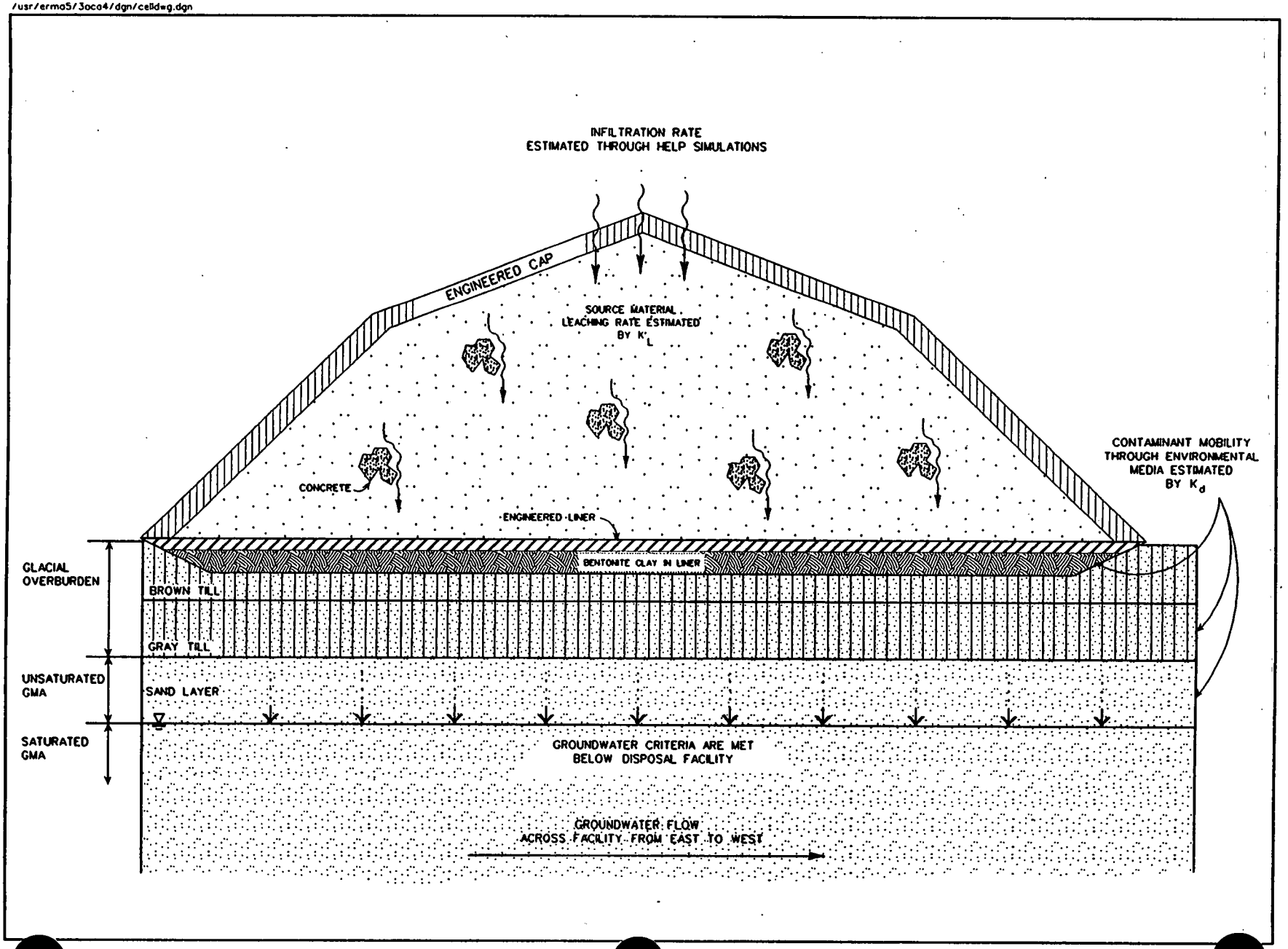

FIGURE G-4 CONCEPTUAL CONTAMINANT TRANSPORT TO GMA

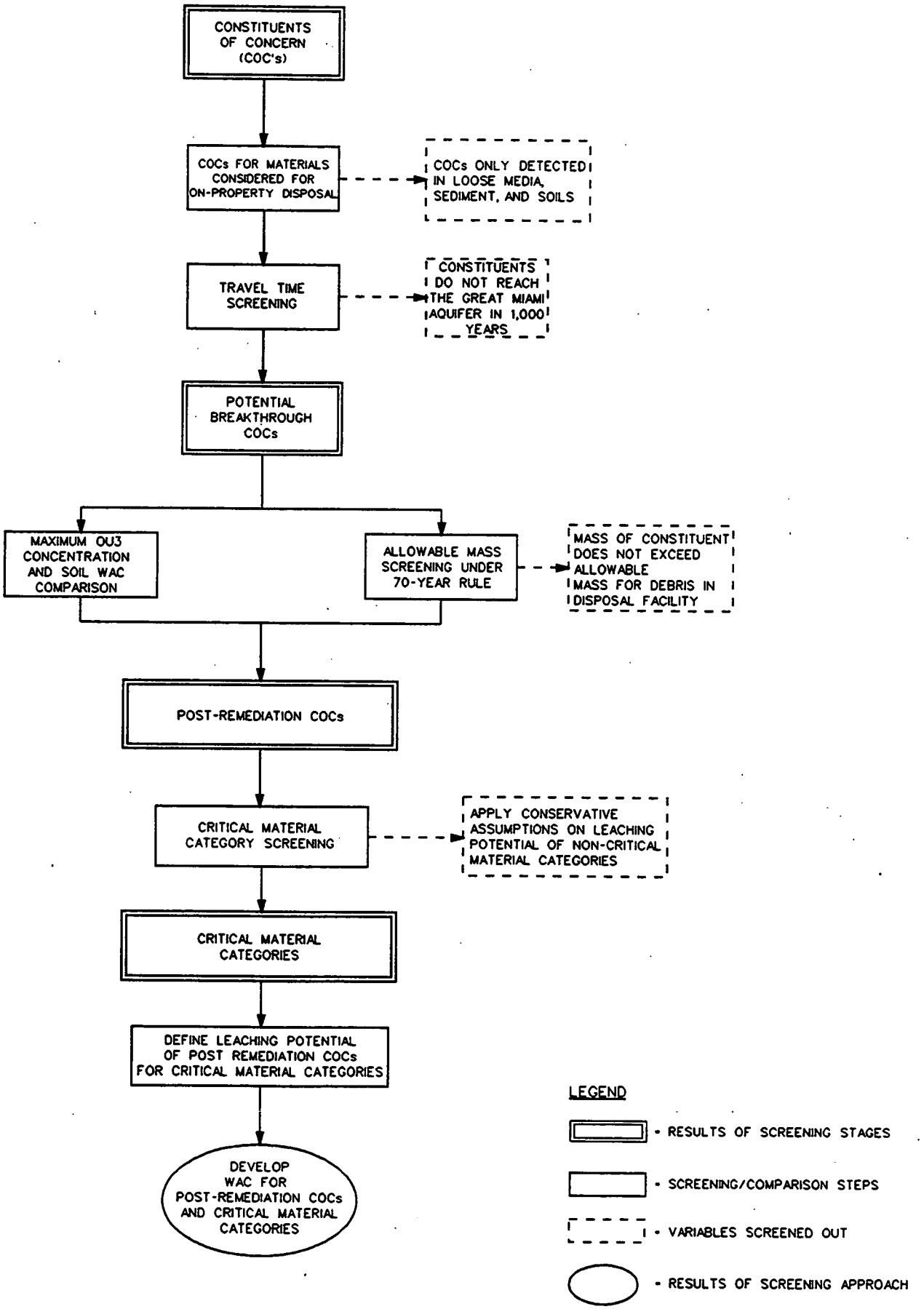

FIGURE G-5 BOUNDING SCREENING AND WAC DEVELOPMENT APPROACH

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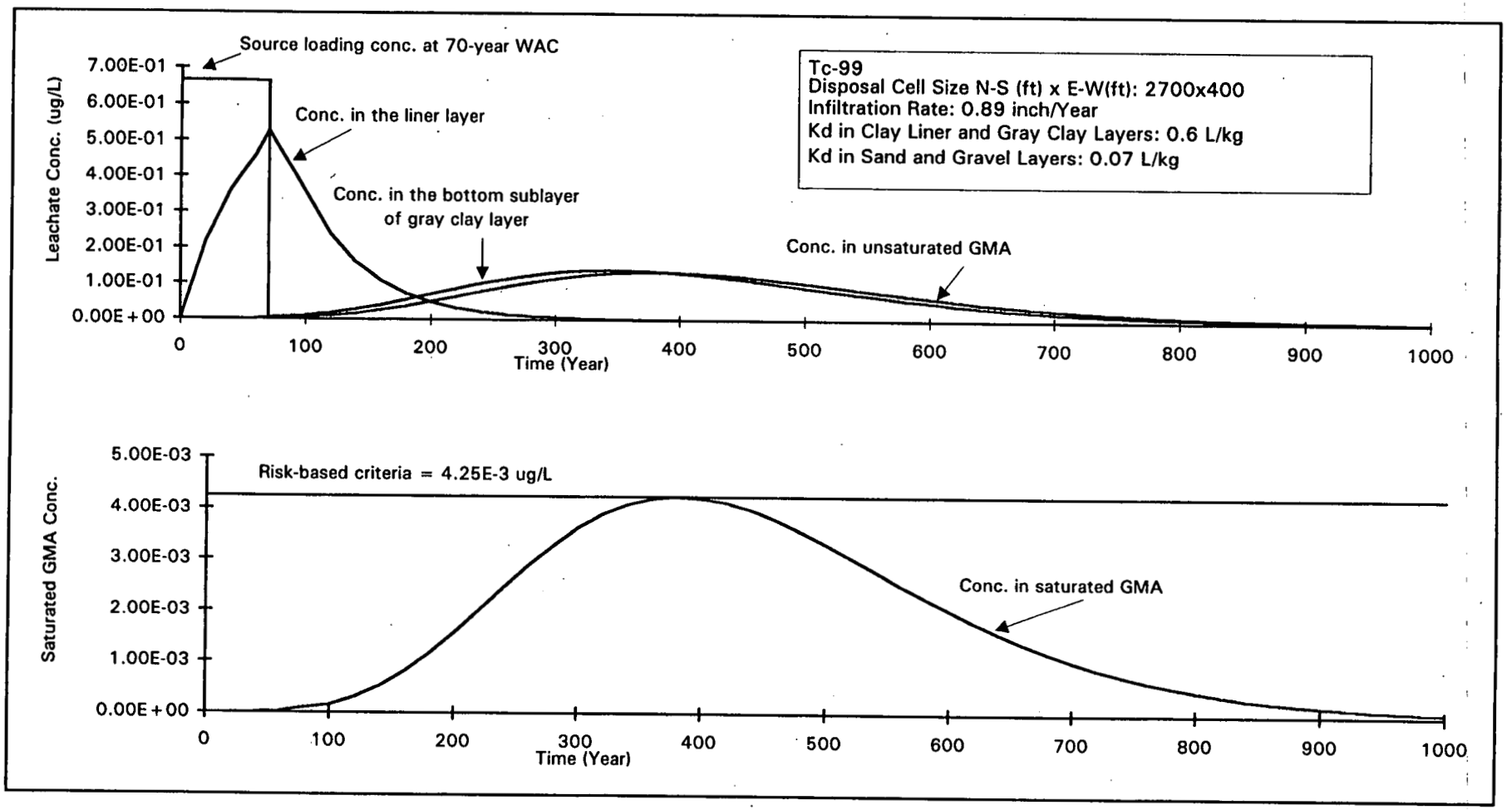

FIGURE G-6

DEMONSTRATIVE FATE AND TRANSPORT MODELING OUTPUT

002203

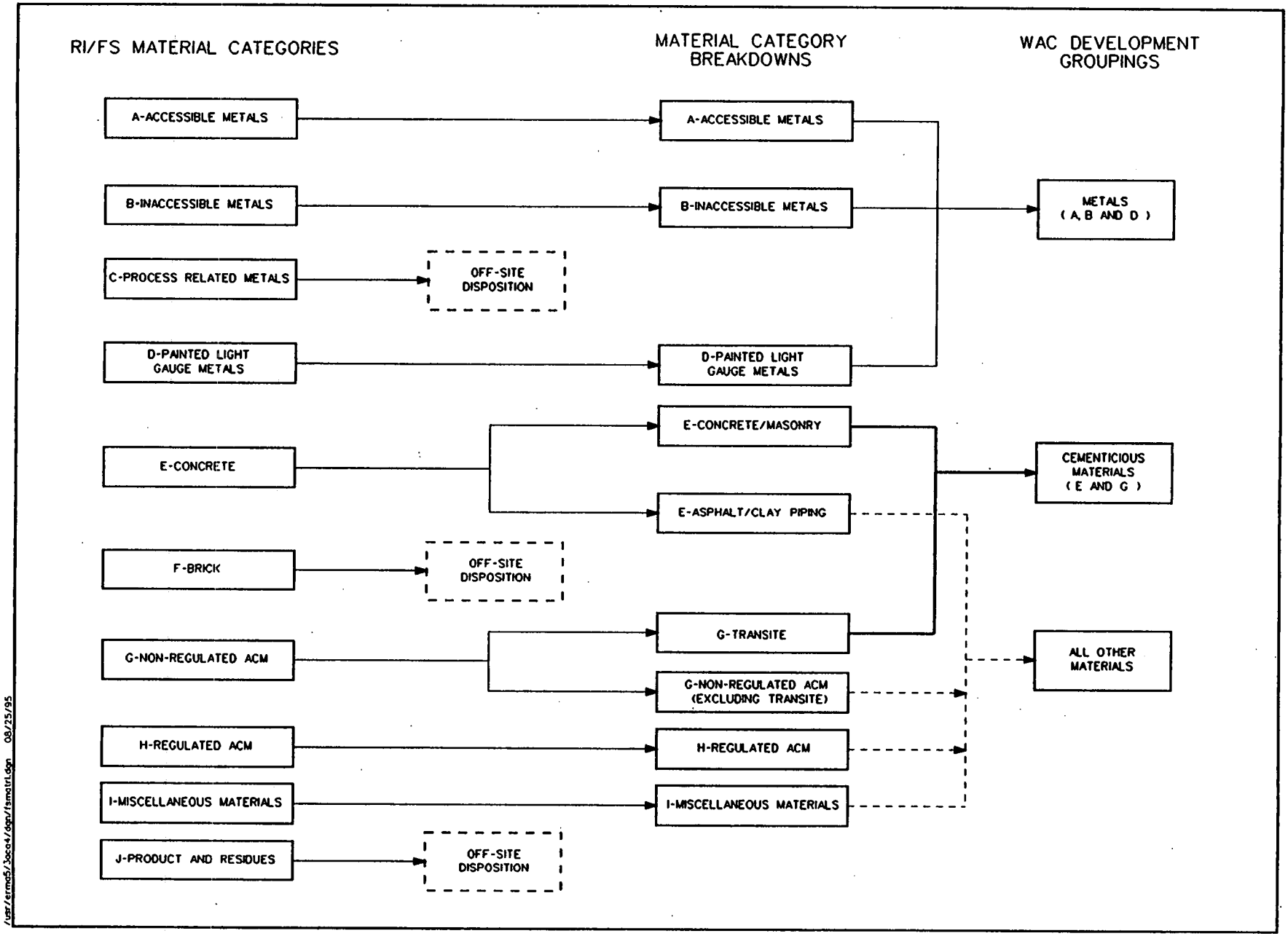

FIGURE G-7 MATERIAL CATEGORY EVALUATION

002708

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002503

G.1

ATTACHMENT G.I

DETAILED DESCRIPTION OF OPERABLE UNIT 3 LEACHING STUDIES AND RESULTS

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LIST OF ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
ANS	American Nuclear Society
ASL	analytical support level
ASTM	American Society for Testing and Materials
COC	constituent of concern
EPA	Environmental Protection Agency
FACTS	Fernald Analytical Computerized Tracking System
FS	feasibility study
FEMP	Fernald Environmental Management Project
g	gram
IDL	instrument detection limit
in	inch
ISO	International Organization for Standardization
kg	kilogram
L	liter
MDC	minimum detectable concentration
mg	milligram
ml	milliliter
OU	operable unit
pCi	picocurie
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
SCQ	Sitewide CERCLA Quality Assurance Project Plan
SI	saturation index
TPU	total propagated uncertainty
WAC	waste acceptance criteria
WPA	Operable Unit 3 RI/FS Work Plan Addendum
μg	micrograms
μm	micron

G.I DETAILED DESCRIPTION OF OPERABLE UNIT 3 LEACHING STUDIES AND RESULTS

G.I.1 INTRODUCTION

The contaminant leaching potential of uranium and technetium-99 from concrete and paint coatings was used to properly assess the impact of placing Operable Unit 3 (OU3) construction materials in an engineered, on-property disposal facility with contaminated soils and soil-like materials from other operable units. The leaching potential of OU3 materials was determined through experimental leaching studies, similar to the studies conducted to support the OU2 and OU5 Feasibility Study (FS) Reports (DOE 1995a; DOE 1995b). Concrete and paint coating samples were each placed in leaching solutions to determine material-specific leaching coefficients for uranium and technetium-99.

Preliminary concrete and paint coating samples were collected at the start of the leachability study program. However, because of possible cross contamination problems in the laboratory for the initial program, an additional and more comprehensive leaching study was initiated, and the results of this second study supersede the preliminary data. All data for the entire study, data validation qualifiers, minimum detectable concentrations (MDCs), total propagated uncertainties (TPUs), and units for the leaching study are provided in Appendix L.6. This attachment only presents and discusses the data used to determine contaminant- and material-specific leachability. Appendix L.5 links the leaching study laboratory sample number and time of sample, used in this attachment to the Fernald Analytical Computerized Tracking System (FACTS) ID number, sample ID number, and parameters in Appendix L.6.

This attachment provides a description of the leaching study sampling strategy and the two-step desorption batch test, derivation of equations for determining leaching coefficients, and presentation and discussion of the results.

G.I.2 DESCRIPTION OF TWO-STEP BATCH TEST

The objectives of the two-step desorption batch tests, sampling locations, collection procedure, and laboratory procedure used to conduct the batch tests are discussed in this section.

G.I.2.1 Objectives

To evaluate the potential impact of disposing materials in the on-property disposal facility and develop waste acceptance criteria (WAC), the availability and mobility of constituents of concern (COCs) from specific waste material categories need to be properly defined. However, typical total concentration measurements in the waste materials alone cannot provide all the necessary information regarding the availability and mobility of COCs. Therefore, the following criteria were used to evaluate available standard chemical extraction procedures that are suitable for determining these key factors in WAC development:

- Estimate the total contaminant mass in the tested material;
- Estimate the potential natural leachate concentration of the contaminant from the tested material;
- Identify the exchangeable fraction of the contaminant in the tested material;
- Estimate the time rate of release of the contaminant from the tested material;

- Determine the predominant mineral forms of the contaminant in the tested material; and

- Estimate the oxidation state of the contaminant in the tested material.

As summarized in a Nuclear Regulatory Commission document (Amonette 1994), none of the 11 existing procedures evaluated (e.g., ANSI/ANS-161-1986, American Society for Testing and Materials [ASTM] D 3974-81, EPA/SW 846-1311, etc.) can individually satisfy all the above-listed criteria. As a result of this evaluation, a systematic approach was developed to generate the required information for OU3 contaminated materials. This systematic approach consisted of direct total concentration measurements, two-step desorption batch tests, and geochemical modeling based on the measured chemical composition of the leachate from the batch test. This attachment describes the two-step desorption batch test, which is the major component of the systematic approach, and presents a comparison of geochemical modeling results to the experimental leaching study data.

G.I.2.2 Sampling Location and Collection Procedure

Understanding uranium forms was important in selecting the sample locations for the leaching studies. Because of the diverse uranium processing steps used at the Fernald Environmental Management Project (FEMP), uranium contamination is present in several forms with varying degrees of solubility. A study conducted in support of the OU5 Remedial Investigation (RI) (DOE 1995b) categorized the uranium forms present at the FEMP into one of three solubility classes: low, moderate, and high solubility. Based on process knowledge, uranium contaminant forms associated with process areas in OU3 components were identified in Table A.3 in the OU3 RI/FS Work Plan Addendum (WPA) (DOE 1993). Several concrete and paint coating samples were taken in selected areas to represent each uranium solubility class. In addition, sampling locations were biased toward areas of known high uranium levels in process buildings at the FEMP, based on available remedial investigation/feasibility study (RI/FS) characterization data. Technetium-99 has also been found to exist in two solubility forms: low and high solubility. Samples for the leaching study were taken in process areas with a suspected range of technetium-99 forms to determine whether leaching parameters are affected by the varied forms. All sampling locations were taken in areas where contamination levels of both uranium and technetium-99 were expected to exceed the OU5 soil WAC (i.e., 1030 μg/g and 29.1 pCi/g, respectively) to promote detection of solid and liquid concentrations.

Paint coating samples were taken from six locations and concrete cores were taken from twelve locations from process buildings at the FEMP, as shown in Figures G.I-1 and G.I-2. Samples were taken at numerous locations to provide more representative data. The RI/FS sample locations, which were used to select leachability study sampling locations based on uranium and technetium-99 results for these samples, are cross-referenced in Table G.I-1.

G.I.2.2.1 Concrete Sample Collection

The intent of conducting leachability studies on construction materials was to determine leaching coefficients for materials as they would be placed in the disposal facility. As discussed in further detail in Section G.3.2, the expected size of concrete to be disposed in the facility consists of large blocks of debris not to exceed a height of 1.5 feet. Smaller pieces of material and dust are expected to constitute a minimal amount of the total volume of concrete generated from the removal of concrete structures. Therefore, intact concrete cores of two-inch diameter and approximately two inches in depth were cut for the leachability studies to provide results representative of the concrete sections that will be placed in the disposal facility. Cores of a larger size could not be used for the study because of laboratory limitations.

Two concrete core samples, each weighing approximately 200 grams, were collected from each of the twelve locations. Areas with deep cracks or holes were avoided, but the cores may have been slightly chipped. The cores were individually wrapped in plastic and placed in wide-mouth plastic jars. The samples were radiologically field screened and the results were written on the sample label. From each location, one core was submitted to the FEMP laboratory for the leachability studies, and the remaining sample was archived in case future analyses are necessary.

After removing and containerizing the concrete cores, surrounding concrete was chipped down to the bottom depth of the cores (approximately two inches) using a power-operated rotary hammer with a bushing attachment. The pieces were reduced to a maximum of 1/4-inch for solid analyses. For each location, 500 grams of the concrete pieces were collected and placed into two 250 ml glass sample containers for solid-phase total uranium and technetium-99 analyses by an off-site laboratory. Additionally, 100 grams of the concrete pieces were placed into a 250 ml glass sample jar for solid phase total uranium analysis by the FEMP laboratory. After completion of sampling, the sample area was filled with a concrete mixture.

G.I.2.2.2 Paint Sample Collection

It is assumed that paint coatings are the primary source of contamination associated with structural steel and other painted metals. Because of the difficulty in obtaining painted structural steel samples and the unavailability of analytical methods to analyze the metal itself, samples collected for the paint leaching portion of the study consisted of paint coatings removed from the structural steel.

Paint chips from six locations were removed and collected. The collection method involved either scraping the sample area with a stainless-steel scraper or removing the paint with a needle scaler. Paint chips in each of the six samples were greater than 1/4 inch diameter when possible. Two 20-gram paint samples were collected from each location; one sample was archived and one sample was submitted for the batch tests. Additionally, 200 grams of paint for each location were submitted for technetium-99 and total uranium solid-phase analyses by an off-site laboratory. A 50-gram sample of paint was also collected for solid phase total uranium analysis at the FEMP laboratory.

G.I.2.3 Laboratory Procedure

A desorption batch test was conducted in two steps for this leaching study. The batch test was conducted until equilibrium conditions were attained for uranium, and the batch test was repeated until uranium equilibrium conditions were attained again. Thus, results from the two steps could be used to calculate the total percent of extractable contaminant in the material. In addition, the actual rate of contaminant leaching for the extractable fraction of the contaminant could be determined from the two-step test.

As discussed in Section G.I.2.1, no standard leaching test could provide all of the data used from this study in the WAC development process. The testing procedure and specific test parameters involved in this leaching study do not conform to any one standard procedure. Testing parameters for this study were dependent on laboratory resource and time constraints; therefore, specific parameters discussed in standard procedures could not always be met. However, standards pertaining to the sample dimension ratios and containerization of the samples were followed to the extent practical. Table G.I-2 presents two procedures, ANSI/ANS-16.1-1986 and ISO 6961, that, when compared to the leaching study, demonstrate the OU3 leaching study's consistency with sample dimension ratio standards. The dimension of the concrete cores and the distance between the core and the wall of the container was consistent with both standards. The ratio of the volume of leachant to the exposed "geometric" surface area was not consistent with the ratio set forth by the standard because a greater volume of leachant was required to perform all the analyses required.

For the purpose of this appendix, the two steps comprising the leaching study are referred to as "batch test one" and "batch test two". Each batch test consisted of placing an approximately 200 gram concrete core or approximately 20 grams of paint coatings into a reactor leaching bath with 3.5 L of pH adjusted water (water was pH adjusted with sulfuric acid to a pH between 4.5 and 5.0 in order to reflect the acid rain conditions at the site). As discussed previously in Section G.I.2.2, the intent of designing the leaching studies, in part, was to simulate the leaching potential of materials as they would be placed in a disposal facility, to the extent practical. Therefore, pH was not adjusted as the batch tests progressed. For the same reason, samples were placed whole in the reactor, rather than initially grinding and homogenizing the samples as was done with the OU2 and OU5 batch tests for soil. Concrete cores were intact and paint flakes were placed in the reactor undisturbed. All samples were suspended in the reactor, and the liquid was stirred around the solid sample until contaminants in the initially pH adjusted water reached equilibrium. The leaching apparatus is shown on Figure G.I-3.

G.I.2.4 Sampling and Analysis

Throughout the leaching test, a 45 ml leachate sample was periodically extracted from each sample. This sample was split in half; half of the leachate sample was analyzed for total uranium at the FEMP laboratory in the condition it was removed from the container (i.e., unfiltered). In addition to liquid-phase concentrations, pH readings for the unfiltered samples were also recorded at each time, since small differences in pH can significantly affect the desorption process (ASTM D-4319). To remove large colloidal particles in the leachate, the other half of the leachate sample was filtered through a 0.45 micron filter and analyzed for total uranium at the FEMP laboratory. The filtered uranium results were used to ascertain when equilibrium conditions were reached, since the equilibrium conditions are maintained between solid concentrations (including precipitate) and dissolved liquid concentrations. For every 45 ml leachate sample that was extracted for analyses, 45 ml of deionized water was added so that the solid sample mass to leachate volume ratio would remain constant. As noted in Section G.I.4.3, it was assumed that this addition of water would have a minimal effect on the final results.

Consistent with other FEMP batch tests, a sample reached equilibrium when the last two uranium results were within ten percent of each other. For samples with high uranium leachate concentrations (greater than 100 μg/L), the results are expected to satisfy the ten percent criteria. However, because of laboratory uncertainty associated with results at or near detection limits, ten percent equilibrium criteria could not always be satisfied. In this case, the uncertainty range associated with the method of analysis was generally greater than ten percent, therefore some results appeared to oscillate within a very small range.

Once equilibrium conditions were achieved for each sample, the first batch test was terminated. The final leachate solutions at the conclusion of the batch test were split for various analyses at off-site laboratories and at the FEMP laboratory. The off-site laboratory analyzed both filtered (0.45 micron) and unfiltered leachate samples for both total uranium and technetium-99. The FEMP laboratory analyzed filtered leachates only (0.45 micron) for total uranium and technetium-99. The second batch test was then performed for each sample using the same solid sample from the first reaction and fresh pH adjusted water. Identical testing procedures were followed for the second batch test. When equilibrium was reached for each sample, the leachate was again collected and split for the same analyses for batch test one leachates at the off-site and FEMP laboratories. In addition, the solid paint and concrete samples were collected at the end of the second batch test, homogenized, and analyzed for total uranium and technetium-99 at the off-site laboratory.

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At the conclusion of each of the batch tests, a filter series analysis was performed at the FEMP laboratory for each sample. The filter series was composed of an unfiltered, 0.45 micron, and 0.20 micron filter analyses. These results were used to support a comparison between the geochemical modeling results and experimental data, as discussed in Section G.I.6.2.

Because of limited quantities of leachate, analyses for radiological, inorganic, and general chemistry parameters were performed on one composite of leachate from all paint leachate samples and one composite of all concrete leachates samples for use in geochemical modeling. Radiological and inorganic parameters from the first batch test were analyzed at an off-site laboratory. General chemistry parameters from the first batch test were analyzed at the FEMP laboratory. Additionally, the final leachate solutions from the second batch test were composited and analyzed for inorganic and general chemistry parameters. General chemistry and inorganic parameters for the second batch test were analyzed at the FEMP laboratory. All composite results were used to support the geochemical modeling results, which are discussed in detail in Attachment G.II.

G.I.3 PRESENTATION OF BATCH TEST DATA

This section presents the data from the leaching study. Both off-site and FEMP laboratory results, as well as Analytical Support Levels (ASL), are presented. The validation status of the results used in the study are also discussed.

G.I.3.1 Laboratory Results

Table G.I-3 presents the results from the FEMP laboratory analysis of the uranium liquid samples for batch tests one and two. Both filtered and unfiltered results are presented. The table is divided into batch tests and results are arranged according to time.

For the first batch test, results are reported for times 24, 72, 288, 360, 408, 504, 648, 916, 1008 (in the case of four samples), and 1152 hours. Some samples were determined to have reached equilibrium prior to the 1152 hour and were not analyzed at the 1008 hour.

For each sample, leachate from the second batch test was collected and analyzed for uranium at 24, 72, 288, 360, 408, 744, 912, and 1152 hours. For the latter time, nine samples were determined to have reached equilibrium prior to the 1152 hour and the second batch test was ended then for those samples. The batch test continued for the remaining nine samples. Five samples reached equilibrium prior to 1488 hours and the four remaining samples reached equilibrium prior to the 1872 hour.

The pH values taken from the unfiltered samples are listed in Table G.I-4. Readings for pH were taken at the same time as the unfiltered and filtered results discussed above. These values are arranged according to batch test and time of the sample. The pH values were not used to assess equilibrium conditions. However, these values were used to support geochemical modeling.

All data analyzed at the off-site laboratory for uranium and technetium-99 are presented in Tables G.I-5 and G.I-6, respectively. These tables list unfiltered and filtered liquid phase concentrations at the end of each batch test in addition to the final solid phase concentration at the end of batch test two.

Table G.I-7 presents the chemical composite results for both paint and concrete samples. Radiological composite results for paint and concrete from batch test one are presented in Table G.I-8. The composite results presented in these two tables are used in the geochemical modeling.

The uranium filter series results (unfiltered, 0.45 micron filtered, and 0.20 micron filtered leachates) that were obtained for each sample at the conclusion of batch tests one and two are presented in Table G.I-9. The application of these results will be further discussed in Section G.I.6.2.

G.I.3.2 Data Quality

All off-site laboratory analyses performed for total uranium and technetium-99 were performed at ASL D. Sample analyses conducted at the FEMP laboratory were all performed at ASL B. All analyses were performed using methods consistent with the Sitewide Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Quality Assurance Project Plan (SCQ).

The same off-site laboratory performed all radiological analyses for solid and liquid samples, while a separate laboratory performed all chemical leachate composite analysis. This ensured that results could be compared among samples and variation of results due to different analytical procedures would be minimized.

Because the laboratory procedure for the analysis of the solid cores was a destructive procedure, solid samples were extracted as chips surrounding the core samples and split between the off-site and FEMP laboratories as discussed in Section G.I.2.2. The results of these solid samples were used for the preliminary leaching coefficient calculations until the leaching studies were completed, and the concrete cores and paint used in the leaching tests were analyzed directly for final solid phase concentrations. Final solid phase concentrations were analyzed for solid total uranium and technetium-99 concentrations at an off-site laboratory at ASL D after the second batch test was complete.

Liquid concentrations were analyzed periodically throughout both batch tests. Because a quick turnaround time was needed in order to assess the equilibrium state of the samples, these intermediate samples were analyzed for uranium at the FEMP laboratory. These results were considered preliminary data and were used primarily to determine when equilibrium conditions had been achieved. When the equilibrium state had been obtained, liquid phase concentrations at the conclusion of both batch tests were analyzed at both an off-site laboratory and the FEMP laboratory. The results obtained from the off-site laboratory were used in the final calculations of the leaching parameters.

All results reported by the off-site laboratories have been validated according to FEMP validation procedures, including all initial solid phase, final solid phase after batch test two, and liquid phase results for uranium and technetium-99 analyzed at the conclusion of each batch test. All radiological and chemical composite results have also been validated. Validated results and validated qualifiers are provided in Appendix L.6. These results are also summarized in Tables G.I-5 and G.I-6. Appendix L.5 provides a crosswalk from the raw data in Appendix L.6 to the sample and times presented in this appendix.

G.I.4 DEFINITION OF LEACHING PARAMETERS AND DERIVATION OF EQUATIONS

The intent of this leaching study is to determine the leachability of contaminants from contaminated source materials. The leachability of contaminants from OU3 materials are determined by the source leaching coefficient K_L. The source leaching coefficient is different than the standard partition coefficient (K_D), since K_D only considers the adsorption/desorption processes. K_L considers the combined effect of all transport mechanisms including dissolution, diffusion, and precipitation, as well as the adsorption/desorption processes. The parameters resulting from the batch test which describe the leaching/extraction process are K_{L1}, the average leaching coefficient for the total contaminant

mass; K_{L2}, the leaching coefficient for the extractable portion of contaminant; and K_e, the percent of extractable contaminant.

The equations for determining the various leaching parameters used to assess the leaching behavior of concrete and paint were derived mathematically. The following sections provide the details of the derivation of equations used for calculating uranium and technetium-99 leaching parameters from the batch test results.

G.I.4.1 Parameters Measured during Laboratory Experiments

The parameters which were measured during the experiment and a definition of each parameter are summarized below.

W = Mass of test media for each test (g)
V = Volume of water used during each test (L)
C_{W1} = Concentration of contaminant in leachate at equilibrium of batch test one (μg/L or pCi/L)
C_{W2} = Concentration of contaminant in leachate at equilibrium of batch test two (μg/L or pCi/L)
C_{S2} = Final concentration of contaminant in solid phase (μg/g or pCi/g)

Background concentrations for uranium and technetium-99 are not subtracted from the contaminant mass, since WAC do not distinguish between naturally occurring uranium levels and those resulting from FEMP activities. This does not affect the WAC development process.

G.I.4.2 Definitions of Variables

The variables, which were estimated from the measured laboratory results identified above, are defined below:

m_{S0} = Initial contaminant mass/activity in solid phase (μg or pCi)
m_{S2} = Final contaminant mass/activity in solid phase at equilibrium of second batch test (μg or pCi)
m_{W1} = Mass/activity of contaminant in leachate at equilibrium of first batch test (μg or pCi)
m_{W2} = Mass/activity of contaminant in leachate at equilibrium of second batch test (μg or pCi)
C_{S0} = Initial concentration of contaminant in solid phase (μg/g or pCi/g)
C_{S1} = Concentration of total contaminant in solid phase at equilibrium of first batch test (μg/g or pCi/g)
C'_{S1} = Extractable concentration of contaminant in solid phase at equilibrium of first batch test (μg/g or pCi/g)
C_{S2} = Concentration of total contaminant in solid phase at equilibrium of second batch test (μg/g or pCi/g)
C'_{S2} = Extractable concentration of contaminant in solid phase at equilibrium of second batch test (μg/g or pCi/g)
K'_e = Percent of extractable contaminants remaining in solid phase at equilibrium of first batch test (percent)
K_{L1} = Leaching coefficient of total contaminant mass in solid phase (L/kg)

K_e = Total extractable percent of contaminant in initial sample (percent)
K_{L2} = Leaching coefficient of the extractable portion of contaminant (L/kg)

(Note: K_{L2} describes equilibrium balance between concentration of leachable contaminant in the solid phase and the dissolved contaminant concentration in the

leachate. Since equilibrium conditions are maintained in the natural state, the concentration of leachable contaminant in the solid phase and contaminant concentration in the liquid phase are always proportional. Therefore, K_{L2} provides the basis for estimating the rate of contaminant leaching as clean water infiltrates through the contaminated material.)

Figure G.I-4 illustrates these variables and the two-step desorption test concept.

G.I.4.3 Assumptions

The assumptions used for deriving the fundamental equations are presented below.

- The total volume of liquid samples collected for analyses during the two-step desorption test, which was replaced with deionized water, did not significantly affect the resulting equilibrium conditions.
- The total mass of suspended solids which were filtered out during periodic analyses for determining equilibrium, but were not reintroduced into the desorption test vessel, are insignificant and will not impact the batch test results.
- Constant linear isotherm is maintained for the leachable contaminant between two equilibrium conditions.
- Background levels in the sample media are insignificant when compared to the contamination level.

G.I.4.4 Equations for Determining C_{SO}

Since the exact sample used in the batch tests cannot be analyzed before the test, the initial concentration must be estimated from the final solid phase results for both uranium and technetium-99. Calculation of the initial solid phase concentration is based on a mass balance. The final leachate concentrations from batch tests one and two were used to calculate the mass of a contaminant found in the final leachate solutions for each batch test. The calculation used the higher of the two values (unfiltered or filtered) in order to perform a total mass balance of the system. At the end of each batch test, the mass of contaminant in the leachate (m_{S1} and m_{S2}) was determined using C_{W1}, C_{W2} and the volume of leachate. The two masses were added to the final mass of contaminant in the solid sample (m_{S2}), which was determined using C_{S2} and the sample weight. This sum yielded the initial mass of contaminant (m_{S0}) in the solid sample. This initial contaminant mass was divided by the mass of the solid sample to obtain the initial concentration (C_{S0}). The following equations outline the method used to determine the contaminant mass in several phases:

$$m_{S2} = (C_{S2})(W) \quad (1)$$

$$m_{W1} = (C_{W1})(V) \quad (2)$$

$$m_{W2} = (C_{W2})(V) \quad (3)$$

Based on a mass balance for the contaminant, the initial contaminant concentration in the soiid phase can be calculated:

$$m_{S0} = m_{S2} + m_{W2} + m_{W1} \quad (4)$$

$$C_{S0} = \frac{m_{S0}}{W} \tag{5}$$

G.I.4.5 Equations for Calculating Leaching Coefficients

After calculating the initial concentration of contaminant in solid phase, it is possible to derive equations for the leaching parameters K_{L1}, K_{L2}, and K_e. From the calculated masses shown in Section G.I.4.4, the concentration of total contaminant in solid phase at equilibrium of the first batch test is:

$$C_{S1} = \frac{m_{S0} - m_{W1}}{W} \tag{6}$$

$$K_{L1} = \frac{C_{S1}}{C_{W1}} \tag{7}$$

$$K'_e = \frac{C'_{S1}}{C_{S1}} \tag{8}$$

$$K_e = \frac{(C'_{S1})(W) + (C_{W1})(V)}{m_{S0}}(100\%) \tag{9}$$

From second equilibrium measurements and by mass balance between the two equilibria:

$$(W)(C'_{S1}) - (W)(C'_{S2}) = (C_{W2})(V) \tag{10}$$

(Note: Equation 10 shows that the difference between the extractable contaminant mass remaining in the solid phase at equilibrium in the first batch test and the extractable contaminant mass remaining in the solid phase at equilibrium in the second batch test is the mass in the second equilibrium leachate solution.)

Consistent with fate and transport modeling assumptions, a constant linear isotherm for the extractable mass is assumed between the two batch tests:

$$K_{L2} = \frac{C'_{S1}}{C_{W1}} = \frac{C'_{S2}}{C_{W2}} \tag{11}$$

To derive the final equations, Equation 11 is solved for C'_{S2}:

$$C'_{S2} = (C'_{S1})\left(\frac{C_{W2}}{C_{W1}}\right) \tag{12}$$

The formula for C'_{S2} is inserted back into Equation 10:

$$(W)(C'_{S1})\left(1 - \frac{C_{W2}}{C_{W1}}\right) = (C_{W2})(V) \tag{13}$$

Equation (13) is solved for C'_{S1}:

$$C'_{S1} = \frac{(C_{W2})(V)}{(W)(1-\frac{C_{W2}}{C_{W1}})} \tag{14}$$

The final equations for the second batch test, determined by inserting C'_{S1} into Equations 9 and 11, are:

$$K_e = \frac{(C_{W1})^2(V)(100\%)}{(C_{S0})(W)(C_{W1}-C_{W2})} \tag{15}$$

and

$$K_{L2} = \frac{(C_{W2})(V)}{(C_{W1}-C_{W2})(W)} \tag{16}$$

For the special case when C_{W1} is less than or equal to C_{W2}, K_{L2} is undefined and Equation 17 is used to determine K_{L1}. K_e is conservatively assumed to be 100 percent under these conditions, since this parameter cannot be defined.

$$K_{L1} = \frac{C_{S1}}{C_{W1}} = \frac{(C_{S0})(W)-(C_{W1})(V)}{(C_{W1})(W)} \tag{17}$$

G.I.5 CALCULATION OF LEACHING PARAMETERS

Uranium parameters were calculated using two different sets of data in order to provide a range of possible values for the leaching parameters. An evaluation of the differences of the results can be found in Section G.I.6.1. The first set of parameters is found in Table G.I-10. These parameters were calculated based on off-site C_{W1} and C_{W2} results. In the case of C_{S0}, the higher of the filtered or unfiltered result was used. The filtered results of FEMP laboratory analysis for the uranium liquid phase samples, sampled intermittently throughout both batch tests, were plotted according to the time of the sample. Figures G.I-5 through G.I-22 present the data and the best-fit curve obtained from the data for each batch test. The concentrations at the best-fit curves were also used as the C_{W1} and C_{W2} value for calculating C_{S0}, which are shown in Table G.I-11.

A similar mass balance was performed on the technetium-99 values obtained from the off-site laboratory. The results of the C_{S0} calculations are found in Table G.I-12. Because no data were taken for technetium-99 throughout the course of the batch test due to laboratory limitations, only one set of C_{S0} values were calculated using off-site data.

The uranium C_{S0} for each sample is listed in Table G.I-13, in addition to the filtered C_{W1} result (C_{W1-F}) obtained from the off-site laboratory. Using the equations presented in Section G.I.4.4, the specific values of K_e, K_{L1}, and K_{L2} were calculated. Table G.I-14 presents the same calculations performed using the estimated C_W values based on the best-fit curves of Figures G.I-5 through G.I-22. Filtered leachate results were used to determine the leaching coefficients, since only the dissolved contaminants reach equilibrium with respect to solid phase concentrations.

The leaching coefficient calculations for technetium-99 were performed using the same equations applied for the calculation of the uranium parameters. The results of these calculations are presented in Table G.I-15. The final technetium-99 concentrations (C_{W1} and C_{W2}) were assumed to be at equilibrium because these values represent the only information obtained for technetium-99.

G.I.6 DISCUSSION OF RESULTS

The objectives for the OU3 leachability study are listed in Section G.I.2.1. The following section discusses the results obtained in this study as they relate to these objectives. Section G.I.6.1 details the objectives relating to actual leaching of material from laboratory observations. The study objectives related to geochemical modeling are discussed in Sections G.I.6.2 through G.I.6.5.

G.I.6.1 Leaching Study Results

To determine the contaminant specific K_L and K_e values, it was first necessary to determine the equilibrium between the contaminant in a solid phase and the associated dissolved contaminant in the leachate. For the purpose of the study, this condition was met when successive uranium liquid phase concentrations were within ten percent of each other, as discussed in G.I.2.3. When the concentrations were determined to have reached equilibrium, final liquid phase samples were taken and shipped off-site for ASL D analysis. The results of the off-site analysis were used to calculate the leaching parameters. The end points of the best-fit equilibrium curves shown on Figure G.I-5 through Figure G.I-22 were also used to calculate the leaching parameters. These end points were used as filtered results for C_{W1} and C_{W2} in order to evaluate the uncertainty of the results.

Initial Solid Concentration

Determining a value for the initial solid concentration was accomplished through a mass balance on the final results of each of the batch tests. In order to account for the total contaminant mass in the system, the maximum of the filtered or the unfiltered result was used. In this way, the mass balance accounted for the contaminant that was truly dissolved as well as the contaminant that was suspended as colloidal particles.

The C_{SO} values for uranium presented in Table G.I-10, ranged from 3 μg/g to 1,789 μg/g for concrete and 2,349 μg/g to 90,274 μg/g for paint. The C_{S0} values for technetium-99 shown in Table G.I-12 ranged from 0.50 pCi/g to 225 pCi/g for concrete and between 120 pCi/g and 2,287 pCi/g for paint. Efforts were made to obtain a range of initial concentrations for both uranium and technetium-99.

Leachate Concentration

One objective of the study was to estimate the potential leachate concentrations of the contaminants from the tested materials. These concentrations, in addition to solid phase concentrations, are used to calculate the leaching parameters. Section G.I.4 shows detailed derivation of the leaching parameters K_{L1}, K_{L2}, and K_e. Table G.I-5 lists the liquid phase uranium concentrations for results at the end of batch test one and two, in addition to the final solid phase concentration. It is important to note that the filtered C_W results were used in the calculation of the leaching coefficients, because equilibrium is defined, in part, by the dissolved leachate concentrations. Uranium C_{W1} ranged from 1.0 μg/L to 1,060 μg/L for concrete and 142 μg/L to 26,400 μg/L for paint. Uranium C_{W2} ranged from 0.4 μg/L to 226 μg/L for concrete and 89 μg/L to 3,470 μg/L for paint. All leachate concentrations are much lower than the liquid phase WAC of 69,000 μg/L. Uranium C_{S2} ranged from 3 μg/g to 1,780 μg/g for concrete and 2,020 μg/g to 74,600 μg/g for paint.

Table G.I-6 presents the technetium-99 C_{W1}, C_{W2}, and C_{S2} results. C_{W1} values range from 6.6 pCi/L to 12,900 pCi/L for concrete and 81 pCi/L to 1,340 pCi/L for paint. C_{W2} values range from 2.8 pCi/L to 1,800 pCi/L for concrete and 20.4 pCi/L to 538 pCi/L for paint. Technetium-99 liquid-phase results exceed the liquid-phase WAC in some cases. C_{S2} ranged from 0.3 pCi/g to 69.8 pCi/g for concrete and 89 pCi/g to 1,480 pCi/g for paint. The final liquid phase concentrations are plotted against the final solid phase concentrations for technetium-99 in Figure G.I-23. This figure demonstrates grouping of concentrations at high C_S and low C_W for paint. The grouping suggests that the technetium-99 may be bound within the paint.

On the other hand, concrete shows a different trend. Regardless of the low solid phase concentrations, the C_W values for concrete on Figure G.I-23 are high. Therefore, the technetium-99 appears to leach readily from concrete, regardless of the solid concentration. Technetium-99 leachability is further described according to geochemical modeling in Section G.I.6.3.

Equilibrium Condition

The uranium concentration curves (Figures G.I-5 through G.I-22) show that uranium leachate concentrations generally decrease over time for both concrete and paint samples. The change is most likely attributed to the sudden rise in pH for most concrete samples (see Table G.I-4 for pH values.) It was concluded that the uranium initially dissolved quickly, but as pH increased, the uranium slowly precipitated out of solution. Geochemical modeling results in Section G.I.6.2 support this conclusion. The final concentrations represent the equilibrium values for uranium.

There is not sufficient data to determine if technetium-99 reached equilibrium. Similar studies performed on technetium-99 spiked cement (Broda 1988) suggest that there may not have been enough time for the technetium-99 to reach equilibrium conditions. In some cases during the Broda study, the technetium-99 equilibrium took as long as 100 days. The final liquid phase concentrations of technetium were used as representative values for the determination of leaching coefficients.

K_e

Another objective of the study was to determine the exchangeable fraction of the contaminant. Based on final leachate results shown above, the extractable portion of uranium and technetium-99 can be calculated. The results for uranium show that only a small fraction of the uranium leaches from the concrete samples. K_e values shown in Table G.I-13 for concrete range from 0.052 percent to 4.0 percent. The paint results range from 0.475 percent to 41.4 percent. The magnitude of the K_e for the highest paint sample is caused by the low initial solid phase concentration found in the sample. The initial concentration was near detection limits and the final concentration was below detection limits.

Due to a greater uranium C_{W2} than C_{W1}, K_e is assumed to be 100 percent for concrete sample 48. The sample did not follow the expected trend for concentrations between batch tests, and its behavior can not be explained in terms of colloidal particles formed due to high pH. Therefore, this sample is considered an anomaly. Sample 48 can still be used to illustrate the low leaching potential of uranium. Although the sample leached much more in the second batch test than was expected based on the first batch test, the final C_W was still low.

The calculated results for technetium-99 found in Table G.I-15 show a range of leachable fractions. Technetium-99 K_e values range from 5.61 percent to 85.8 percent for concrete and 20.4 to 45.6 percent for paint. Because there was not sufficient data to determine if technetium-99 leaching results reached equilibrium, the results for K_e shown may not be entirely accurate. However, the results do show that technetium-99 does leach readily from concrete and less readily from paint.

K_L

The final objective of the study was to estimate the time rate of release of the contaminants from the tested material. The time rate of release is estimated by the leaching parameters K_{L1} and K_{L2}. As described in Section G.I.4, K_{L1} describes the leaching based on the entire mass of contaminant found in the solid. K_{L2} describes the leaching only of the portion of the contaminant that is actually leachable. These parameters, when evaluated together, give information related to the overall leaching rate for the contaminant. High values of K_{L1} show that very little of the contaminant will leach. That is, much of the contaminant is bound in the matrix itself and will not leach. Low values of K_{L1} suggest that most of the contaminant mass in the sample will leach. When K_{L2} values are considered in addition to K_{L1} values, a more realistic leaching rate can be estimated. High K_{L2} values associated with higher K_{L1} also indicate that the leachable fraction of the contaminant will leach extremely slowly. Low K_{L2} values indicate that the leachable fraction of the contaminant will leach quickly. Leaching coefficients calculated in Table G.I-13 for uranium in both concrete and paint samples are consistently high. K_{L1} for uranium in concrete ranges between 300 L/kg and 29,400 L/kg. For paint, K_{L1} values are also high, ranging from 2150 L/kg to 87,500 L/kg. K_{L2} values range from 0.6 L/kg to 7.02 L/kg for concrete and 55.1 L/kg to 5,170 L/kg for paint. Since C_{W2} is greater than or equal to C_{W1} (explained above), there was one concrete result that had an undefined K_{L2} value. The K_L results for uranium show that there is a very small fraction of contaminant that is leachable, and that it leaches quickly from concrete, and slowly from paint.

In addition to determining leaching coefficients with the results from off-site data, the final concentrations, based on the reasonable fit equilibrium curves ("best-fit") to the uranium concentration versus time charts (Figures G.I-5 through G.I-22) were used in the calculation. These curves were developed based on scientific judgement. The differences in the results bound the possible variations in the data obtained from the laboratories. The results for C_{W1} were generally lower for the best-fit line than they were for the off-site data. The C_{W2} results from the best-fit line agreed well with the off-site data. The resulting changes in K_L were significant. However, the leachable amount of contaminant did not change significantly. The data taken from the best-fit lines supports the data from the off-site analysis; uranium will leach from concrete and paint only in small quantities.

Table G.I-15 lists the leaching coefficient data for technetium-99. K_{L1} values for concrete are relatively low, ranging between 7.28 L/kg and 430 L/kg. Paint K_{L1} values are significantly higher, falling between 728 L/kg and 1,840 L/kg. The K_{L2} values for concrete range from 1.94 L/kg to 10.0 L/kg. The paint results ranged from 37.8 L/kg to 422 L/kg. The low K_{L1} results for technetium-99 show that much of it will leach from concrete. The low K_{L2} results show that it will leach quickly.

G.I.6.2 Uranium Filter Series Results

Paint and concrete leachate samples were filtered through a series of 0.45 and 0.2 micron filters as part of an initial investigation into the presence of colloids in the samples. Results in Table G.I-9 report unfiltered, 0.45 micron filtered, and 0.2 micron filtered uranium concentrations for batch tests one and two. The ratio of unfiltered uranium concentration to the 0.45 micron fraction uranium concentration is defined here as an enrichment factor to examine possible trends based on the degree of colloidal formation of uranium particles in the leachate. Plots of this enrichment factor versus pH for paint and concrete are given in Figures G.I-24 and G.I-25, respectively.

For batch test one paint samples, there is a slight reduction in the uranium concentration for the 0.45 micron filtered samples relative to the unfiltered samples, but little difference between the 0.45 and 0.2 micron samples. An exception to this observation is sample 32, where the uranium concentration increases in the 0.2 micron fraction relative to the 0.45 micron fraction. These is no satisfactory

explanation for the observed increase in uranium concentration in the 0.2 micron fraction at this time. Batch test two paint samples from all three fractions show little difference in uranium concentration, suggesting few, if any, colloids exist that are greater than 0.2 microns in size. This is borne out by the enrichment plot in Figure G.I-24 which shows all samples but one have enrichment factors of 1 to 1.4. Figure G.I-24 also shows that enrichment factor is probably independent of pH.

Uranium concentrations in the three fractions analyzed from batch test one concrete samples indicate substantial particulate and possible colloids are removed from the unfiltered sample when passed through a 0.45 micron filter. The enrichment factors in Figure G.I-25 show a range of 2 to 1,225 and there is some indication of a weak trend with pH if the samples with the highest and two lowest enrichment factors are omitted. Batch test two samples have markedly reduced enrichment factors, ranging from 1 to 7, and these samples also show a tendency to increase as pH increases. There is little difference in the uranium concentration for 0.45 micron and 0.2 micron fractions, suggesting that if colloids are present, they are finer than 0.2 microns or greater than 0.45 microns. Laboratory observations indicate particulate matter was visible in the leachate, and it is assumed this particulate matter was derived from the dust on the cut concrete cores.

Discussion in Section G.I.6.3 will show that measured uranium concentrations on filtered samples diverged from the calculated solubility curve for $CaUO_4$ at high pH. This suggests that colloids less than 0.2 micron in size are likely to be present in leachate developed from concrete materials. It is known that colloid formation is enhanced at higher pH, notably for ions like uranium which have high charge and strong hydrolysis reactions (Kim 1991).

G.I.6.3 Geochemical Observations on Results from Leaching Tests

Leachate results for paint and cement composite samples as presented in Tables G.I-7 and G.I-8 were entered into the EQ3/6 geochemical code (see Attachment G.II for a complete description of the code) to assess whether any aqueous contaminant concentrations could be controlled by a solubility limit. Thermodynamic solubility calculations carried out with the EQ3/6 code are summarized using the saturation index (SI) (Table G.I-16). The SI is defined as the log of the ion activity product minus the log of the solubility product. Uncertainty in the thermodynamic data used in the calculations is estimated to be about ± 0.3 SI units (Attachment G.II, Section G.II.7); that is, a mineral is considered saturated when the SI value lies between -0.3 and 0.3, undersaturated when the value is less than -. 0.3, and supersaturated when the value is greater than 0.3.

In Table G.I-16, a list of common minerals has been tabulated with the corresponding SI value for cement and paint leachate obtained by compositing individual samples. Most of the minerals listed in the table are known to nucleate and precipitate at ambient temperature. Therefore, the supersaturated state predicted for brucite, calcite, and gibbsite in the cement leachate indicates fine particles or colloidal material were probably acidified and digested in the sample prior to analysis. Nevertheless, the SI values are still useful to rank potential COC minerals that may be controlling COC concentrations in solution. Using uranium as an example, the most saturated uranium mineral in the cement leachate is $CaUO_4$, while in the paint leachate soddyite and schoepite are supersaturated. For mercury in cement leachate, montroydite is predicted to be more stable than calomel, while no mercury mineral is predicted to be saturated in paint leachate. CrO_2 and NpO_2 are both predicted to be saturated in paint leachate, but not cement leachate. When a COC mineral is saturated in the leachate, the corresponding aqueous COC concentration is generally the maximum concentration that can exist in solution. Screening measured COC concentrations with solubility calculations is useful to set priorities for further investigation. As indicated in Table G.I-16, $CaUO_4$, soddyite, and schoepite should be investigated with respect to their role in controlling uranium concentrations in individual cement and paint leachate samples.

Figures G.I-26 and G.I-27 show plotted uranium analyses from batch tests one and two with the predicted solubility curves for $CaUO_4$ and schoepite. On Figure G.I-26, the $CaUO_4$ solubility trend lies well below the plotted data at high pH values and approaches one of the points near a pH of 9.5. There are several potential explanations for the divergence of the measured and predicted values. First, the instrument detection limit (IDL) for total uranium is near 0.2 parts per billion (ppb), and large scatter is associated with data sets in which most measurements are near the detection limit (note that the predicted $CaUO_4$ solubility is two orders of magnitude below the IDL at pH 11.5). Second, uranium uptake on colloids generated from the concrete samples (e.g., alumina, silica, etc) and uranium colloid formation are enhanced at high pH (Kim 1991), which probably accounts for the large divergence of the theoretical and experimental values at high pH. Although the samples were filtered through 0.2 micron filters, as discussed in Section G.I.2.3, colloids in the range of 0.01 to 0.001 microns are common. Therefore, a large fraction of the uranium can be transported as colloid material at high pH.

A different picture emerges on Figure G.I-27 for the paint samples obtained at neutral to slightly acidic pH values. There is good agreement between most of the measured uranium concentrations and theoretical schoepite solubility trend, indicating few colloids are generated from the leaching of the painted metals. Laboratory observations of yellow solutions and precipitate are also in agreement with the precipitation of schoepite in these batch tests. Points that lie below the solubility trend indicate insufficient uranium is present to reach the solubility limit or more time is needed for leaching of the sample. It was noted above that soddyite is also supersaturated in the leachate generated from paint samples. However, the solubility trend for soddyite lies below 10 ppb, indicating soddyite may have difficulty in nucleating and precipitating from these solutions.

G.I.6.4 Technetium-99 Diffusion in Concrete Cores

It appears from the leachability study data, technetium-99 exhibits little or no affinity to concrete. Because of this, technetium-99 leaching into and out of the concrete matrix is controlled primarily by diffusion. Data obtained from the characterization process, summarized in Section 3 of this report, support the diffusion characteristics of technetium-99.

The distribution of technetium-99 in several representative concrete cores was examined with a diffusion model to investigate the hypothesis that diffusion will control the release of technetium-99 from the concrete. The model is based on the following solution to Fick's second law for the appropriate boundary and initial conditions:

$$C = C_i \mathrm{erfc}\{x/2(D^* t)^{0.5}\}$$

where

C	=	concentration at depth x (cm) below the concrete surface at time t (sec) since diffusion began
C_i	=	initial concentration
D*	=	effective diffusion coefficient
erfc	=	complementary error function

A value of 10^{-7} cm^2/sec was used for D^* based on diffusion studies with technetium-99 and concrete at Oak Ridge (Lee 1993). Results from this analysis are presented on Figures G.I-28 and G.I-29.

Figures G.I-28 and G.I-29 plot the measured technetium-99 values for 11 concrete cores and the modeled diffusion profiles. The good match between measured and predicted concentration profiles suggests that diffusion is the primary mechanism responsible for technetium-99 distribution in the cores. Based on the diffusion profiles, the original surfaces of cores 13A-007R and 13A-001A were

exposed to the greatest technetium-99 concentration (Figure G.I-28) and cores 13A-002C and 74R-001 to the least (Figure G.I-29). The initial or source concentrations were estimated by extrapolating the diffusion model curve back to x=0 (i.e., the surface of the floor). However, these extrapolated source concentrations cannot be verified since characterization results are not available at the exact surface (x=0). Source concentrations estimated in Figures G.I-28 and G.I-29 are presumed to have been generated by spill events.

G.I.6.5 Analysis of Concrete Longevity

Based on the composite leachate analysis obtained from the cement leaching tests (Section G.I.3), dissolution rates of common cement phases were estimated to obtain an estimate on the longevity of concrete materials exposed to percolating fluids in the on-property disposal facility. The calculation was conducted based on the following assumptions:

- The number of moles of the common cement phases (ettringite, hydrogarnet, tobermorite, portlandite, and reactive alkali) in 100 grams of ordinary Portland cement are estimated with a modified Bogue calculation (Taylor 1964).
- The average mass of concrete cores in the leach tests is 265 grams and 3.5 liters of solution are used in each test.
- The density of the aggregate and cement paste is approximately equal, and the concrete is 60 percent cement paste and 40 percent aggregate.
- The average leaching period is 30 days.
- All sulfate detected in the leachate originates from the dissolution of ettringite ($Ca_6Al_2(SO_4)_3O_6 \bullet 32H_2O$).
- All aluminum detected in the leachate, minus the mass needed to form ettringite, originates from the dissolution of hydrogarnet ($Ca_3Al_2O_6 \bullet 6H_2O$).
- All silicon detected in the leachate originates from the dissolution of tobermorite ($Ca_5Si_6O_{17} \bullet 10.5H_2O$).
- All calcium in the leachate, minus the mass needed to form ettringite, hydrogarnet, and tobermorite, originates from the dissolution of portlandite ($Ca(OH)_2$).
- All potassium and sodium in the leachate originates from the reactive alkali species KOH and NaOH.

A summary of the modified Bogue calculation and estimated dissolution rates of the common cement minerals is given in Table G.I-17. Using NaOH, which is one of the least abundant cement phases having one of the greatest dissolution rates, as an example, about one kilogram of cement per year can be dissolved. Based on an estimated 156 x 10^6 kg of cement paste in the concrete, applying the above estimate to the total mass of cement paste yields 156 x 10^6 years to remove the concrete by dissolution. However, it must be noted that dissolution rates are not linear when extrapolated over long time periods. As dissolution proceeds, the surface area of the dissolving material will increase, enhancing the dissolution and increasing the rate of dissolution. If one assumes an increase in the dissolution rate of four to five orders of magnitude as time increases, than the estimated longevity of the concrete falls to between 1,500 and 15,000 years. The lower end of this range is in agreement

with observations of primitive cements used in Roman aqueducts, which remain in remarkable condition 1,900 years after their construction (Bogue 1955).

G.I.7 CONCLUSIONS

During the two-step desorption batch test, 18 samples were analyzed for leachability characteristics of uranium and technetium-99. The six paint samples and twelve concrete samples were representative of the two predominant media forms in the OU3 waste stream. Sample locations were selected in order to conservatively bound the maximum contamination of the media, as well as to represent the various solubility classes for the contaminants. The solubility classification results were inconclusive, as both uranium and technetium-99 leaching results did not correlate to the assumed solubility classes.

K_e results for uranium show that very little will leach from concrete. Colloid formation could have caused uranium results to appear as if more uranium leached than was actually in solution. The effect of this would have been to conservatively raise K_e. Even with possible colloid interference, K_e values for concrete are less than 0.5 percent, showing that little uranium will leach from concrete.

The paint samples agreed well with the theoretical data provided by geochemical modeling. With the exception of a questionable result (see Section G.I.6-2), the paint samples leached less than twenty percent of the uranium contamination present. This portion of the uranium will leach at a moderate rate, based on the values obtained for K_{L2}.

Paint and concrete analyses for technetium-99 showed two differing results for leachability. In the concrete samples, the technetium-99 appeared to leach readily without binding to the matrix. Subsequent geochemical modeling suggests that the technetium-99 leaching is controlled by diffusion for concrete. The results of the laboratory analyses correlate well with the predicted results based on the geochemical model. It is expected most of the technetium-99 will leach from concrete quickly.

Paint leachability results for technetium-99 show that there is some affinity between technetium-99 and the matrix. Although organic fixation of technetium-99 is a possible cause of the affinity, the data is not sufficient to draw such a conclusion.

As stated in Section G.I.6.1, it is suspected that the technetium-99 liquid phase concentrations did not reach equilibrium. In this case, the K_L and K_e parameters will be unreliable. At any rate, the measured concentrations show that technetium-99 does not follow a linear isotherm, as previously assumed. Because of the uncertainty in the equilibrium concentrations and the possibility that technetium-99 does not follow a linear isotherm the leachability parameters are ultimately inconclusive. These parameters cannot be used to gain insightful information to the leachability of technetium-99. It must therefore be assumed that technetium-99 will leach readily from any matrix.

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TABLE G.I-1
CORRELATION OF K_L STUDY SAMPLES TO RI SAMPLES

K_L Study Sample	Original Component	Material Type	Nearest RI Sample of Same Material Type	Process Area (Name and Number)	Uranium Solubility Class	Technetium-99 Solubility Class
31	3E	Paint	3E-007	Hot Raffinate	High	Low
32	8A	Paint	8A-026A	Muffle Furnace (4)	Low	High
33	8A	Paint	8A-038A	Green Salt Reversion (6)	Moderate	High
34	8A	Paint	8A-042A	Old Rotary Kiln (7)	Moderate	High
35	9B	Paint	9B-007	Sump Treatment Facility	High	Low
36	6A	Paint	6A-018	Machining Inspection (2B)	Low	Low
37	5A	Concrete	5A-003	Reduction South Side (1)	Low	Low
38	5A	Concrete	5A-044 5A-045 5A-046	Water Treatment (10)	Moderate	Low
39	9A	Concrete	9A-010	Enriched Uranium Casting (2)	Low	High
40	3J	Concrete	3J-002A 3J-003A 3J-004A	Combined Raffinate	High	Low
41	2A	Concrete	2A-022 2A-023 2A-024	Drum Digestion (2)	High	Low
42	2D	Concrete	2D-009 2D-010 2D-011	West Metal Dissolution (2)	High	Low
43	8A	Concrete	8A-022A	Muffle Furnace (4)	Low	High
44	8A	Concrete	8A-040A	Old Rotary Kiln (7)	Moderate	High
45	8A	Concrete	8A-066A	Milling (1)	Low	High
46	4A	Concrete	4A-003A	UF_4 Packaging (1)	Moderate	High
47	54A	Concrete	54A-007	Reduction Reactor (2)	Moderate	Low
48	13A	Concrete	13A-007R 13A-008R 13A-009R	Southern Extraction (1)	High	Low

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TABLE G.I-2

STANDARDS FOR LEACHABILITY STUDY

Description of Standard	ISO 6961 Long-Term Leach Testing of Solidified Radioactive Waste Forms		ANSI/ANS-16.1986 Measurement of the Leachability of Solidified Low Level Radioactive Wastes by a Short-Term Test Procedure		OU3 Concrete Cores in K_L Study
	Reference	Standard	Reference	Standard	
Volume of leachant/exposed "geometric" surface area	ISO (2.3)	0.1 m - 0.2 m	ANSI (2.4)	0.098 m - 0.102 m	0.28 m
Surface area of speciman	ISO (3.1.2)	0.5 m^2 - 0.001 m^2	Not Specified	Not Specified	0.012 m^2
Diameter/height ratio	ISO (3.1.2)	≈1	ANSI (2.1)	0.2 - 5.0	1
Distance between specimen and leachate container (inner wall)	ISO (3.2)	1 cm - 10 cm	ANSI (2.4)	The smaller of 10cm or the minimum specimen dimension. For OU3 Leachability Studies, ≈5 cm	≈ 8 cm

TABLE G.I-3
SUMMARY OF ON-SITE URANIUM DATA vs TIME

Sample Number	Filter	Batch Test One - C_{UO_2} (µg/L)										Batch Test Two - C_{UO_2} (µg/L)													
Time (hrs)		24	72	288	360	408	504	648	816	1008	1152	24	72	288	360	408	552	744	912	1152	1344	1488	1560	1680	1872
31	Unfiltered	210	350	980	1100	1300	1400	1600	1800	2200	1900	146	144	200	245	290	320	380	400	480	520	540	560	560	600
32	Unfiltered	18000	19000	16000	15400	14900	13100	13300	11300	9800	9000	1400	1500	1600	1500	1400	1800	1660	1587	1600	1800	1700	--	--	--
33	Unfiltered	27000	32000	27200	30600	29700	29300	28800	26500	26700	24800	1300	1700	2500	2700	2700	3100	3100	3291	3440	3900	3700	3800	3600	4200
34	Unfiltered	4300	4000	3100	2900	2400	2500	2900	2800	2900	3000	1400	1900	2100	2100	2000	2200	2000	2014	2010	2300	2000	--	--	--
35	Unfiltered	460	390	200	300	233	210	177	160	--	140	100	99	120	98	110	110	100	98	99	110	93	--	--	--
36	Unfiltered	2400	2300	1000	900	500	689	569	540	--	460	57	67	110	100	120	120	140	140	160	170	160	170	170	170
37	Unfiltered	12.0	13.0	7.3	6.3	5.4	3.5	8	2.7	--	2	16	9.7	3.2	2.5	3.0	17	2.0	2.7	12.0	--	--	--	--	--
38	Unfiltered	3.9	6.5	5.3	8.1	2.7	3.7	2.8	4	--	2.5	2.5	1.8	1.6	1.4	1.2	1.1	0.8	1.0	16.0	--	--	--	--	--
39	Unfiltered	4.1	2.1	2.7	2.5	1	1.8	0.9	2.8	--	0.4	0.6	0.4	0.4	0.3	0.2	0.2	0.5	0.3	17.0	--	--	--	--	--
40	Unfiltered	1.1	0.9	0.7	0.8	0.7	0.8	1.1	1	--	0.6	0.8	1.4	0.9	2.0	0.5	0.5	1.9	2.9	8.2	--	--	--	--	--
41	Unfiltered	13.0	14.0	14	12	13	9.7	23	11	--	15	11	6.1	9.4	4.4	4.4	4.3	3.4	18	31	--	--	--	--	--
42	Unfiltered	15.0	18.0	12	39	8.8	16	54	13	--	41	18	10	13	4.2	14	21	3.1	5.3	33	--	--	--	--	--
43	Unfiltered	690	530	500	600	200	504	600	530	--	540	150	190	200	170	180	180	180	170	160	130	130	--	--	--
44	Unfiltered	550	400	200	300	251	247	290	280	--	290	130	130	150	120	150	150	140	120	110	100	99	--	--	--
45	Unfiltered	1.0	1.3	0.6	0.5	0.3	0.3	0.3	0.6	--	0.2	2.0	1.6	0.9	0.4	3.5	0.8	0.3	0.3	3.3	--	--	--	--	--
46	Unfiltered	13.0	9.0	6.8	4	3.2	3.7	7	1.8	--	3.7	6.7	5.6	0.9	0.7	0.6	0.5	0.3	0.4	13	--	--	--	--	--
47	Unfiltered	8.3	2.2	1.8	4.2	1.4	1	0.8	1.3	--	0.5	0.9	1.0	0.6	0.4	0.7	0.7	0.3	0.5	5.2	--	--	--	--	--
48	Unfiltered	3.0	0.9	0.2	0.5	0.3	0.3	1.1	0.4	--	0.8	3.2	6.5	23	27	32	45	56	70	91	110	110	110	110	120
31	0.45 µm filter	210	340	950	1100	1300	1400	1600	1800	2100	1900	144	143	300	231	280	310	370	400	480	520	550	560	570	590
32	0.45 µm filter	18000	18000	15100	15400	13700	13200	13100	10700	9700	8900	1300	1500	1600	1600	1300	1700	1570	1456	1410	1700	1500	--	--	--
33	0.45 µm filter	27000	32000	30400	30900	28800	31800	29000	27300	26600	25100	1300	1700	2600	2700	2700	3100	3100	3319	3330	3800	3600	3800	3600	4200
34	0.45 µm filter	4100	3800	2700	2600	1900	2300	2500	2800	2800	2700	1500	1900	2100	2000	2000	2200	1960	1955	1970	2200	2000	--	--	--
35	0.45 µm filter	430	340	200	200	217	201	170	160	--	130	96	97	110	98	110	110	98	95	94	100	87	--	--	--
36	0.45 µm filter	2400	2300	700	700	200	381	299	330	--	320	49	59	110	96	110	110	130	130	140	150	150	150	150	160
37	0.45 µm filter	8.6	8.4	6.6	6.2	5	3.5	2.8	2.6	--	0.7	14	6.1	3.1	2.3	2.6	2.4	1.9	2.4	4.5	--	--	--	--	--
38	0.45 µm filter	2.4	2.2	1.5	1.7	1.5	1.4	1.6	1.3	--	0.7	2.0	1.4	1.0	0.8	0.8	0.7	0.5	0.5	4.1	--	--	--	--	--
39	0.45 µm filter	0.4	0.5	0.3	0.4	0.3	0.3	0.3	0.3	--	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	1.7	--	--	--	--	--
40	0.45 µm filter	1.0	0.8	0.5	0.7	0.6	0.6	0.7	0.7	--	0.5	0.7	0.9	0.7	0.6	0.5	0.5	0.4	0.4	0.7	--	--	--	--	--
41	0.45 µm filter	11.0	11.0	9.7	9.5	8.6	7.7	8.4	8.1	--	5.0	5.7	5.9	6.1	4.3	4.1	3.7	3.0	2.7	3.0	--	--	--	--	--
42	0.45 µm filter	11.0	15.0	9.4	8.9	7.6	6.9	7	6	--	3.3	10	8.7	5.9	3.7	3.8	3.3	2.8	2.7	2.3	--	--	--	--	--
43	0.45 µm filter	570	520	300	500	200	512	560	520	--	440	150	180	190	160	180	170	180	170	150	130	130	--	--	--
44	0.45 µm filter	390	320	200	300	243	249	260	260	--	230	110	120	140	120	140	130	120	110	110	98	94	--	--	--
45	0.45 µm filter	0.8	0.9	0.2	0.3	0.2	0.2	0.2	0.3	--	0.1	1.8	1.6	0.6	0.4	0.4	0.2	0.3	0.3	1.0	--	--	--	--	--
46	0.45 µm filter	10.0	6.8	3.5	3.2	2.8	2.3	2.4	1.7	--	0.9	6.6	5.1	0.9	0.6	0.6	0.4	0.3	0.3	0.5	--	--	--	--	--
47	0.45 µm filter	2.7	1.8	0.7	0.9	0.7	0.6	0.6	0.5	--	0.2	0.6	0.7	0.4	0.3	0.3	0.3	0.2	0.2	0.8	--	--	--	--	--
48	0.45 µm filter	0.8	0.5	0.1	0.2	0.2	0.2	0.2	0.3	--	0.6	3.2	6.5	22	28	31	46	58	68	91	110	110	110	110	120

Note: Double dash (--) indicates samples were not taken at the respective time.

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TABLE G.I-4
pH vs TIME

Sample Number	Filter	Batch Test One - pH										
Time (hrs)		0	24	72	288	360	408	504	648	816	1008	1152
31	Unfiltered	4.77	7.08	6.94	7.42	7.24	7.41	7.52	7.72	7.51	7.71	7.47
32	Unfiltered	4.70	5.90	5.41	6.25	6.12	6.19	6.35	6.42	6.25	6.43	6.20
33	Unfiltered	4.60	5.64	5.18	5.84	5.74	5.75	5.87	5.93	5.75	5.91	5.69
34	Unfiltered	4.62	6.62	6.37	7.05	7.02	7.04	7.19	7.34	7.11	7.28	7.02
35	Unfiltered	4.68	5.99	5.71	6.25	6.26	6.23	6.35	6.47	6.36	--	6.44
36	Unfiltered	4.97	5.22	4.83	5.81	5.80	5.83	6.04	6.35	6.39	--	6.75
37	Unfiltered	4.92	10.84	10.46	11.27	11.20	10.52	11.28	11.34	11.33	--	10.07
38	Unfiltered	4.79	10.77	10.44	11.25	11.20	10.84	11.35	11.36	11.37	--	10.83
39	Unfiltered	4.63	10.90	10.58	11.33	11.31	11.27	11.47	11.45	11.47	--	11.09
40	Unfiltered	4.64	10.99	10.75	11.45	11.39	11.42	11.56	11.56	11.55	--	11.33
41	Unfiltered	4.57	10.80	10.64	11.25	11.27	11.27	11.35	11.34	11.40	--	11.15
42	Unfiltered	4.73	10.78	10.64	11.12	11.10	11.11	11.13	11.18	11.22	--	11.06
43	Unfiltered	4.60	10.92	10.81	11.38	11.41	11.41	11.54	11.54	11.58	--	11.39
44	Unfiltered	4.68	10.86	10.78	11.35	11.39	11.41	11.51	11.53	11.58	--	11.46
45	Unfiltered	4.63	10.78	10.68	11.26	11.28	11.31	11.38	11.38	11.26	--	11.14
46	Unfiltered	4.73	10.76	10.73	11.18	11.26	11.27	11.25	11.26	11.35	--	11.15
47	Unfiltered	4.63	10.89	10.85	11.25	11.25	11.28	11.28	11.30	11.27	--	11.19
48	Unfiltered	4.64	10.30	10.22	10.32	10.30	10.23	10.21	10.19	10.13	--	9.57

Sample Number	Filter	Batch Test Two - pH															
Time (hrs)		0	24	72	288	360	408	552	744	912	1152	1344	1488	1560	1680	1872
31	Unfiltered	4.51	5.93	6.53	6.95	7.40	7.58	7.44	7.44	7.36	7.54	7.20	7.53	7.45	7.27	7.51
32	Unfiltered	4.67	5.93	6.13	6.34	6.53	6.69	6.55	6.49	6.35	6.57	6.23	6.42	--	--	--
33	Unfiltered	4.86	5.58	5.67	5.99	6.12	6.25	6.07	5.95	5.83	5.99	5.63	5.78	5.76	5.56	5.83
34	Unfiltered	4.52	6.22	6.45	6.55	6.91	6.93	7.01	6.93	6.89	7.06	6.72	6.97	--	--	--
35	Unfiltered	4.83	5.70	5.80	5.87	6.06	6.10	6.15	6.09	6.02	6.24	5.90	6.05	--	--	--
36	Unfiltered	4.98	6.18	6.54	6.90	7.12	7.05	7.16	7.16	7.12	7.30	6.93	7.23	7.14	7.05	7.23
37	Unfiltered	4.52	9.99	9.50	10.46	10.75	10.73	10.70	10.32	10.37	9.87	--	--	--	--	--
38	Unfiltered	4.81	9.89	9.89	10.77	11.03	11.02	11.02	10.77	10.86	10.87	--	--	--	--	--
39	Unfiltered	4.63	10.35	10.10	10.92	11.13	11.14	11.11	10.99	11.03	11.17	--	--	--	--	--
40	Unfiltered	4.67	10.56	10.46	11.15	11.37	11.35	11.36	11.30	11.32	11.48	--	--	--	--	--
41	Unfiltered	4.70	10.31	10.30	10.88	11.09	11.08	11.06	11.04	11.05	10.97	--	--	--	--	--
42	Unfiltered	4.87	10.14	10.16	10.67	10.89	10.87	10.89	10.87	10.95	10.80	--	--	--	--	--
43	Unfiltered	4.82	10.20	10.29	10.84	11.10	11.09	11.13	11.15	11.21	11.32	10.86	11.17	--	--	--
44	Unfiltered	4.92	10.36	10.42	10.94	11.17	11.15	11.22	11.25	11.31	11.41	11.04	11.32	--	--	--
45	Unfiltered	4.81	10.32	10.36	10.83	10.95	10.96	10.98	10.97	10.99	10.70	--	--	--	--	--
46	Unfiltered	4.85	10.16	10.33	10.66	10.81	10.79	10.83	10.85	10.89	10.57	--	--	--	--	--
47	Unfiltered	4.74	10.26	10.41	10.84	10.95	10.96	10.95	10.96	11.03	10.84	--	--	--	--	--
48	Unfiltered	4.78	9.53	9.49	9.04	9.02	8.90	8.83	8.64	8.64	8.55	8.23	8.38	8.26	8.26	8.16

Note: Double dash (--) indicates samples were not taken at the respective time.

TABLE G.I-5
SUMMARY OF OFF-SITE LABORATORY URANIUM RESULTS

Sample Number	Material Type	C_{S2} (µg/g)	C_{W1-U} (µg/L)	C_{W1-F} (µg/L)	C_{W2-U} (µg/L)	C_{W2-F} (µg/L)
31	Paint	5070	2370	2410	541	522
32	Paint	29587	8800	8710	1610	1390
33	Paint	74600	26300	26400	3470	3050
34	Paint	63590	3570	3570	1940	1870
35	Paint	17396	142	199	89	103
36	Paint	2020	524	172	155	157
37	Concrete	429	63.9	14.6	19.3	**4.1**
38	Concrete	41	52.9	11.0	18.5	2.6
39	Concrete	3	62.8	7.1	11.2	1.2
40	Concrete	13	10.4	4.9	5.3	**0.4**
41	Concrete	142	72.7	9.0	19.2	**2.1**
42	Concrete	143	103	6.4	30.4	2.3
43	Concrete	585	1060	402	127	120
44	Concrete	1780	761	204	226	88
45	Concrete	14	4.6	3.9	**2.1**	**0.4**
46	Concrete	34	132	2.3	16.6	**0.4**
47	Concrete	3	10.0	9.0	4.9	**0.4**
48	Concrete	64	22.5	1.0	106	123

NOTES:

Bold values denote 1/2 Minimum Detectable Concentration (MDC) for results reported < MDC.

DEFINITIONS:

C_{S2} = Concentration of contaminant in solid phase at second batch test equilibrium

C_{W1-U} = Concentration of contaminant in unfiltered leachate at first batch test equilibrium

C_{W1-F} = Concentration of contaminant in 0.45 micron filtered leachate at first batch test equilibrium

C_{W2-U} = Concentration of contaminant in unfiltered leachate at second batch test equilibrium

C_{W2-F} = Concentration of contaminant in 0.45 micron filtered leachate at second batch test equilibrium

002538

7497

TABLE G.I-6
SUMMARY OF OFF-SITE LABORATORY TECHNETIUM-99 RESULTS

Sample Number	Material Type	C_{S2} (pCi/g)	C_{W1-U} (pCi/L)	C_{W1-F} (pCi/L)	C_{W2-U} (pCi/L)	C_{W2-F} (pCi/L)
31	Paint	137	96	81	34	42
32	Paint	397	599	485	343	234
33	Paint	1480	1000	1000	538	446
34	Paint	1104	1340	899	312	290
35	Paint	89	109	129	23	20.4
36	Paint	114	106	126	48	41
37	Concrete	**0.3**	13	9.6	**3.7**	**2.94**
38	Concrete	2.0	60.9	53.3	23.5	15.9
39	Concrete	**0.4**	50.7	45	15.7	21
40	Concrete	52.0	918	963	404	398
41	Concrete	5.0	532	493	80	112
42	Concrete	10.3	1060	982	179	153
43	Concrete	69.8	12900	11600	1320	1800
44	Concrete	40.9	3030	3520	720	864
45	Concrete	**0.3**	50.1	57.2	12.2	12.5
46	Concrete	**0.3**	72.7	77.6	10	20
47	Concrete	**0.3**	13.3	6.6	**2.775**	**2.94**
48	Concrete	7.3	14.5	17.5	14	**6.5**

NOTES:

Bold values denote 1/2 Minimum Detectable Concentration (MDC) for results reported < MDC.

DEFINITIONS:

C_{S2} = Concentration of contaminant in solid phase at second batch test equilibrium

C_{W1-U} = Concentration of contaminant in unfiltered leachate at first batch test equilibrium

C_{W1-F} = Concentration of contaminant in 0.45 micron filtered leachate at first batch test equilibrium

C_{W2-U} = Concentration of contaminant in unfiltered leachate at second batch test equilibrium

C_{W2-F} = Concentration of contaminant in 0.45 micron filtered leachate at second batch test equilibrium

002233

TABLE G.I-7
CHEMICAL COMPOSITE RESULTS

BATCH TEST	MATERIAL	PARAMETER	RESULT	UNITS
1	Paint	Aluminum	548	µg/L
1	Paint	Antimony	12.9	µg/L
1	Paint	Arsenic	1.0	µg/L
1	Paint	Barium	37.8	µg/L
1	Paint	Beryllium	0.1	µg/L
1	Paint	Cadmium	4.1	µg/L
1	Paint	Calcium	17100	µg/L
1	Paint	Chromium	6.5	µg/L
1	Paint	Cobalt	11.2	µg/L
1	Paint	Copper	50.2	µg/L
1	Paint	Iron	190	µg/L
1	Paint	Lead	612	µg/L
1	Paint	Magnesium	4720	µg/L
1	Paint	Manganese	109	µg/L
1	Paint	Mercury	0.1	µg/L
1	Paint	Molybdenum	5.1	µg/L
1	Paint	Nickel	12.3	µg/L
1	Paint	Potassium	1870	µg/L
1	Paint	Selenium	3.3	µg/L
1	Paint	Silver	1.7	µg/L
1	Paint	Sodium	2970	µg/L
1	Paint	Thallium	1.5	µg/L
1	Paint	Vanadium	1.1	µg/L
1	Paint	Zinc	2160	µg/L
1	Paint	Chloride	0.5	mg/L
1	Paint	Sulfate	38.8	mg/L
1	Paint	Ammonia	3.69	mg/L
1	Paint	Nitrate	25.3	mg/L
1	Paint	Total Inorganic Carbon	1	mg/L
1	Paint	Total Organic Carbon	7.9	mg/L
1	Paint	Fluoride	8	mg/L
1	Paint	Phosphate	0.12	mg/L
2	Paint	Aluminum	100	µg/L
2	Paint	Calcium	70,200	µg/L
2	Paint	Magnesium	2500	µg/L
2	Paint	Potassium	9484	µg/L
2	Paint	Silicon	9486	µg/L
2	Paint	Sodium	8848	µg/L
2	Paint	Sulfate	0.5	µg/L
1	Concrete	Aluminum	1120	µg/L
1	Concrete	Antimony	12.9	µg/L

TABLE G.I-7
CHEMICAL COMPOSITE RESULTS

BATCH TEST	MATERIAL	PARAMETER	RESULT	UNITS
1	Concrete	Arsenic	**1.0**	µg/L
1	Concrete	Barium	71.1	µg/L
1	Concrete	Beryllium	**0.1**	µg/L
1	Concrete	Cadmium	**0.7**	µg/L
1	Concrete	Calcium	86400	µg/L
1	Concrete	Chromium	**3.4**	µg/L
1	Concrete	Cobalt	**2.3**	µg/L
1	Concrete	Copper	**2.1**	µg/L
1	Concrete	Iron	414	µg/L
1	Concrete	Lead	**1.8**	µg/L
1	Concrete	Magnesium	2590	µg/L
1	Concrete	Manganese	19.6	µg/L
1	Concrete	Mercury	**0.1**	µg/L
1	Concrete	Nickel	**5.1**	µg/L
1	Concrete	Potassium	22800	µg/L
1	Concrete	Selenium	**1.0**	µg/L
1	Concrete	Silver	**1.7**	µg/L
1	Concrete	Sodium	18800	µg/L
1	Concrete	Thallium	**1.2**	µg/L
1	Concrete	Vanadium	**1.2**	µg/L
1	Concrete	Zinc	**5.5**	µg/L
1	Concrete	Molybdenum	**10.2**	µg/L
1	Concrete	Silicon	6090	µg/L
1	Concrete	Chloride	16.6	mg/L
1	Concrete	Sulfate	**0.5**	mg/L
1	Concrete	Ammonia	0.26	mg/L
1	Concrete	Nitrate	63.3	mg/L
1	Concrete	Total Organic Carbon	7.2	mg/L
1	Concrete	Total Inorganic Carbon	4.1	mg/L
1	Concrete	Fluoride	0.79	mg/L
1	Concrete	Phosphate	**0.1**	mg/L
1	Concrete	Total Dissolved Solid	408	mg/L
2	Concrete	Aluminum	171	µg/L
2	Concrete	Calcium	5050	µg/L
2	Concrete	Magnesium	1270	µg/L
2	Concrete	Potassium	1100	µg/L
2	Concrete	Silicon	792	µg/L
2	Concrete	Sodium	788	µg/L
2	Concrete	Sulfate	**0.5**	µg/L

Bold values denote 1/2 Minimum Detectable Concentration (MDC) for results reported < MDC.

TABLE G.I-8
RADIOLOGICAL COMPOSITE RESULTS

BATCH TEST	MATERIAL	PARAMETER	RESULT (pCi/L)
1	Paint	Cesium-137	**1.49**
1	Paint	Neptunium-237	7.69
1	Paint	Plutonium-238	**21.95**
1	Paint	Plutonium-239	**9.9**
1	Paint	Radium-226	0.443
1	Paint	Radium-228	1.62
1	Paint	Strontium-90	0.928
1	Paint	Thorium-228	1.26
1	Paint	Thorium-230	4.83
1	Paint	Thorium-232	1.12
1	Paint	Uranium-234	2550
1	Paint	Uranium-235/236	317
1	Paint	Uranium-238	2420
1	Concrete	Cesium-137	**1.425**
1	Concrete	Neptunium-237	**0.183**
1	Concrete	Plutonium-238	**4.854**
1	Concrete	Plutonium-239	**2.275**
1	Concrete	Radium-226	1.89
1	Concrete	Radium-228	3.25
1	Concrete	Strontium-90	**0.445**
1	Concrete	Thorium-228	0.829
1	Concrete	Thorium-230	0.857
1	Concrete	Thorium-232	0.856
1	Concrete	Uranium-234	68.7
1	Concrete	Uranium-235/236	**1.64**
1	Concrete	Uranium-238	56.4

Bold values denote 1/2 Minimum Detectable Concentration (MDC) for results reported < MDC.

TABLE G.I-9
URANIUM FILTER SERIES RESULTS

		BATCH TEST ONE			BATCH TEST TWO		
SAMPLE NUMBER	MATERIAL	UNFILTERED RESULT (µg/L)	FILTERED RESULT (0.45µm) (µg/L)	FILTERED RESULT (0.2µm) (µg/L)	UNFILTERED RESULT (µg/L)	FILTERED RESULT (0.45µm) (µg/L)	FILTERED RESULT (0.2µm) (µg/L)
31	Paint	2000	1800	1800	580	570	560
32	Paint	8800	6400	7600	1700	1400	1400
33	Paint	23900	23100	21700	4100	3600	3300
34	Paint	3400	2900	2800	2000	1900	1800
35	Paint	157	121	118	98	79	61
36	Paint	503	271	174	160	150	130
37	Concrete	490	0.4	0.3	87	47	46
38	Concrete	130	1.8	1.9	110	28	28
39	Concrete	88	0.4	0.5	120	63	63
40	Concrete	12	0.2	0.2	120	65	64
41	Concrete	110	4.1	4	370	57	56
42	Concrete	120	1.4	1.3	300	54	53
43	Concrete	1100	460	450	860	390	390
44	Concrete	990	240	240	1100	580	590
45	Concrete	4.7	**0.1**	**0.1**	59	8.3	8.4
46	Concrete	480	6.8	6	110	26	26
47	Concrete	42	0.5	0.4	77	12	11
48	Concrete	83	5.3	5.2	120	120	120

NOTES:

Bold values denote 1/2 Minimum Detectable Concentration (MDC) for results reported < MDC.

TABLE G.I-10
CALCULATION OF INITIAL SOLID-PHASE URANIUM CONCENTRATIONS BASED ON OFF-SITE LABORATORY RESULTS

Sample Number	W (g)	V (L)	C_{W1} (μg/L)	M_{W1} (μg)	C_{W2} (μg/L)	M_{W2} (μg)	C_{S2} (μg/g)	M_{S2} (μg)	M_{SO} (μg)	C_{SO} (μg/g)
31	17.56	3.5	2410	8435	541	1894	5070	89029	99358	5658
32	9.82	3.5	8800	30800	1610	5635	29587	290541	326976	33297
33	6.67	3.5	26400	92400	3470	12145	74600	497582	602127	90274
34	9.49	3.5	3570	12495	1940	6790	63590	603467	622752	65622
35	17.40	3.5	199.0	696.5	103	360.5	17396	302692	303749	17457
36	7.25	3.5	524.0	1834	157	550.6	2020	14645	17030	2349
37	318.21	3.5	63.9	223.7	19	67.6	428.8	136455	136747	429.7
38	340.45	3.5	52.9	185.2	18	64.6	41.4	14087	14337	42.1
39	336.09	3.5	62.8	219.8	11	39.3	3.5	1170	1430	4.3
40	310.12	3.5	10.4	36.4	5	18.5	13	4168	4223	14
41	381.04	3.5	72.7	254.5	19	67.1	142	54288	54609	143
42	306.79	3.5	103.0	360.5	30	106.4	143	43883	44350	145
43	330.59	3.5	1060	3710	127	444.5	585	193265	197419	597
44	378.13	3.5	761.0	2664	226	791.0	1780	672981	676435	1789
45	355.41	3.5	4.6	16.1	2	7.2	14.5	5144	5168	14.5
46	274.39	3.5	132.0	462.0	17	58.2	34	9388	9908	36
47	277.10	3.5	10.0	34.9	5	17.1	3	725	777	3
48	222.81	3.5	22.5	78.8	123	430.5	63.5	14148	14658	65.8

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{S2} = Concentration of contaminant in solid phase at second batch test equilibrium

C_{W1} = Concentration of contaminant unfiltered or filtered leachate at first batch test equilibrium (whichever is higher)

C_{W2} = Concentration of contaminant unfiltered or filtered leachate at second batch test equilibrium (whichever is higher)

M_{SO} = Initial concentration in solid phase

M_{W1} = Mass of contaminant in leachate at first batch test equilibrium

M_{W2} = Mass of contaminant in leachate at second batch test equilibrium

M_{S2} = Mass of contaminant in solid phase at second batch test equilibirium

TABLE G.I-11
CALCULATION OF INITIAL SOLID-PHASE URANIUM CONCENTRATIONS BASED ON BEST-FIT DATA

Sample Number	W (g)	V (L)	C_{W1} (μg/L)	M_{W1} (μg)	C_{W2} (μg/L)	M_{W2} (μg)	C_{S2} (μg/g)	M_{S2} (μg)	M_{SO} (μg)	C_{SO} (μg/g)
31	17.56	3.5	2100	7350	590	2065	5070	89029	98444	5606
32	9.82	3.5	8690	30415	1500	5250	29587	290541	326206	33219
33	6.67	3.5	25100	87850	3800	13300	74600	497582	598732	89765
34	9.49	3.5	2700	9450	1950	6825	63590	603467	619742	65305
35	17.40	3.5	145.0	507.5	98	343.0	17396	302692	303543	17445
36	7.25	3.5	260.0	910.0	160	560.0	2020	14645	16115	2223
37	318.21	3.5	0.7	2.5	4.5	15.8	428.8	136455	136474	428.9
38	340.45	3.5	0.7	2.5	1.4	4.9	41.4	14087	14095	41.4
39	336.09	3.5	0.2	0.7	1.7	6.0	3.5	1170	1177	3.5
40	310.12	3.5	0.5	1.9	0.5	1.6	13	4168	4171	13
41	381.04	3.5	5.5	19.3	2.6	9.1	142	54288	54316	143
42	306.79	3.5	4.5	15.8	2.3	8.1	143	43883	43907	143
43	330.59	3.5	440.0	1540	130.0	455.0	585	193265	195260	591
44	378.13	3.5	230.0	805.0	94.0	329.0	1780	672981	674115	1783
45	355.41	3.5	0.1	0.4	0.7	2.3	14.5	5144	5147	14.5
46	274.39	3.5	0.9	3.2	0.5	1.8	34	9388	9393	34
47	277.10	3.5	0.2	0.7	0.8	2.8	03	725	728	3
48	222.81	3.5	0.6	2.1	116.0	406.0	63.5	14148	14557	65.3

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{S2} = Concentration of contaminant in solid phase at second batch test equilibrium

C_{W1} = Concentration of contaminant unfiltered or filtered leachate at first batch test equilibrium (whichever is higher)

C_{W2} = Concentration of contaminant unfiltered or filtered leachate at second batch test equilibrium (whichever is higher)

M_{SO} = Initial concentration in solid phase

M_{W1} = Mass of contaminant in leachate at first batch test equilibrium

M_{W2} = Mass of contaminant in leachate at second batch test equilibrium

M_{S2} = Mass of contaminant in solid phase at second batch test equilibirium

TABLE G.I-12
CALCULATION OF INITIAL TECHNETIUM-99 SOLID-PHASE CONCENTRATIONS

Sample Number	W (g)	V (L)	C_{W1} (pCi/L)	M_{W1} (pCi)	C_{W2} (pCi/L)	M_{W2} (pCi)	C_{S2} (pCi/g)	M_{S2} (pCi)	M_{SO} (pCi)	C_{SO} (pCi/g)
31	17.56	3.5	96	336	42.0	147	137	2406	2888	164
32	9.82	3.5	599	2097	343	1201	397	3899	7196	733
33	6.67	3.5	1000	3500	538	1883	1480	9872	15255	2287
34	9.49	3.5	1340	4690	312	1092	1104	10477	16259	1713
35	17.40	3.5	129	452	23.0	81	89.2	1553	2085	120
36	7.25	3.5	126	441	48.0	168	114	824	1433	198
37	318.21	3.5	13.0	46	3.7	13	0.33	103	162	0.51
38	340.45	3.5	60.9	213	23.5	82	1.95	664	959	2.82
39	336.09	3.5	50.7	177	21.0	74	0.40	134	385	1.15
40	310.12	3.5	963	3371	404	1414	52.0	16126	20911	67.4
41	381.04	3.5	532	1862	112	392	4.95	1886	4140	10.9
42	306.79	3.5	1060	3710	179	627	10.3	3160	7496	24.4
43	330.59	3.5	12900	45150	1800	6300	69.8	23075	74525	225
44	378.13	3.5	3520	12320	864	3024	40.9	15466	30810	81.5
45	355.41	3.5	57.2	200	12.5	44	0.3	119	363	1.02
46	274.39	3.5	77.6	272	20.0	70	0.31	85	427	1.55
47	277.10	3.5	13.3	47	2.9	10	0.29	80	137	0.50
48	222.81	3.5	17.5	61	14.0	49	7.3	1627	1737	7.79

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{S2} = Concentration of contaminant in solid phase at second batch test equilibrium

C_{W1} = Concentration of contaminant unfiltered or filtered leachate at first batch test equilibrium (whichever is higher)

C_{W2} = Concentration of contaminant unfiltered or filtered leachate at second batch test equilibrium (whichever is higher)

M_{SO} = Initial activity in solid phase (pCi)

M_{W1} = Activity of contaminant in leachate at first batch test equilibrium

M_{W2} = Activity of contaminant in leachate at second batch test equilibrium

M_{S2} = Activity of contaminant in solid phase at second batch test equilibirium

TABLE G.I-13
URANIUM LEACHING COEFFICIENT CALCULATIONS BASED ON OFF-SITE LABORATORY DATA

Sample Number	Material Type	W (g)	V (L)	C_{SO} (µg/g)	C_{W1-F} (µg/L)	C_{W2-F} (µg/L)	K_o (%)	K_{L1} (L/kg)	K_{L2} (L/kg)
31	Paint	17.56	3.50	5658	2410	522	10.8	2150	55.1
32	Paint	9.82	3.50	33297	8710	1390	11.1	3470	67.7
33	Paint	6.67	3.50	90274	26400	3050	17.4	2890	68.5
34	Paint	9.49	3.50	65622	3570	1870	4.21	18000	410
35	Paint	17.40	3.50	17457	199	103	0.475	87500	216
36	Paint	7.25	3.50	2349	172	157	41.4	13200	5170
37	Concrete	318.21	3.50	430	14.60	4.08	0.052	29400	4.26
38	Concrete	340.45	3.50	42	11.00	2.60	0.35	3820	3.18
39	Concrete	336.09	3.50	4	7.09	1.20	2	600	2
40	Concrete	310.12	3.50	14	4.88	0.41	0.44	2800	1
41	Concrete	381.04	3.50	143	9.02	2.07	0.0750	15900	2.7
42	Concrete	306.79	3.50	145	6.38	2.30	0.0787	22600	6.43
43	Concrete	330.59	3.50	597	402	120	1.02	1470	4.51
44	Concrete	378.13	3.50	1789	204	88	0.19	8800	7.02
45	Concrete	355.41	3.50	14.5	3.92	0.41	0.30	3700	1.2
46	Concrete	274.39	3.50	36	2.32	0.41	0.10	16000	2.8
47	Concrete	277.10	3.50	3	8.97	0.41	4	300	0.6
48	Concrete	222.81	3.50	65.8	1.03	123	100	63854	undefined

Concrete	Geometric Mean =	0.5	4928.7	5
Paint	Geometric Mean =	7	8748	221

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{W1-F} = Concentration of contaminant in 0.45 micron filtered leachate at first batch test equilibrium

C_{W2-F} = Concentration of contaminant in 0.45 micron filtered leachate at second batch test equilibrium

K_o = Total extractable fraction of contaminant in initial sample

K_L = Leaching coefficient of the extractable portion of contaminant

TABLE G.I-14
URANIUM LEACHING COEFFICIENT CALCULATIONS BASED ON BEST-FIT DATA

Sample Number	Material Type	W (g)	V (L)	C_{SO} (µg/g)	C_{W1-F} (µg/L)	C_{W2-F} (µg/L)	K_e (%)	K_{L1} (L/kg)	K_{L4} (L/kg)
31	Paint	17.56	3.50	5658	2100	590	10	2500	78
32	Paint	9.82	3.50	33297	8690	1500	11	3500	74
33	Paint	6.67	3.50	90274	25100	3800	17	3100	94
34	Paint	9.49	3.50	65622	2700	1950	5.5	24000	960
35	Paint	17.40	3.50	17457	145	98	0.52	120000	420
36	Paint	7.25	3.50	2349	260	160	14	8600	770
37	Concrete	318.21	3.50	430	0.70	4.5	100	610000	undefined
38	Concrete	340.45	3.50	42	0.70	1.4	100	60000	undefined
39	Concrete	336.09	3.50	4	0.20	1.7	100	21000	undefined
40	Concrete	310.12	3.50	14	0.53	0.45	0.29	26000	63
41	Concrete	381.04	3.50	143	5.5	2.6	0.067	26000	8.3
42	Concrete	306.79	3.50	145	4.5	2.3	0.073	32000	12
43	Concrete	330.59	3.50	597	440	130	1.1	1300	4.4
44	Concrete	378.13	3.50	1789	230	94	0.20	7800	6.4
45	Concrete	355.41	3.50	14.5	0.10	0.65	100	150000	undefined
46	Concrete	274.39	3.50	36	0.90	0.50	0.072	40000	16
47	Concrete	277.10	3.50	3	0.20	0.80	100	14000	undefined
48	Concrete	222.81	3.50	65.8	0.60	116.0	100	110000	undefined

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{W1-F} = Concentration of contaminant in 0.45 micron filtered leachate at first batch test equilibrium

C_{W2-F} = Concentration of contaminant in 0.45 micron filtered leachate at second batch test equilibrium

K_e = Total extractable fraction of contaminant in initial sample

K_L = Leaching coefficient of the extractable portion of contaminant

TABLE G.I-15
TECHNETIUM-99 LEACHING COEFFICIENT CALCULATIONS

Sample Number	W (g)	V (L)	C_{so} (pCi/g)	C_{W1-P} (pCi/L)	C_{W2-P} (pCi/L)	K_e (%)	K_{L1} (L/kg)	K_{L2} (L/kg)
31	17.56	3.50	164.5	80.6	42.0	20.4	1840	217
32	9.82	3.50	733	485	234	45.6	1150	332
33	6.67	3.50	2287	1000	446	41.4	1760	422
34	9.49	3.50	1713	899	290	28.6	1540	176
35	17.40	3.50	119.8	129	20.4	25.7	728	37.8
36	7.25	3.50	197.7	126	41.0	45.6	1090	233
37	318.21	3.50	0.51	9.62	2.94	30.0	41.9	4.84
38	340.45	3.50	2.82	53.3	15.9	27.7	42.6	4.37
39	336.09	3.50	1.15	44.7	21.0	76.6	15.2	9.23
40	310.12	3.50	67.43	963	398	27.5	58.7	7.95
41	381.04	3.50	10.87	493	112	53.9	12.9	2.70
42	306.79	3.50	24.44	982	153	54.3	13.5	2.11
43	330.59	3.50	225.4	11600	1800	64.5	8.85	1.94
44	378.13	3.50	81.48	3520	864	53.0	13.9	3.01
45	355.41	3.50	1.02	57.2	12.5	70.6	8.01	2.75
46	274.39	3.50	1.55	77.6	20.0	85.8	7.28	4.43
47	277.10	3.50	0.50	6.64	2.94	30.4	61.9	10.0
48	222.81	3.50	7.79	17.5	6.50	5.61	430	9.28

Concrete	Geometric Mean =	40	25	4

Paint	Geometric Mean =	33	1287	190

DEFINITIONS:

W = Mass of test media

V = Volume of leachant

C_{SO} = Initial concentration of contaminant in solid phase

C_{W1-P} = Concentration of contaminant in 0.45 micron filtered leachate at first batch test equilibrium

C_{W2-P} = Concentration of contaminant in 0.45 micron filtered leachate at second batch test equilibrium

K_e = Total extractable fraction of contaminant in initial sample

K_L = Leaching coefficient of the extractable portion of contaminant

TABLE G.I-16

SATURATION INDICIES FOR MINERALS IN COMPOSITE CEMENT AND PAINT LEACHATES

Mineral Formula (name)	SI[a] Cement Eh = 485 mV pH = 11	SI[a] Paint Eh = 485 mV pH = 6.6
$Mg(OH)_2$ (brucite)	0.806	--[b]
$CaCO_3$ (calcite)	1.491	-3.209
Hg_2Cl_2 (calomel)	1.709	-1.257
$CaUO_4$	4.327	-1.572
CrO_2	--	1.884
$PbCrO_4$ (crocoite)	-7.013	-0.496
$CaMg(CO_3)_2$ (dolomite)	2.753	-5.637
$Fe(OH)_3$	0.012	0.420
CaF_2 (fluorite)	-1.567	-0.285
$Al(OH)_3$ (gibbsite)	0.464	1.371
$CaSO_4$ (gypsum)	-3.850	-2.496
HgO (montroydite)	6.988	-1.786
NpO_2	-3.026	0.420
$NpO_2OH(a)$	-7.288	--
$Ca(OH)_2$ (portlandite)	-4.196	--
$UO_3 \cdot 2H_2O$ (schoepite)	-3.109	0.410
$SiO_2(a)$	-2.286	-0.618
$(UO_2)_2SiO_4 \cdot 2H_2O$ (soddyite)	-1.464	7.241
$Ca_5Si_6O_{17} \cdot 10.5H_2O$ (tobermorite)	-0.268	--

[a] Saturation Index (SI) equals the log of the ion activity product minus the log of the solubility product. SI values between -0.3 and 0.3 indicate the solution is saturated with the indicated mineral. SI values less than -0.3 indicate undersaturation and values greater than 0.3 indicate supersaturation.

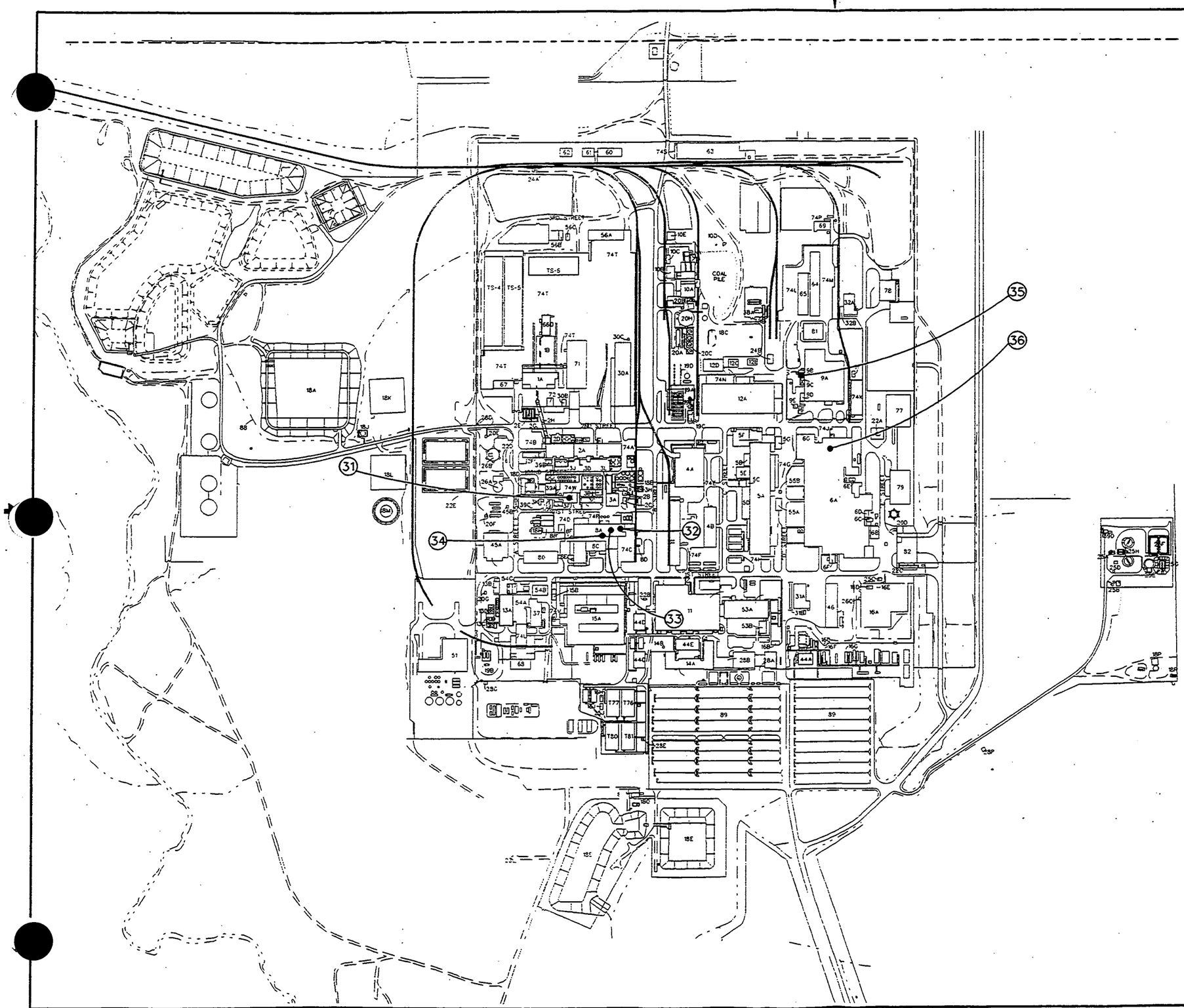
[b] SI ≤ -7.6. SI values lower than -7.6 are not printed in the output data set.

TABLE G.I-17

RESULTS OF MODIFIED BOGUE CALCULATION AND ESTIMATED DISSOLUTION RATES FOR COMMON CEMENT MINERALS

Mineral	Formula	Bogue Result mol/100 g cement	Dissolution Rate[a] mol/sec
ettringite	$Ca_6Al_2(SO_4)_3O_6 \cdot 32H_2O$	7.66×10^{-3}	7.02×10^{-12}
hydrogarnet	$Ca_3Al_2O_6 \cdot 6H_2O$	6.84×10^{-2}	2.10×10^{-11}
tobermorite	$Ca_5Si_6O_{17} \cdot 10.5H_2O$	5.90×10^{-2}	4.88×10^{-11}
portlandite	$Ca(OH)_2$	5.81×10^{-1}	2.27×10^{-9}
reactive alkali	NaOH	3.66×10^{-3}	1.10×10^{-9}
reactive alkali	KOH	3.61×10^{-3}	7.87×10^{-10}

[a] Based on analysis of composite cement leachate after 30 day leach test



FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION

FERMCO

Fernald Environmental Management Project

U.S. DEPARTMENT OF ENERGY

K_L STUDY

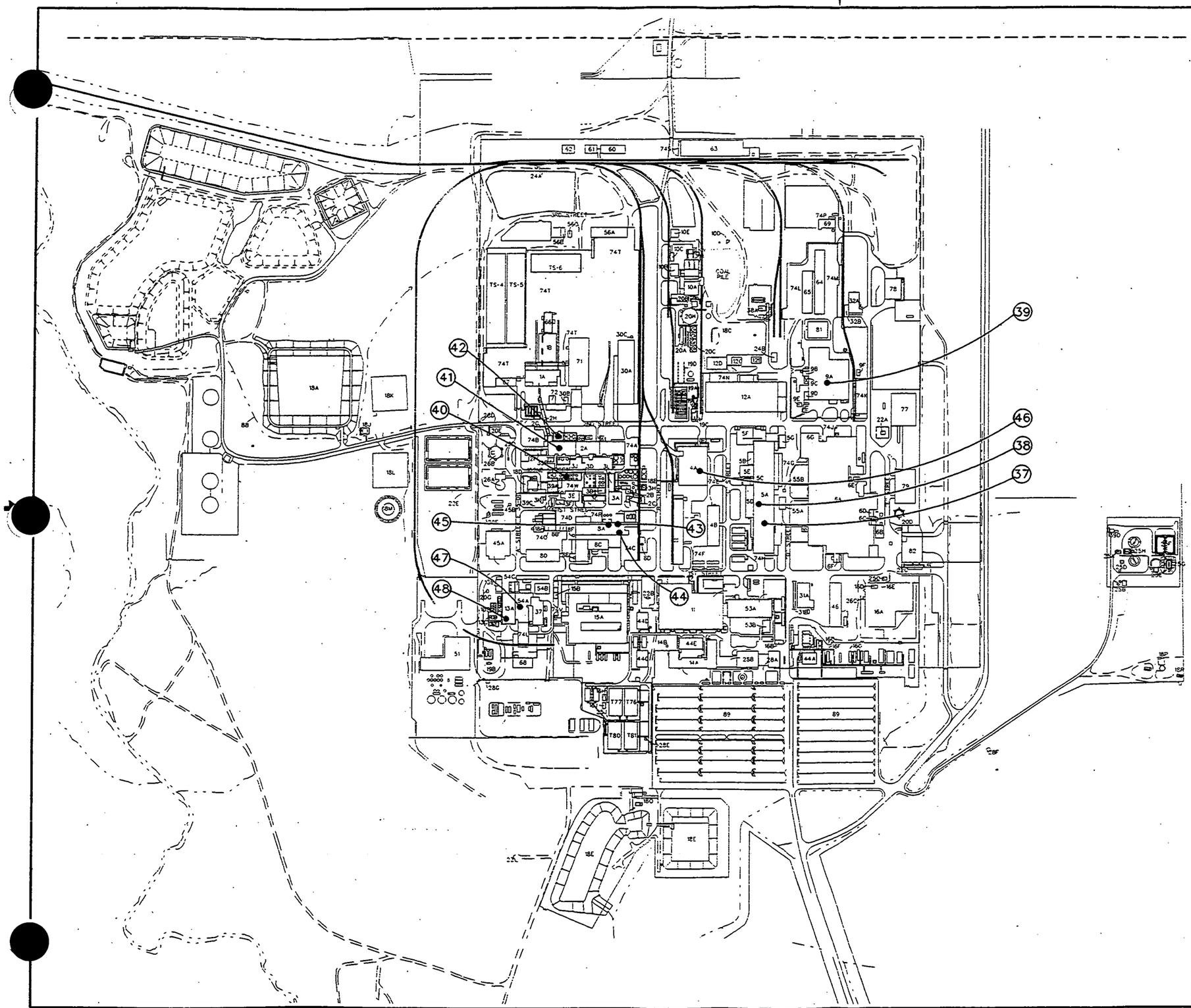
PAINT SAMPLE LOCATIONS

DATE 08/29/95

DRAWN

FIGURE G.I-1

FILE NAME: /usr/erma5/3aca4/dgn/KLstdy.dgn



FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION

FERMCO

Fernald Environmental Management Project

U.S. DEPARTMENT OF ENERGY

K_L STUDY

CONCRETE SAMPLE LOCATIONS

DATE 08/29/95

DRAWN

FIGURE G.I-2

FILE NAME: /usr/erma5/3aca4/dgn/KLstdy.dgn

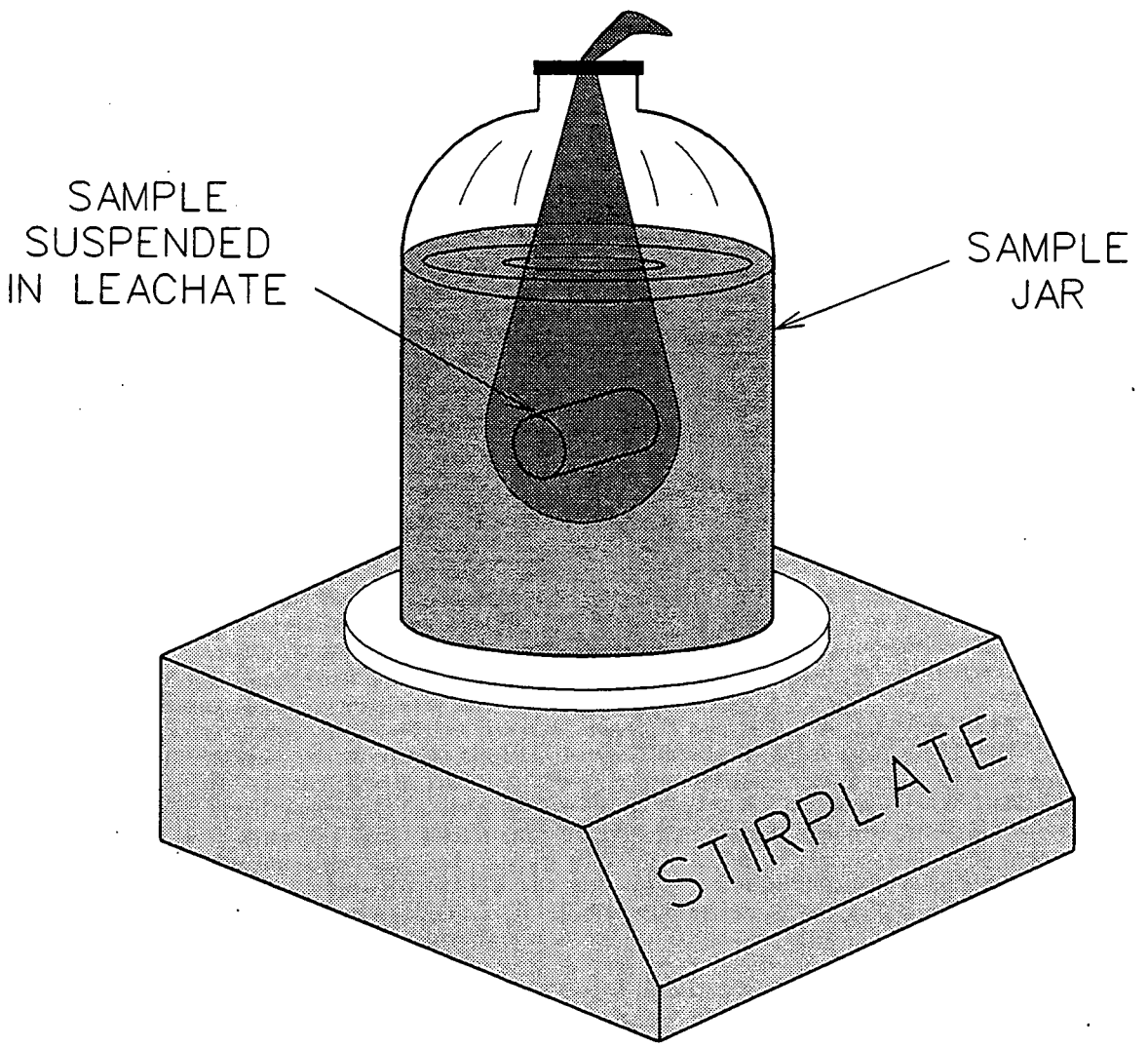


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FIGURE G.I-3 LEACHING APPARATUS

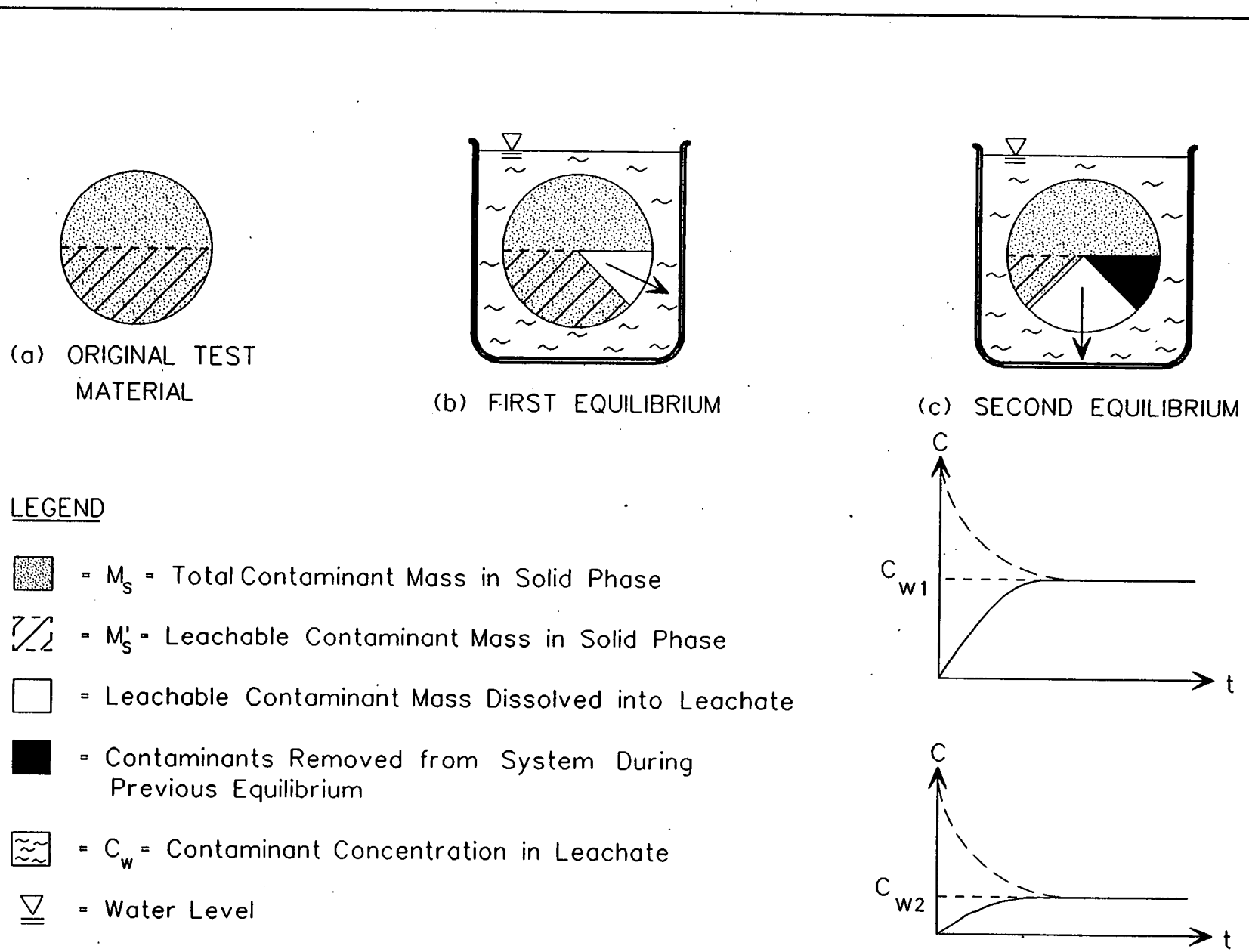

FIGURE G.I-4 DESORPTION MECHANISM FOR THE TWO-STEP DESORPTION TEST

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002755

FIGURE G.I-5
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #31

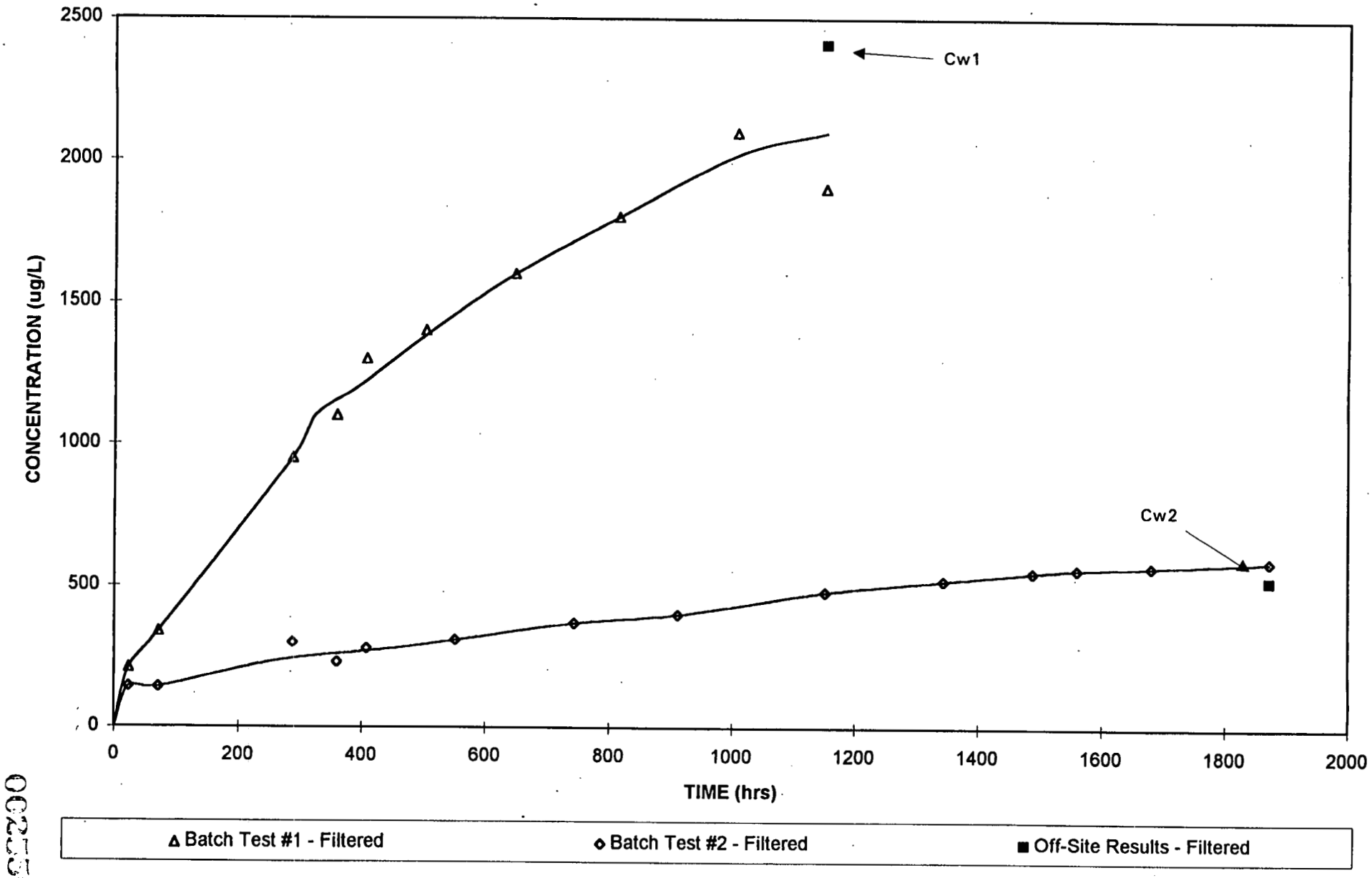


FIGURE G.I-6
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #32

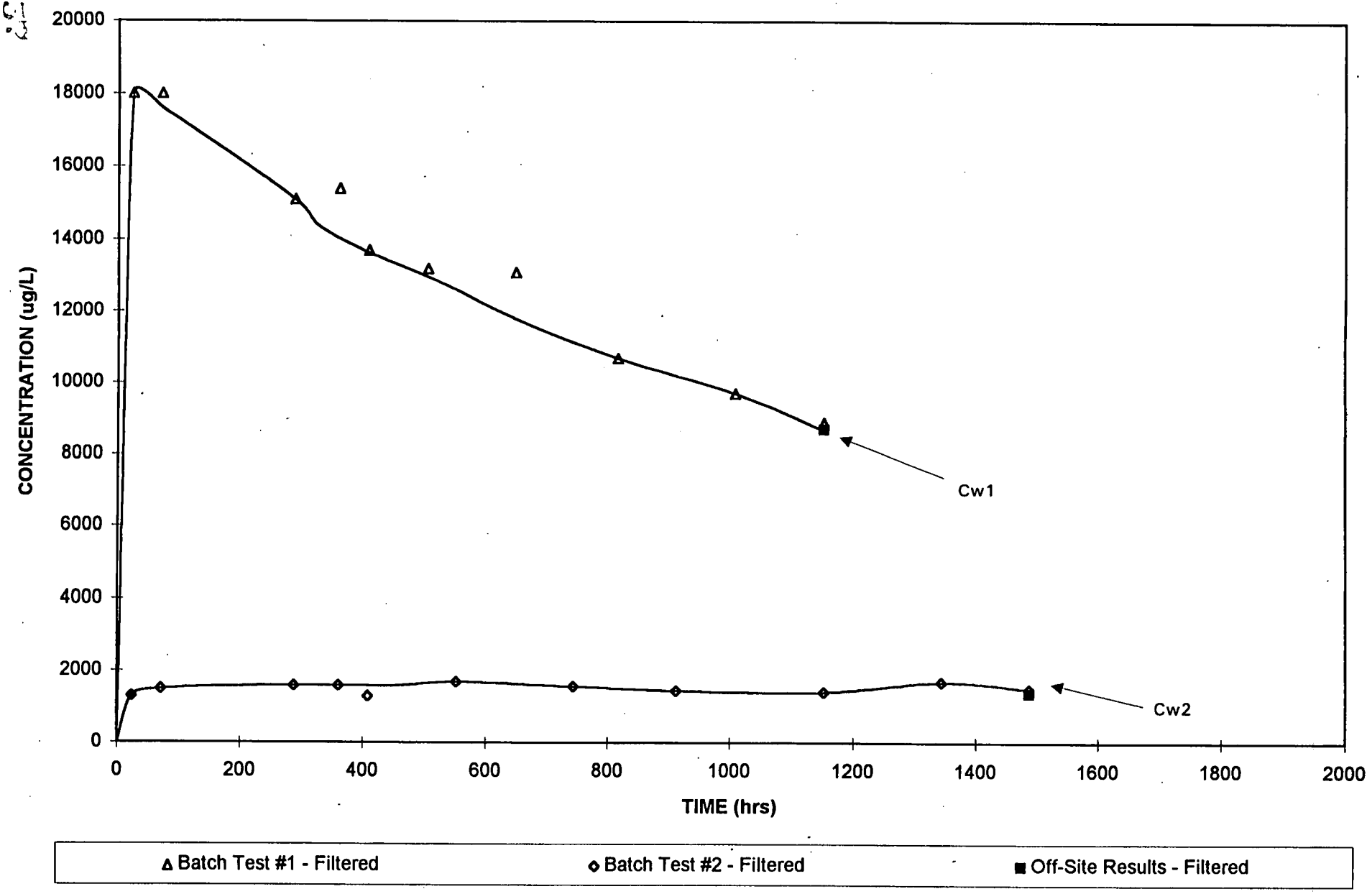
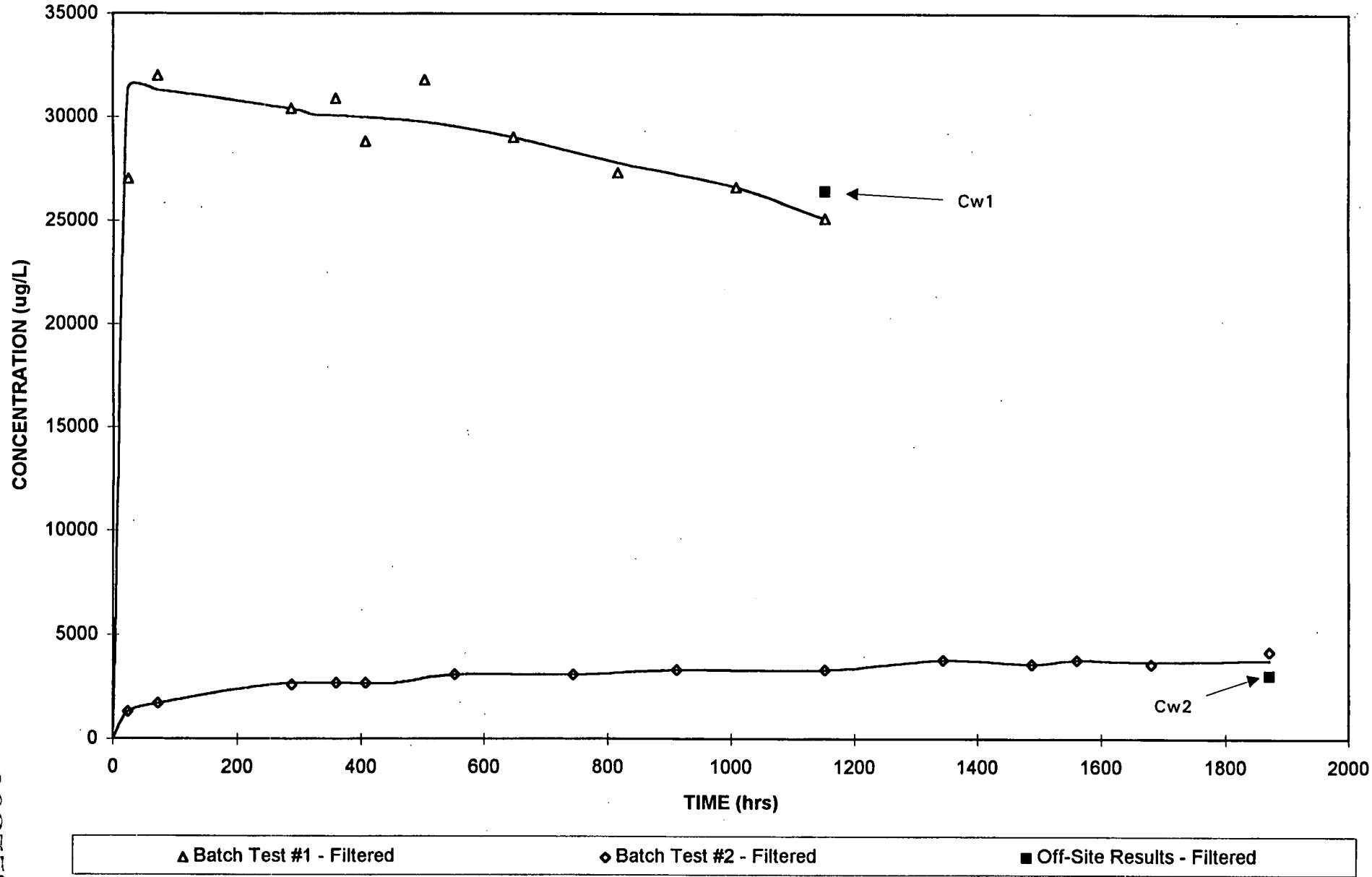


FIGURE G.I-7
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #33



002558

FIGURE G.I-8
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #34

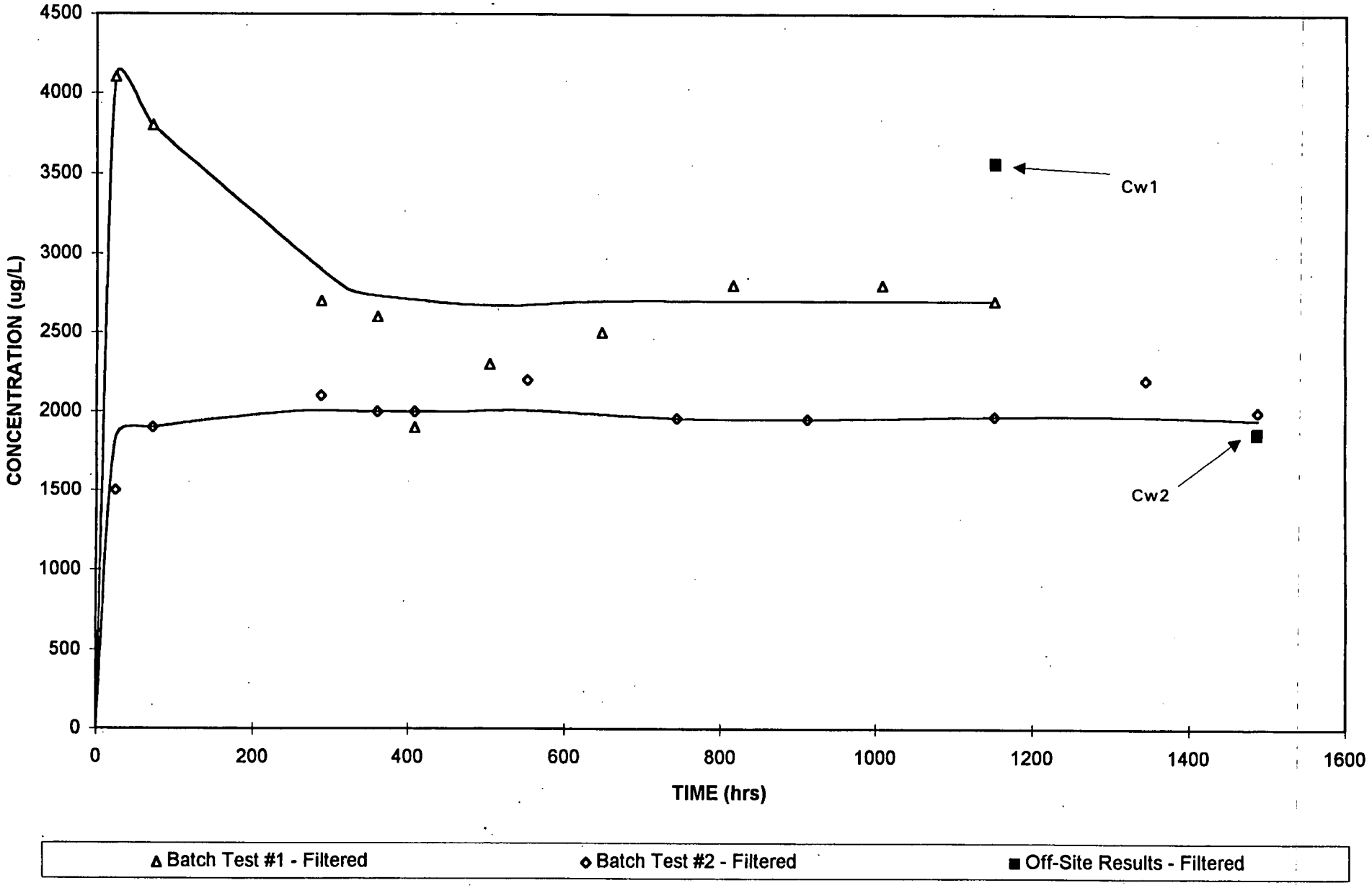
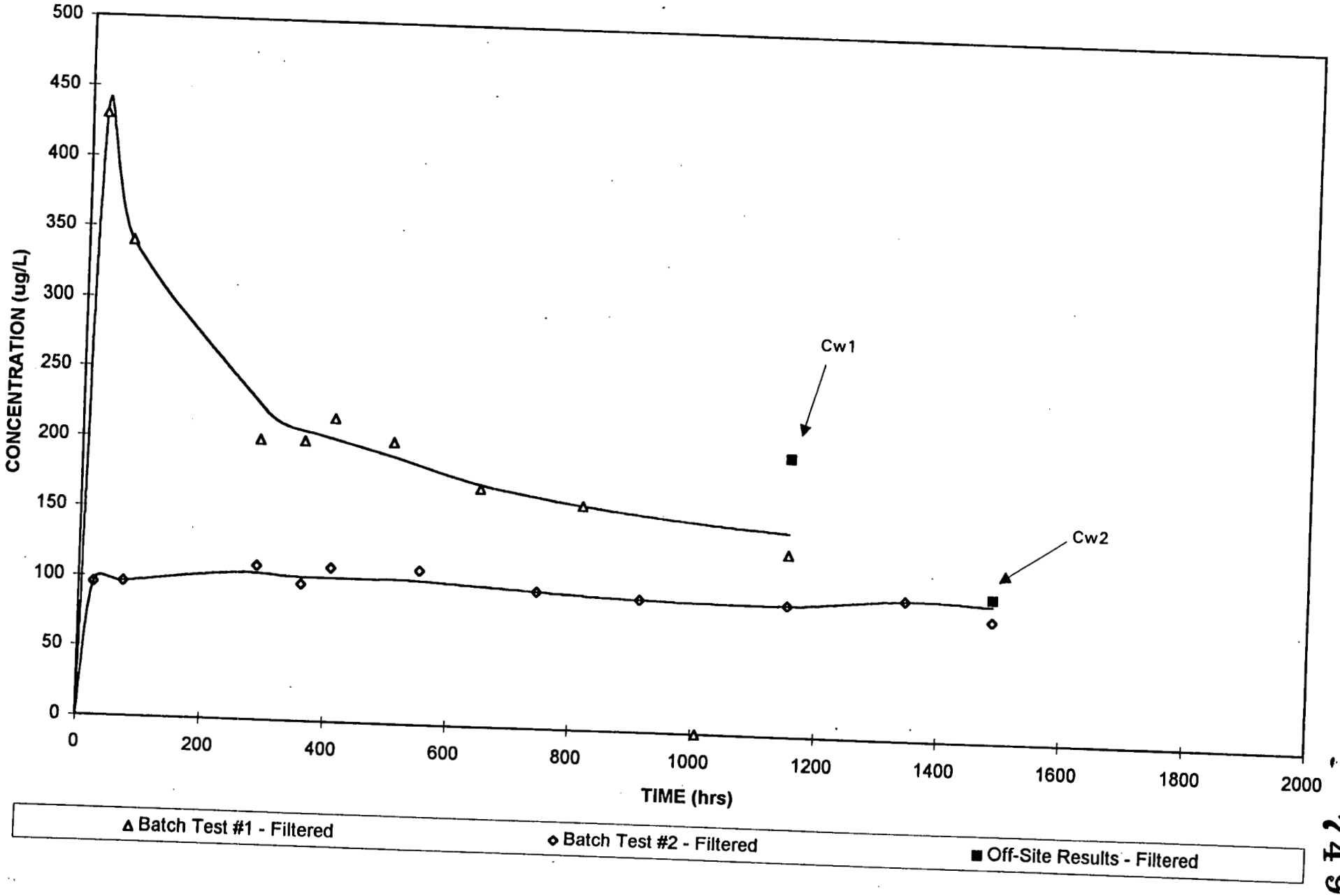


FIGURE G.I-9
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #35



002250

002254

FIGURE G.I-11
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #37

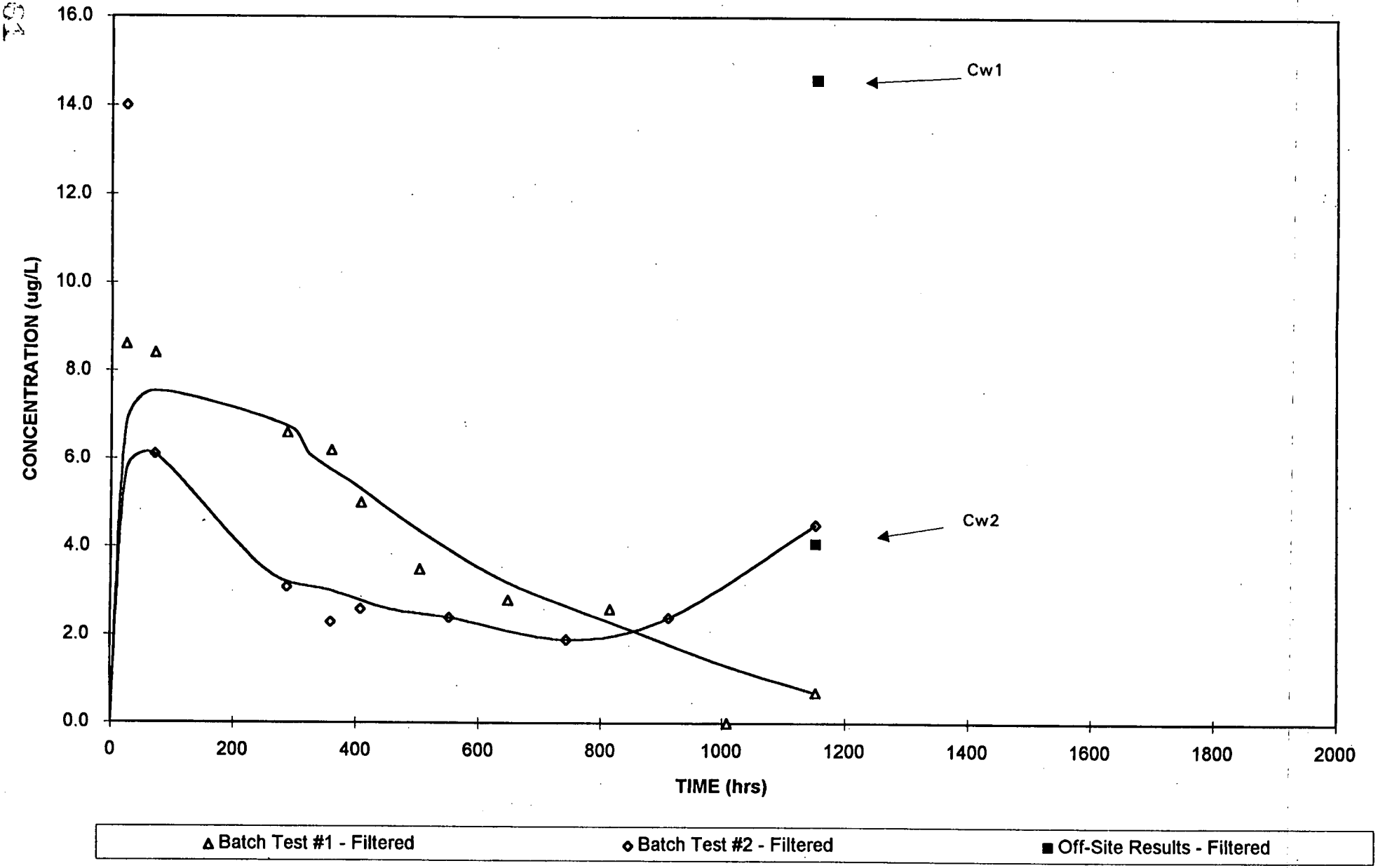


FIGURE G.I-12
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #38

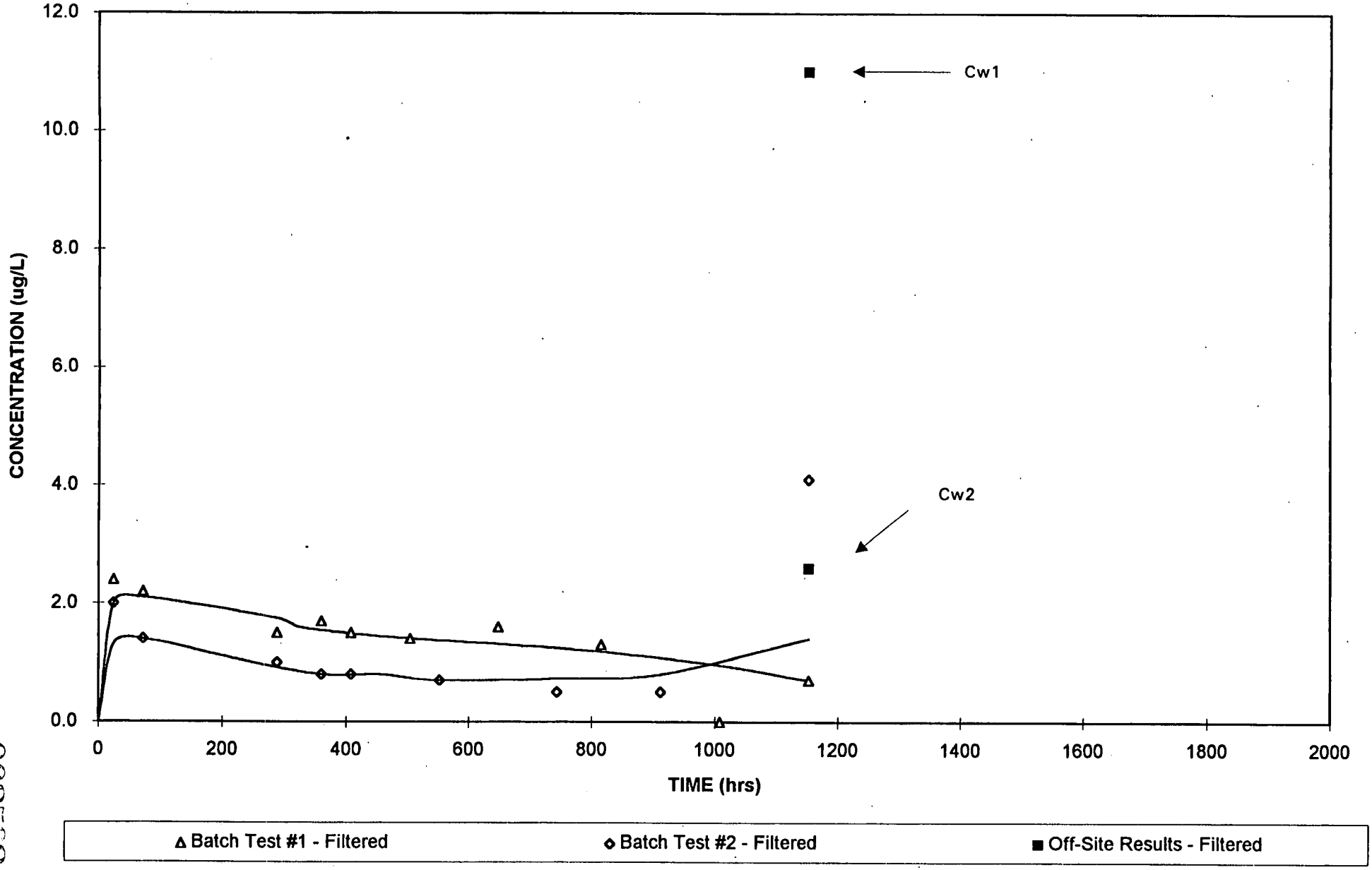


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FIGURE G.I-13
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #39

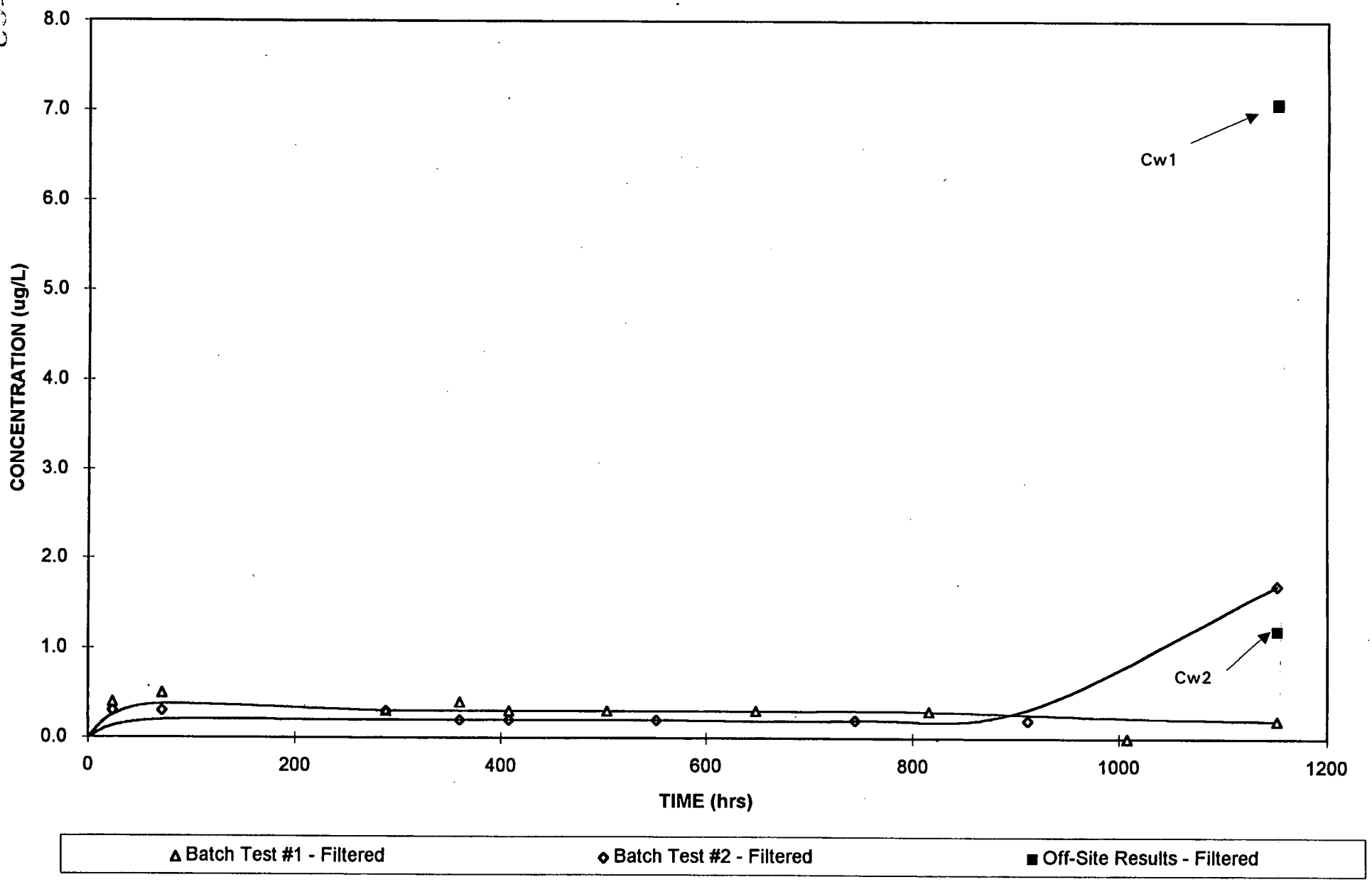
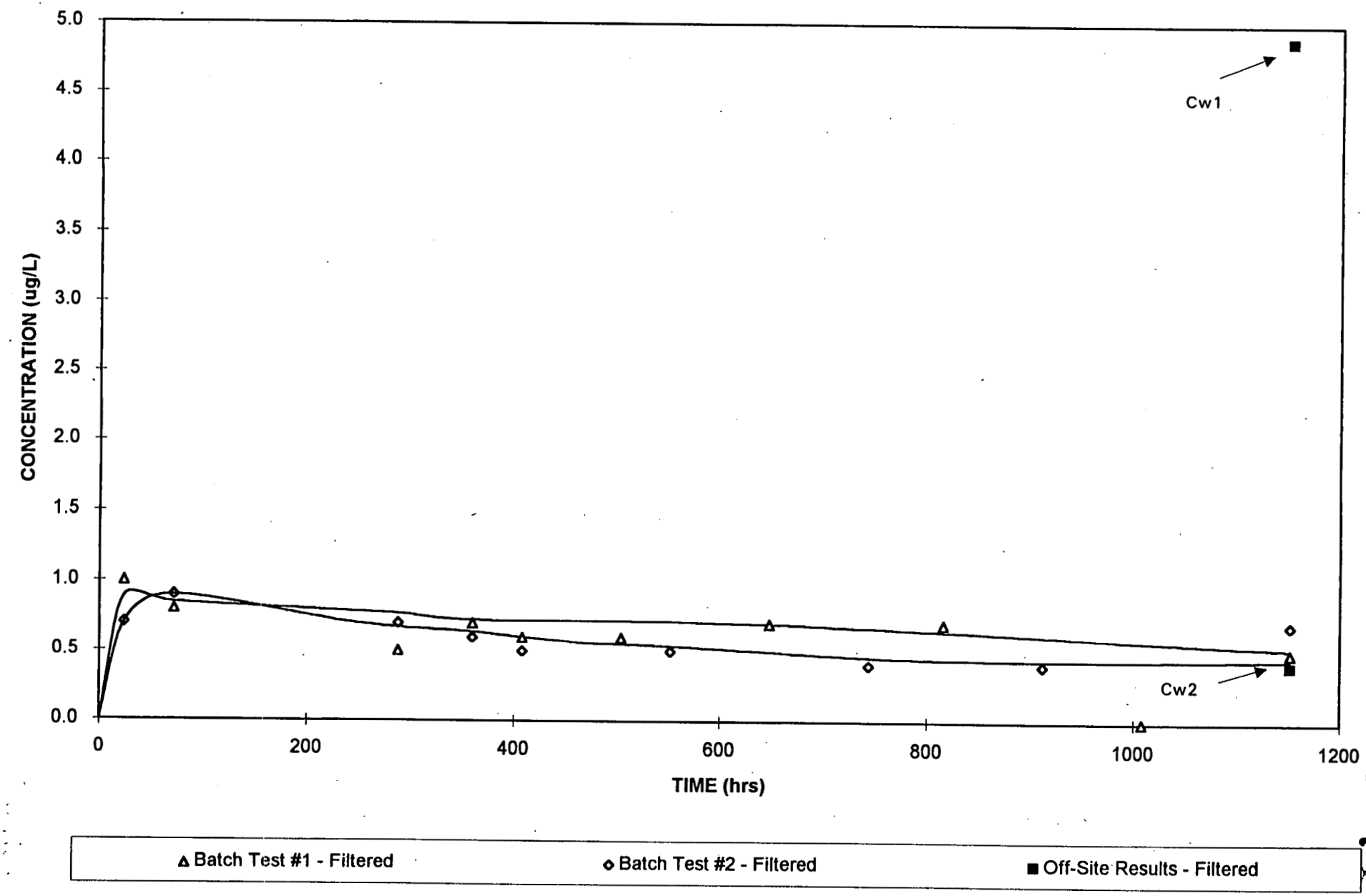
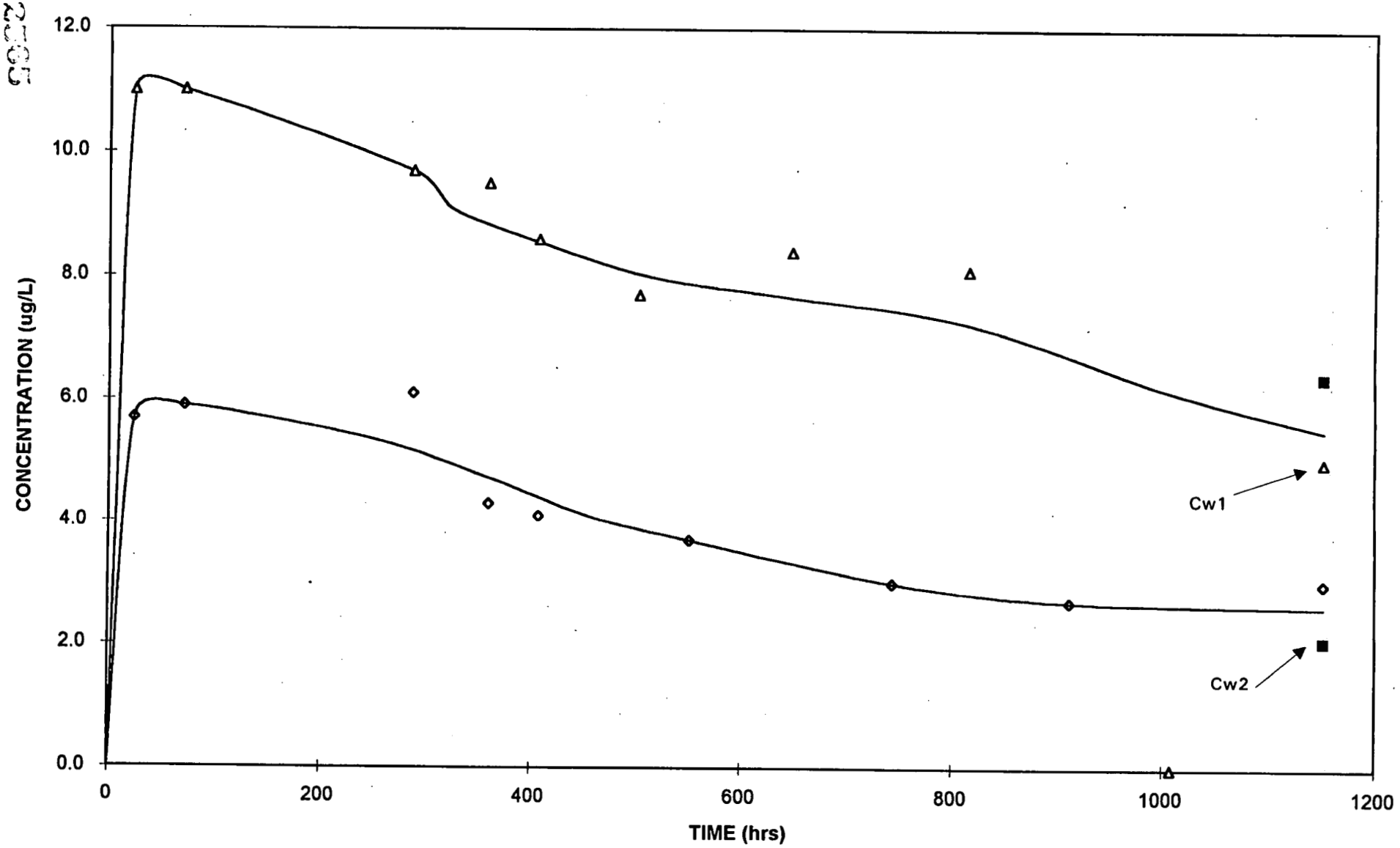


FIGURE G.I-14
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #40



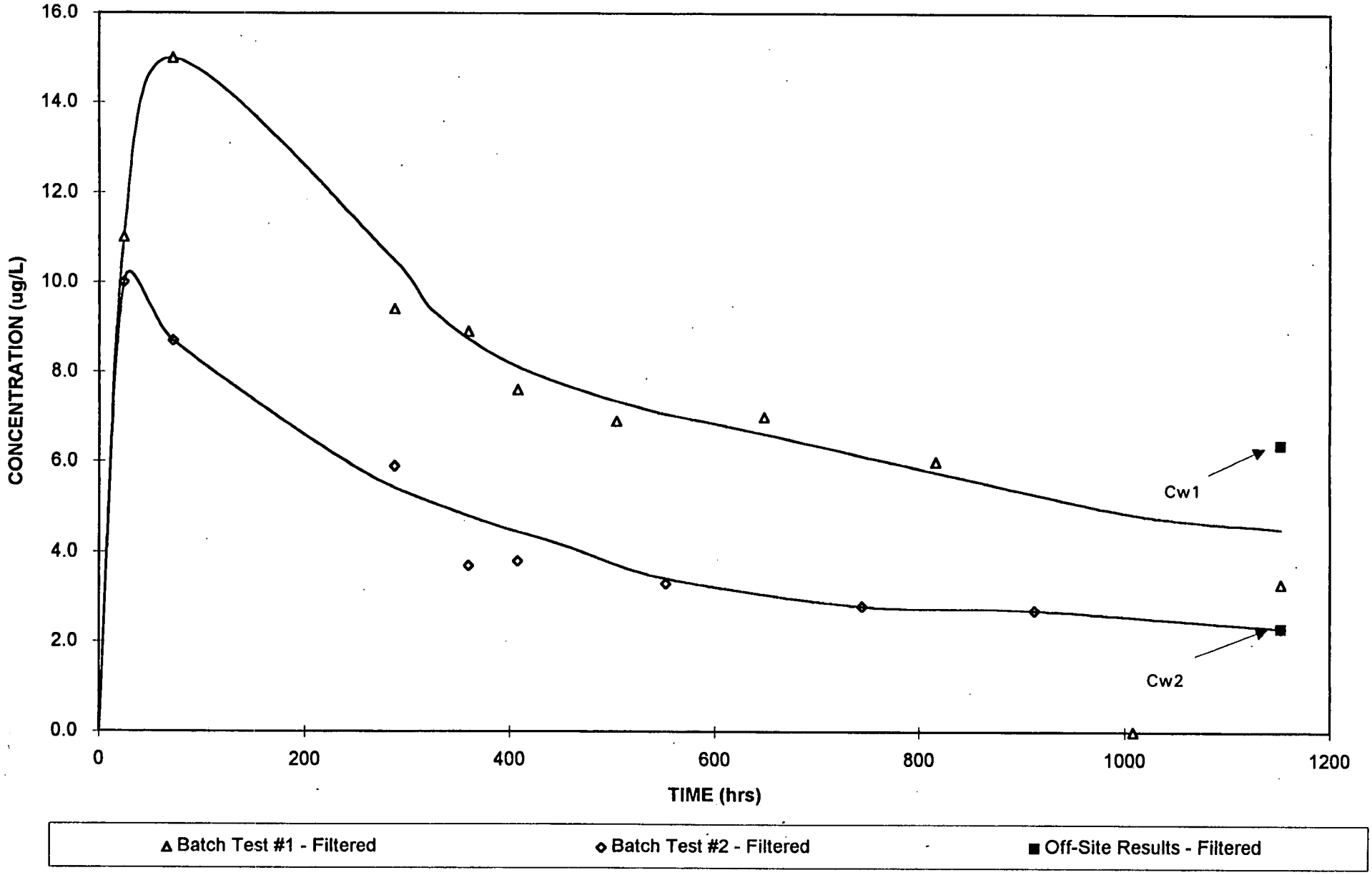
002264

FIGURE G.I-15
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #41



△ Batch Test #1 - Filtered ◇ Batch Test #2 - Filtered ■ Off-Site Results - Filtered

FIGURE G.I-16
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #42



002255

FIGURE G.I-17
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #43

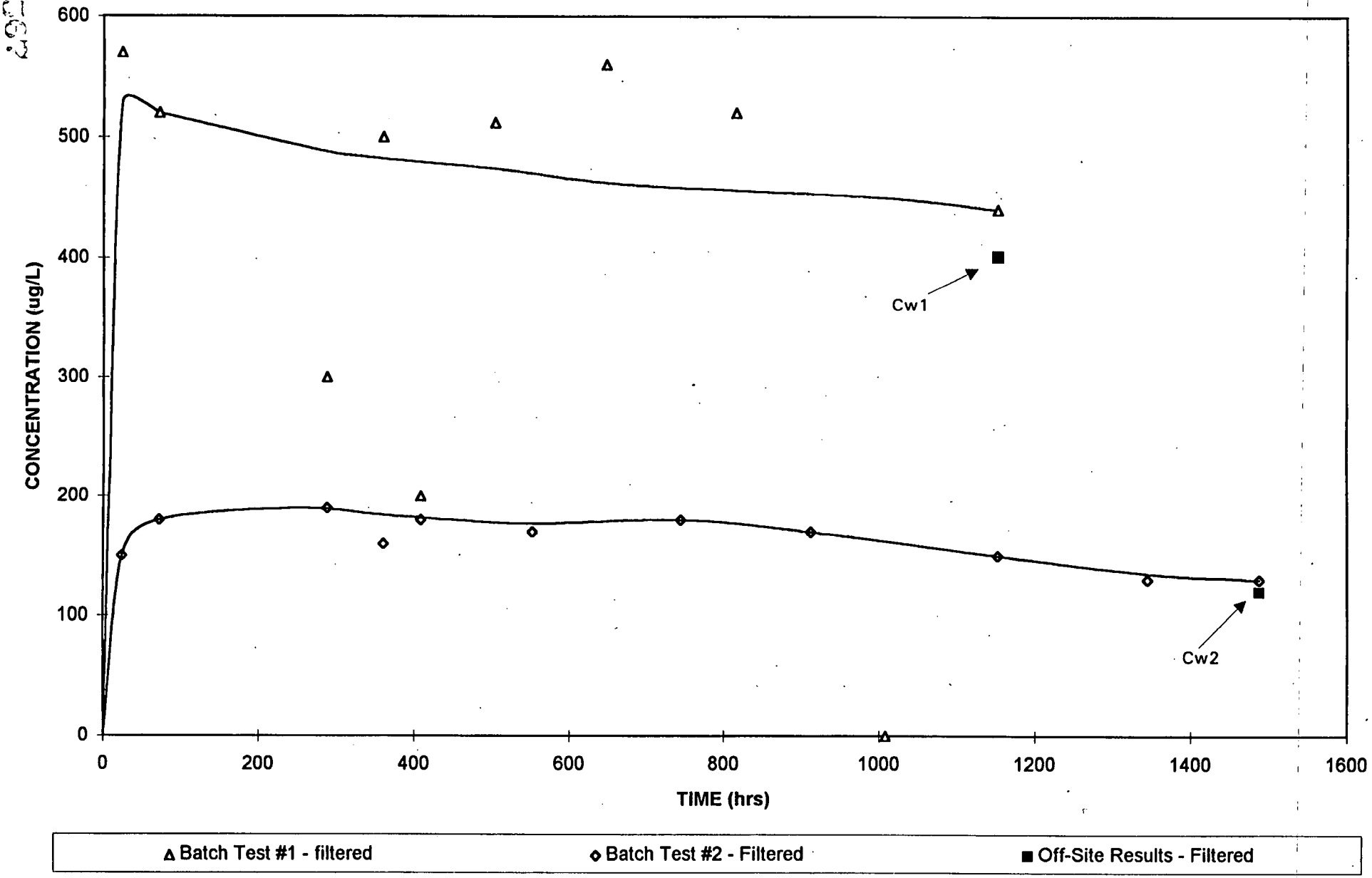


FIGURE G.I-18
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #44

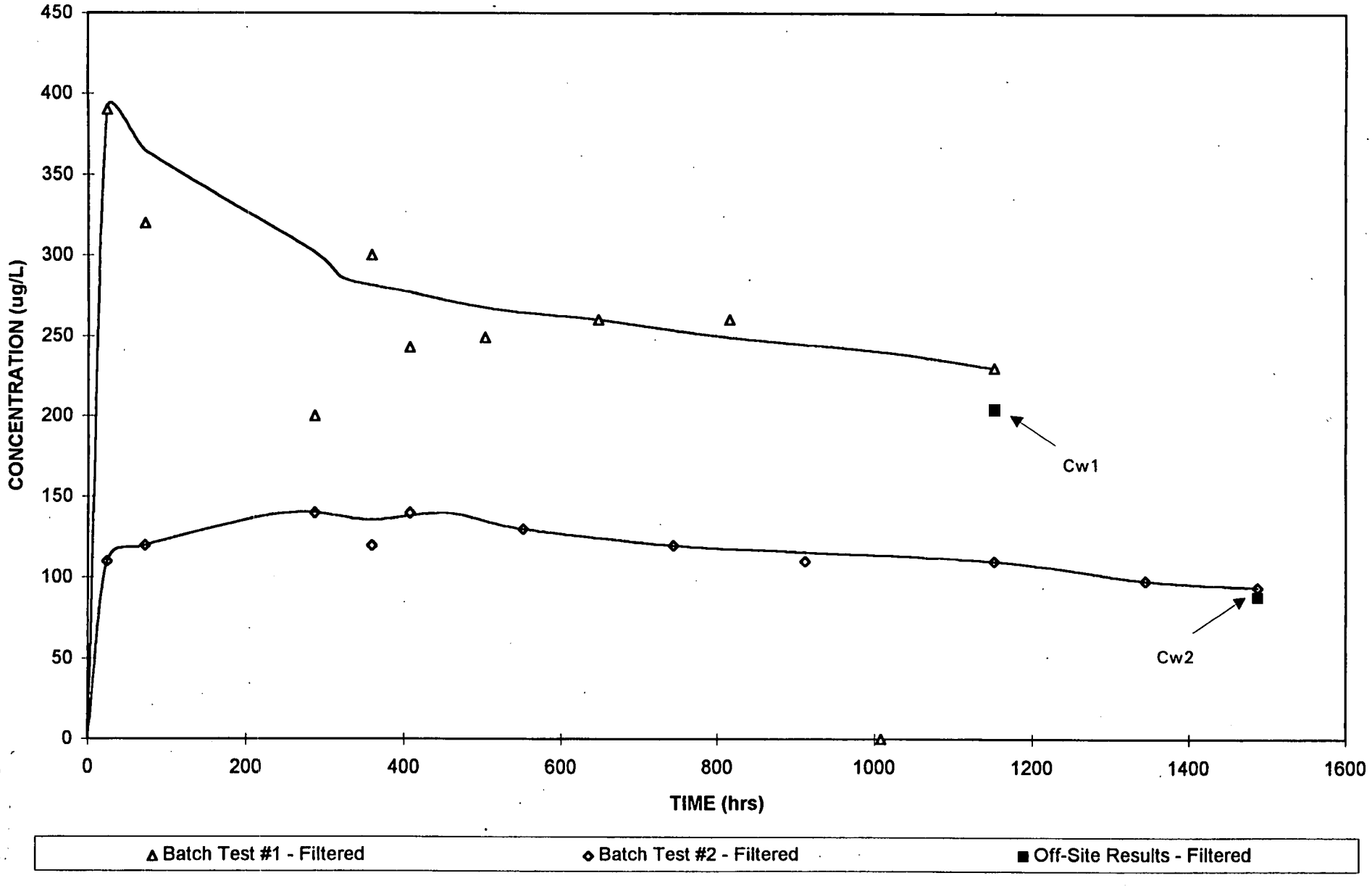


FIGURE G.I-19
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #45

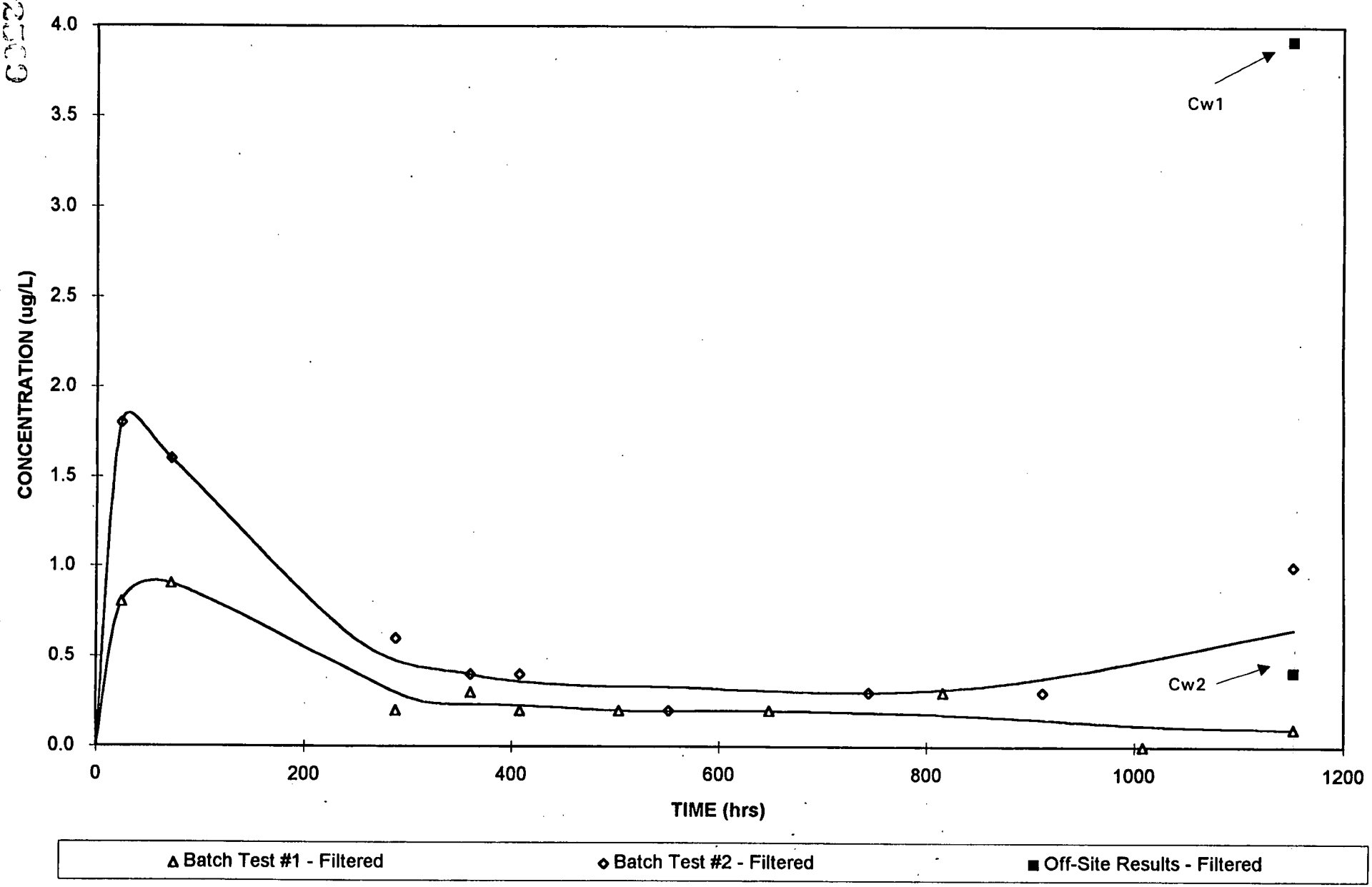


FIGURE G.I-20
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #46

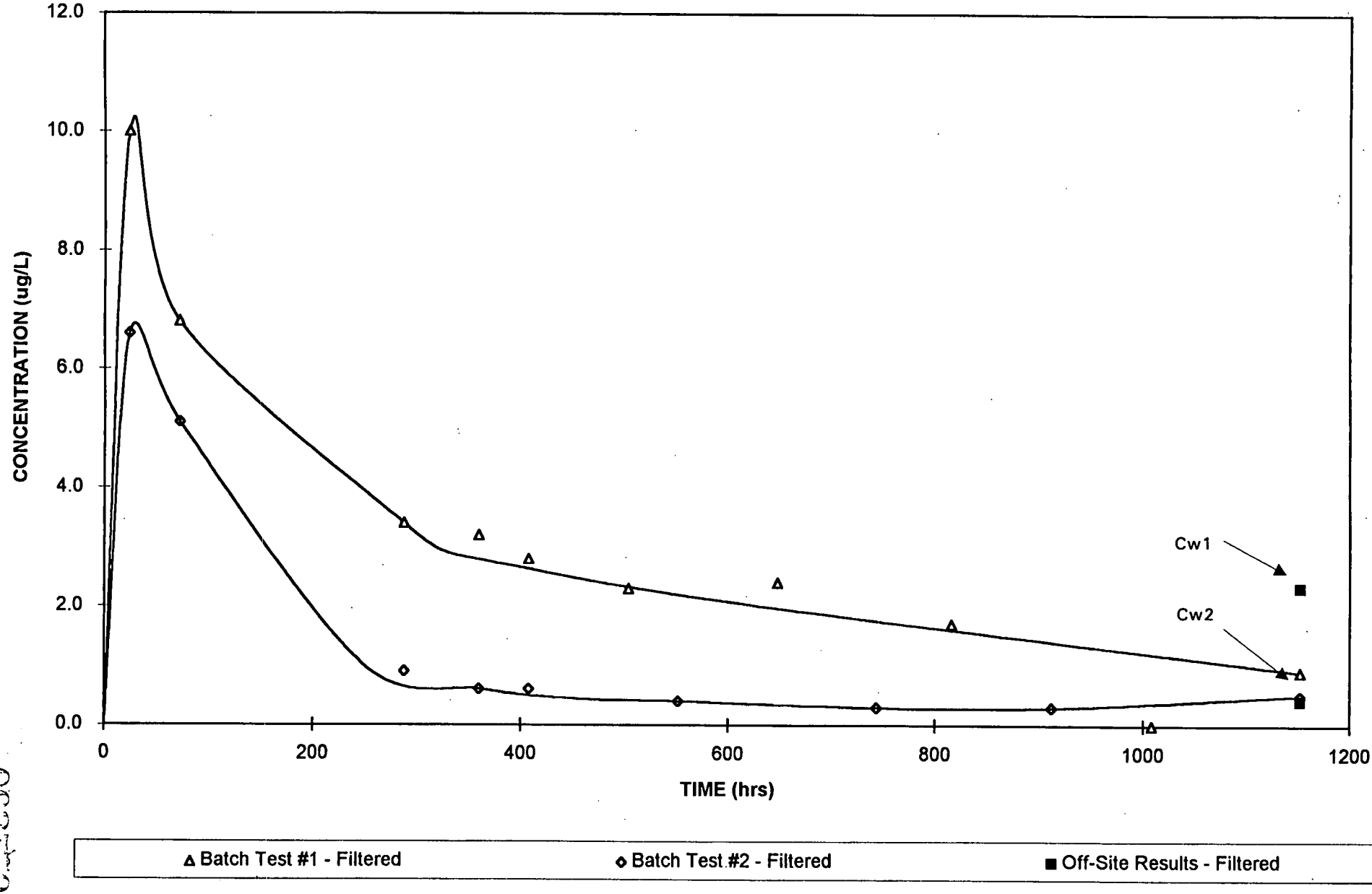


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FIGURE G.I-21
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #47

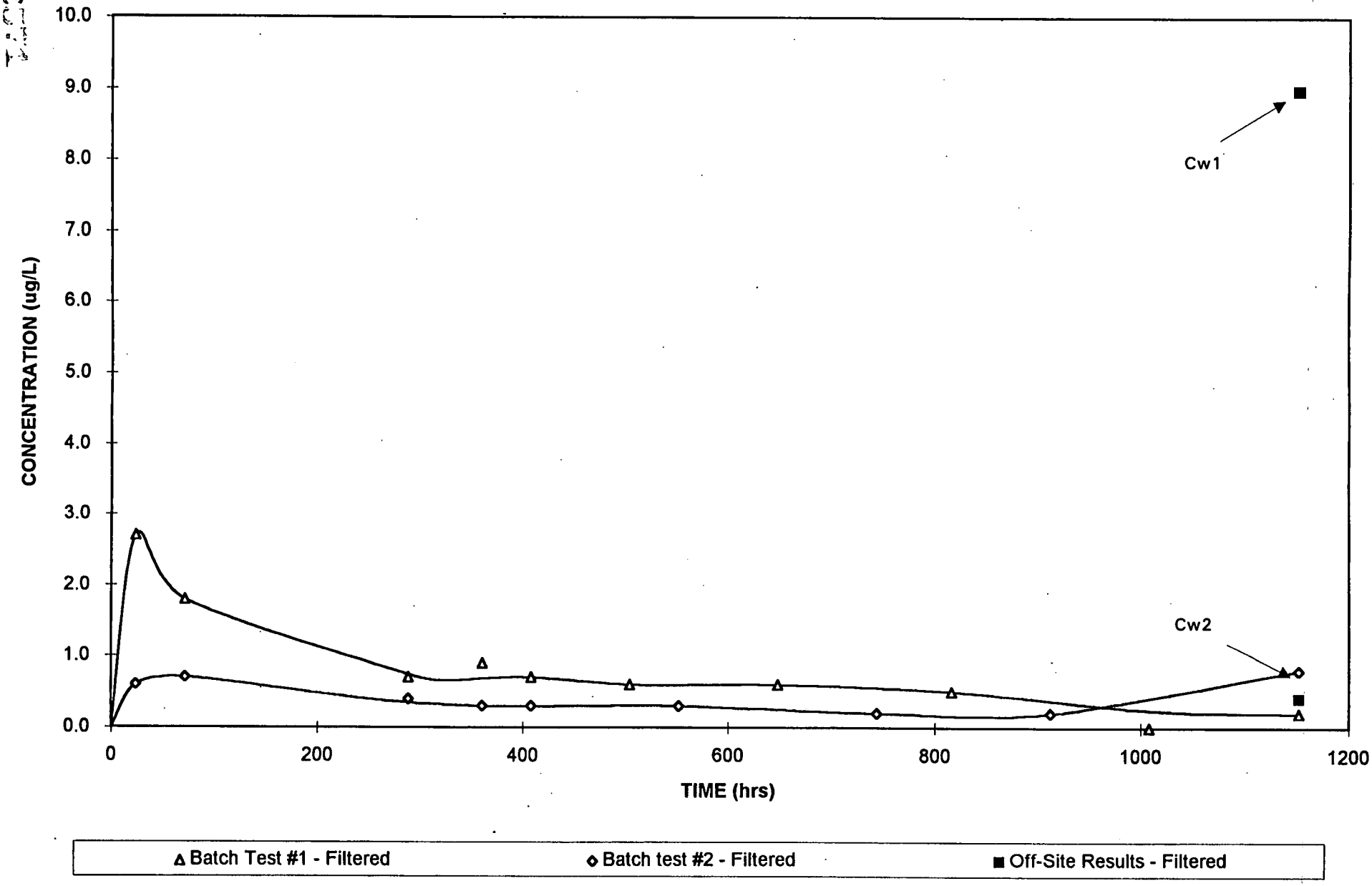


FIGURE G.I-22
TOTAL URANIUM CONCENTRATION vs TIME : SAMPLE #48

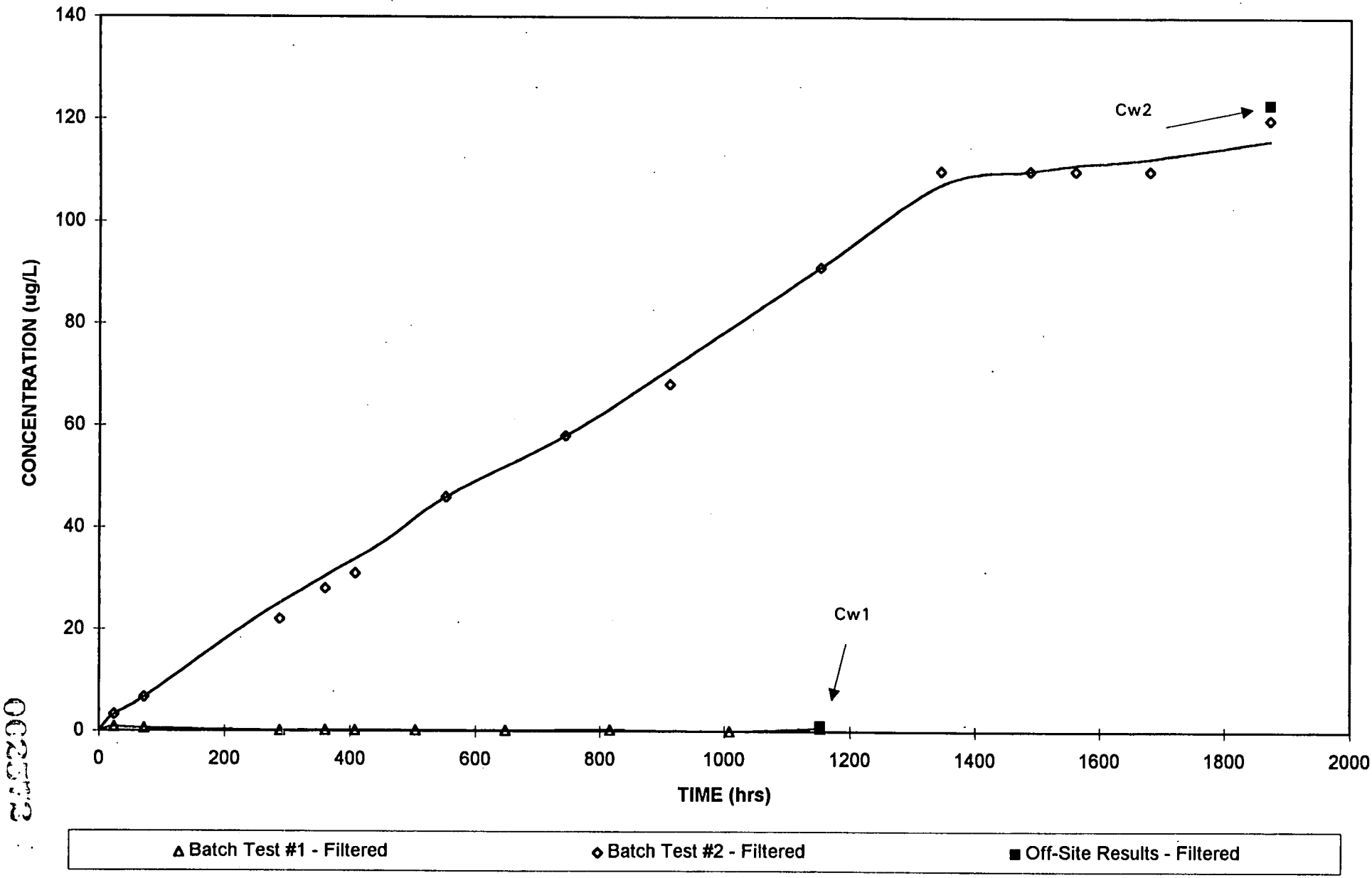


FIGURE G.I-23
SOLID PHASE CONCENTRATION vs LIQUID PHASE CONCENTRATION
FOR TECHNETIUM-99 EQUILIBRIUM

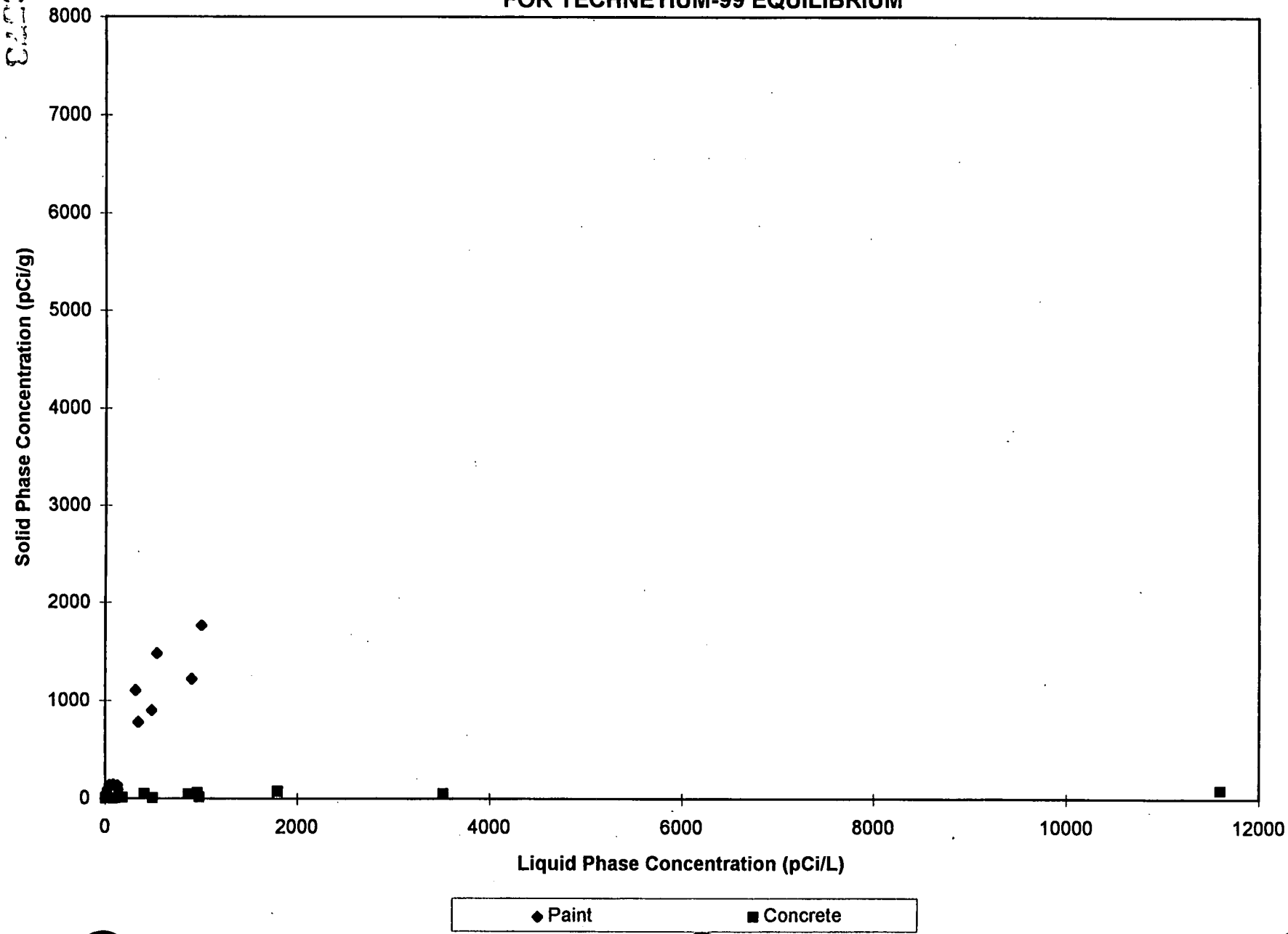


FIGURE G.I-24
URANIUM ENRICHMENT FACTOR vs pH FOR PAINT SAMPLES

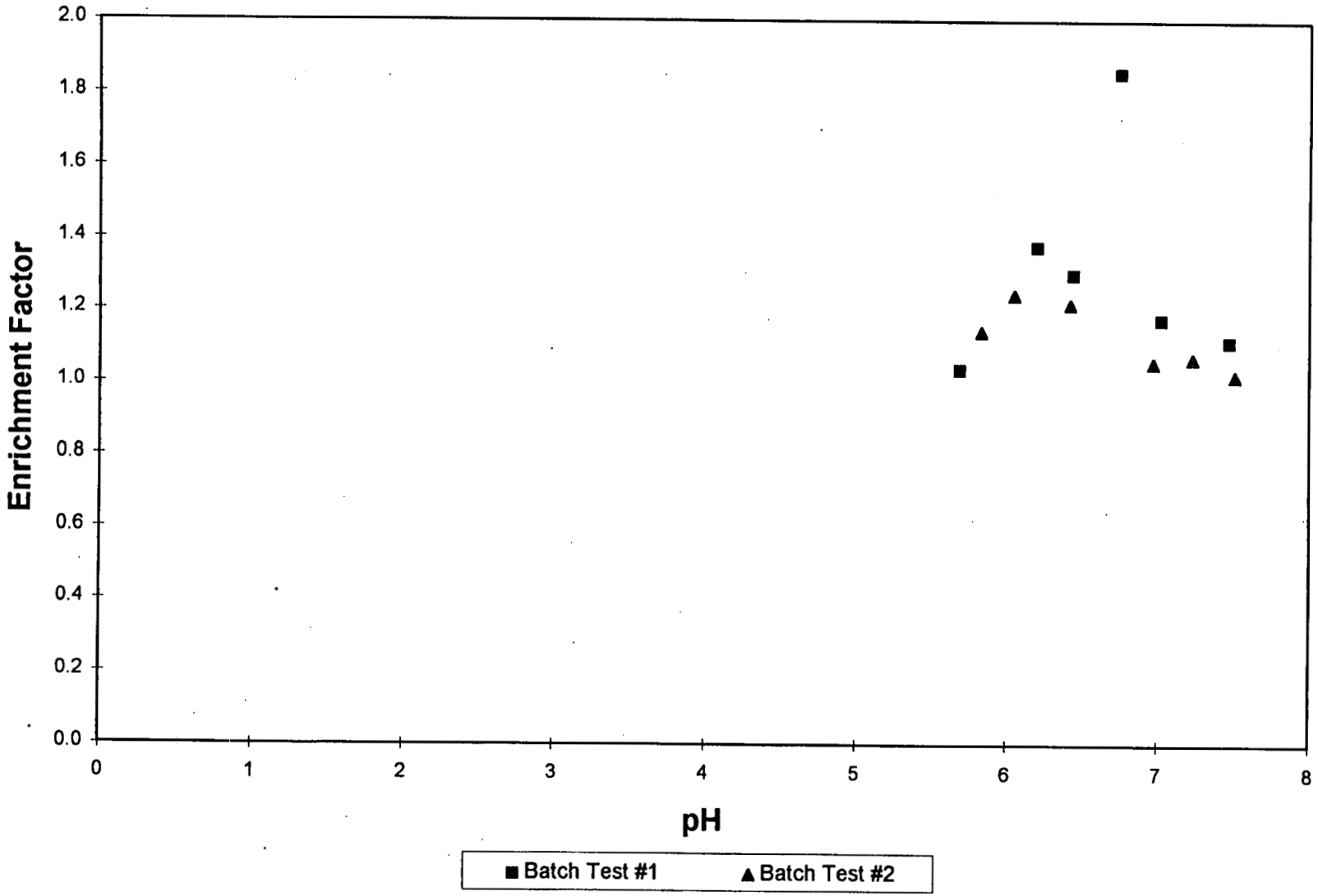
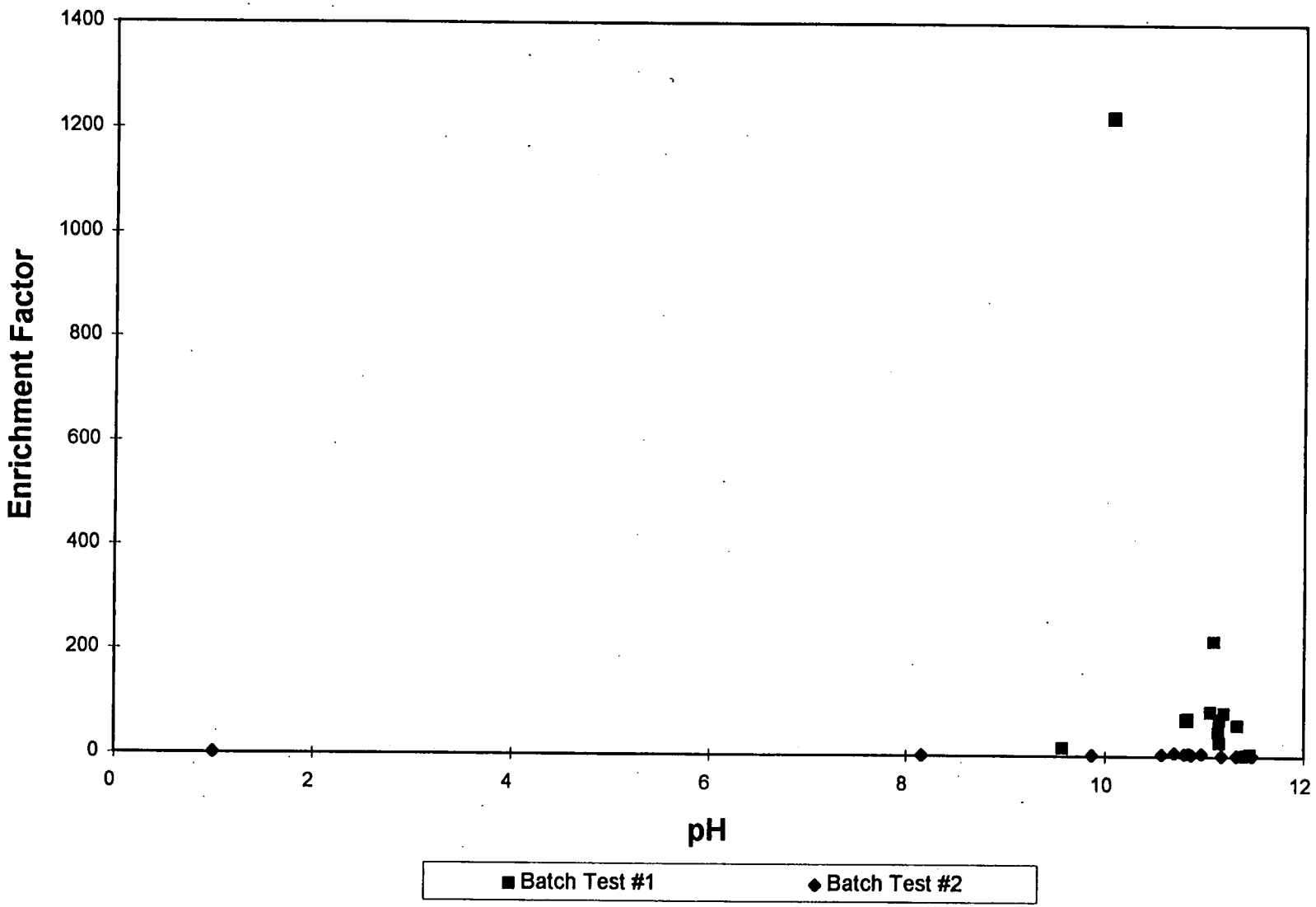


FIGURE G.I-25
URANIUM ENRICHMENT FACTOR vs pH FOR CONCRETE SAMPLES



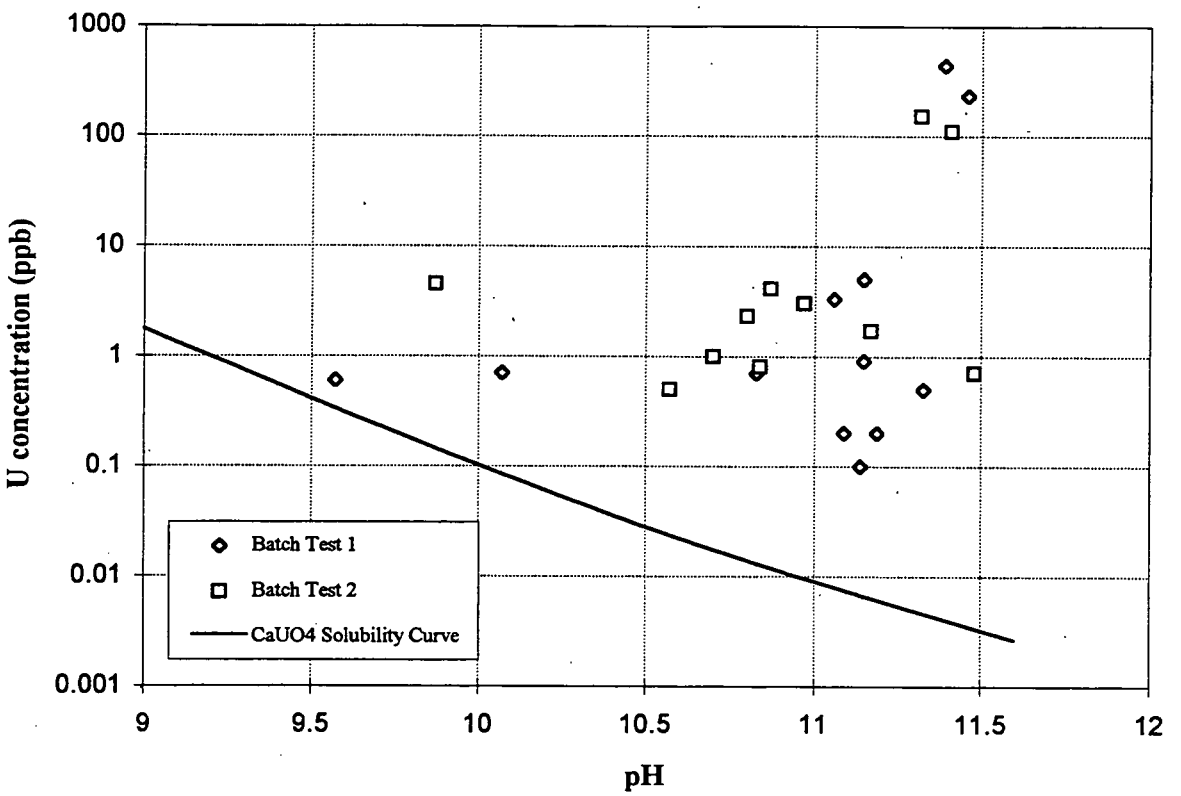


FIGURE G.I-26 EXPERIMENTAL vs THEORETICAL SOLUBILITY OF URANIUM IN CEMENT LEACHATE

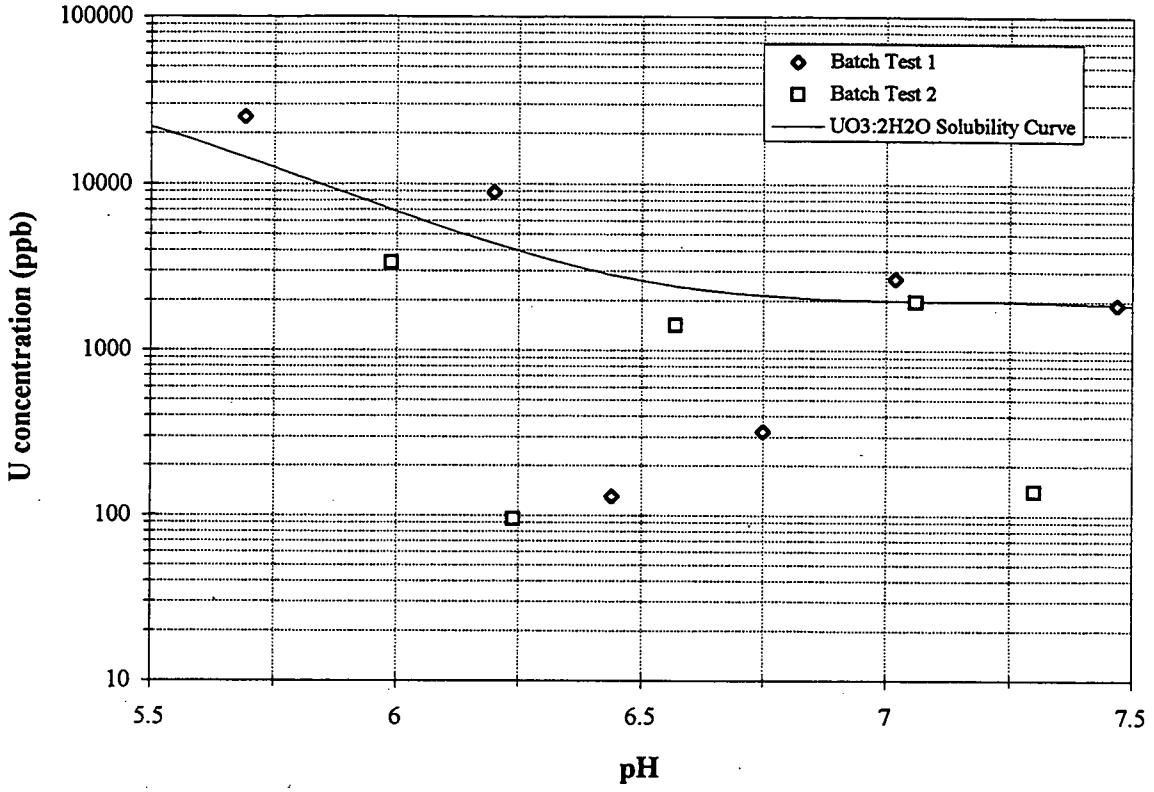
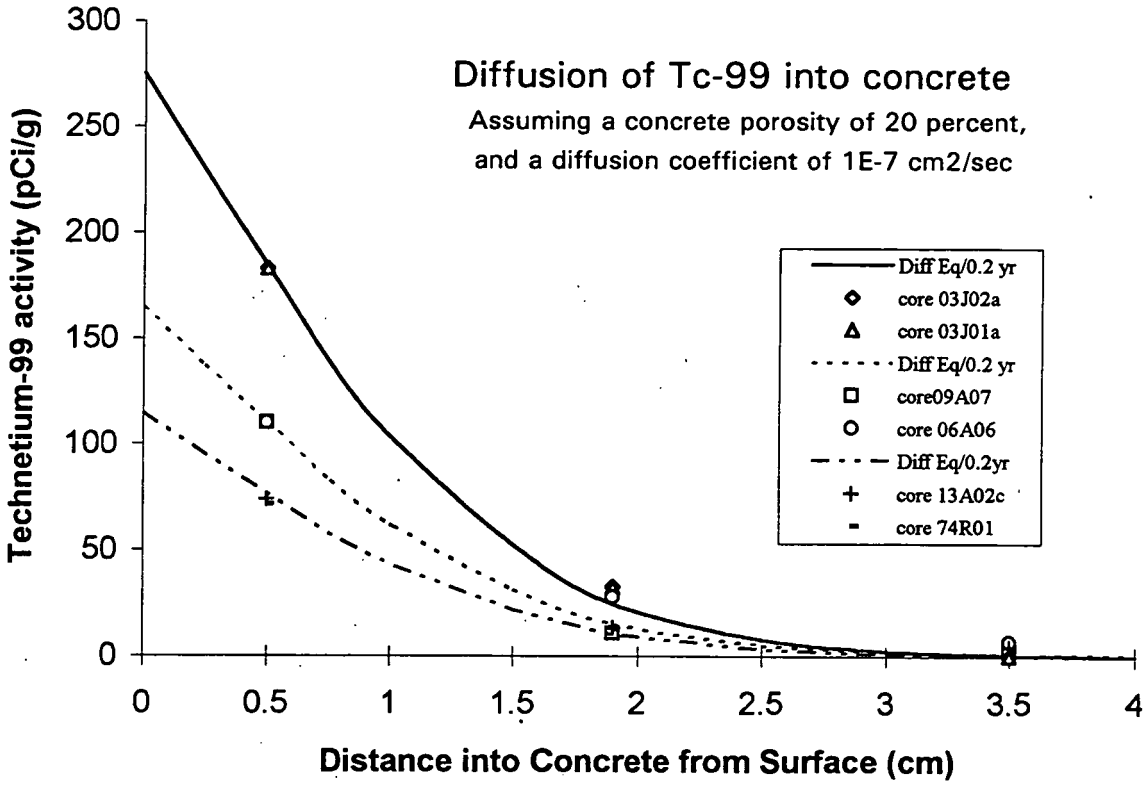
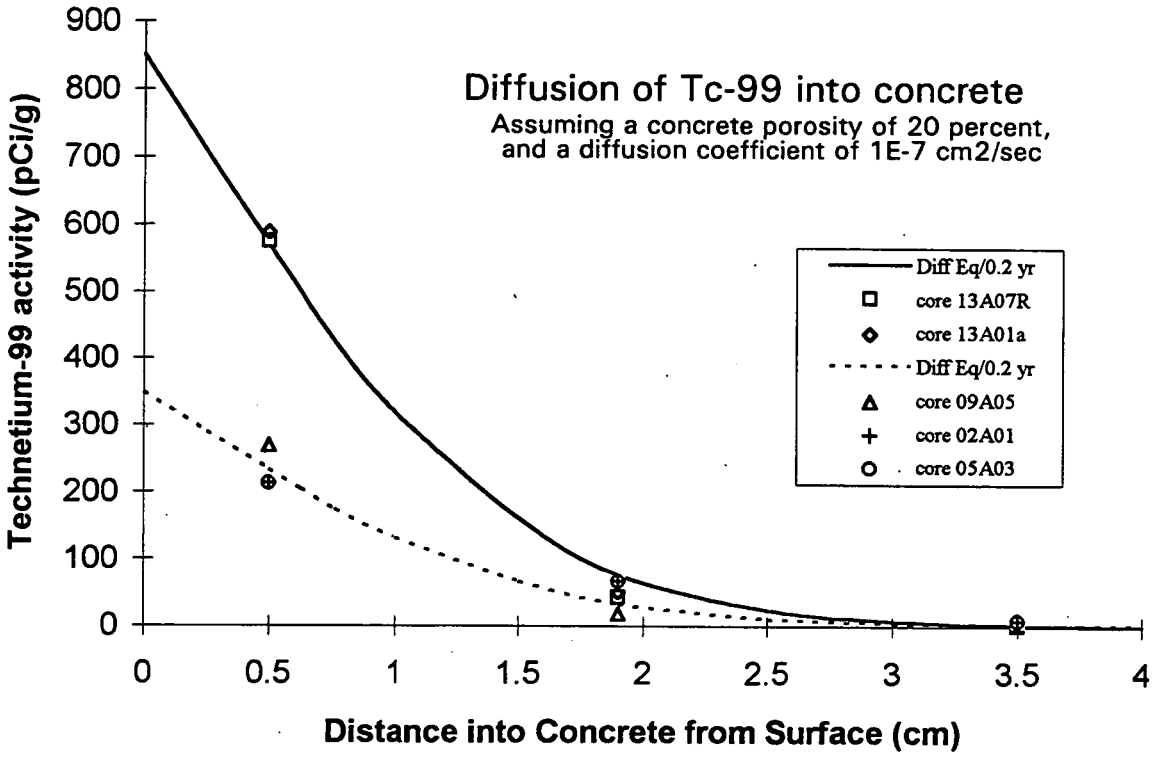


FIGURE G.I-27 EXPERIMENTAL vs THEORETICAL SOLUBILITY OF URANIUM IN PAINT LEACHATE



G.I-28 TECHNETIUM-99 DIFFUSION IN CONCRETE CORES



G.I-29 TECHNETIUM-99 DIFFUSION IN CONCRETE CORES

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G.II

ATTACHMENT G.II
GEOCHEMICAL MODELING OF CONDITIONS IN THE ON-PROPERTY DISPOSAL FACILITY

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LIST OF ACRONYMS AND ABBREVIATIONS

Al	aluminum
Ca	calcium
$Ca(OH)_2$	portlandite
$Ca_6Al_2(SO_4)_3O_6 \bullet 32H_2O$	ettringite
$Ca_5Si_6O_{17} \bullet 10.5H_2O$	tobermorite
$Ca_3Al_2O_6 \bullet 6H_2O$	hydrogarnet
$CaCO_3$	calcite (calcium carbonate)
$CaUO_4$	calcium uranate
CO_2	carbon dioxide
COC	constituent of concern
CrO_2	chromium dioxide
Cs	cesium
Eh	oxidation potential
FEMP	Fernald Environmental Management Project
H^+	hydrogen ion
H_2CO_3	carbonic acid
H_2O	water
HCO_3	hydrogenicarbonicate
Hg_2Cl_2	calomel
HgO	montroydite
iap	ion activity product.
mV	millivolts
NpO_2	neptunium dioxide
O_2	oxygen
OH^-	hydroxide ion
OU	Operable Unit
$PbCrO_4$	crocoite
P_{CO2}	CO_2 partial pressure
P_{O2}	O_2 partial pressure
PGW	perched groundwater well
ppm	parts per million
SI	saturation index
SiO_2^0	silicate ion
SO_4^{-2}	sulfate ion
sp	solubility product
$SrCO_3$	strontianite
TCLP	toxicity characteristic leaching procedure
$(UO_2)_2SiO_4 \bullet 2H_2O$	soddyite

G. II GEOCHEMICAL MODELING OF CONDITIONS IN THE ON-PROPERTY DISPOSAL FACILITY

G.II.1 INTRODUCTION

Computer simulations were performed with the EQ3NR/EQ6 geochemical code (Wolery 1992; Wolery and Daveler 1992) to estimate the chemical composition of leachate from the on-property disposal facility. The simulations involved titrating solid phases into solution until thermodynamic equilibrium is reached with respect to the solubility of the added phase or until the mass of the solid phase available for dissolution is exhausted. In these simulations, most of the modeled constituents reached a solubility limit with respect to a solid phase, but several constituents did not. When a solubility limit is reached, the reported constituent concentration is the maximum predicted concentration that could exist in leachate from the disposal facility. In cases where a solubility limit is not reached for a constituent of concern (COC), the COC concentration is not reported in the geochemical model results.

Mineral solubility calculations were performed with the EQ3/6 geochemical computer code (EQ3 Version 3245R124; EQ6 Version 3245R119x). EQ3/6 was developed at Lawrence Livermore National Laboratory (Wolery 1992; Wolery and Daveler 1992) for predicting the behavior of metals, radionuclides, and other contaminants in the natural environment. Thermodynamic data for organic COCs is not available, so organic COCs are not modeled. The EQ3/6 computer code is an industry-standard geochemical model that performs solubility and speciation (aqueous form) calculations and reaction-path modeling. These calculations involve the simultaneous solution of equations describing the mass balance of each component, mass action expressions for solubility equilibrium, oxidation/reduction reactions, and electrical balance constraint. Activity coefficients of aqueous species are approximated with the B-dot set of equations, which are valid up to the ionic strength of seawater.

The EQ3/6 code accesses a database containing the thermodynamic properties of 78 elements, 862 aqueous species, 886 minerals, and 76 gases. This database includes 57 aqueous uranium species and 160 uranium-bearing minerals, constituting the most complete database available for modeling the behavior of uranium in natural waters. EQ3/6 has been validated using standard geochemistry problems, such as the speciation of seawater (Nordstrom 1979), basalt/seawater interactions (Bowers et al., 1985) and numerous comparisons with experimentally determined mineral solubilities (Jackson 1988). Benchmark comparisons with the results of similar codes (e.g., PHREEQE) have been performed by INTERA (1983), Nordstrom (1979), Kincaid and Morey (1984) and Kerrisk (1981).

EQ3 is the portion of the code that calculates the initial aqueous species distribution with concentration data provided by the user and computes the saturation indices of pertinent minerals. The saturation index is defined as SI = log(Q/K), where Q = the ion activity product and K = equilibrium constant. An SI of greater than zero, zero, or less than zero corresponds to a mineral that is either supersaturated, saturated, or undersaturated, respectively. After computing the speciation model, EQ3 computes a mass balance for each chemical element and charge balance and writes this information in a pickup file that is used as an input file by EQ6. EQ3 differs from EQ6 in that EQ3 identifies minerals that are supersaturated and undersaturated, but it cannot precipitate and dissolve the pertinent minerals.

The EQ6 portion of the code performs all the calculations of EQ3 as well as reaction-path calculations. Reaction-path (chemical evolution) modeling simulates a sequence of thermodynamic equilibrium problems in reacting systems consisting of water and minerals or other solids. The

reacting system may consist of water (rainwater, groundwater, surface water, etc) that migrates through, and equilibrates with, waste solids and natural minerals in compositionally distinct horizons (e.g., rainwater reacts with soil and cement debris waste to form the soil/cement leachate). The chemical evolution of the reacting system is driven by dissolution and precipitation of minerals or solids and/or by changes in temperature and pressure. Along each step of the reaction path, the EQ6 code computes the precipitation and dissolution of minerals based on mass action expressions for solubility equilibrium with water. Thus, EQ6 differs from EQ3 by allowing supersaturated minerals ($SI > 0$) to precipitate from solution and undersaturated minerals ($SI < 0$) to dissolve.

Limitations of, and uncertainty in, the modeled concentrations must be considered when interpreting the results presented in the following sections. Constituent concentrations controlled by the solubility of a solid phase are estimated using thermodynamic data that can be quite varied from study to study. The uncertainty in the thermodynamic data used to estimate the solubility concentrations of the modeled constituents is estimated to be $\pm$ 0.3 saturation index (SI) units (Wolery 1992; Wolery and Daveler 1992). This uncertainty corresponds to an uncertainty in the reported aqueous concentration of $\pm$ 50 percent (e.g. 50 $\pm$ 25 parts per million [ppm]). Additional details on the geochemical code and uncertainty analysis are provided in Section G.II.7.

Another principal limitation of geochemical modeling of leachate concentrations is the lack of kinetic data on the dissolution and precipitation rates of solid phases. Thermodynamic data used by the model indicate the most stable phase under the given chemical conditions, but thermodynamic data do not indicate the time required to nucleate and precipitate (kinetic factors) the indicated solid. In this study, solid phases that control constituent concentrations in solution have all been screened to provide assurance that these phases can dissolve and precipitate under ambient temperature conditions. Two solubility examples on carbonate minerals in soil and cement phases in concrete are given to illustrate this point.

Soils collected from the Fernald Environmental Management Project (FEMP) site were used to conduct solubility experiments on uranium solids that are present in the soil (Lee et. al. 1993). These studies indicated that the solution contacting the soil required approximately one year to reach saturation with respect to the carbonate minerals calcite and dolomite. Given that soil infiltration rates are estimated at 0.89 inches per year (Section G.4.3) and the thickness of the clay layer in the multi-layer cap is about two feet (Section G.2), ample time is available for the solution to equilibrate with the carbonate minerals in the soil.

With respect to the equilibration of contact solutions with concrete, leaching experiments conducted on concrete cores by Operable Unit 3 (OU3) (Attachment G.I) indicated that the pH of the solution rises to values above 11 over a time period of weeks. Portlandite ($Ca(OH)_2$) is the cement phase that generally controls the pH of solutions contacting concrete or cementitious materials. When the solution is saturated with respect to portlandite, the equilibrated pH value is 12.7. Given that the concrete leaching experiments recorded pH values greater than 11 in a period of weeks, it can be seen that a period of months is probably sufficient to saturate the solution with portlandite. Again, noting that infiltration rates through the disposal facility are estimated at 0.89 inches per year and the thickness of the debris in the cell varies from 25 to 50 feet (Section G.2), ample time is available for infiltrating water to equilibrate with cement phases.

Chemical conditions in the on-property disposal facility will be controlled by the interaction of infiltrating water with the materials placed in the facility. As discussed in Section G.2.4, it is assumed that a minimum 2:1 soil to debris ratio would be maintained during construction of the facility. Therefore, approximately 67 percent by volume of the materials placed in the debris layer

within the disposal facility will be contaminated soils, and approximately 33 percent by volume will consist of concrete, cementicious materials, metals, and other materials. Concrete and cementitious materials account for 60 percent by volume of the non-soil materials, and they are the most susceptible to leaching relative to other waste categories. Therefore, the discussion of chemical conditions in the disposal facility will focus on infiltrating water reacting with contaminated soil and concrete materials. To account for COC mass in other non-cement debris, the COC source terms for all debris are included in the cement endmember.

For the conceptual configuration of materials in the disposal facility, it is assumed that contaminated soils are used as void fill between blocks of rubble such as concrete (Section G.2). Therefore, infiltrating water will be in contact with the soil matrix and cementicious rubble in the debris layer, yielding leachate that is a mixture of a cement endmember and a soil endmember. The geochemistry of the leachate will be dominated by dissolution/leaching reactions between water and soil, as soil comprises the majority of the material placed into the cell. Therefore, chemical reactions in the water/soil system will be summarized first, followed by the water/cement reactions, and ending with the leachate mixture results.

G.II.2 CHEMICAL REACTIONS BETWEEN INFILTRATING WATER AND SOIL CAP

The geochemistry of the leachate will be controlled by the initial pH and composition of the infiltrating water, the activity of carbon dioxide (CO_2) in the water/soil system, and the solubility of various minerals or leaching of solids in the soil. In this discussion, it is assumed that infiltrating water will first pass through a clay cap comprised of minerals and organic material similar to those found in FEMP soils. FEMP soils contain approximately 48 percent silicate minerals, 47 percent carbonate minerals, four percent organic material, and one percent iron-oxyhydroxide minerals. A mineralogical summary of FEMP soils is provided in Table G.II-1. The most soluble minerals listed are the carbonate minerals, which will control the chemistry of the infiltrating water.

At the FEMP site, the moderately low pH of the rainwater (about 5) is raised by dissolution reactions with carbonate mineral fragments (dolomite and calcite) present in the clay soil cap. Rainwater dissolution reactions are most likely to occur in the upper few feet of the clay soil cap, as the infiltration rate is conservatively estimated to be on the order of 0.89 inches per year. The pH of the water/soil system will be buffered in the range of 7 to 8 by carbonate mineral (e.g., calcium carbonate [$CaCO_3$]) dissolution, CO_2 dissolution, and carbonic acid (H_2CO_3) dissociation. Important reactions in this system are:

(1) $CaCO_3 + H_2O \rightleftarrows Ca^{+2} + HCO_3^- + OH^-$
(2) $CO_2 + H_2O \rightleftarrows H_2CO_3$
(3) $H_2CO_3 \rightleftarrows H^+ + HCO_3^-$

The dissolution of $CaCO_3$ in water (Reaction 1) contacting air containing about 0.03 percent CO_2 results in an equilibrium pH of about 8. Lower pH values are generally observed in FEMP soils because CO_2 activity (i.e., partial pressure of CO_2) in the soils is greater than in rainwater equilibrated with air, due to decomposition of organic debris and respiration of microorganisms. Measurements of the composition of gas samples from soils generally show CO_2 partial pressures from 10^{-3} to 10^{-1} atmospheres (Freeze and Cherry 1979). Rainwater equilibrated with air has a CO_2 partial pressure of approximately $10^{-3.5}$ atmospheres. The higher CO_2 activity in soils drives Reaction 2 to the right to produce more H_2CO_3, which dissociates immediately to release H^+ and lowers the pH (Reaction 3). The large reservoir of carbonate minerals (approximately 47 percent of the soil) and biogenic sources of CO_2 allow the water/soil system to be buffered between pH of 7 and 8 by the interplay of the above three reactions.

Silicate minerals present in the soil (e.g., quartz, feldspar, and clay minerals) have less influence on the chemistry of the infiltrating water due to their low solubilities (relative to carbonate minerals) at near neutral pH values. These minerals provide silica, potassium, sodium, aluminum, and various trace metals to the infiltrating water via dissolution and ion-exchange reactions.

Based on the above assumptions and expected geochemical reactions, a good analog for infiltrating water is groundwater obtained from FEMP Type 1 (perched water) background wells. Therefore, it is assumed that FEMP perched groundwater is the infiltrating water that enters the disposal facility to react with contaminated soil and concrete. The composition of the FEMP perched groundwater and source loading terms used for input data in the geochemical model are summarized in Table G.II-2. Source terms for the model were obtained by converting the total mass of the constituent reported in soil estimated to leach in 70 years (Table G-7) and in all OU3 materials considered for on-property disposal (Table G-8) to moles and dividing the number of moles by the expected 70-year infiltration water volume (1.58×10^8 liters). Note that the source term for chromium in non-cement debris reflects removal of the chromium component in stainless steel, for the purpose of geochemical modeling as this is background for stainless steel and stainless steel is not expected to corrode to any significant degree. Based on the perched water composition in Table G.II-2 and the EQ3/6 model results, individual chemical species predicted to be present in FEMP perched water are given in Table G.II-3.

The reduction/oxidation (redox) potential (expressed as Eh) of the infiltrating water/soil cap system is expected to be similar to conditions measured in FEMP perched water. Measurements of Eh at four monitoring wells in the glacial overburden (wells 1012, 1058, 1059, and 1124) ranged from 84 to 485 millivolts (mV), over a pH range of 6.9 to 7.7. These Eh values correspond to an environment that is transitional between oxidizing and reducing (84 mV) to oxidizing (485 mV). The cited Eh values correspond to an oxygen (O_2) partial pressure of approximately 10^{-40} (Eh = 85 mV) and 10^{-24} (Eh = 485 mV) atmospheres at a pH of 7. As many metals are more mobile under oxidizing conditions (e.g., chromium and uranium), oxidizing conditions (i.e., Eh = 485 mV) were selected for the computer simulations of leachate development.

G.II.3 DEVELOPMENT OF SOIL LEACHATE ENDMEMBER

As the mineralogy of the contaminated soil and clay soil cap is similar, there will not be a significant change in the major ion chemistry of the infiltrating water when it enters waste material layer in the disposal facility. Table G.II-4 summarizes the simulated composition of the soil leachate endmember. These results can be compared to Table G.II-3 to examine the similarity in the composition of these waters. The difference in the reported compositions are due to the concentrations of the radiological and inorganic potential breakthrough COCs (chromium, mercury, neptunium-237, strontium-90, technetium-99, and uranium), which were added to the soil leachate composition during the computer simulation. The contaminant sources of the radiological and inorganic potential breakthrough COCs in the soil that were estimated to leach in the first 70 years were added to the volume of infiltrating water that passes through the disposal facility in 70 years (i.e., 1.58×10^8 liters). Four of the six potential breakthrough COCs (chromium, mercury, neptunium-237, and uranium) in the soil reached a solubility limit. Strontium-90 and technetium-99 did not reach a solubility limit.

Figure G.II-1 summarizes the solubility curves and concentrations for uranium and chromium. The increase in pH shown on the chart corresponds to the infiltrating water (pH = 7.1) reacting with contaminated soil to form the soil leachate endmember (pH = 7.4). The chromium concentration is controlled by chromium dioxide (CrO_2) over this pH interval, rising from 5.58×10^{-3} ppm at a pH of about 7.1 to 2.15×10^{-2} ppm in the soil leachate endmember at a pH of about 7.4. The solubility curve for CrO_2 is very sensitive to the Eh of the solution, with solubility increasing as the oxidation

potential or partial pressure of O_2 increases. CrO_2 is destabilized under oxidizing conditions by the oxidation of chromium (Cr) (IV) to Cr (VI) as follows:

$$(4)\quad CrO_2 + \tfrac{1}{2}O_2 + OH^- \rightleftarrows H^+ + CrO_4^{-2}$$

Reaction 4 indicates that, under oxidizing conditions, the solubility of CrO_2 is enhanced as pH increases. Hence, the slope of the CrO_2 solubility curve increases as pH increases.

For uranium, the increase in the solubility of soddyite (Figure G.II-1) as pH increases reflects the addition of the uranium source term to the soil leachate while the silica concentration remains constant, resulting in an increase in the uranium concentration from 3.45×10^{-1} ppm to 8.23×10^{-1} ppm as the pH increases from approximately 7.1 to 7.4.

Solubility curves for neptunium-237 and mercury are shown on Figure G.II-2. The neptunium-237 concentration decreases from 6.70×10^{-6} ppm to 3.57×10^{-6} ppm as pH increases and the concentration is predicted to be controlled by the solubility of neptunium dioxide (NpO_2). The solubility of calomel (Hg_2Cl_2) is predicted to control the concentration of mercury at about 4×10^{-6} ppm. Note that the reported Hg_2Cl_2 solubility limit is dependent on the concentration of chloride ion in solution and the amount of chloride present in the contaminated soils. If the chloride ion concentration in solution increases above the 40 ppm value used in this simulation, the mercury concentration will decrease further. Likewise, if the chloride ion concentration in solution decreases below 40 ppm, the mercury concentration will increase.

For strontium-90, solubility was not reached in the modeling because the mass of total strontium in the system is not known. Strontium consists of four principal, stable isotopes: strontium-84 (0.56 percent), strontium-86 (9.86 percent), strontium-87 (7.00 percent), and strontium-88 (82.58 percent). As the anthropogenic input of strontium-90 is a very small fraction of the mass of total strontium (e.g. 3.8×10^{-11}, see below), a solubility analysis cannot be conducted unless the total mass of strontium in the system is known. For example, if the strontium-90 background value of 1.5×10^{-11} mg/L (DOE 1994) is used in the geochemical model to evaluate solubility in FEMP groundwater, the results show no saturated strontium solids. However, if a total strontium value of 4.0×10^{-1} mg/L is used, the groundwater is predicted to be saturated with respect to strontianite ($SrCO_3$). Groundwater data gathered from wells around the Fernald Site by the U.S. Geological Survey indicate total strontium concentrations vary from 0.22 to 1.1 mg/L (USGS 1984). Therefore, the total strontium concentration in some FEMP groundwaters is likely to be controlled by strontianite solubility, but specific conditions cannot be evaluated without the total strontium concentrations.

G.II.4 CHEMICAL REACTIONS BETWEEN INFILTRATING WATER AND CEMENTICIOUS MATERIALS

The infiltrating water that enters debris layer of the disposal facility will react with the cementicious materials. Concrete buildings and floors at the FEMP are assumed to contain approximately 67 percent portland cement matrix and 33 percent limestone aggregate. Portland cement contains four principal phases: tobermorite ($Ca_5Si_6O_{17}\bullet 10.5H_2O$), portlandite ($Ca(OH)_2$), hydrogarnet ($Ca_3Al_2O_6\bullet 6H_2O$), and ettringite ($Ca_6Al_2(SO_4)_3O_6\bullet 32H_2O$) (Bogue 1955). The mass fraction of these phases in Portland cement can be estimated with the Bogue calculation (Bogue 1955), which yields 0.38 tobermorite, 0.34 portlandite, 0.20 hydrogarnet, and 0.08 ettringite. The solubility of these phases is predicted to increase in the order listed above (i.e., tobermorite least soluble, ettringite most soluble). Reactions between the cement phases and infiltrating water release calcium (Ca^{+2}), hydroxide (OH^-), aluminum (Al^{+3}), silicate (SiO_2^o), and sulfate (SO_4^{-2}) ions to the solution via the following reactions:

(5) $Ca_5Si_6O_{17}\bullet 10.5H_2O \rightleftarrows 5Ca^{+2} + 6SiO_2^{\circ} + 10OH^- + 5.5H_2O$
(6) $Ca(OH)_2 \rightleftarrows Ca^{+2} + 2OH^-$
(7) $Ca_3Al_2O_6\bullet 6H_2O \rightleftarrows 3Ca^{+2} + 2Al^{+3} + 12OH^-$
(8) $Ca_6Al_2(SO_4)_3O_6\bullet 32H_2O \rightleftarrows 6Ca^{+2} + 2Al^{+3} + 3SO_4^{-2} + 12OH^- + 26H_2O$

The hydroxide ion raises the pH of the infiltrating water, and this, coupled with the increase in the concentration of calcium ion, leads to precipitation of calcite by the following reactions:

(9) $OH^- + HCO_3^- \rightleftarrows H_2O + CO_3^{-2}$
(10) $Ca^{+2} + CO_3^{-2} \rightleftarrows CaCO_3$

Note that the infiltrating water (Table G.II-3) is already saturated with respect to calcite due to the presence of calcite in the clay soil cap (Table G.II-1). Therefore, the infiltrating water has a high concentration of calcium and bicarbonate ion prior to contacting the concrete (Table G.II-3). The pH increase resulting from Reactions 5 through 8, in addition to the high concentration of bicarbonate causes Reaction 9 to produce carbonate. The carbonate produced in Reaction 9, along with the high levels of calcium already present in the infiltration water, favor the production of calcite (Reaction 10).

G.II.5 DEVELOPMENT OF CEMENT LEACHATE ENDMEMBER

The cement leachate simulation was carried out assuming that the entire cementicious material and non-cement COC inventory combined would be dissolved in the total infiltration volume over 70 years (i.e., 1.58×10^8 liters). Table G.II-5 summarizes the simulated composition of cement leachate for principal ions and the six radiological and inorganic potential breakthrough COCs. As stated in Section G.II.1, organic COCs were not modeled due to the unavailability of thermodynamic data. Figures G.II-3 through G.II-5 summarize the solubility curves for chromium, mercury, neptunium-237, and uranium. Strontium-90 and technetium-99 concentrations did not reach a solubility limit.

Uranium and neptunium-237 solubility are summarized on Figure G.II-3. As the cement leachate develops, uranium concentration is predicted to be controlled by soddyite ($(UO_2)_2SiO_4\bullet 2H_2O$) solubility until a pH of about 8.5 is reached. Above a pH of about 8.5, soddyite becomes unstable and calcium uranate ($CaUO_4$) is predicted to be the stable phase. At the endpoint pH of 12.7, the uranium concentration in equilibrium with $CaUO_4$ is predicted to be 3.5×10^{-8} ppm, indicating the insoluble nature of $CaUO_4$ at high pH levels.

The neptunium-237 concentration is controlled by NpO_2, and concentration decreases initially as pH increases, reaching a minimum at a pH of 9.5. Above a pH of 9.5, the amphoteric behavior of neptunium results in an increase in concentration to a final value of 3.05×10^{-5} at a pH of 12.7.

Figure G.II-4 shows chromium concentration to be controlled by CrO_2 and crocoite ($PbCrO_4$) (NOTE: lead is not a post-remediation COC for OU3, but all elements are carried through in the geochemical calculation) solubilities over the pH interval of about 7 to 8.5 and 8.5 to 10.5, respectively. Above a pH of about 10.5, there is no predicted stable phase for chromium under the simulated oxidizing conditions (log P_{O2} = -23.8). The constant chromium concentration of 50 ppm above a pH of about 10.5 reflects the dissolution of the entire chromium inventory into solution.

Figure G.II-5 illustrates that the mercury concentration in developing cement leachate is controlled by Hg_2Cl_2 and montroydite (HgO), with the latter mercury phase becoming stable above a pH of about 9. A final mercury concentration of 2×10^{-14} ppm at a pH of 12.7 indicates HgO is very insoluble in cement leachate.

For strontium-90, solubility was not reached in the modeling because the mass of total strontium in the system is not known. Strontium consists of four principal, stable isotopes: strontium-84 (0.56 percent), strontium-86 (9.86 percent), strontium-87 (7.00 percent), and strontium-88 (82.58 percent). As the anthropogenic input of strontium-90 is a very small fraction of the mass of total strontium (e.g. 2.6×10^{-12}, see below), a solubility analysis cannot be conducted unless the total mass of strontium in the system is known. For example, if the measured strontium-90 concentration in cement leachate (2.9×10^{-12} mg/L; Table G.I-8) is used in the geochemical model to evaluate solubility, the results show no saturated strontium solids. However, it is known that strontium substitutes for calcium in cement minerals, and leach tests on Portland cement evaluated in OU1 feasibility studies reported a Sr/Ca ratio of 0.013. Using the calcium concentration in cement leachate (86.4 mg/L; Table G.I-7) and the above Sr/Ca ratio, the estimated amount of strontium in the cement leachate is 1.1 mg/L. Therefore, the total strontium concentration in the cement leachate is likely to be controlled by strontianite ($SrCO_3$) solubility, but specific conditions cannot be evaluated without the total strontium concentrations.

G.II.6 CHEMICAL COMPOSITION RESULTING FROM MIXING SOIL AND CONCRETE LEACHATES

Tables G.II-4 and G.II-5 summarize the soil and cement compositional endmembers for leachate that may develop in the disposal facility. Table G.II-6 summarizes the composition of the leachate that results from mixing these endmembers (with CO_2 at $10^{-2.2}$ atm) in rough proportion to their volume percent in the debris layer within disposal facility (i.e., one part cement leachate to two parts soil leachate). The mixing calculations were conducted over a CO_2 partial pressure interval of $10^{-3.5}$ to 10^{-1} atmospheres, which brackets the range of values observed for CO_2 equilibrated with the atmosphere ($10^{-3.5}$) and maximum CO_2 partial pressures observed in natural soil systems (Freeze and Cherry 1979). Table G.II-6 presents results for the leachate mix equilibrated with a CO_2 partial pressure of $10^{-2.2}$ atmospheres. The solubility and mobility of chromium, mercury, neptunium, strontium, technetium-99, and uranium were examined in the soil/cement leachate at CO_2 partial pressures of 10^{-1} and $10^{-3.5}$ atmospheres. This simulation was carried out by titrating cement leachate into the soil leachate until the solution consisted of 33 percent cement leachate, followed by a titration of CO_2 into the mixture to the desired endpoint partial pressure of 10^{-1} atmospheres.

The leachate mixing results for elements that have their solution concentration controlled by solubility are indicated on Figures G.II-6 and G.II-7. When referring to the figures, note that a pH of 7.8 corresponds to the composition of the soil/leachate endmember when CO_2 is $10^{-3.5}$ atmospheres and a pH of 6.6 corresponds to a CO_2 partial pressure (P_{CO2}) of 10^{-1} atmospheres. The lower P_{CO2} value results in a higher solution pH for the mixture, as a CO_2 partial pressure of $10^{-3.5}$ atmospheres cannot produce enough hydrogen ion (Reactions 2 and 3) to consume the hydroxide ion provided by the cement leachate (Reactions 5 through 8). As the CO_2 partial pressure is raised to 10^{-1} atmospheres, Reactions 2 and 3 produce sufficient hydrogen ion to consume the hydroxide ion provided by the cement leachate (Reactions 5 through 8), and the pH is lowered to a value of about 6.6. This analysis suggests that the partial pressure of CO_2 in the disposal facility will control the leachate pH somewhere between 6.6 and 7.8.

Chromium, mercury, neptunium-237, and uranium reached solubility limits in this analysis. Strontium-90 and technetium-99 concentrations were below solubility limits for solid phases of these elements over the range of boundary conditions investigated (as discussed in Sections G.II.3 and G.II.5).

CrO_2 and soddyite solubility as a function of pH and P_{CO2} are indicated on Figure G.II-6. Under the oxidizing conditions used in this simulation ($P_{O2} = 10^{-23.8}$ atmospheres), the solubility of CrO_2 is

enhanced as pH increases (Reaction 4). Therefore, the concentration of chromium increases from 9.67×10^{-4} ppm to 1.53×10^{-1} ppm as the pH increases from 6.6 to 7.8. If oxidizing conditions prevail in the disposal facility, the figure suggests that chromium mobility will be enhanced at the higher end of the pH range (i.e., lower P_{CO2}).

The soddyite solubility curve for uranium (Figure G.II-6) shows the uranium concentration dropping from 3.04 ppm to 6.35×10^{-3} ppm as pH increases from 6.6 to 7.8. There are two reasons for the higher uranium concentration at the lower pH value: (1) soddyite is more soluble at the lower end of the indicated pH range and (2) the lower pH corresponds to a higher CO_2 partial pressure (i.e., a higher aqueous concentration of carbonate ion), resulting in a greater uranium concentration by the formation of the following aqueous species:

$$(11)\quad UO_2^{+2} + 2CO_3^- \rightleftarrows UO_2(CO_3)_2^{-2}$$
$$(12)\quad UO_2^{+2} + 3CO_3^- \rightleftarrows UO_2(CO_3)_3^{-4}$$

Therefore, a lower partial pressure of CO_2 and higher pH in the disposal facility is desired to lower the concentration of carbonate ion and minimize uranium mobility.

Figure G.II-7 summarizes the solubility curve for Hg_2Cl_2 and NpO_2. Hg_2Cl_2 is predicted to control the mercury concentration in the soil/cement leachate between 1.5×10^{-6} ppm and 9.18×10^{-7} ppm over the pH interval of 6.6 to 7.8. The reported Hg_2Cl_2 solubility limit is dependent on the concentration of the chloride ion in solution and the amount of chloride leached from soil and concrete in the disposal facility. If the chloride ion concentration in solution increases above the 40 ppm value used in this simulation, the mercury concentration will decrease further. Likewise, if the chloride ion concentration in solution decreases below 40 ppm, the mercury concentration will increase.

The pH dependence of the NpO_2 solubility product is demonstrated by a decrease in the neptunium concentration from 2.88×10^{-5} ppm to 1.65×10^{-6} ppm as pH increases from 6.6 to 7.8 This figure indicates that neptunium-237 mobility will be minimized at the higher end of the pH range (i.e., lower P_{CO2}).

G.II.7 LIMITATIONS AND ASSUMPTIONS OF MINERAL SOLUBILITY CALCULATIONS BY EQ3NR/EQ6

The EQ3/6 geochemical code estimates contaminant concentrations by calculating mineral solubilities in water/solid systems. These calculations have the following limitations and assumptions:

- A limited number of organic constituents can be modeled, and this can lead to low estimates of leachate concentrations for some inorganic constituents if organic complexation occurs with constituents not present in the database (e.g., lead complexed with acetate ion).
- Mineral phases are assumed to represent the actual solid phases in the soil or waste material.
- Dissolution and precipitation kinetics are instantaneous, and this can lead to concentration estimates that are too high or too low.
- Adsorption processes are not evaluated with the EQ3/6 model.

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- Modeled concentrations are site-specific solubility limits, and in most cases these concentrations are the highest which can exist in solution.

The first four bullets identify limitations and assumptions that introduce the greatest uncertainty in the calculated leachate concentration, and these merit further discussion. For example, a solution containing trace amounts of acetate ion (an organic complex not present in the EQ3/6 thermodynamic database) will contain a greater concentration of lead relative to a solution with no acetate ion. Therefore, metal concentrations in toxicity characteristic leaching procedure (TCLP) extract are likely to be greater than predicted solubility limits because acetic acid degrades into acetate ion. With respect to the second bullet, if a contaminant is present in a metastable, amorphous form rather than as a crystalline solid (i.e., mineral), using a mineral phase for the solid will usually lead to low estimates of the contaminant concentration. This occurs because crystalline phases generally contain shorter and stronger element bonds relative to amorphous solids, and this leads to a lower solubility for the crystalline phase. In contrast to the statement in the third bullet, the dissolution of crystalline solids is rarely instantaneous or complete in the natural environment (e.g., feldspar), except for some highly soluble salts (e.g., NaCl), and this can lead to high estimates of contaminant concentrations. Assuming instantaneous precipitation of mineral phases can lead to low estimates of element concentrations if the mineral is difficult to nucleate and crystallize in the natural environment (e.g., dolomite). Finally, the calculated solubility concentrations may be too high when compared with observed element concentrations in groundwater because adsorption reactions are not considered. Adsorption reactions can substantially lower some contaminant concentrations below the calculated solubility limit (e.g., Cs^+).

G.II.8 UNCERTAINTY IN THERMODYNAMIC DATA USED IN MINERAL SOLUBILITY CALCULATIONS BY EQ3NR/EQ6

Thermodynamic data used in solubility calculations will vary slightly from one reported study to another. Wolery (1992) estimated that the uncertainty in thermodynamic data represented an uncertainty in the calculated SI (defined and discussed below) of $\pm$ 0.3 SI units. The SI uncertainty corresponds to an uncertainty in the reported aqueous concentration of $\pm$50 percent (e.g. 50 $\pm$ 25 ppm). To assess the difference in calculated SI values based on different thermodynamic databases, analytical data on groundwater from background well 1024 were entered into EQ3NR and MINTEQA2 (Allison et al., 1991) geochemical codes to compare the predicted SI values of minerals and the aqueous specie distribution. Results of this comparison are discussed and presented below.

Table G.II-7 presents the input data for perched groundwater from background well 1024, a summary of the minerals that have reached or are approaching thermodynamic equilibrium, and a comparison of saturation indices for the minerals. The saturation index is defined as the logarithm of the activity product of the ions forming the solid (e.g., Ca^{+2} and CO_3^{-2}) minus the logarithm of the mineral solubility product, or in mathematical form:

$$SI = \log (iap/sp)$$

where SI is the saturation index, iap is the ion activity product, and sp is the solubility product of the mineral. When the saturation index is zero, the mineral is in thermodynamic equilibrium (i.e., iap = sp) with the solution. Saturation indices below and above zero correspond to undersaturated and supersaturated states, respectively. An undersaturated mineral will undergo dissolution and a supersaturated mineral may precipitate.

In Table G.II-6, the saturation indices for minerals formed from principal components (e.g., Ca^{+2}, Mg^{+2}, CO_3^{-2}, SO_4^{-2}, etc) in groundwater agree quite well (i.e., within 0.5 SI). These minerals include

calcite, gypsum, and magnesite. The saturation indices of minerals formed from trace metals (e.g., barium, lead, nickel, etc) are quite variable. That is they can compare quite well, like barite, rhodochrosite, rutherfordine, schoepite, tenorite, and witherite, or compare very poorly, such as anglesite, bunsenite, cerussite, litharge, malachite, and otavite. For lead-bearing solids, the saturation indices are 1.6 to 2 SI units greater in the EQ3/6 results. Referring to the SI definition above and using anglesite as an example, this implies that the calculated activity product for Pb^{+2} and SO_4^{-2} is 1.7 orders of magnitude greater when calculated by EQ3/6, if the solubility product is constant for both computer codes. Alternatively, if the solubility constants used by the codes differ by 1.7 orders of magnitude, the activity product can be identical in both codes. In general, there is some small difference in the solubility product used by each code, and most of the difference lies with the calculation of the activity product.

The value of the activity product is dependent on the number and type of aqueous species that are formed in solution. Table G.II-7 summarizes the speciation in perched groundwater predicted by each code. When the two codes agree with respect to the speciation of an element in solution (e.g., silver, barium, calcium, etc), the saturation index for a mineral of that element agrees quite well (e.g., chlorargyrite, barite, calcite in Table G.II-6). However, when the predicted element speciation is grossly different (e.g., cadmium, nickel, lead), the calculated saturation index can vary by two orders of magnitude (e.g., anglesite, bunsenite, otavite in Table G.II-6). To illustrate, consider the predicted speciation for cadmium (Table G.II-7). The EQ3/6 code contains a single cadmium specie (Cd^{+2}), in contrast to the five cadmium species predicted to be present by MINTEQA2. In this case, the difference in speciation is due to the absence of four of the predicted MINTEQA2 species from the EQ3/6 thermodynamic database. Similarly, differences in the predicted speciation for nickel and lead also arise due to the absence of nickel and lead carbonate species in EQ3/6. Thermodynamic data present in MINTEQA2 that were not in EQ3/6 were extracted and entered in EQ3/6 for the calculations performed for this study.

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TABLE G.II-1

MINERALOGICAL SUMMARY OF FEMP GLACIAL TILL SOIL

PHASE/IDEAL FORMULA	MODAL PERCENT[a]
Calcite $CaCO_3$	25.75 ± 11.62
Dolomite $MgCa(CO_3)_2$	20.77 ±10.53
Quartz SiO_2	18.03 ± 8.58
Feldspar $KAlSiO_3$	14.76 ± 6.49
Illite $KAl_5Si_7O_{20}(OH)_4$	9.15 ± 17.37
Corrensite $NaCaMg_8Fe_5Al_5Si_{14}O_{40}(OH)_{20}$	4.27 ± 8.30
Organic debris (humus)	3.49 ± 3.68
Chlorite $Mg_7Fe_4Al_2Si_7O_{20}(OH)_{16}$	1.13 ± 1.50
Amphibole $KCa_2Mg_2Fe_2Al_2Si_6O_{20}(OH)_4$	0.95 ± 0.72
Iron oxyhydroxide minerals $Fe(OH)_3$, $FeOOH$, Fe_2O_3	0.83 ± 0.72

[a] Average and standard deviation of 20 soil samples analyzed by McCrone Associates, Inc. (1992). Modal percent is based on the mineral area exposed on a thin section prepared for microscopic examination.

TABLE G.II-2

COMPOSITION OF FEMP PERCHED WATER AND SOURCE TERMS FOR GEOCHEMICAL MODEL

FEMP Perched Water[a]	Soil Source Terms[b] (moles per liter)	Concrete Source Terms[b] (moles per liter)	
pH = 7.2 Eh = 485 mV			
Aluminum = 3.75×10^{-2} mg/L			
Calcium = 9.60×10^{1} mg/L			
Iron = 1.54×10^{1} mg/L			
Potassium = 8.10×10^{0} mg/L			
Magnesium = 3.27×10^{1} mg/L			
Sodium = 2.42×10^{1} mg/L			
Silica = 6.03×10^{0} mg/L			
Bicarbonate = 4.40×10^{2} mg/L			
Chloride = 4.00×10^{1} mg/L			
Fluoride = 5.90×10^{-1} mg/L			
Phosphate = 2.17×10^{-1} mg/L			
Nitrate = 6.20×10^{-1} mg/L			
Chromium = 6.0×10^{-3} mg/L	1.62×10^{-6}	9.35×10^{-4}	[9.33E-04][c]
Mercury = 1.0×10^{-4} mg/L	2.71×10^{-7}	7.93×10^{-7}	[7.80E-07]
Neptunium-237 = 3.0×10^{-7} mg/L	1.11×10^{-10}	1.76×10^{-9}	[1.87E-09]
Strontium-90 = 1.5×10^{11} mg/L	3.08×10^{-14}	2.04×10^{-13}	[5.60E-13]
Technetium-99 = 1.8×10^{-6} mg/L	3.37×10^{-11}	7.49×10^{-9}	[7.42E-09]
Uranium = 5.4×10^{-4} mg/L	2.80×10^{-5}	1.59×10^{-3}	[1.55E-03]

a Background concentrations obtained from Tables 5-1, 5-2, and 5-3 in DOE, May 1994.

b Source terms given for COCs only. Units are given in moles per liter, as the geochemical model is based on a liter of water.

c Brackets denote current source term estimates as presented in Table G-8. These revised estimates reflect very slight changes from estimates used in previous geochemical model runs (unbracketed numbers). However, using these revised values for mercury, neptunium-237, and uranium would not change these elemental concentrations in the cement leachate endmember results, because the liquid concentrations are constrained by solubility limits with the phases HgO, NpO_2, and $CaUO_4$. Leachate concentrations for chromium, strontium-90, and technetium-99 would change slightly, as these elements are unconstrained by solubility. However, since using the revised source terms would result in insignificant changes in the geochemical model outputs, the model was not re-run using the revised source terms.

TABLE G.II-3

PREDICTED SPECIATION OF INFILTRATION WATER OBTAINED FROM FEMP BACKGROUND PERCHED WATER WELLS

Element	Aqueous Species	Molal[a,b] Concentration	Molal[a] Percent
Aluminum	$Al(OH)_4^-$	1.28×10^{-6}	91.8
	$Al(OH)_3^o$	7.66×10^{-8}	5.50
	$Al(OH)_2^+$	2.18×10^{-8}	1.56
	AlF_2^+	1.06×10^{-8}	0.76
Calcium	Ca^{+2}	2.23×10^{-3}	93.0
	$CaHCO_3^+$	1.01×10^{-4}	4.20
	$CaSO_4^o$	5.83×10^{-5}	2.43
Carbon	HCO_3^-	6.14×10^{-3}	84.9
	$H_2CO_3^o$	9.07×10^{-4}	12.6
	$CaHCO_3^+$	1.01×10^{-4}	1.40
	$MgHCO_3^+$	5.54×10^{-5}	0.77
Chlorine	Cl^-	1.13×10^{-3}	99.9
Chromium	$Cr(OH)_2^+$	1.01×10^{-7}	89.7
	$Cr(OH)_3^o$	7.12×10^{-9}	6.34
	$CrOH^{+2}$	4.45×10^{-9}	3.96
Fluorine	F^-	3.03×10^{-5}	97.2
	MgF^+	5.63×10^{-7}	1.81
Iron	$Fe(OH)_3^o$	1.53×10^{-6}	55.5
	Fe^{+2}	5.36×10^{-7}	19.4
	$Fe(OH)_2^+$	3.46×10^{-7}	12.5
	$FeHCO_3^+$	2.42×10^{-7}	8.76
	$FeCO_3^o$	7.67×10^{-8}	2.78
	$FeSO_4^o$	1.82×10^{-8}	0.66
Magnesium	Mg^{+2}	1.24×10^{-3}	91.6
	$MgHCO_3^+$	5.54×10^{-5}	4.11
	$MgSO_4^o$	5.38×10^{-5}	3.99
Mercury	Hg_2^{+2}	2.50×10^{-10}	100
Neptunium	$Np(HPO_4)_5^{-6}$	1.20×10^{-12}	95.0
	NpO_2^+	4.86×10^{-14}	3.86
	$Np(OH)_5^-$	1.03×10^{-14}	0.82
Nitrogen	N_2^o	5.01×10^{-6}	100

TABLE G.II-3 (Continued)

PREDICTED SPECIATION OF INFILTRATION WATER OBTAINED FROM FEMP BACKGROUND PERCHED WATER WELLS

Element	Aqueous Species	Molal[a,b] Concentration	Molal[a] Percent
Phosphorous	HPO_4^{-2}	7.98×10^{-7}	35.2
	$H_2PO_4^-$	6.27×10^{-7}	27.7
	$CaHPO_4^o$	4.10×10^{-7}	18.1
	$MgHPO_4^o$	3.44×10^{-7}	15.2
	$MgH_2PO_4^+$	2.38×10^{-8}	1.05
	$CaH_2PO_4^+$	2.31×10^{-8}	1.02
	$CaPO_4^-$	1.81×10^{-8}	0.80
Potassium	K^+	2.07×10^{-4}	99.8
Silicon	SiO_2^o	1.00×10^{-4}	99.8
Sodium	Na^+	1.04×10^{-3}	98.9
	$NaHCO_3^o$	8.85×10^{-6}	0.84
Strontium	Sr^{+2}	1.61×10^{-16}	95.8
	$SrSO_4^o$	6.79×10^{-18}	4.04
Sulfur	SO_4^{-2}	5.11×10^{-4}	81.6
	$CaSO_4^o$	5.83×10^{-5}	9.32
	$MgSO_4^o$	5.38×10^{-5}	8.60
Technetium	TcO_4^-	1.10×10^{-11}	100
Uranium	$UO_2(CO_3)_3^{-4}$	1.23×10^{-9}	55.1
	$UO_2(CO_3)_2^{-2}$	9.75×10^{-10}	43.8
	$UO_2CO_3^o$	1.30×10^{-11}	0.58

[a] Molal is defined as moles per kilogram of water

[b] Composition reflects species that account for greater than 99.5 Percent of element in solution

TABLE G.II-4

SIMULATED COMPOSITION OF SOIL LEACHATE ENDMEMBER

Element	Aqueous Species	Molal[a] Concentration	Molal[a] Percent
Aluminum	AlO_2^-	1.03×10^{-9}	96.2
	$Al(OH)_3^o$	3.45×10^{-11}	3.21
Calcium	Ca^{+2}	9.39×10^{-4}	92.5
	$CaHCO_3^+$	4.65×10^{-5}	4.59
	$CaSO_4^o$	2.26×10^{-5}	2.22
Carbon	HCO_3^-	6.76×10^{-3}	89.3
	$H_2CO_3^o$	5.78×10^{-4}	7.63
	$MgHCO_3^+$	1.38×10^{-4}	1.82
	$CaHCO_3^+$	4.65×10^{-5}	0.61
Chlorine	Cl^-	1.13×10^{-3}	99.8
Chromium	CrO_4^{-2}	3.83×10^{-7}	92.5
	$HCrO_4^-$	3.08×10^{-8}	7.44
Fluorine	F^-	2.98×10^{-5}	95.8
	MgF^+	1.17×10^{-6}	3.75
Iron	$Fe(OH)_3^o$	1.83×10^{-13}	95.2
	$Fe(OH)_2^+$	8.92×10^{-15}	4.64
Magnesium	Mg^{+2}	2.81×10^{-3}	91.4
	$MgHCO_3^+$	1.38×10^{-4}	4.49
	$MgSO_4^o$	1.14×10^{-4}	3.7
Mercury	Hg_2^{+2}	1.03×10^{-12}	98.7
	Hg^{+2}	2.68×10^{-14}	1.28
Neptunium	NpO_2^+	1.32×10^{-11}	87.8
	$NpO_2CO_3^-$	1.59×10^{-12}	10.5
	NpO_2OH^o	2.38×10^{-13}	1.58
Nitrogen	NO_3^-	9.97×10^{-6}	99.5
Phosphorous	$MgP_2O_7^{-2}$	1.12×10^{-6}	99.2
Potassium	K^+	2.07×10^{-4}	99.8

TABLE G.II-4 (Continued)

SIMULATED COMPOSITION OF SOIL LEACHATE ENDMEMBER

Element	Aqueous Species	Molal[a] Concentration	Molal[a] Percent
Silicon	SiO_2^o	8.34×10^{-5}	99.4
Sodium	Na^+	1.04×10^{-3}	98.9
	$NaHCO_3^o$	9.68×10^{-6}	0.92
Strontium	Sr^{+2}	4.19×10^{-6}	91.6
	$SrHCO_3^+$	2.37×10^{-7}	5.19
	$SrSO_4^o$	1.37×10^{-7}	2.99
Sulfur	SO_4^{-2}	4.87×10^{-4}	77.8
	$MgSO_4^o$	1.14×10^{-4}	18.2
	$CaSO_4^o$	2.26×10^{-5}	3.61
Technetium	TcO_4^-	4.47×10^{-11}	100
Uranium	$UO_2(CO_3)_3^{-4}$	2.39×10^{-6}	69.2
	$UO_2(CO_3)_2^{-2}$	1.05×10^{-7}	30.4

[a] Molal is defined as moles per kilogram of water

TABLE G.II-5

SIMULATED COMPOSITION OF CEMENT LEACHATE ENDMEMBER

Element	Aqueous	Molal[a] Concentration	Molal[a] Percent
Aluminum	AlO_2^-	1.67×10^{-7}	100
Calcium	Ca^{+2}	1.90×10^{-2}	77.9
	$CaOH^+$	2.95×10^{-3}	12.1
	$CaSO_4^o$	2.29×10^{-3}	9.38
Carbon	$CaCO_3^o$	6.43×10^{-6}	86.3
	CO_3^{-2}	1.02×10^{-6}	13.7
Chlorine	Cl^-	1.41×10^{-4}	99.8
Chromium	CrO_4^{-3}	7.01×10^{-4}	73.0
	CrO_4^{-2}	2.59×10^{-4}	27.0
Fluorine	F^-	2.80×10^{-5}	96.4
	CaF^+	1.05×10^{-6}	3.61
Iron	$Fe(OH)_4^-$	2.57×10^{-6}	99.7
Magnesium	$Mg(OH)^+$	5.76×10^{-9}	60.4
	Mg^{+2}	2.85×10^{-9}	29.9
	$MgSO_4^o$	6.13×10^{-10}	6.43
	$MgH_2SiO_4^o$	2.96×10^{-10}	3.11
Mercury	Hg_2^{+2}	5.21×10^{-20}	100
Neptunium	$Np(OH)_5^-$	1.27×10^{-9}	99.8
Nitrogen	NO_3^-	9.86×10^{-6}	95.8
	$CaNO_3^+$	4.16×10^{-7}	4.04
Phosphorous	$CaP_2O_7^{-2}$	1.16×10^{-6}	100
Potassium	K^+	2.09×10^{-4}	97.9
	KSO_4^-	3.39×10^{-6}	1.59

TABLE G.II-5 (Continued)

SIMULATED COMPOSITION OF CEMENT LEACHATE ENDMEMBER

Element	Aqueous	Molal[a] Concentration	Molal[a] Percent
Silicon	$CaH_2SiO_4^o$	1.51×10^{-4}	97.1
	$H_3SiO_4^-$	2.06×10^{-6}	1.32
	$HSiO_3^-$	1.33×10^{-6}	0.85
Sodium	Na^+	1.06×10^{-3}	97.5
	$NaSO_4^-$	1.47×10^{-5}	1.35
	$NaOH^o$	1.22×10^{-5}	1.13
Strontium	Sr^{+2}	3.88×10^{-6}	82.6
	$SrSO_4^o$	6.13×10^{-7}	13.0
	$SrOH^+$	2.04×10^{-7}	4.33
Sulfur	SO_4^{-2}	5.47×10^{-3}	70.4
	$CaSO_4^o$	2.29×10^{-3}	29.4
Technetium	TcO_4^-	7.70×10^{-9}	100
Uranium	$UO_2(OH)_3^-$	1.29×10^{-13}	87.1
	$UO_2(OH)_4^{-2}$	1.91×10^{-14}	12.9

[a] Molal is defined as moles per kilogram of water

TABLE G.II-6

COMPOSITION OF MIXED LEACHATE WITH P_{CO2} APPROXIMATELY $10^{-2.2}$ ATMOSPHERES

Element	Species	Molal[a] Concentration	Molal[a] Percent
Aluminum	AlO_2^-	4.89×10^{-10}	94.3
	$Al(OH)_3^o$	2.23×10^{-11}	4.30
	$Al(OH)_2^+$	6.93×10^{-12}	1.34
Calcium	Ca^{+2}	8.60×10^{-3}	67.9
	$CaSO_4^o$	3.97×10^{-3}	31.4
Carbon	HCO_3^-	2.35×10^{-3}	78.7
	$MgHCO_3^+$	2.59×10^{-4}	8.67
	$H_2CO_3^o$	2.68×10^{-4}	8.99
	$CaHCO_3^+$	8.72×10^{-5}	2.92
Chlorine	Cl^-	1.02×10^{-3}	99.2
Chromium	CrO_4^{-2}	2.88×10^{-7}	92.7
	$HCrO_4^-$	2.25×10^{-8}	7.24
Fluorine	F^-	2.39×10^{-5}	81.6
	MgF^+	5.03×10^{-6}	17.2
	CaF^+	3.54×10^{-7}	1.21
Iron	$Fe(OH)_3^o$	2.70×10^{-13}	93.4
	$Fe(OH)_2^+$	1.86×10^{-14}	6.44
Magnesium	Mg^{+2}	2.35×10^{-2}	53.6
	$MgSO_4^o$	2.00×10^{-2}	45.8
Mercury	Hg_2^{+2}	3.33×10^{-12}	98.5
	Hg^{+2}	1.05×10^{-13}	1.55
Neptunium	NpO_2^+	2.48×10^{-11}	95.1
	$NpO_2CO_3^-$	5.50×10^{-13}	2.11
	$NpO_2SO_4^-$	4.87×10^{-13}	1.87

TABLE G.II-6 (Continued)

COMPOSITION OF MIXED LEACHATE WITH P_{CO2} APPROXIMATELY $10^{-2.5}$ ATMOSPHERES

Element	Species	Molal[a] Concentration	Molal[a] Percent
Nitrogen	NO_3^-	9.44×10^{-6}	98.2
	$CaNO_3^+$	1.52×10^{-7}	1.58
Phosphorous	$MgP_2O_7^{-2}$	1.08×10^{-6}	99.2
Potassium	K^+	1.44×10^{-4}	93.2
	KSO_4^-	1.05×10^{-5}	6.76
Silicon	SiO_2^o	1.15×10^{-4}	99.5
Sodium	Na^+	8.58×10^{-10}	93.9
	$NaSO_4^-$	5.37×10^{-11}	5.87
Strontium	Sr^{+2}	2.74×10^{-6}	62.4
	$SrSO_4^o$	1.62×10^{-6}	36.9
Sulfur	SO_4^{-2}	3.06×10^{-2}	56.0
	$MgSO_4^o$	2.00×10^{-2}	36.7
	$CaSO_4^o$	3.97×10^{-3}	7.27
Technetium	TcO_4^-	2.43×10^{-9}	100
Uranium	$UO_2(CO_3)_3^{-4}$	4.71×10^{-7}	74.5
	$UO_2(CO_3)_2^{-2}$	1.52×10^{-7}	24.0
	$UO_2(OH)_2^o$	6.99×10^{-9}	1.10

[a] Molal is defined as moles per kilogram of water

TABLE G.II-7

COMPARISON OF MINERAL SATURATION INDICES IN PERCHED WATER FROM WELL 1024

Input Data (mg/L) PGW 1024[a]	Mineral	Saturation Index[b] EQ3/6	MINTEQA2
pH = 7.2	anglesite ($PbSO_4$)	-2.45	-4.11
Eh = 350 mV	anhydrite ($CaSO_4$)	-1.97	-1.66
Ag = 3.81×10^{-3}	barite ($BaSO_4$)	0.427	0.412
Ba = 9.28×10^{-2}	bunsenite (NiO)	-4.89	-6.08
Ca = $9.83 \times 10^{+1}$	calcite ($CaCO_3$)	0.093	0.090
Cd = 3.25×10^{-3}	$CaUO_4$	-5.71	NP
Cr = 4.05×10^{-2}	cerussite ($PbCO_3$)	1.18	-0.837
Cu = 8.88×10^{-3}	chlorargyrite (AgCl)	-1.32	-1.31
K = 1.67×10^{0}	CrO_2	1.66	NP
Mg = $4.00 \times 10^{+1}$	cuprite (Cu_2O)	-7.31	NP
Mn = 1.05×10^{-1}	dolomite ($Mg_{.5}Ca_{.5}CO_3$)	1.15	-0.054
Na = $1.52 \times 10^{+1}$	fluorite (CaF_2)	-1.36	-0.454
Ni = 5.93×10^{-2}	gypsum ($CaSO_4{:}2H_2O$)	-1.69	-1.35
Pb = 3.25×10^{-2}	litharge (PbO)	-5.70	-7.34
U = 8.82×10^{-4}	magnesite ($MgCO3_4$)	-0.638	-0.638
Cl = 5.70×10^{0}	malachite ($Cu_2CO_3(OH)_2$)	-3.77	-2.87
F = 1.02×10^{0}	manganite (MnOOH)	-4.42	NP
HCO_3 = $4.25 \times 10^{+2}$	$Ni(OH)_2$	-5.14	-3.04
NO_3 = 5.00×10^{-2}	$NiCO_3$	-4.90	-6.32
PO_4 = 2.50×10^{-1}	otavite ($CdCO_3$)	-3.29	0.206
SO_4 = $8.43 \times 10^{+1}$	rhodochrosite ($MnCO_3$)	-0.976	-1.09
T = 15°C	rutherfordine (UO_2CO_3)	-5.91	-6.06
	schoepite ($UO_3{:}2H_2O$)	-5.57	-6.32
	tenorite (CuO)	-2.00	-1.89

[a] Average groundwater composition of samples taken from perched groundwater welll (PGW) 1024.

[b] Saturation index is defined as the log of the activity product minus the log of the solubility product, or $\log(a_p/K_{sp})$. Values of greater than zero, zero, and less than zero indicate, respectively, supersaturated, saturated, and undersaturated conditions for the indicated solid phase in perched groundwater.

NP = solid is not present in the thermodynamic database of the indicated code.

TABLE G.II-8

COMPARISON OF AQUEOUS SPECIE DISTRIBUTION IN PERCHED WATER FROM WELL 1024

Element	Aqueous Species	EQ3/6 Molal Percent[a]	MINTEQA2 Molal Percent[a]
Barium	Ba^{+2}	97.0	100
	$BaHCO_3^+$	3.0	NP
Cadmium	Cd^{+2}	100	50.9
	$CdCO_3^o$	NP	26.1
	$CdHCO_3^+$	NP	18.5
	$CdSO_4^o$	NP	3.8
	$CdCl^+$	NP	0.5
Calcium	Ca^{+2}	92.3	92.2
	$CaCO_3^o$	0.3	0.2
	$CaHCO_3^+$	4.0	2.7
	$CaSO_4^o$	3.3	4.8
Carbon	HCO_3^-	84.8	87.8
	$H_2CO_3^o$	12.5	10.0
	$CaHCO_3^+$	1.4	1.0
	$MgHCO_3^+$	0.9	0.9
	$CaCO_3^o$	0.1	0.1
Chlorine	Cl^-	99.9	99.9
Chromium	$Cr(OH)_2^+$	84.2	NP
	$Cr(OH)_3^o$	15.7	NP
	CrO_4^{-2}	0.0	87.7
	$HCrO_4^-$	0.0	12.1
	$NaCrO_4^-$	NP	0.2
Copper	$CuCO_3^o$	91.3	64.6
	Cu^{+2}	5.0	5.9
	$CuOH^+$	3.0	0.7
	$Cu(CO_3)_2^{-2}$	0.7	0.4
	$Cu(OH)_2^o$	NP	19.6
	$CuHCO_3^+$	NP	8.5
	$CuSO_4^o$	NP	0.3

TABLE G.II-8 (Continued)

COMPARISON OF AQUEOUS SPECIE DISTRIBUTION
IN PERCHED WATER FROM WELL 1024

Element	Aqueous Species	EQ3/6 Molal Percent[a]	MINTEQA2 Molal Percent[a]
Fluorine	F^-	97.3	94.5
	MgF^+	2.0	4.6
	CaF^+	0.7	0.9
Lead	Pb^{+2}	88.7	2.5
	$PbOH^+$	11.0	0.6
	$PbCl^+$	0.2	89.6
	$PbCO_3^o$	NP	5.8
	$PbHCO_3^+$	NP	1.1
	$Pb(CO_3)_2^{-2}$	NP	0.4
	$PbSO_4^o$	NP	
Magnesium	Mg^{+2}	90.4	91.6
	$MgSO_4^o$	5.4	4.2
	$MgHCO_3^+$	3.9	3.9
	$MgCO_3^o$	0.2	0.2
	MgF^+	0.1	0.1
Manganese	Mn^{+2}	86.4	90.7
	$MnCO_3^o$	5.8	NP
	$MnSO_4^o$	5.1	4.0
	$MnHCO_3^+$	2.6	5.2
Nickel	Ni^{+2}	96.4	6.0
	$NiSO_4^o$	3.6	0.3
	$NiCO_3^o$	NP	90.4
	$NiHCO_3^+$	NP	2.5
	$Ni(CO_3)_2^{-2}$	NP	0.8
Nitrogen	N_3^-	99.7	NP
	HN_3^o	0.1	NP
	NO_3^-	0.0	100

TABLE G.II-8 (Continued)

COMPARISON OF AQUEOUS SPECIE DISTRIBUTION IN PERCHED WATER FROM WELL 1024

Element	Aqueous Species	EQ3/6 Molal Percent[a]	MINTEQA2 Molal Percent[a]
Phosphorous	$MgP_2O_7^{-2}$	96.6	NP
	$CaP_2O_7^{-2}$	3.4	NP
	HPO_4^{-2}	0.0	38.0
	$H_2PO_4^-$	0.0	29.2
	$CaHPO_4^o$	0.0	15.7
	$MgHPO_4^o$	0.0	14.3
	$CaH_2PO_4^+$	0.0	0.9
	$MgH_2PO_4^+$	0.0	0.7
	$CaPO_4^-$	0.0	0.5
	$MgPO_4^-$	0.0	0.5
Potassium	K^+	99.7	99.7
	KSO_4^-	0.3	0.3
Silver	Ag^+	75.4	77.4
	$AgCl^o$	24.0	21.6
	$AgCl_2^-$	0.5	0.4
	$AgSO_4^-$	NP	0.6
Sodium	Na^+	98.9	99.6
	$NaHCO_3^o$	0.8	0.2
	$NaSO_4^-$	0.3	0.2
Sulfur	SO_4^{-2}	80.4	78.6
	$MgSO_4^o$	10.2	7.8
	$CaSO_4^o$	9.2	13.4
Uranium	$UO_2(CO_3)_3^{-4}$	52.3	21.7
	$UO_2(CO_3)_2^{-2}$	46.7	34.5
	$UO_2(HPO_4)_2^{-2}$	NP	42.7
	$UO_2CO_3^o$	0.5	1.0
	$UO_2(OH)_2^o$	0.5	NP

[a] Molal percent based on total moles of the indicated element per kilogram of water.
NP = Specie is not present in the thermodynamic database of the indicated code.

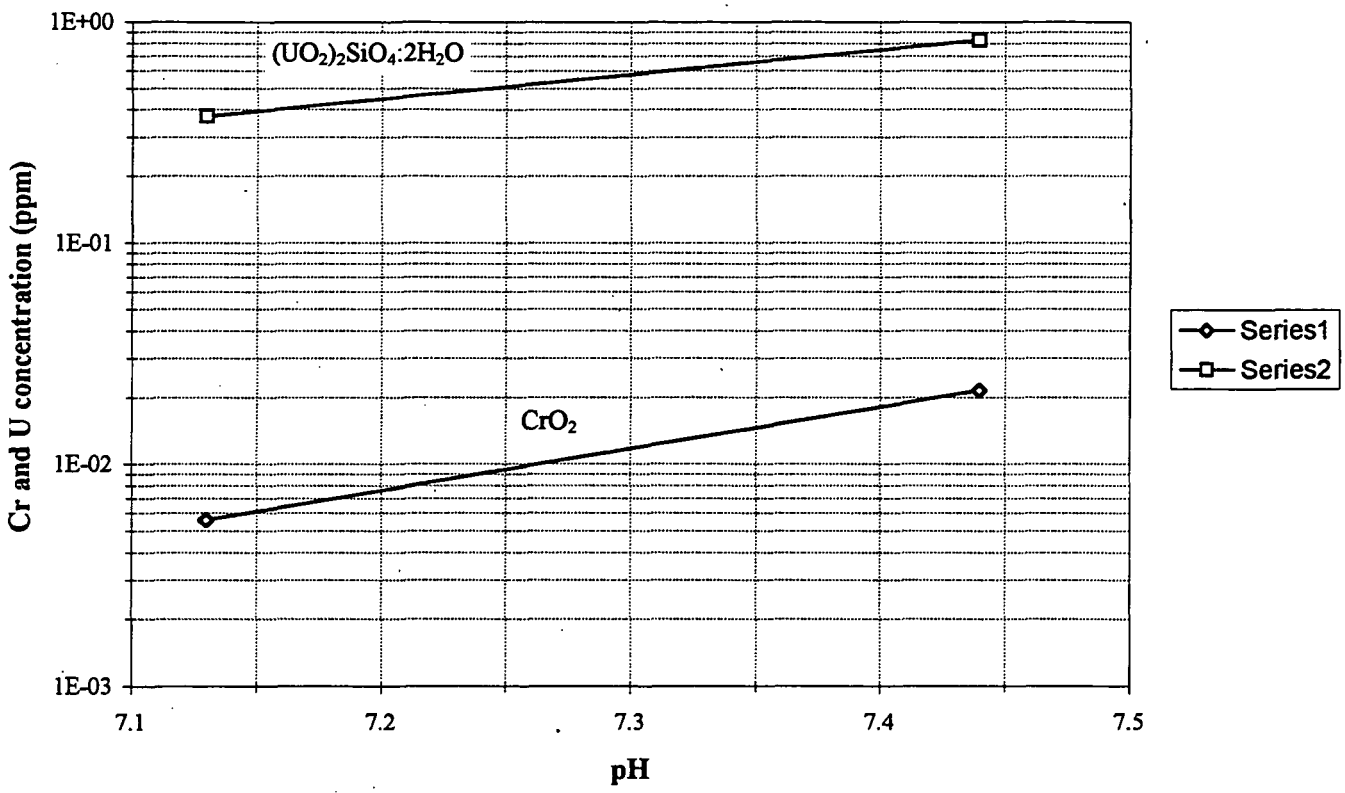

FIGURE G.II-1 URANIUM AND CHROMIUM RESULTS FOR SOIL ENDMEMBER

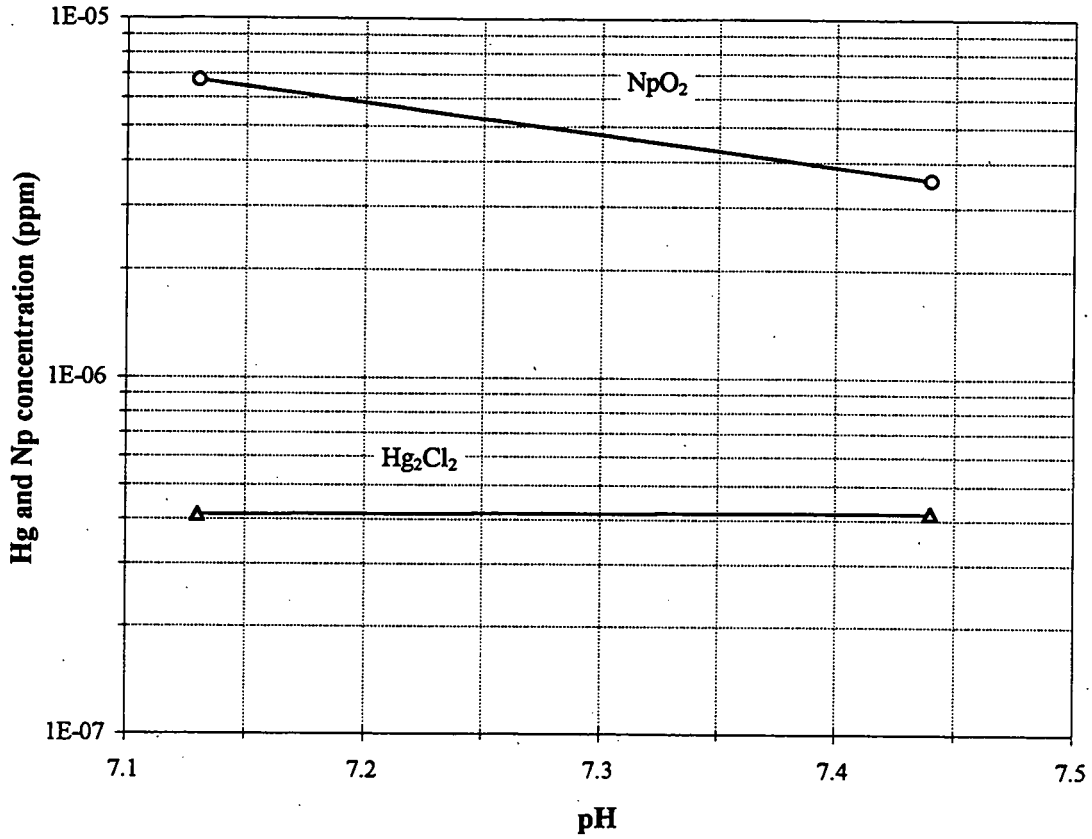

FIGURE G.II-2 NEPTUNIUM AND MERCURY RESULTS FOR SOIL ENDMEMBER

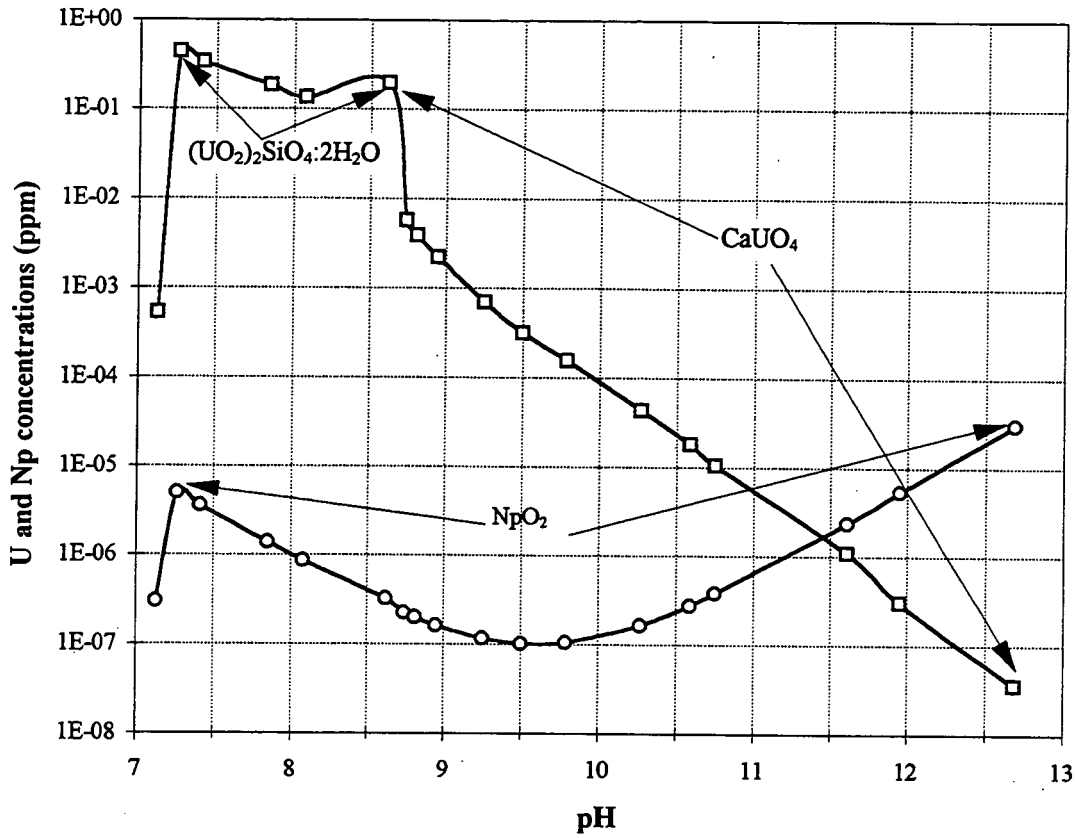

FIGURE G.II-3 URANIUM AND NEPTUNIUM RESULTS FOR CEMENT ENDMEMBER

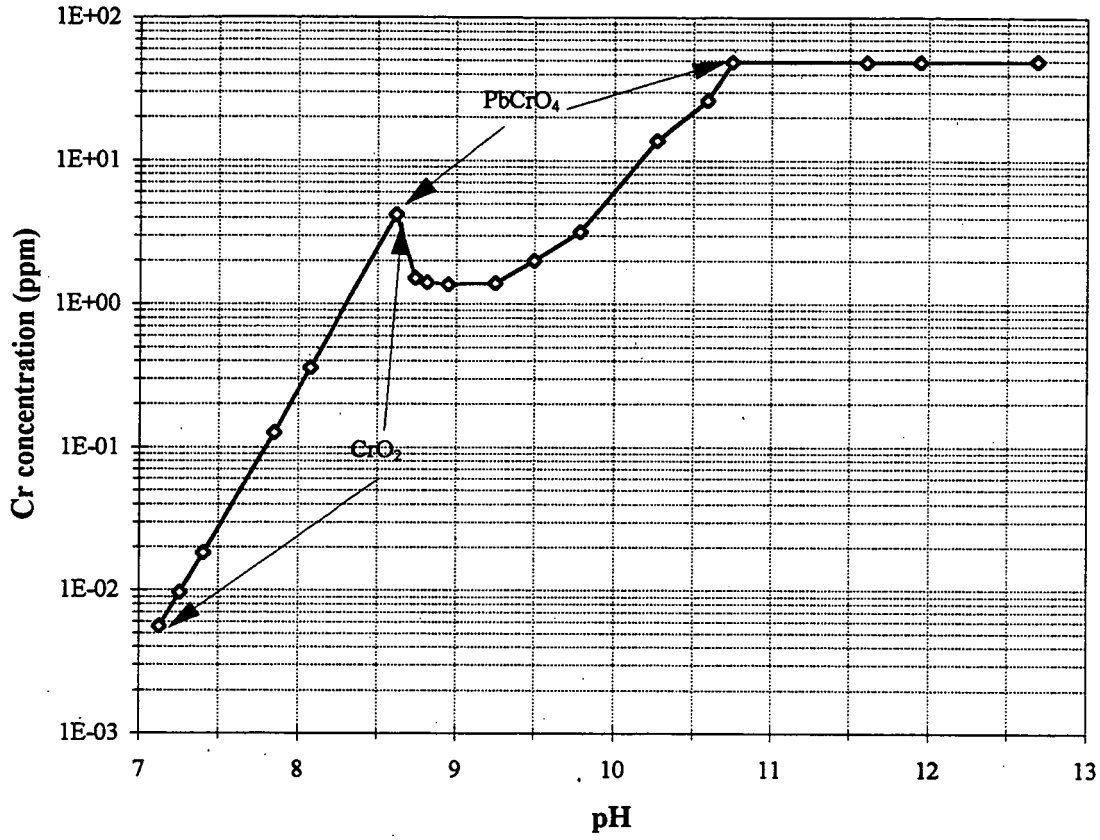

FIGURE G.II-4 CHROMIUM RESULTS FOR CEMENT ENDMEMBER

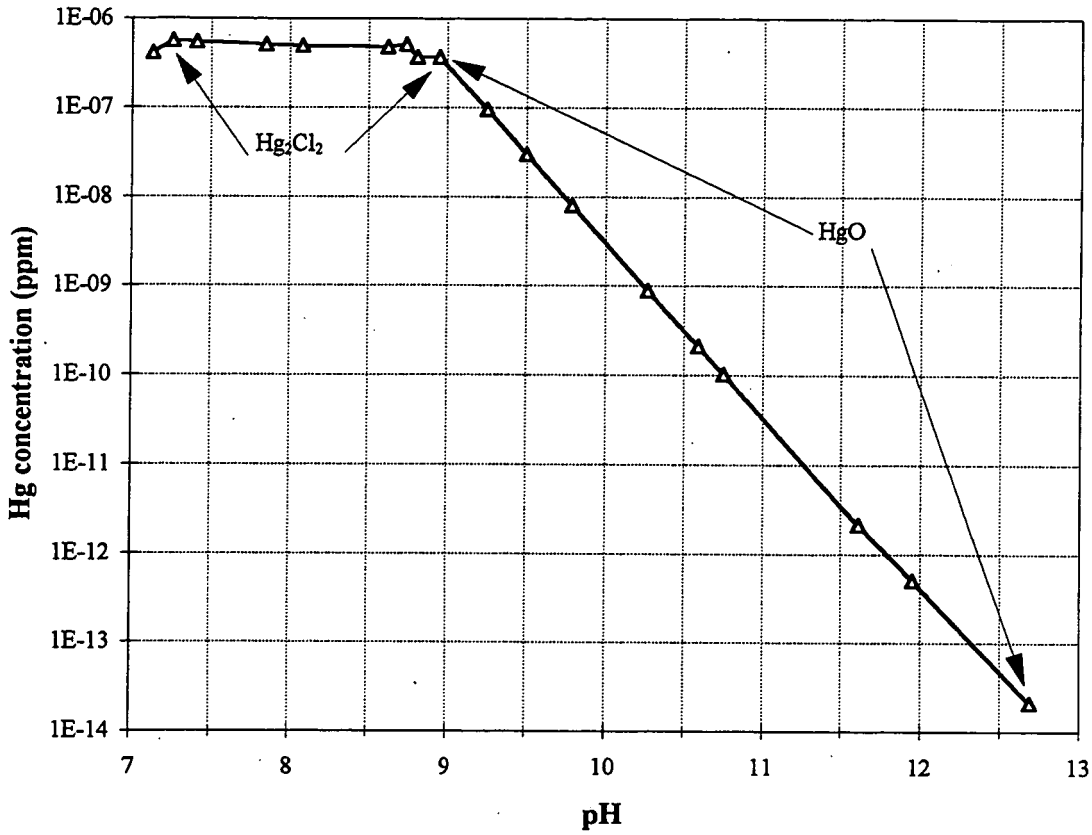

FIGURE G.II-5 MERCURY RESULTS FOR CEMENT ENDMEMBER

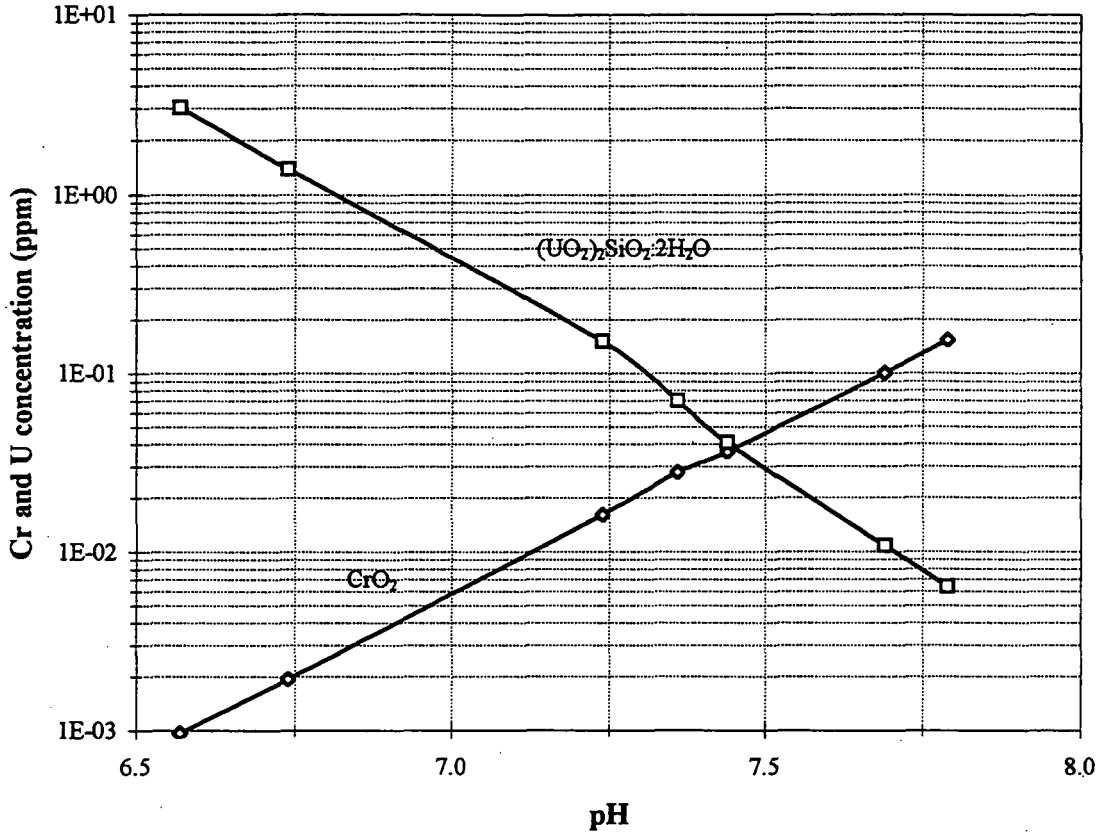

FIGURE G.II-6 URANIUM AND CHROMIUM RESULTS FOR 2:1 MIXTURE AT P_{CO2} $10^{-3.5}$ TO 10^{-1} ATM

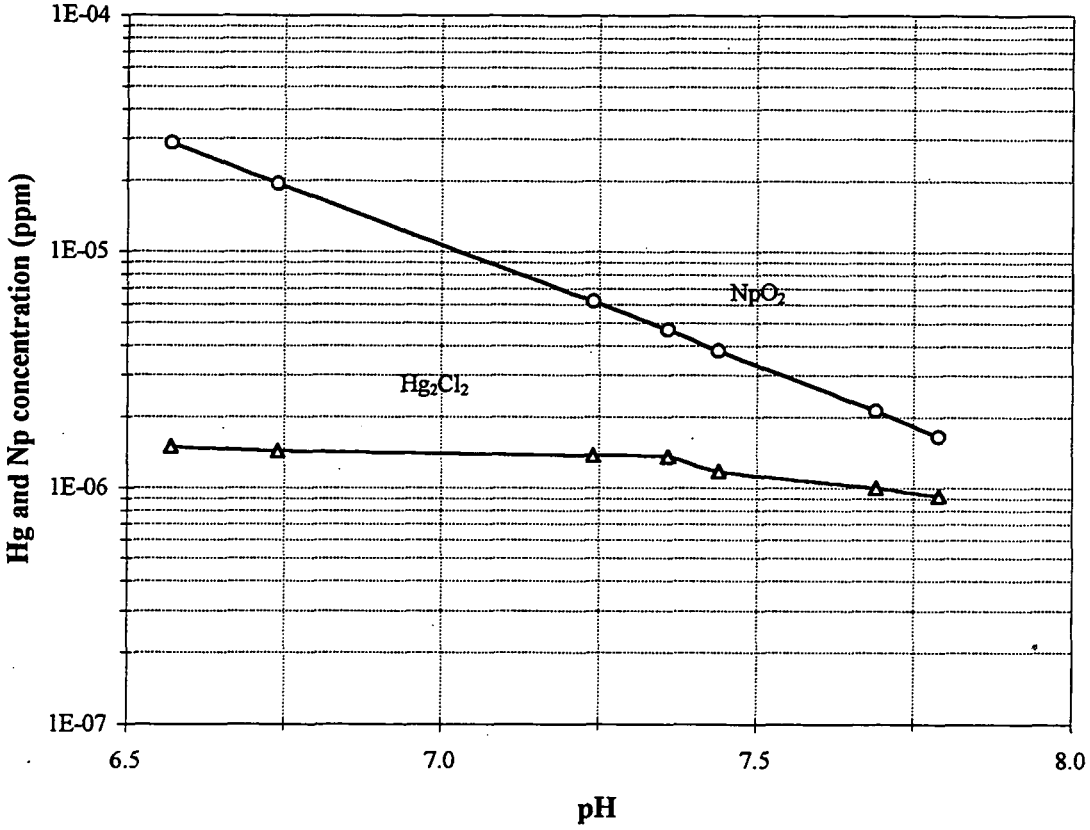

FIGURE G.II-7 MERCURY AND NEPTUNIUM RESULTS FOR 2:1 MIXTURE AT P_{CO2} $10^{-3.5}$ TO 10^{-1} ATM

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Appendix H

APPENDIX H
SHORT TERM RISK ASSESSMENT

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	Asbestos containing materials
BEIR V	Committee on Biological Effects of Ionizing Radiation (a committee of the National Academy of Sciences)
cm^2	square centimeter
COC	constituent of concern
DAC	Derived Air Concentration (10 CFR 835)
D&D	decontamination and dismantlement
EDE	effective dose equivalent
EPA	United States Environmental Protection Agency
gal	gallon
HEAST	Health Effects Assessment Summary Table
HI	hazard index
HQ	hazard quotient
hr	hour
ICRP	International Committee on Radiation Protection
ILCR	incremental lifetime cancer risk
IRIS	Integrated Risk Information System (EPA)
ITC	Intermodal Transport Container waste packer
J	Joules
LDR	land disposal restriction
LET	linear energy transfer
LLW	low level (radioactive) waste
LMB	large metal box
m^2	square meter
m^3	cubic meter
mev	millielectrovolts
mrad	millirad
NRPB	National Radiation Protection Board (United Kingdom)
OU	operable unit
ROB	roll-off box
RAWPA	Risk Assessment Work Plan Addendum
RCRA	Resource Conservation and Recovery Act
RfD	reference dose
RI/FS	remedial investigation/feasibility study
s	second
SNL	Sandia National Laboratory
TIC	time-integrated concentration
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
VOC	volatile organic compound
WAC	waste acceptance criteria
WMB	white metal box
yr	year

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H.0 SHORT TERM RISK ASSESSMENT

H.1 INTRODUCTION

This Short-Term Risk Assessment for the Operable Unit 3 (OU3) Remedial Investigation/Feasibility Study (RI/FS) presents estimated hypothetical risks associated with implementing those remedial alternatives for OU3 which have passed the alternative screening process in Section 5 of this report. Potential risks to human health attributable to chemical and radiological contaminants are assessed, as well as the mechanical and transportation hazards associated with remediation over a ten-year period. A worst-case remediation schedule covering a 31-year period was also assessed. This information is used to support the detailed analysis of alternatives in Section 6.0 of this report. This appendix also provides information on which constituents of concern (COCs) and transport pathways could affect public health and remediation workers, in accordance with the United States Environmental Protection Agency's (US EPA's) Risk Assessment Guidance for Superfund, Parts A and C (EPA 1989, 1991).

The major objectives of this risk assessment are:

- To quantify hypothetical short-term risks associated with the actual implementation of each remedial alternative so that the remedial alternatives can be compared based upon those associated risks to public health and the environment (one of the nine criteria for evaluation of alternatives as presented in Section 6.0); and

- To identify major uncertainties associated with the risk estimates, their potential impact on the comparison of alternatives, and the short-term effectiveness of the alternatives.

Contaminant exposure point concentrations, discussed in Appendix H.3, are based on weighted averages derived from maximum measured contaminant concentrations in the various media or material categories, or estimated by modeling contaminant transport through air pathways. These exposure point concentrations are assumed for the duration of the remediation.

Potential risks are estimated for both remediation workers and the general public for contaminant releases during the final remedial action. The receptors for whom exposure scenarios are developed include:

- On-property remediation workers
- On-property non-remediation workers
- Off-site remediation workers transporting material for disposal
- Off-site residents
- Public along transportation routes

Mechanical hazards are potential injuries and deaths due to industrial accidents. For remediation workers, mechanical hazards are evaluated for remediation activities such as construction, waste handling, and transportation. Potential transportation injuries and fatalities were also evaluated for the public along the transportation route.

The remainder of this appendix is organized as follows:

- Section H.2 presents the exposure pathway analysis which describes proposed remedial alternatives and potential modes of exposure during remediation activities.

- Section H.3 presents the method for calculating exposure point concentrations, exposure estimates, carcinogenic and noncarcinogenic risks, and mechanical hazards. This section includes the equations and models used to quantify impacts.

- Section H.4 presents the results of the human health and mechanical hazard risk assessment.

- Section H.5 presents a discussion of the uncertainties associated with the short-term risk assessment from remedial action design factors, COC analytical and toxicological data, exposure assumptions, and health and safety estimates.

- Section H.6 presents a summary and discussion of the remedial action risk assessment.

- References presented show materials used to prepare this evaluation.

H.2 EXPOSURE PATHWAY ANALYSIS

This section presents a summary level discussion of the remedial action alternatives from Section 5 of the report and details the activities associated with the alternatives. For each activity, potential release mechanisms and receptors that could be impacted by the action are presented in a conceptual model for each alternative.

H.2.1 Proposed Remedial Alternatives

The three remedial alternatives being evaluated in this RI/FS Report are briefly discussed below. Additional details of these alternatives are provided in Section 5.5 of this report.

H.2.1.1 Description of the No-Further Action, Alternative 1

This alternative assumes that materials would be indefinitely stored on storage pad(s) in the southeast corner of the site. At the end of the interim remedial action and remedial activities for other OUs at the Fernald Environmental Management Project (FEMP), maintenance and security would be discontinued and the debris and containers abandoned in place. Both material stock piles and containers would be subjected to unmitigated weathering and potential release of contaminants. Containers and piles would be accessible to the public. Hence, potential long-term risks from this alternative are possible. However, because no further activity beyond the interim remedial action is associated with this alternative, quantifying short term risks is not applicable for this alternative.

H.2.1.2 Description of Alternative 2

This alternative assumes that the materials generated by the interim remedial action will be stored on-property until the disposal facility is available. As stated in Section 5, current estimates indicate that this storage period would last from 1995 through 1997. Material segregation to determine disposition would occur during decontamination and dismantlement (D&D) as part of the interim remedial action. Materials that meet unrestricted release criteria would be sent to a local landfill. Material Categories C (Process-Related Metals) and F (Acid Brick) and the concrete to be removed to meet the allowable mass limit for technetium-99 would be dispositioned off-site. Category C

materials would be transported by truck to the Nevada Test Site (NTS), while the concrete and Category F materials would be transported by truck to a permitted commercial disposal facility due to the potential for mixed wastes. All other OU3 materials would be placed within the on-property disposal facility.

Accessible metals (Category A) and miscellaneous materials (Category I) could undergo further treatment under this alternative. The materials that would be treated include mixed waste materials being dispositioned off-site. The proposed treatment would be applied as necessary to meet land disposal restrictions (LDRs) promulgated under the Resource Conservation and Recovery Act (RCRA). The treatment of these materials is assumed to occur at a permitted commercial disposal facility. Aside from transportation hazards and risks, impacts from off-site material treatment activities are not evaluated in this short-term risk assessment, but impacts from on-property activities are evaluated. Materials containing no contaminants, or in which contaminants are below baseline levels, would be sent to a local landfill. Because these materials are not regulated as contaminated, only risks associated with injuries and fatalities will be calculated for this activity.

All materials not being dispositioned off-site would be stored in accordance with the Removal Action No. 17 Work Plan (see Section 1.2.2.1) until the disposal facility becomes available. Once the disposal facility becomes available, materials would be taken from the storage area directly to the disposal facility.

H.2.1.3 Description of Alternative 3

This alternative assumes that all materials would be sent off-site for disposal. Off-site treatment would be utilized as needed. Transportation activities would include transporting materials by rail to a permitted off-site disposal facility. Materials that meet the free release criteria would be sent by truck to a local landfill.

Possible treatment techniques include solidification and encapsulation of materials to meet LDRs and would occur at an off-site disposal facility. Impacts from material treatments that would occur off-site are not evaluated in this short term risk assessment. Only impacts from activities occurring on-property, such as movement of materials from piles to containers and transportation activities, are evaluated under this alternative.

H.2.2 Exposures During Remediation

Each of the remedial alternatives evaluated in this assessment consists of activities that may expose receptors to contaminated materials. The major remedial activities of each alternative that may contribute to contaminant release or mechanical hazards are summarized as follows.

Major Remedial Activity	Alternative Containing Activity
• Shipment preparation and inspection	2, 3
• Off-site disposal transportation	2, 3
• Potential off-site treatment - encapsulation or solidification	2, 3
• On-property disposal	2

H.2.2.1 Shipment Preparation and Inspection
This activity would include any final loading of materials from piles to containers, packaging, labeling, moving containers, and loading materials on trucks or in rail cars, as well as any other miscellaneous activities performed during preparation of off-site shipments, such as inspections.

H.2.2.2 Off-Site Transportation
This activity would include the actual transportation of materials off-site, which would occur after the shipment preparation and inspection activities. Two types of transportation are evaluated, rail transport and truck transport. Rail transport would include the shipment of rail cars containing waste materials to a permitted commercial disposal facility. Truck shipment would include transport of materials to a local landfill and to off-site permitted disposal facility locations.

H.2.2.3 Off-Site Treatment
This activity would involve treatment, as required, of some miscellaneous materials by encapsulation and/or solidification before disposal. These activities would occur off-site at a permitted commercial disposal facility.

H.2.2.4 On-Property Disposal
This activity would include unloading and placing materials in an engineered disposal facility with an appropriate liner. The cell would be constructed jointly under remedial actions for OU2 and OU5. Material unloading consists of placing OU3 waste materials out of containers into the facility and covering them with soils from OU5 remedial activities. For the purposes of this analysis, the time spent loading the cell was estimated based on the volume of OU3 waste materials that would be placed in the facility (i.e., approximately ten percent of the total volume materials from all OUs; ten percent of the total time would be spent on OU3 material placement). The total duration of OU3 activities, based upon the $276 million budget, is estimated at ten years. The worst case schedule is estimated at 31 years, of which materials would be placed in the facility during the final 27 years. It is currently forecasted that materials would be stored for the first three to four years of activity and then placed in the disposal cell. Materials generated after the first three to four years are assumed to be placed into the cell directly with no hold-up time. Therefore, the placement of materials into the disposal facility would occur during the final seven years of the ten-year plan or during the final 27 years of the 31-year plan.

H.2.3 Conceptual Model
Figure H-1 identifies the conceptual model for this risk assessment. The conceptual model is based on the remedial activities associated with each of the ten material categories discussed in Section 3.

The conceptual model identifies the activities and their associated exposure pathways (i.e., direct exposure and inhalation), mechanical hazards, and transportation accidents, through which contaminants may potentially reach receptors. The model also identifies hypothetical receptors, who would be potentially exposed to contaminants because of remediation activities. Since the materials undergo gross decontamination as part of the interim remedial action, many of the exposure pathways have been determined insignificant for consideration. Little dust or surface contamination would be present on most of the materials, such as the metals. Materials would also be received, for the most part, in closed containers, and no direct contact would occur with the contaminants.

The risk calculations performed in this analysis were chosen to determine a reasonable but conservative risk that might be associated with OU3 remediation activities (post interim remedial action). Weighted average concentrations for all materials have been used. For the sake of bounding risks, many exposure pathways that would not be expected to result in significant risks have been

evaluated, such as inhalation and direct radiation exposure to off-site residents. Inhalation risks have been evaluated only from concrete, asphalt, and masonry during the placement of these materials in the disposal facility. These are the only materials that may be dispositioned on-property that could generate significant airborne contamination in the form of dust.

H.2.3.1 Sources

During remedial activities, there would be some potential short-term exposures, to workers, off-site residents, and the public along the transportation route, to contaminants from OU3 materials. The contaminant levels associated with these materials vary significantly depending on the activities that occurred in the locations where the waste materials were generated (i.e., process areas, storage facilities, administrative offices). Figure H-1 presents the basis for the release mechanisms, including the major operations, assumptions, exposure pathways, and potential receptors associated with each material category. This section describes the means by which contaminated material may be inadvertently released to the environment from each material category.

The release mechanisms considered are direct radiation and generation of volatile gases and particulates. Direct radiation is the result of gamma and beta decay by radionuclides. A potential internal radiological dose could result from inhalation of contaminated dusts emitting alpha particles. The airborne releases could be generated during the placement of materials in the on-property disposal facility. As noted in Figure H-1, only the concrete (Material Category E) would produce a releasable fraction upon impact when placed into the disposal facility. Other materials that would enter the disposal facility would be securely packaged, carefully placed, or made of materials which do not have a resuspendable contaminant layer (i.e., steel beam).

H.2.3.2 Potential Transport Mechanisms and Exposure Pathways

There are numerous potential exposure pathways during remedial operations by which receptors can potentially come in contact with contaminants. These pathways include incidental ingestion, inhalation, and dermal contact with chemical contaminants and radionuclides. In the case of radionuclides, external exposures to penetrating radiation may also occur. In Figure H-1, the various combinations of exposure pathways and exposure media are shown. Each pathway and medium is evaluated for every receptor. Pathways identified as being complete, significant, and quantitatively evaluated are denoted with an "X," while those expected to result in no exposure or insignificant exposures for a given receptor are noted with a "1" or "2," respectively.

H.2.3.2.1 Air Exposure Pathways - Inhalation

Exposure via air pathways would begin with waste being disturbed or emitted from its source and transported by air movement, eventually reaching the receptor where it may be inhaled. Inhalation of airborne gases, such as volatiles and resuspended particulates from the placement of concrete rubble, represent this type of exposure.

The significance of the air exposure pathway depends on the different characteristics of each receptor's location and activities. The significant air exposure pathways identified in this conceptual model are inhalation of gases and resuspended particulates. Inhalation has been specifically evaluated for the remediation worker, nonremediation worker, and for the off-site resident (adult and child).

Airborne contaminants would mostly be generated during placement of materials in the on-property waste disposal facility. The placement of accessible metals, inaccessible metals, painted light-gauge metals, and miscellaneous materials would not be expected to release a respirable airborne fraction of 10 microns or less. In addition, for regulated and non-regulated asbestos containing materials (ACM), material placement will occur individually to minimize airborne releases of ACM. Lastly,

process-related metals (Material Category C) and acid brick (Material Category F) will be dispositioned off-site. In contrast, the remaining material, concrete, is susceptible for respirable airborne releases. Therefore, it is conservatively assumed in this assessment that all concrete placed in the facility will fracture and release dusts.

H.2.3.2.2 Ingestion Pathways

Ingestion is not considered a significant pathway for the OU3 activities. The only release mechanism that could cause ingestible contamination is from placement of materials in the on-property disposal cell, which would generate some airborne radionuclides. Activities such as eating or drinking by workers or nonremediation workers, that could potentially result in ingestion of dusts, are controlled by site health and safety requirements. Because the modelled air concentrations off-site from remediation activities are very low, potential ingestion risks to the off-site resident from ingestion of soil or produce contaminated by airborne deposition would not be expected to exceed inhalation risks (i.e., ingestion risks would be insignificant in comparison to inhalation risks). Potential ingestion risks from an accident scenario during transportation are also assumed to be insignificant due to the nature of the materials to be shipped. This is because the materials contain no liquids or gases, and any release during an accident is expected to be cleaned up promptly, leaving insignificant amounts of residuals. The only shipped materials in Alternatives 2 and 3 which could fracture and disperse in the occurrence of an accident is that portion of the transported material that represents concrete. Brick is not expected to create an airborne fraction because it will be containerized before placement into the cell under Alternative 2 and before shipment under Alternative 3. Again, this risk is expected to be insignificant in comparison to inhalation risks.

H.2.3.2.3 Dermal Contact

This pathway encompasses all of the receptor's activities that would result in direct dermal contact with contaminated materials during remedial operations. This pathway is not considered significant because the surface decontamination and containerization of the wastes, performed during the interim remedial action D&D efforts, would minimize potential dermal contact with contaminants for remediation workers. In addition, remediation workers would be required to wear appropriate personal protective equipment while performing remediation activities. The remedial operation areas are inaccessible to non-remediation workers and to the general public; consequently, the likelihood that these receptors would have direct dermal contact with contaminated media is minimal. Therefore, this pathway is considered insignificant for all receptors addressed in this appendix.

Another plausible exposure mechanism is dermal contact from surface water via runoff from the disposal cell. However, the disposal cell would have surface water runoff controls in place to minimize off-site contaminant release to surface waters. This would reduce the likelihood of public exposure to potentially contaminated waters while swimming or wading in nearby surface waters to an insignificant level.

H.2.3.2.4 Direct Exposure to Penetrating Radiation

This pathway may be significant for receptors who would be in close proximity to remedial operation work areas or transportation routes used to ship radioactive materials. Direct radiation from contaminated materials is identified as a potential exposure pathway for the on-property remediation worker, the transportation worker, and the off-site public along the transportation route.

H.2.3.3 Potential Receptors

This remedial action risk assessment estimates potential health effects from exposures to contaminants, that may be released during OU3 remediation, on five groups of individuals: remediation and nonremediation workers, off-site residents (adult and child), transportation workers, and the public

along the transportation route. These receptors were selected because they are thought to represent the types of people most likely to be adversely affected by implementation of the remedial alternatives evaluated in this study. Figure H-1 summarizes the receptors and potential exposure pathways for each medium identified.

H.2.3.3.1 Remediation Workers

Remediation workers may be at risk through their direct participation or involvement in remedial activities on the property. They may be exposed to contaminated materials either through either routine operations or accidents. Potential exposure pathways include inhalation of gases and particulates, and direct radiation. Dermal contact is not considered a significant pathway because the packaging of most materials will have already taken place under the interim remedial action. Remediation workers may be impacted by mechanical hazards during relocation of contaminated materials, while placing materials into the cell, or while conducting routine maintenance.

H.2.3.3.2 Nonremediation Workers

Nonremediation workers include all other workers at the Fernald Environmental Management Project (FEMP) not directly involved in remedial activities, such as administrative and clerical staff. Nonremediation workers may be at potential risk from exposures to airborne contaminants released as a result of remedial activities. They are not considered to be exposed to mechanical hazards, and would be located too far away to receive significant direct radiation exposures from waste materials.

H.2.3.3.3 Transportation Workers

Transportation workers include truck drivers or train crew receptors who would transport the OU3 materials to off-site disposal or recycling facilities and handle the materials during off-site deposition. The magnitude of exposure to each receptor would depend on the concentration of radioactivity and the mass of the transported materials, the degree of shielding provided by transport containers, the proximity of workers to the materials, and the duration of transportation activities, including stops. The primary potential route of exposure is by direct exposure to radiation. (On-property workers who load the materials for shipment are considered remediation workers and not transportation workers).

H.2.3.3.4 Off-Site Resident (Adult and Child)

These receptors could be subject to exposures via inhalation of air contaminated from site-generated dust and gases under Alternative 2. The off-site residents are assumed to be located at the FEMP fence line in a downwind area receiving maximum potential impact based on the predominant wind direction found at the FEMP.

H.2.3.3.5 Public Along the Transportation Route

For transportation scenarios, the general public are considered to be people who live along the railway transport route or, in the case of truck transport, share the roadway with the trucks. Potential routes of exposure include direct radiation and exposure to contaminated materials that could be released during a transportation accident. This group may also be exposed to mechanical hazards or direct radiation as the train or truck comes in close proximity. Mechanical hazards include collisions during transportation that are estimated based on statistical data from the Department of Transportation. Because of the models used, these mechanical hazards are estimated separately from the effects from exposure to released contaminated materials estimated for transportation accidents. Mechanical hazards are quantitatively evaluated. Direct radiation exposure is also quantitatively evaluated for possible accident and incident-free scenarios.

H.2.3.4 Impacts of Administrative and Engineering Controls on Potential Receptor Exposures
It is assumed that all FEMP employees and subcontractors would be working under a health and safety plan. This plan would control and restrict exposure through the use of engineering controls, such as personal protective equipment, and administrative controls, such as exposure duration limits. The expected effect of these protective measures on potential exposures to these receptors is discussed below.

H.2.3.4.1 Remediation Worker
During remedial operations, engineering controls, such as dust suppression technologies and enclosures would be used to protect the remediation worker and lessen potential inhalation of contaminants. Personal protective equipment would be worn by the workers to reduce the potential for inhalation, dermal contact, and ingestion exposures, as determined and directed in the project health and safety plan. The reduction in potential exposure afforded from personal protective equipment has not been quantified or evaluated in this assessment. Hence the results in exposure and risk from inhalation are conservative.

H.2.3.4.2 Nonremediation Workers
The nonremediation worker may inhale airborne particulates and volatiles released from on-property remedial activities. However, the distance from the remediation work, the dust suppression techniques used, the shielding provided by the office facilities (including air filtering systems), and the low levels of airborne contamination would combine to mitigate both the inhalation and direct radiation exposure pathways. Nonremediation workers are assumed to be located in the center of the administrative area and approximately 380 meters from the center of the on-property disposal facility.

H.2.3.4.3 Transportation Worker
The transportation worker would be protected from inhalation and direct contact exposures by the containers in which materials would be shipped. Direct radiation exposures are expected to be kept within regulated limits for workers through application of distance and shielding.

H.2.3.4.4 Off-Site Resident (Adult and Child)
The engineering controls used at the FEMP which would also contribute to reduction in exposure to these receptors are wetting for dust suppression, waste containers and the surface water runoff controls at the disposal cell and staging areas. The water runoff controls would limit, if not eliminate, the potential for ingestion or dermal contact with contaminants in runoff. Due to prevailing winds at the FEMP, the off-site resident is assumed to reside approximately 215 meters from the stored waste materials and directly downwind from the on-property disposal facility at the site's fenceline.

H.2.3.4.5 Public Along the Transportation Route
The shipping containers themselves would provide the public with shielding from direct radiation and protection from airborne release from passing shipments of OU3 materials. The potential exists for the public to be exposed to resuspended material from a small percentage of the material transported if releases occur as a result of an accident. No mitigation is assumed for accident scenarios. However, minimal exposure would be expected in such a case because no liquids are being transported and the majority of materials to be transported do not readily release an airborne fraction. Cleanup could be accomplished quickly and effectively.

H.3 EXPOSURE ASSESSMENT AND RISK CALCULATIONS

The following section discusses the methods used to quantify significant exposures and mechanical hazards anticipated during remedial operations. The discussion includes determination of exposure point concentrations, calculations of doses, human health risks for both carcinogenic COCs and noncarcinogenic COCs, and mechanical hazard estimates. The method used to identify the COCs are described in detail in Appendix A. Exposures and risks were calculated for Alternatives 2 and 3, under two time frames, a ten-year schedule and a worst-case 31-year schedule. Equations used to calculate exposures, doses, risk, injuries, and fatalities are specified in the following text discussions.

H.3.1 Exposure Point Concentrations

Appendix A and Section 3 of this report present a detailed discussion of the contaminated materials that would exist after D&D is completed. Because of the various types of materials assessed in this study, a weighted average approach was used to develop exposure point concentrations for the designated material categories. For example, "contaminant source terms," or masses were first developed by multiplying the maximum concentration, provided from the sampling results, of a material by the mass of that particular material. The source terms for each material type that was grouped into a designated material category were then added together, resulting in a "total source term," which is a mass of a particular contaminant in a material category. That total source term was then divided by the total weight of the materials in that category to yield an exposure point concentration. This simplified approach was logical because several different types of materials are grouped together into designated categories. Also, during actual remediation, the materials within a category would be combined and handled together. Exposure point concentrations were calculated for each of the COCs identified in Appendix B, and for each applicable exposure pathway and receptor.

The concept of exposure point concentrations is not directly applicable to direct radiation exposure, since the concentration of these materials does not change with location, but the dose rate does. These concentrations are then used in a computer modeling program to determine dose rates at various distances from the sources and with varying amounts of shielding. Tables H-1 through H-3 list the radiological "source terms" and exposure point concentrations used to calculate direct radiation exposure from piles of Material Categories A (accessible metals), B (inaccessible metals), E (concrete) to be placed in the on-property disposal facility, under Alternative 2; and scabbled concrete residues. Table H-4 present the nonradiological exposure point concentration for concrete to be placed within the on-property disposal facility under Alternative 2. Tables H-5 and H-6 present the exposure point concentrations used to calculate direct radiation dose to receptors during transportation of material off-site under both Alternatives 2 and 3. With increasing distance the dose from direct radiation to the receptors is reduced. Section H.4 discusses the distances between the hypothetical receptors and pile sources and the models used to calculate radiation dose rates.

H.3.1.1 Inhalation Exposure Point Concentrations

Tables H-2 and H-4 contain the weighted average concentrations for radionuclides and nonradionuclides in concrete, respectively, which are used in the modelling of inhalation exposure point concentrations. The modelled inhalation or air concentrations represent the airborne release and dispersion of contaminated materials during the loading of materials into the disposal cell. The air concentrations for each COC found in concrete were modelled at each receptor's location. Inhalation exposure point concentrations are not applicable to Alternative 3 because all resuspendible sources will be containerized before initiation of final remediations. As described further in this section, the modelled air concentrations depend on the rate of which material is placed into the disposal facility. Therefore, inhalation exposure point concentrations were calculated for both the 31-year plan and the ten-year plan. These inhalation exposure point concentrations are presented in Tables H-7 and H-8.

The first step in developing these air exposure point concentrations requires the calculation of a respirable (fraction) release rate for emissions generated as materials are placed into the on-property disposal facility. As described in the alternative descriptions, concrete is the only material that would be placed into the on-property disposal facility which would create resuspension of contaminants. The other materials to be placed in the facility would be either individually placed or do not have a resuspendable fraction. Developing air concentrations from concrete also bounds the inhalation exposures because it is the material that could generate the greatest airborne contamination. The calculation used to obtain a conservative estimate of the respirable fraction from material placement is (DOE 1993b):

$$PULF = A \times \rho \times g \times h \qquad \text{(H.3-1)}$$

where:

PULF = fraction pulverized into 10 μm or less (unitless)
A = empirical correlation (2.4×10^{-4} cm^3/J)
J = Joules 10^7 ($g\text{-}cm^2/s^2$)
ρ = specimen density (i.e., density of concrete) (g/cm^3)
g = acceleration of gravity (960 cm/s^2)
h = drop height (cm)

To obtain the respirable release rate, the respirable fraction or PULF is multiplied by the placement or "cell fill" rate, which is converted from cubic yards per week (yd^3/wk) to grams per second (g/s) as presented in the equation below. The "cell fill" rate is expected to be 3.86 times greater for the ten-year plan than for the 31-year plan. This accounts for the same amount of concrete materials being dumped into the disposal cell over a duration of seven years versus 27 years, respectively.

$$Q = PULF \times DR \times (10^3\ mg/g) \qquad \text{(H.3-2)}$$

where:

Q = Respirable release rate of contaminant (pCi/sec) (mg/sec)
DR = Disposal cell fill rate (pCi/sec) (g/sec)

This value is then used in the Near Field Box Model to obtain the exposure point concentration. The Near Field Box Model, taken from the Risk Assessment Work Plan Addendum (RAWPA) (DOE 1992), is useful for estimating exposure concentrations of contaminants in air for workers involved in remediation activities in the vicinity of contaminant release points (in this case, at the disposal facility). The box model used in this short-term risk assessment uses the contaminant release rate at the release point, a representative cross-sectional area affected by the release (worker height times width of release area perpendicular to the prevailing wind), and the wind speed readings taken at the meteorological tower and adjusted for terrain effects on the wind at the worker height, to estimate contaminant concentration in air near the release, as represented by the equation:

$$C_a = (Q)/(H_b)(W_b)(U_m) \qquad \text{(H.3-3)}$$

where:

C_a = Concentration of contaminant in ambient air on site (pCi/m^3, radiological; mg/m^3, chemical)
Q = Respirable release rate of contaminant (pCi/sec) (mg/sec)
H_b = Downwind exposure height (m)
W_b = Width of crosswind dimension of contaminated area (m)
U_m = Average wind speed = 0.22 (U_{10}) ln (2.5 H_b) (m/sec)

where:

U_{10} = Wind speed at 10m above ground surface (m/sec)

This method of estimating air concentrations makes no allowance for dispersion and gives the air exposure point concentrations to workers in the immediate vicinity of the disposal facility. To calculate the air exposure point concentrations to non-remediation workers and the public, a Gaussian dispersion calculation was used to estimate the horizontal and vertical dispersion. Gaussian dispersion refers to a solution using a Gaussian distribution function to provide a fundamental solution to the Fickian diffusion equation, and is described in any basic text on diffusion, dispersion or atmospheric transport. The basic formula used for this analysis is

$$C_a = (R)[\frac{\chi}{Q}] \qquad \text{(H.3-4)}$$

where:

C_a = air concentration downwind due to resuspension, pCi/m^3 or mg/m^3
R = contaminant resuspension rate, pCi/s or mg/s
χ/Q = atmospheric dispersion factor at the point of interest, pCi/m^3 per pCi/s or mg/m^3 per mg/s

The values of χ/Q are dependent on a number of factors including release height, distance from the source to the receptor, wind speed and direction, and other meteorological conditions. The general formula used to calculate χ/Q is

$$\frac{\chi}{Q} = \frac{1}{\pi \sigma_y \sigma_z U_m} \exp[-\frac{1}{2}(\frac{y^2}{\sigma_y^2} + \frac{h^2}{\sigma_z^2})] \qquad \text{(H.3-5)}$$

where:

σ_y = standard deviation of the plume spread in the horizontal
σ_z = standard deviation of the plume spread in the vertical
y = distance from center of disposal facility to receptor
h = the height of the plume (effective height of pile)
U_m = the average wind speed at 10 meters.

σ_y and σ_z are determined from charts giving the Pasquill stability class as a function of the distance from the source (NRC 1983). In this case a Pasquill stability class of "F" was used. Table H-9 contains a summary of the assumptions and parameters used to calculate the inhalation exposure point concentrations.

H.3.2 Intake Assessment

As presented in the conceptual model for the OU3 short term risk assessment (Figure H-1), only the direct radiation and the inhalation exposure pathways were quantitatively evaluated. Although several additional pathways exist for potential exposure during remediation activities, the risks from these pathways were screened from evaluation because they were either insignificant or they would represent an incomplete pathway.

For each component, receptor intakes from inhalation are calculated using the respirable fraction (PM_{10}) of the contaminant concentration at the receptor, the receptor breathing rate, and the duration of time the receptor is exposed. The duration of exposure to airborne contaminants covers the period of time that concrete will be placed into the on-property disposal facility. In all cases involving non-radioactive chemicals, the intake is divided by the average body weight times the averaging time. In the case of chemical carcinogens, the averaging time is 70 years (one lifetime). In the case of non-carcinogens, the averaging time is the lesser of 31 years or the duration of the component remedial activities (or the exposure duration, seven years x 365 days/yr for the ten-year plan and 27 years x 365 days/yr for the 31-year plan). The equations used to quantify intake from the inhalation pathway (DOE 1992) are:

$$\text{(radionuclides) } I_a = (C_a)(IR)(ED)(EF)(ET) \quad \text{(H.3-6)}$$

$$\text{(chemicals) } I_a = (C_a)(IR)(EF)(ED)(ET)/(BW)(AT) \quad \text{(H.3-7)}$$

where:

I_a	=	Intake from inhalation (pCi, radiological) (mg/kg-day, chemical)
C_a	=	Concentration in air (pCi/m^3, radiological) (mg/m^3, chemical)
IR	=	Inhalation rate (m^3/hr)
ET	=	Exposure time (hrs/day)
EF	=	Exposure frequency (day/yr)
ED	=	Exposure duration (yr)
BW	=	Body weight (kg)
AT	=	Averaging time (days); for noncarcinogens, AT = (ED)(365 days/yr); for chemical carcinogens, AT = (70-year lifetime)(365 days/yr)

The following assumptions were made to calculate inhalation intakes for the receptors evaluated:

- Remediation Worker's exposure time, frequency and duration (ET, EF, and ED) are 8 hrs/day, 250 days/yr, 7 years (27 years for worst case).
- Nonremediation Worker's ET, EF and ED are 8 hrs/day, 250 days/yr, 7 yrs (or 27 yrs for worse case).
- 80 percent of Nonremediation Worker's time on-property is indoors.
- The Nonremediation Worker's indoor air concentration on-property is 20 percent the concentration modelled for outdoors as a result of air filtration and ventilation exchange rates.
- Nonremediation Worker's adjusted exposure per day based on time is 2.88 hrs.
- Off-site resident adult's and child's ET and EF = 8 hrs/day, 250 days/yr.

- Off-site resident child's ED = 6 years
- Off-site resident adult's ED = 7 years and 27 years for worse case.
- Remediation Worker's inhalation rate (IR) = 60 m^3/day.
- Nonremediation Worker's IR = 20 m^3/day.
- Off-site resident child's IR = 12 m^3/day.
- Off-site resident adult's IR = 20 m^3/day.
- Body weight (BW) of all adults = 70 kg.
- Off-site resident child's BW = 15 kg.

The exposure durations utilized in this short term risk assessment mirror the actual durations anticipated for receptor exposures. In operating the on-property disposal facility, waste placement operations are expected to occur eight hours per day for 260 days per year. Additionally, each receptor is assumed to take a two week vacation period away from the site. OU3 impacts to air quality are expected only during waste placement within the on-property disposal facility. Therefore, the resulting exposure duration for each receptor is eight hours per day and 250 days per year.

Inhalation intakes were calculated from resuspension of concrete being placed in the disposal facility, and from potential resuspension of released materials during a hypothetical rail accident. Potential inhalation intakes from a rail accident were calculated using the computer model, RADTRAN. The RADTRAN model is described in Section H.3-6.

H.3.3 Dose From Direct Radiation Exposure

Direct radiation exposure is quantitatively evaluated via modeling when direct radiation exposure measurement data are not available. In this short term risk assessment, estimated dose rates due to gamma emissions are modeled for remediation and nonremediation workers, based on material handling for disposal and shipment, using MicroShield™ version 4.0 (Grove 1992). Modeling used to estimate radiation doses to transportation workers and the public during transportation of the materials to the representative off-site disposal facilities was performed using RADTRAN. A detailed description of the RADTRAN model is provided in Section H.3.6.

MicroShield was developed for use on personal computers by Grove Engineering (Grove 1992). It uses the same algorithms as ISOSHIELD, a mainframe code developed by Battelle Northwest Laboratories (Engle 1966). MicroShield methodology offers a tested approach for estimating the radiation dose rate to an individual from a variety of source geometries which may be tailored to suit operation-specific modeling needs. MicroShield calculates the estimated impacts from a given configuration in three forms: activity (photons/sec), gamma flux energy density (MeV/cm^2-sec), and dose rate (mroentgen/hr). The dose rates in mrem/hr were calculated by microshield using ICRP 51 (1987) dose conversion factors for an anterior/posterior geometry. The program requires the following input information to perform these analyses:

- Source - Receptor Geometry: The exposure geometry is defined as the physical shape of the sources and the receptor's orientation and location with respect to the source.

- Source - Composition: The composition of the source is determined by the type of materials, their densities, and the types of concentrations of nuclides in the source.

- Shielding: MicroShield uses information on materials between the source and the receptor (shielding) to calculate the degree to which the gamma rays emitted by the source are attenuated by the intervening material. A rectangular volume represents the source geometry used in the MicroShield model to calculate package dose rates from containers filled with contaminated OU3 materials (Figure H-2) and from bulk concrete and steel beam piles awaiting disposition.

The sources evaluated consisted of a roll-off box (ROB), an Intermodal Transport Container (ITC) or "waste packer", the B-25 white metal boxes (WMB), large metal boxes (LMBs), and B-12 metal boxes. The LMB and ITC were assumed to contain contaminated bulk steel and concrete, respectively. The B-12 box was assumed to contain scabbled concrete chips and the B-25 box was assumed to contain brick. These media were selected as containing the weighted average concentrations of radioactivity of the media sampled, as shown in Tables H-5 and H-6. Assumptions used in the radiation dose rate calculations are shown in Table H-10. Unit concentrations were evaluated for each radionuclide because the model predicts a linear relationship between the concentration of an isotope and its exposure rate. Thus the result can be scaled up or down, depending on the radionuclide's concentration at the source. The results of the unit concentration evaluation were then multiplied by the total activities and the resulting dose rates are shown in Table H-11.

The exposure or dose rates calculated by MicroShield are used directly to calculate expected doses to hypothetical receptors. Results are also used indirectly as input (1 meter package dose rate or transportation index) to the RADTRAN computer code used to calculate exposures associated with off-site transportation.

The method for estimating the radiological effective dose equivalent (EDE) from the direct radiation dose rate, provided from the MicroShield model, is presented below. EDEs are estimated because they would be compared to pertinent radiation dose limits. EDEs from external exposures to gamma-emitting radionuclides, in planar and non-planar geometries, are calculated as:

$$EDE = (ET)(EF)(ED)(ER) \qquad \text{(H.3-8)}$$

where:

EDE	=	Effective dose equivalent (mrem)
ET	=	Exposure time (hrs/day)
EF	=	Exposure frequency (days/yr)
ED	=	Exposure duration (yr)
ER	=	Exposure rate (mrem/hr) (from MicroShield)

H.3.4 Quantification of Hypothetical Risk from Estimated Exposures

Once the types and magnitudes of potential exposures have been estimated, the carcinogenic and noncarcinogenic risks from these exposures can be quantified. This section presents the processes used to quantify the risks from the short term exposures from remedial actions.

H.3.4.1 Calculation of Carcinogenic Risk Attributed to Intake of Radionuclides or Chemicals
The risk attributed to exposure to radionuclide and chemical carcinogens by inhalation is estimated as the probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen. At low doses, the risk of developing cancer is determined using this equation from the RAWPA (DOE 1992):

For Radionuclides

$$\text{Risk} = (I_{rai})\ (SF_{ri}) \qquad \text{(H.3-9a)}$$

where:

I_{rai} = Total inhalation intake (pCi) of "i^{th}" radionuclide
SF_{ri} = Slope factor $(pCi)^{-1}$ of "i^{th}" radionuclide

For Chemicals

$$\text{Risk} = (I_{cai})\ (SF_{ci}) \qquad \text{(H.3-9b)}$$

where:

I_{cai} = Total inhalation intake of "i^{th}" chemical averaged over 70 years (mg/kg-day)
SF_{ci} = Slope factor $(mg/kg\text{-}day)^{-1}$ for "i^{th}" chemical

Inhalation intake values (I_{ai}) for radionuclides and chemicals are calculated using equations H.3-6 and H.3-7, respectively. The cancer slope factors used are from the Health Effects Assessment Summary Table (HEAST) or Integrated Risk Information System (IRIS) values for each particular radionuclide. The HEAST (EPA 1994a) values are the maximum likelihood estimates of the age-average lifetime total excess cancer risk per unit intake or exposure. The cancer slope factors used are provided in Table H-12.

For a given pathway with simultaneous exposure to several radioactive or chemical carcinogens, the following equation is used to sum inhalation cancer risks:

$$\text{Risk}_{tot} = \text{Risk}(COC_1) + \text{Risk}(COC_2) + \ldots \text{Risk}(COC_i) \qquad \text{(H.3-10)}$$

where:

Risk_{tot} = Total pathway risk of cancer incidence
Risk (COC_i) = Individual carcinogenic cancer incidence from each COC for the inhalation pathway.

The risks from radionuclides are summed separately from those generated by exposure to chemical carcinogens.

H.3.4.2 Risks Attributed to External Exposure
Once an EDE has been calculated from the potential radiation dose rate and the duration of the exposure, using equation H.3-8, carcinogenic risk can be calculated. Risk from external exposures to gamma-emitting radionuclides in forms other than surface soil may be calculated directly from the dose rate in the following manner (DOE 1992):

$$\text{Risk} = (EDE)(RC) \qquad \text{(H.3-12)}$$

where:

Risk	=	Risk of cancer incidence, expressed as a unitless probability
EDE	=	Effective dose equivalent (mrem) for external exposure
RC	=	Risk coefficient (crc) ($mrem^{-1}$)

The value of the risk coefficient is 7.6×10^{-7} $mrem^{-1}$ (EPA 1994b). This risk coefficient is the new coefficient for low linear energy transfer (LET) radiation as determined by the US EPA.

H.3.4.3 Noncarcinogenic Effects from Inhalation Intake of Toxicants

Toxicological hazards associated with the effects of noncarcinogenic hazardous chemicals are evaluated by comparing the averaged daily intake to a reference dose (RfD). The ratio of intake over the reference dose is termed the Hazard Quotient (HQ) and is defined in (DOE 1992):

$$HQ = I_{ca}/RfD \qquad \text{(H.3-13)}$$

where:

HQ	=	Hazard Quotient (unitless)
I_{ca}	=	Inhalation intake of a chemical (mg/kg-day)
RfD	=	Inhalation reference dose (mg/kg-day)

The chemical inhalation rate (I_{ca}) is calculated using equation H.3-7. Based on Section 5 of this report, the exposure duration during remedial activities would last ten years; however, air contamination is only assumed during the duration when material placement into the cell, or seven years. The worst case scenario assumes the remediation would last 31 years and cell placements would cover the final 27 years. Therefore, chronic RfD values were used to determine the hazard quotient. The RfDs used are provided in Table H-12. To evaluate the noncarcinogenic effects to the public, a child is selected as the representative receptor because of children's increased susceptibility due to a high intake rate, and low body weight. For a child, the exposure duration is six years.

In the case of simultaneous exposure of a receptor to several chemicals, a hazard index (HI) is calculated as the sum of the HQs for each chemical as presented in the equation below:

$$HI = I_1/RfD_1 + I_2/RfD_2 + \ldots I_i/RfD_i \qquad \text{(H.3-14)}$$

where:

I_i	=	Intake for the ith toxicant
RfD_i	=	Reference dose for the ith toxicant

H.3.5 Estimate of Mechanical Hazards

There are mechanical hazards associated with all aspects of the remedial activities, including construction and transportation injuries and fatalities. For the purposes of this report, an injury is defined as physical harm resulting in time spent away from work or as assignment to a less demanding job because of the injury.

H.3.5.1 Transportation Mechanical Hazards

The radiation dose and risk to workers and to the public is considered during shipment of radioactive materials from the FEMP for disposal at a permitted disposal facility. Mechanical hazards are also calculated for transportation scenarios. These consist of the injuries and fatalities that may result from collisions between vehicles and other potential accidents. These injuries and fatalities are not the result of the release of contaminated materials. They are based on statistical data collected on accident rates and expressed as fatalities or injuries expected per mile traveled. Table H-13 shows the transportation hazard coefficients used in these calculations, and Table H-14 shows the mileage and shipment assumptions used.

H.3.5.2 Occupational Mechanical Hazards

General risks associated with construction operations are estimated for each alternative using the historical injury and fatality data discussed below. The construction work hazards are calculated in the following manner:

$$\text{Hazard} = (PH)(HC) \qquad \text{(H.3-15)}$$

where:

Hazard	=	Injuries and Fatalities, collective
PH	=	Person-hours of a specific remedial task
HC	=	Injury or fatality hazard coefficient (hazard/person-hour), (fatality/person-hour)

Table H-15 lists the total estimated person-hours, by alternative, and the calculated number of injuries and fatalities associated with those person-hours. These person-hour estimates were taken from the same time estimates used to assemble the cost estimates. Unit person-hours are developed for each type of container or load based upon the mode of shipment and the engineering designs and volume estimates presented in Appendix E and Section 3 of this RI/FS report, respectively. The unit person-hour is then multiplied by the number of loads involved to derive the total person-hours. The hazard coefficient is a fraction representing the average number of incidents expected to occur for each person-hour worked. The RAWPA (DOE 1992) lists hazard coefficients for operational worker activities. These hazard coefficients are 2.7×10^{-5} injuries/person-hour and 1.7×10^{-7} fatalities/person-hour.

H.3.6 Estimation of Risks from Transportation Activities

For the alternatives involving off-site transportation of materials, a special computer model is used that estimates both impacts from normal (incident-free) transportation and from accidental releases of contaminated materials. Sandia National Lab (SNL) developed the original RADTRAN code in 1977 in conjunction with the preparation of NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes" (SNL 1977). The analytical capabilities of the code were expanded and refined in subsequent versions. RADTRAN 4 may be used to evaluate radiological consequences of incident-free transportation, and from potential vehicular accidents occurring during transportation. The most current comprehensive description of the RADTRAN computer code is found in SNL (1992) for RADTRAN 4.

H.3.6.1 Description of RADTRAN 4 Models

The following paragraphs briefly describe the various components of the RADTRAN models that are used to evaluate incident-free transportation risks and transportation accident risks.

H.3.6.1.1 Material Model
Parameters that define the materials are, for each isotope, the total number of curies per package, average total photon energy per disintegration, the rate at which released material is deposited on the ground, cloudshine dose factors, the physical characteristics of the waste, radioactive half-life, and measures of the radiotoxicity of the dispersed material.

H.3.6.1.2 Transportation Model
The transportation model is subdivided into three sections: an accident rate section, a traffic pattern section, and a shipment information section. The accident rate section contains the accident rate for each mode of transportation, subdivided according to the severity of the accident and the population zone in which the accident is postulated to occur. The traffic pattern section contains the fraction of travel which occurs on various types of roads, in various population zones, and under rush-hour and normal traffic conditions. The shipment information section contains the number of passengers or crew per vehicle, crew separation distances for various vehicle types, handling and storage times, and duration and number of stops.

H.3.6.1.3 Accident Severity and Package Release Model
The accident severity model divides all accidents into eight severity categories keyed to damaging environments and hence to the fractional release of material from its packaging. These categories may be related to the fire, crush, impact, and puncture forces encountered in an accident or they may be related to other abnormal environments of specific interest to the user. The package release model combines the user-specified release fraction with the fraction of material which becomes airborne and is of respirable size. These results are combined with the accident rates for each severity category, the distance per shipment, and the number of shipments to determine the expected release of each material in each population zone.

H.3.6.1.4 Meteorological Dispersion Model
The diffusion of a cloud of aerosolized debris released at the site of an accident must be described to estimate consequences. Basic dispersion calculations are not performed within RADTRAN 4. Instead, the user can provide either (1) a table of averaged time-integrated concentration (TIC) values with corresponding areas within which the TIC values are exceeded; or (2) fractional occurrences of Pasquill Stability Categories A through F, in which case weighted averages of tabulated concentration and area values from within the code would be used.

H.3.6.1.5 Population Distribution Model
The population distribution model specifies population densities in three population zones: rural, suburban, and urban. In addition, numbers of exposed persons in certain specific areas such as pedestrian walkways, warehouses, and air terminals, are specified. The total exposed population is determined by RADTRAN using population densities along the expected pathway of travel estimated by Interline 5.0 (ORNL 1993a) for the train scenarios and Highway 3.1 (ORNL 1993b) for the truck scenarios.

H.3.6.1.6 Health Effects Model
The radiotoxicity of the shipped materials is analyzed in terms of potential for producing early fatalities, early morbidities, latent cancer fatalities, and genetic effects. The analysis is based on the computed dose received by various organs.

H.3.6.2 Incident-Free Transportation Model
Despite requirements designed to minimize exposures whenever radioactive material is transported, members of the general population are exposed to extremely small doses of external penetrating

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radiation from X-rays, gamma rays, and/or neutrons. In RADTRAN 4, the general population is divided into eight possibly exposed population subgroups: crewmen, cargo handlers, people in the vicinity of the transporting vehicle while it is stopped, people surrounding the transport link on which the vehicle is moving, and people sharing the transport link with the vehicle, and three subgroups that are not applicable to this assessment (i.e., passengers, flight attendants, and warehouse personnel). Total doses (in person-rem) are computed for each applicable subgroup shown in Table H-16.

H.3.6.2.1 Rail Transportation
Common input parameters for rail transport are presented in Table H-17. To ease computations, an incident-free RADTRAN 4 run was set up with one shipment of 28 rail cars. The dose to the population subgroups is linear with respect to the number of shipments per alternative.

H.3.6.2.2 Truck Transportation
Common input parameters for truck transport are presented in Table H-18. To ease computations, an incident-free RADTRAN 4 run was set up with shipment of one container and a shipment with six containers. The dose to the population subgroups is linear with respect to the number of shipments. Table H-14 identified the number of shipments per alternative.

H.3.6.2.3 Radiological Impact Due to Accidents
The radiological impact from vehicular accidents is evaluated in terms of level of consequence, probability of occurrence, and level of risk. The expected value of risk is computed by forming the product of the probability of each specific accident and its particular level of consequence; these products are then summed over all accidents.

H.3.6.2.4 Radiological Impact Due to Incident-Free Transportation
The accumulation of relatively small doses which result from exposure of population to the radiation emitted by radioactive material packages is computed in RADTRAN by using the population distribution model and the transportation model to compute the dose (in person-rem) to a set of specific population subgroups. Because of the low allowable external dose levels imposed by current regulations, no early effects are possible from incident-free transport.

H.3.6.3 Transportation Accident Model
Transportation risk is defined as the product of probability and consequence. The probability that a vehicular accident involving release of radioactive material would occur can be described in terms of the expected number of accidents of a given severity for each transport mode, together with the package response to such an accident. The consequence of an accident is expressed in terms of the potential effects of the release of a specified quantity of radioactive material to the environment or the increased direct exposure of persons to ionizing radiation resulting from damaged package shielding.

H.3.6.3.1 Accident Severity Categories
The intensity of thermal and mechanical environments is responsible for the kind and degree of packaging damage and for the portion of the contained material which may be subsequently released. In this method, accidents are assigned a severity category based upon the duration and temperature of fire occurring during the accident, and combined with one of the following: crush forces (for truck and van transport), or puncture impact speed (for rail transport).

H.3.6.3.2 Release and Dispersibility
The severity of an accident is related to the physical form of the material being transported. Compromising the integrity of a package containing a non-dispersible substance yields only potential direct radiation exposure from shielding loss.

Transported materials are classified according to their dispersibility based on the shipment size and the chemical/physical properties of the material. The dispersion category in turn determines if the fractions are aerosolized or respirable. The user is capable of defining respirable aerosolized fractions which overrides default values.

H.3.6.3.3 Material Dispersal from Accidents

Airborne material released from the scene of an accident moves downwind, under the influence of the winds, and disperses according to the degree of turbulence in the atmosphere. Persons exposed to the aerosol cloud would inhale some of the radionuclides during cloud passage and have particles deposited in their lungs in proportion to the time-integrated concentration of the aerosol. This is the source of the inhalation dose calculated in RADTRAN.

The calculational results for the RADTRAN transportation accident model are provided in Table H-19.

H.4 RISK CHARACTERIZATION

Each remedial alternative involves a set of work activities that could potentially produce varying degrees of mechanical hazards and human health risk. This section presents the results of the risk calculations for each remedial action alternative. Two major exposure routes were evaluated in this risk assessment, inhalation and external radiation risk. Tables H-20 and H-21 present the COC-specific inhalation risks. Table H-22 presents the external radiation risks based on microshield modelling and Table H-23 presents a summary of cancer risks to transportation workers and the public along the transport routes. A discussion on human health impacts from chemical and radiological carcinogens, as well as health effects from toxicants, are presented by receptor beginning with Section H.4.1. Section H.4.2 contains estimates of mechanical hazards for these same receptors. In addition, human health risks to the public and transportation workers resulting from transportation accidents are quantified. All calculations have been made using the exposure point concentrations presented in Section H.3.1.

H.4.1 Human Health Impacts of Remedial Actions

This section contains the estimates of risk to human health from remedial activities to each of the selected receptors. These health effects are estimated using methodology and guidance as discussed in Section H.3. A summary of doses, risks and HI to each of the receptors for both alternatives and time frames is provided in Tables H-24 and H-25.

H.4.1.1 Human Health Effects to the Off-Site Resident (Adult and Child)

This receptor is postulated to be living just outside the site fence, 215 meters downwind from the disposal facility in Alternative 2 and a distance of over 500 meters from the nearest material stockpile. A summary of risks to the off-property resident for both the ten-year and 31-year plan is contained in Tables H-24 and H-25 respectively. Direct radiation risk from the containers or piles in both Alternative 2 and Alternative 3 were not quantified for the off-site resident. Based upon the low dose rates presented in Table H-11, at a 500 meter distance, it was concluded that external radiation risks were minimal to the off-site receptors. Dose rates drop dramatically between 10 to 50 meters away from all sources listed.

The highest inhalation risks over the duration of the project for Alternative 2 are 2.9×10^{-6} from radionuclides and 5.8×10^{-7} from chemicals. The majority of the inhalation risk is from uranium 233/234. No difference was noted in the estimated off-site resident adult inhalation risks between the ten-year and 31-year plan. This was because the dumping rate used in the calculation of the air exposure point concentrations was a factor of 3.85 higher for the ten-year plan than for the 31-year

plan; while the exposure duration under the 31-year plan was 3.85 times higher than that of the ten-year plan. With all other parameters being equal, these values would cancel each other out and result in the same estimates. However, a difference is noted for the child receptor, whose exposure duration is fixed at six years for both remediation schedules. Therefore an increased risk is noted for the child under the ten-year plan due to increased airborne concentration. No inhalation risks are associated with Alternative 3 because Alternative 3 does not involve placement of materials into the on-property disposal facility which would generate an airborne release of contaminants. The inhalation risks from radionuclides are considered low while being based on very conservative assumptions regarding the generation of airborne contaminants at the on-property disposal facility.

Noncarcinogenic risks, as given by the HI, were determined for an off-property resident child to be 0.32 under the ten-year plan and 0.02 under the 31-year plan. According to EPA's Risk Assessment Guidance (EPA 1989), a child is considered the most sensitive individual for noncarcinogenic risks. This is due to the child's low body weight. In general, the child will receive a higher intake per body weight than an adult will over the same duration.

H.4.1.2 Human Health Effects to the Nonremediation Worker

This receptor is assumed to be an administrative person who works on the property for eight hours per day, but does not participate directly in remedial activities. Therefore no injuries or fatalities are assumed for the nonremediation worker. The nonremediation worker is assumed to be located approximately 300 meters from the closest containerized or stockpiled materials and 380 meters from the on-property disposal facility. For Alternative 2, the dose from direct radiation emitted from the concrete and steel piles is 5.2×10^{-3} mrem/yr (Table H-22). Assuming continual exposure over 10 years and 31 years, an ILCR from this dose can be estimated at 4.0×10^{-8} and 1.2×10^{-7}, respectively. For Alternative 3, the dose is the same assuming continual exposure to the same piles per year. These calculations are conservative because they assume that an external dose will be received from the piles for the entire duration of the remediation. Actually it is expected that a significant amount of material will be shipped off-site within the first few years, thereby steadily decreasing the potential dose rate.

Inhalation risks from disposal of contaminated materials in the on-property disposal facility under Alternative 2, as presented in Table H-24, are estimated at 1.2×10^{-6} from radionuclides and 9.8×10^{-8} from chemicals. The hypothetical HI is 5.4×10^{-2}. Concrete burial is the predominant source of dust and other airborne emissions. As mentioned previously, inhalation risks from Alternative 3 were not calculated because all material would be shipped off-site and therefore significant resuspended contaminants would not be created.

H.4.1.3 Human Health Effects to the Remediation Worker

This receptor is potentially subject to health risks from inhalation and external radiation exposure during participation in remedial tasks. Risks to the worker from external radiation exposure are quantified using MicroShield computer software; inhalation risks are quantified using methods also described in Section H.3.

Table H-22 summarizes direct radiation doses to workers from various sources for single containers and piles of contaminated wastes. The remediation worker, for Alternative 2, would receive a maximum estimated direct radiation dose of 140 mrem/year from continuous exposure at one meter from the piles and containerized materials. The breakdown of exposure time near the materials includes one hour per day between both a concrete and steel pile, one hour per day working near a LMB, five hours per day moving ROBs on-property, and a half hour per day near a B-12 and a B-25 each. For Alternative 3, the worker would receive an annual estimated dose of 31 mrem/year, from

continuous, simultaneous exposure at one meter from the piles, LMBs and ITCs. The breakdown of exposure time near each type of pile or container for this alternative includes one hour between both a concrete and a steel pile, two hours working near LMBs, and five hours moving ITCs. Both annual dose rates for Alternatives 2 and 3 do not exceed the DOE Administrative Control Limit of 2,000 mrem/yr. Direct radiation doses are also included in the summary tables (Table H-24 and H-25).

The risk from inhalation under Alternative 2 is 1.2×10^{-5} from radionuclides and 9.8×10^{-7} from chemicals for either the ten-year or 31-year duration of the project (the total carcinogenic risk minus the direct radiation contribution). The majority of the inhalation risk is from uranium 233/234. As explained in Section H.4.1.1, these inhalation risk values are the same for the two time frames for all adult receptors. No exposure to radionuclides or chemicals exceeds regulatory guidelines for the remediation worker as shown in Tables H-24 and H-25. The hazard index for the remediation worker is 0.54, indicating noncarcinogenic exposures were within acceptable limits. Carcinogenic risks for Alternative 3 are limited to direct radiation risks discussed above.

H.4.1.4 Human Health Effects to the Transportation Workers

These receptors are potentially subject to human health risks from external radiation exposure. Risk to two types of transport workers (the trailer truck crew and material handlers) are evaluated in the risk assessment. Risks to these workers from external radiation exposure are quantified using RADTRAN. The calculated risks represent individual risks associated with routine, accident-free transportation. These risks are summarized in Table H-23. The cumulative dose to a member of the transportation crew from direct exposure during transportation to the off-site disposal facilities were estimated at 570 mrem for Alternative 2 and 72 mrem for Alternative 3. Using the EPA risk coefficient of 7.6×10^{-7}, these low doses result in an ILCR of 4.3×10^{-4} and 5.5×10^{-5}, respectively. Doses to the crew members assumes that these receptors could potentially be exposed to 100 shipments over the entire duration of the project. The cumulative dose to a material handler from direct exposure during loading/unloading were estimated at 51 mrem for Alternative 2 and 380 mrem for Alternative 3. Using the EPA risk coefficient of 7.6×10^{-7}, these low doses result in an ILCR of 3.9×10^{-5} and 2.9×10^{-4}, respectively over a ten year period. No allowance is made in RADTRAN 4 for shielding by the truck cab or bed structure. However, this analysis does assume railcars are lined up and the rail car immediately behind or in front of the rail crew acts as shielding against direct radiation from the other cars. Therefore, the rail crew only received a dose from one rail car. The transportation worker risks presented in Table H-23 were calculated as a population dose provided by RADTRAN. The individual risks were obtained by dividing by the number of exposed individuals and multiplying by the EPA risk coefficient (EPA 1994b). The doses for trucking materials to the commercial disposal facility that result in these risks are within Department of Transportation (DOT) guidelines for transportation workers.

H.4.1.5 Human Health Effects on the Public Along Transportation Route from Incident-Free Transportation

The public along the route between the FEMP site and at the locations of the off-site disposal facilities is potentially at risk to external radiation exposure. Carcinogenic risks from this pathway are quantitatively evaluated for the public as a group using RADTRAN. A summary of the risks to this receptor is presented in Table H-23. Carcinogenic risks to the public along the transportation route to either the representative commercial disposal facility or NTS which results in the highest carcinogenic risk from incident-free transportation of OU3 materials are 1.9×10^{-9} for Alternative 2 and 1.3×10^{-9} for Alternative 3.

H.4.1.6 Human Health Effects on the Public from Transportation Accidents

This receptor group includes all persons who may be affected in a hypothetical accident that results in exposures to wastes contaminated with radioactive materials. This includes the crew and the public in the vicinity of the accident. Carcinogenic risks to individuals calculated by RADTRAN include risk from external radiation cloud-shine emersion, inhalation , direct exposure to deposited material, and inhalation of resuspended material resulting from one accident. Carcinogenic risks to the public along the transportation route due to an accident are 6.6 $x10^{-11}$ for Alternative 2 and 2.1 $x10^{-8}$ for Alternative 3 for the transport of materials to the representative commercial disposal facility. As evident, the potential risk from an accident for both alternatives is very low because the types of materials being shipped do not include liquids or high level materials. The only material that would be expected to create an airborne emission upon impact would be the portion of the material that represents concrete. In addition, these types of materials, (building materials) are easily cleaned up. The summary of risks from accidents for transport for both alternatives is shown in Table H-26.

H.4.2 Mechanical Hazards of Remedial Actions

The mechanical hazards examined in this section include accidents resulting in injury or fatality to the remediation workers, transportation workers and the public along the transportation route. The hazards are examined collectively for each category of workers and for the public along the transportation route for off-site disposal. These results represent the number of injuries and fatalities that may be expected to occur.

H.4.2.1 Remediation Workers

The on-property remediation worker is subject to mechanical hazards by participating in remedial activities. For example, workers use machinery to move the materials. As discussed in Section H.3, these hazards are linearly proportional to the person-hours required to perform the remedial action. A summary of the risks from mechanical hazards to this receptor is presented in Table H-15. Mechanical hazards under Alternative 1 (No Further Action) are not quantified because no activity occurs under this alternative that would pose a mechanical hazard risk. The total estimated injuries and fatalities under Alternative 2 are 14 and less than one, respectively. For Alternative 3, these estimates are 31 and less than one, for injuries and fatalities respectively. These assessments include mechanical hazard risks for on-property activities only.

H.4.2.2 Off-Site Receptors

Transportation-related injuries and fatalities to transportation workers and the public along the transportation route are calculated using to the distance to the disposal location. Accidents include, but are not limited to, train derailments and/or collisions with other motor vehicles. These possibilities are quantified using the method described in Section H.3.4. The results are linearly proportional to the round-trip miles required to transport the materials to an off-site disposal facility. A "round trip" is defined as the path/distance from the FEMP site to an off-site facility and back to the FEMP site. Results of the calculations do not include mileage during on-property hauling. Injuries from on-property hauling are included in the number of injuries for all on-property activities explained above. The projected mileage and number of trips for each alternative are presented in Table H-14 and the results are summarized in Table H-27.

The transportation workers are postulated to be workers associated with the transportation of materials to an off-site facility. Mechanical hazards to these workers are from potential accidents that occur during transportation, but not during loading of materials for transportation, at the FEMP site. Members of the public who live along the transportation route for off-site disposal are potentially subject to mechanical hazards from accidents during transportation. Under Alternative 2 no injuries or fatalities are expected from truck shipments.

Transportation accident (mechanical hazard) risks under Alternative 3 are estimated at approximately two injuries and no fatalities (less than one) to the public.

H.5 UNCERTAINTY ANALYSIS

The short-term risk evaluation estimates risks to workers and the general public during the remedial action. Because the risk assessment assumes cleanup would continue to prescribed contaminant levels and must project across the entire period of remediation, results of the evaluation have some uncertainty with regard to exposure patterns, exposed populations, and exposure concentrations. The uncertainty associated with these predictions influences the degree of confidence placed on these estimates by risk assessors and risk managers. This, in turn, affects the emphasis placed on these predictions by decision makers in the risk management process. This section contains a qualitative analysis of the uncertainties associated with the risk estimates produced by this study. The purpose of this analysis is to determine the reliability of risk estimates and place them in context with other information produced by the OU3 analysis.

H.5.1 Principal Sources of Uncertainty

Uncertainties related to the OU3 RI/FS short-term risk assessment are complex, as this OU must consider risks from a variety of unusual media (i.e., construction materials). Also, predictions were made concerning the availability and timing for use of the on-property disposal facility. A list of uncertainties and their associated impact on the short-term risk assessment results are summarized in Table H-28.

Many assumptions used in this assessment were made to ensure conservatism so that it is more likely risks are overestimated than underestimated. The toxicological parameters and intake assessment methods have been selected by US EPA to account for the limited information on which they are based. The calculation of chemical and radiological doses are designed to determine a reasonable maximum exposure. The parameters defining dispersion during the transportation accidents, and the generation of respirable dusts for the inhalation pathways, were also selected to be conservative.

For other assumptions, it is difficult to determine whether the assessment has been conservative or not. Pathway analyses are readily accomplished, but characterizing the details of those pathways is not. Evaluation of small releases or exposures from incidental activities, such as associated with monitoring or maintenance (e.g., checking container integrity, moving containers for storage purposes), or unusual activities for which no applicable default data exist, is difficult.

Other assumptions contain a small likelihood of underestimating risks. Activities associated with on-property, treatment of materials such as solidification and encapsulation of wastes, which is currently scheduled to be performed off-site, were not quantified since these treatment systems contaminant release control systems such as air filters are specifically designed to prevent the release of contaminants to the environment and to minimize exposure of workers. The potential exists for on-site treatment to occur under each alternative. The risks associated with these treatment systems would be very small, but have not been evaluated, and therefore add to the uncertainty of the overall assessment.

Weighted average contaminant concentration levels were used to avoid overconservatism that might be introduced if maximum concentrations were assumed for the entire volumes of materials assessed. The maximum contaminant concentrations have been shown to occur in the top layer or coating of the various waste materials. Much of this contamination would be removed during the decontamination activities associated with the decontamination and dismantlement activities and would not be encountered in the activities evaluated in this assessment. However, concentrations detected in the top

layer of materials were included in the development of the weighted averages, which would overestimate results. In addition to conservative estimates of contaminant concentrations, the volumes of materials are a source of uncertainty. Once again conservative assumptions were used to overestimate volumes.

A conservative degree of uncertainty is expected by the use of EPA's risk coefficient of 7.6×10^{-7} risk/mrem. For example an annual dose at the DOE administrative control level of 2,000 mrem/yr, would result in an ILCR of 1.5×10^{-2} within one year. Also the typical background radiation dose of 360 mrem/yr (NCRP-93 1987), would result in an ILCR of 2.7×10^{-4} within one year. Therefore, the use of the risk coefficient results in highly conservative ILCR estimates.

Eight metals and eleven organic compounds did not have inhalation toxicity values available from either the Integrated Risk Information System (IRIS) or Health Effects Assessment Summary Tables (HEAST). The absence of published toxicity information for these compounds results in their exclusion from the quantitative risk assessment and the potential underestimation of the total risk. In particular lead, certain PAHs, and xylene, which have oral toxicity values or toxicity equivalent values, were not addressed in this risk assessment. However, assuming that the EPA prioritizes the establishment of toxicity values based on potential effects, the overall contribution of these missing compounds to the risk assessment is considered to be minimal relative to the risk from compounds with documented carcinogenic or non-carcinogenic toxicity values.

Another major source of uncertainty in this assessment occurs in the evaluation of mechanical hazards associated with transportation. As the mechanical hazard risks are strictly a function of the miles traveled, increasing or decreasing the miles traveled would increase or decrease the risks. This can be seen easily in the case of rail transport, where doubling the size of the train would lower the mechanical hazard risks by a factor of two by reducing the number of overall shipments. Changes in the size of the containers used would also result in a change in the number of shipments. A corresponding change in the cancer risks would also occur as the load sizes change, though it would be applicable only to one-way travel instead of round-trip estimates. For Alternatives 2 and 3, cancer and noncarcinogenic risks are very small and mechanical hazard risks, where serious injuries or fatalities may occur, may be of greater significance.

H.5.2 Cumulative Uncertainty

Numerous sources of uncertainty are identified for this remedial action risk assessment. Each of these factors is addressed in a fashion that ensures that the final estimate of the risk is quite conservative, meaning that while the magnitude of uncertainty is moderate to high overall, the likelihood that risks have been understated is very low.

H.6 SUMMARY AND DISCUSSION

This summary includes a synopsis of the potential risks calculated for each remedial alternative, and presents analyses of significant trends associated with those risks. This section consists of three parts. Section H.6.1 briefly reviews the salient points of the short-term risk assessment. A brief comparison of the potential mechanical hazards and human health effects from various remedial actions to five hypothetical receptors is discussed in Section H.6.2. Finally, Section H.6.3 discusses the conclusions of this study.

H.6.1 Summary of Remedial Action Risks

The short-term risk assessment considers potential health impacts to workers and the public from activities associated with the remedial actions that could be implemented for OU3. Based on an

exposure pathway analysis of these alternative-case combinations, five significant and relevant potential consequences from the activities were quantitatively evaluated:

- Mechanical hazards (injuries and fatalities)
- Radiological ILCRs from inhalation
- Radiological ILCRs from direct radiation
- Chemocarcinogenic ILCRs from inhalation
- Chemical toxicity from inhalation

Other exposure pathways, such as ingestion and dermal contact, were considered in the exposure assessment but were eliminated from quantitative evaluation.

H.6.1.1 Mechanical Hazards

The mechanical hazards (i.e., industrial or physical hazards) pose the greatest overall risks from both alternatives. Tables H-15 summarizes the injuries and fatalities estimated for remediation workers from on-property activities pertaining to Alternatives 2 and 3. These results are calculated directly from the total person-hours required to complete each alternative. Table H-27 presents mechanical hazards from transportation of materials off-site, which are based upon the total mileage required in off-site shipping.

H.6.1.2 Incremental Lifetime Cancer Risks (ILCR)

The ILCRs for members of the public are all below 10^{-5} ILCR for both the ten-year and 31-year plans under both Alternatives 2 and 3. Transportation workers have a risk in the 10^{-4} range, associated with the transportation of all materials to be disposed off-site, assuming a weighted average of maximum material concentrations with no allowance given for shielding by the truck cab or truck bed walls. This is a highly conservative set of assumptions. The mileage is based on a round trip, which contains a factor of two over estimation. The shielding effects of the truck would be significant, and the load must meet DOT standards for driver exposure, which limits exposures to any portion of the vehicle occupied by a worker not classified as a radiation worker to two mrem/hr [49 CFR 173.441 (b) (4]. The trip would require approximately 55 hours (at 60 mph for 3,300 miles) for the trip to the permitted commercial disposal facility. The exposure at the DOT standard for this duration would give a risk of 110 mrem/trip or 11,000 mrem for the assumed maximum of 100 trips per crew member which is equivalent to an ILCR of 6.6×10^{-3}. If shielding and weighted average contaminant concentrations derived from average concentrations were used, transportation worker risks would be well below this level.

The nonremediation worker has an ILCR for Alternative 2 (ten-year and 31-year schedule) of 1.3×10^{-6}, predominantly from inhalation of radioactive materials. This value is also within the acceptable range (10^{-4} to 10^{-6}).

H.6.1.3 Chemical Toxicity

Because of the limited amount of accessible hazardous material and the limited dispersibility of the materials limit the chemical toxicity impacts range from low (HI = 0.54 to the remediation worker, 0.32 to the off-site resident child for Alternative 2), to insignificant for Alternative 3.

H.6.2 Comparative Analysis of Remedial Action Risk

Short-term impacts on workers or the public are not applicable for Alternative 1 (No Further Action) because no further remedial activities or transportation of materials off-site occurs after the interim remedial action. Potential long-term risks could be posed by Alternative 1, especially once the fence and/or institutional controls are removed. However, long-term risks are not within the scope of this

risk assessment, and are not comparable to short-term risks. Alternative 2 poses the highest on-property risks from direct radiation to remediation workers. Alternative 3 poses the highest mechanical hazards for injuries to remediation workers and the public. Both pose very little cancer risks to the public or nonremediation workers. The risks posed by Alternative 2 are derived from the on-property waste burial risks (inhalation). The risks from off-site disposal are a function of the number of shipments. The risks associated with trucking over long distances are insignificant based upon the acceptable risk range of 10^{-6} (EPA 1989).

The fatal mechanical hazard risks for Alternative 3 are derived from the transport of materials by train and are a function of the number of trips required. The number of trips required could decrease if the number of railcars were increased from the assumed 28 or if the volumes of materials per railcar could be increased, requiring fewer car loads. No alternatives pose unacceptable risks for remediation workers under current regulatory standards for occupational exposure of workers to radiation or chemical hazards.

H.6.3 Conclusions

For radiological and chemical concerns, the short term risks for both alternatives are acceptable. The risks posed by Alternatives 2 and 3 are driven by the mechanical hazard risks from both transportation and on-property activities. These mechanical hazard risks are based on current assumptions regarding volumes to be dispositioned on-property and off-site, the estimated number of person-hours, and the means of transportation used. Alternative 3 results in approximately twice as many estimated injuries as Alternative 2 from on-property activities. Likewise the Alternative 3 results estimate 2 work injuries and 2 public injuries from transportation of OU3 materials. Injuries or fatalities from Alternative 2 transportation were insignificant.

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TABLE H-1

EXPOSURE POINT CONCENTRATIONS FOR MATERIAL CATEGORIES A (ACCESSIBLE METALS) and B (INACCESSIBLE METALS)

Parameter	Source Term (kg)	Specific Activity (Ci/g)	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentration (pCi/g)[a]
Americium-241	5.67E-07	3.24E+00	4.09E+04	1.78E+06	4.95E-02
Cesium-137	5.59E-09	8.71E+01	4.09E+04	1.78E+06	1.31E-02
Lead-210	5.03E-07	8.11E+01	4.09E+04	1.78E+06	1.10E+00
Neptunium-237	3.56E-03	7.05E-04	4.09E+04	1.78E+06	6.76E-02
Plutonium-238	9.00E-07	1.75E+01	4.09E+04	1.78E+06	4.24E-01
Plutonium-239/240	8.20E-05	2.27E-01	4.09E+04	1.78E+06	5.01E-01
Plutonium-241	1.25E-07	1.12E+02	4.09E+04	1.78E+06	3.76E-01
Polonium-210	9.34E-09	4.49E+03	4.09E+04	1.78E+06	1.13E+00
Radium-226	2.45E-04	9.88E-01	4.09E+04	1.78E+06	6.52E+00
Radium-228	4.19E-07	2.34E+02	4.09E+04	1.78E+06	2.64E+00
Strontium-90	1.37E-08	1.42E+02	4.09E+04	1.78E+06	5.24E-02
Technetium-99	4.81E-03	1.70E-02	4.09E+04	1.78E+06	2.20E+00
Thorium-228	3.46E-08	8.22E+02	4.09E+04	1.78E+06	7.67E-01
Thorium-230	1.54E-02	1.94E-02	4.09E+04	1.78E+06	8.06E+00
Thorium-232	1.79E+02	1.09E-07	4.09E+04	1.78E+06	5.26E-01
Uranium-233/234	3.03E-01	9.48E-03	4.09E+04	1.78E+06	7.75E+01
Uranium-234	5.47E-01	6.19E-03	4.09E+04	1.78E+06	9.13E+01
Uranium-235/236	4.31E+01	6.34E-05	4.09E+04	1.78E+06	7.36E+01
Uranium-236	0.00E+00	6.34E-05	4.09E+04	1.78E+06	0.00E+00
Uranium-238	8.09E+03	3.33E-07	4.09E+04	1.78E+06	7.25E+01
Uranium, Total**	4.70E+03	N/A	4.09E+04	1.78E+06	1.27E+02

Note: [a] These weighted average concentrations are used as exposure point concentrations for calculating direct radiation doses from piles being placed into the disposal facility, under Alternative 2.

**The units for Total Uranium Concentration are ug/g, NOT pCi/g.

TABLE H-2

EXPOSURE POINT CONCENTRATIONS OF CONCRETE (RADIOLOGICAL) TO BE PLACED INTO THE ON-PROPERTY DISPOSAL FACILITY

Parameter	Source Term (kg)	Specific Activity (Ci/g)	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentration (pCi/g)[a]
Americium-241	1.05E-05	3.24E+00	3.23E+05	4.80E+06	1.16E-01
Cesium-137	5.53E-07	8.71E+01	3.23E+05	4.80E+06	1.64E-01
Lead-210	4.32E-06	8.11E+01	3.23E+05	4.80E+06	1.19E+00
Neptunium-237	4.70E-02	7.05E-04	3.23E+05	4.80E+06	1.13E-01
Plutonium-238	2.84E-06	1.75E+01	3.23E+05	4.80E+06	1.70E-01
Plutonium-239/240	3.07E-04	2.27E-01	3.23E+05	4.80E+06	2.38E-01
Plutonium-241	1.05E-05	1.12E+02	3.23E+05	4.80E+06	4.00E+00
Polonium-210	1.01E-07	4.49E+03	3.23E+05	4.80E+06	1.55E+00
Radium-226	7.21E-04	9.88E-01	3.23E+05	4.80E+06	2.43E+00
Radium-228	5.46E-06	2.34E+02	3.23E+05	4.80E+06	4.36E+00
Strontium-90	2.70E-06	1.42E+02	3.23E+05	4.80E+06	1.31E+00
Technetium-99	4.68E-02	1.70E-02	3.23E+05	4.80E+06	2.72E+00
Thorium-228	1.17E-06	8.22E+02	3.23E+05	4.80E+06	3.29E+00
Thorium-230	2.92E-02	1.94E-02	3.23E+05	4.80E+06	1.94E+00
Thorium-232	3.53E+03	1.09E-07	3.23E+05	4.80E+06	1.31E+00
Uranium-233/234	7.90E+00	9.48E-03	3.23E+05	4.80E+06	2.55E+02
Uranium-234	2.88E+00	6.19E-03	3.23E+05	4.80E+06	6.09E+01
Uranium-235/236	7.15E+02	6.34E-05	3.23E+05	4.80E+06	1.55E+02
Uranium-236	0.00E+00	6.34E-05	3.23E+05	4.80E+06	0.00E+00
Uranium-238	5.11E+04	3.33E-07	3.23E+05	4.80E+06	5.81E+01
Uranium, Total**	3.29E+04	N/A	3.23E+05	4.80E+06	1.12E+02

Notes:

a These weighted average concentrations are used as exposure point concentrations for calculating direct radiation doses to receptors. The weighted averages are also used to develop inhalation exposure point concentrations.

**The units for Total Uranium Concentration are ug/g, NOT pCi/g.

TABLE H-3

EXPOSURE POINT CONCENTRATION OF MATERIAL CATEGORY E (SCABBLED CONCRETE RESIDUE) TO BE SHIPPED OFF-SITE

Parameter	Source Term (kg)	Specific Activity (Ci/g)	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentration (pCi/g)[a]
Americium-241	2.10E-08	3.24E+00	1.60E+02	2.14E+03	4.68E-01
Cesium-137	2.51E-10	8.71E+01	1.60E+02	2.14E+03	1.50E-01
Lead-210	5.88E-09	8.11E+01	1.60E+02	2.14E+03	3.28E+00
Neptunium-237	2.42E-03	7.05E-04	1.60E+02	2.14E+03	1.17E+01
Plutonium-238	7.40E-09	1.75E+01	1.60E+02	2.14E+03	8.91E-01
Plutonium-239/240	1.93E-05	2.27E-01	1.60E+02	2.14E+03	3.02E+01
Plutonium-241	3.30E-08	1.12E+02	1.60E+02	2.14E+03	2.54E+01
Polonium-210	3.81E-11	4.49E+03	1.60E+02	2.14E+03	1.17E+00
Radium-226	1.33E-07	9.88E-01	1.60E+02	2.14E+03	9.01E-01
Radium-228	3.11E-10	2.34E+02	1.60E+02	2.14E+03	5.00E-01
Strontium-90	4.08E-10	1.42E+02	1.60E+02	2.14E+03	3.99E-01
Technetium-99	5.64E-02	1.70E-02	1.60E+02	2.14E+03	6.59E+03
Thorium-228	3.00E-10	8.22E+02	1.60E+02	2.14E+03	1.70E+00
Thorium-230	4.18E-03	1.94E-02	1.60E+02	2.14E+03	5.58E+02
Thorium-232	8.93E-01	1.09E-07	1.60E+02	2.14E+03	6.69E-01
Uranium-233/234	3.51E-01	9.48E-03	1.60E+02	2.14E+03	2.29E+04
Uranium-234	7.45E-01	6.19E-03	1.60E+02	2.14E+03	3.17E+04
Uranium-235/236	9.66E+01	6.34E-05	1.60E+02	2.14E+03	4.21E+04
Uranium-236	0.00E+00	6.34E-05	1.60E+02	2.14E+03	0.00E+00
Uranium-238	1.01E+04	3.33E-07	1.60E+02	2.14E+03	2.32E+04
Uranium, Total**	5.46E+03	N/A	1.60E+02	2.14E+03	3.76E+04

Notes:

[a] These weighted average concentrations are used as exposure point concentrations for calculating direct radiation doses to receptors from containers.

** The units for Total Uranium Concentration are ug/g, NOT pCi/g.

TABLE H-4

WEIGHTED AVERAGE CONCENTRATIONS OF CONCRETE TO BE PLACED INTO THE ON-PROPERTY DISPOSAL FACILITY (NON-RADIOLOGICAL)

Parameter	Source Term (kg)[b]	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentrations (ppm)[a]
1,4-Dichlorobenzene	0.00E+00	3.23E+05	4.80E+06	NA
2,4-Dinitrotoluene	0.00E+00	3.23E+05	4.80E+06	NA
alpha-Chlordane	7.89E-02	3.23E+05	4.80E+06	2.69E-04
Antimony	6.27E+02	3.23E+05	4.80E+06	2.14E+00
Aroclor-1248	7.84E-02	3.23E+05	4.80E+06	2.68E-04
Aroclor-1254	1.66E+01	3.23E+05	4.80E+06	5.65E-02
Aroclor-1260	1.05E+01	3.23E+05	4.80E+06	3.57E-02
Arsenic	1.84E+03	3.23E+05	4.80E+06	6.27E+00
Barium	2.01E+04	3.23E+05	4.80E+06	6.85E+01
Benzene	0.00E+00	3.23E+05	4.80E+06	NA
Benzo(a)anthracene	2.19E+00	3.23E+05	4.80E+06	7.48E-03
Benzo(a)pyrene	0.00E+00	3.23E+05	4.80E+06	NA
Benzo(b)fluoranthene	0.00E+00	3.23E+05	4.80E+06	NA
Benzo(k)fluoranthene	0.00E+00	3.23E+05	4.80E+06	NA
Beryllium	3.95E+02	3.23E+05	4.80E+06	1.35E+00
bis(2-Ethylhexyl)phthalate	4.69E+00	3.23E+05	4.80E+06	1.60E-02
Cadmium	6.96E+02	3.23E+05	4.80E+06	2.37E+00
Carbazole	0.00E+00	3.23E+05	4.80E+06	NA
Chromium	3.17E+03	3.23E+05	4.80E+06	1.08E+01
Chrysene	6.48E+00	3.23E+05	4.80E+06	2.21E-02
Copper	5.47E+03	3.23E+05	4.80E+06	1.87E+01
Dibenzo(a,h)anthracene	0.00E+00	3.23E+05	4.80E+06	NA
Dieldrin	1.58E-02	3.23E+05	4.80E+06	5.39E-05
gamma-Chlordane	8.41E-02	3.23E+05	4.80E+06	2.87E-04
Hexachlorobutadiene	0.00E+00	3.23E+05	4.80E+06	NA
Indeno(1,2,3-cd)pyrene	0.00E+00	3.23E+05	4.80E+06	NA
Lead	2.76E+03	3.23E+05	4.80E+06	9.43E+00
Manganese	1.33E+05	3.23E+05	4.80E+06	4.53E+02
Mercury	1.57E+01	3.23E+05	4.80E+06	5.35E-02
N-Nitroso-di-n-propylamine	0.00E+00	3.23E+05	4.80E+06	NA
Nickel	4.52E+03	3.23E+05	4.80E+06	1.54E+01
Nitrobenzene	0.00E+00	3.23E+05	4.80E+06	NA
Pentachlorophenol	0.00E+00	3.23E+05	4.80E+06	NA
Selenium	1.33E+01	3.23E+05	4.80E+06	4.55E-02
Silver	2.89E+03	3.23E+05	4.80E+06	9.85E+00
Styrene	0.00E+00	3.23E+05	4.80E+06	NA
Tetrachloroethene	6.37E-02	3.23E+05	4.80E+06	2.17E-04

Notes:

[a] Weighted Average Concentrations are used to developed inhalation exposure point concentrations at receptors' locations.

[b] Zero values represent a COC that was not detected in concrete. However, it was a COC in one or more other media which will either not be entering the disposal facility, or will not create an airborne respirable fraction.

TABLE H-5

EXPOSURE POINT CONCENTRATIONS OF MATERIALS[a] TO BE SHIPPED OFF-SITE UNDER ALTERNATIVE 2

Parameter	Source Term (kg)	Specific Activity (Ci/g)	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentration (pCi/g)[b]
Americium-241	4.13E-06	3.24E+00	4.97E+03	1.72E+05	2.97E+00
Cesium-137	1.01E-07	8.71E+01	4.97E+03	1.72E+05	1.95E+00
Lead-210	7.74E-06	8.11E+01	4.97E+03	1.72E+05	1.39E+02
Neptunium-237	3.96E-03	7.05E-04	4.97E+03	1.72E+05	6.19E-01
Plutonium-238	2.95E-05	1.75E+01	4.97E+03	1.72E+05	1.14E+02
Plutonium-239/240	5.56E-04	2.27E-01	4.97E+03	1.72E+05	2.80E+01
Plutonium-241	3.38E-06	1.12E+02	4.97E+03	1.72E+05	8.40E+01
Polonium-210	2.34E-07	4.49E+03	4.97E+03	1.72E+05	2.33E+02
Radium-226	2.42E-04	9.88E-01	4.97E+03	1.72E+05	5.30E+01
Radium-228	2.96E-06	2.34E+02	4.97E+03	1.72E+05	1.54E+02
Strontium-90	1.64E-08	1.42E+02	4.97E+03	1.72E+05	5.18E-01
Technetium-99	6.43E-02	1.70E-02	4.97E+03	1.72E+05	2.42E+02
Thorium-228	2.97E-08	8.22E+02	4.97E+03	1.72E+05	5.41E+00
Thorium-230	1.35E-02	1.94E-02	4.97E+03	1.72E+05	5.79E+01
Thorium-232	9.95E+01	1.09E-07	4.97E+03	1.72E+05	2.40E+00
Uranium-233/234	4.26E-01	9.48E-03	4.97E+03	1.72E+05	8.94E+02
Uranium-234	1.04E+00	6.19E-03	4.97E+03	1.72E+05	1.43E+03
Uranium-235/236	1.16E+02	6.34E-05	4.97E+03	1.72E+05	1.63E+03
Uranium-236	0.00E+00	6.34E-05	4.97E+03	1.72E+05	0.00E+00
Uranium-238	1.61E+04	3.33E-07	4.97E+03	1.72E+05	1.19E+03
Uranium, Total**	3.38E+05	N/A	4.97E+03	1.72E+05	7.49E+04

**The units for Total Uranium Concentration are ug/g, NOT pCi/g.

[a] From Material Categories C and F plus 1" Concrete Residue from 9A (PA 2,4) and 8A (PA 4)

[b] Note: These weighted average concentrations are used as exposure point concentration for calculating direct radiation doses to receptors.

TABLE H-6

EXPOSURE POINT CONCENTRATIONS OF MATERIALS TO BE SHIPPED OFF-SITE UNDER ALTERNATIVE 3

Parameter	Source Term (kg)	Specific Activity (Ci/g)	Weight (tons)	Unbulked Volume (cu.ft.)	Weighted Average Concentration (pCi/g)[a]
Americium-241	2.24E-05	3.24E+00	3.78E+05	7.37E+06	2.12E-01
Cesium-137	1.00E-06	8.71E+01	3.78E+05	7.37E+06	2.56E-01
Lead-210	3.12E-05	8.11E+01	3.78E+05	7.37E+06	7.38E+00
Neptunium-237	6.76E-02	7.05E-04	3.78E+05	7.37E+06	1.39E-01
Plutonium-238	3.44E-05	1.75E+01	3.78E+05	7.37E+06	1.76E+00
Plutonium-239/240	1.11E-03	2.27E-01	3.78E+05	7.37E+06	7.33E-01
Plutonium-241	1.46E-05	1.12E+02	3.78E+05	7.37E+06	4.76E+00
Polonium-210	4.37E-07	4.49E+03	3.78E+05	7.37E+06	5.73E+00
Radium-226	5.99E-03	9.88E-01	3.78E+05	7.37E+06	1.73E+01
Radium-228	9.55E-06	2.34E+02	3.78E+05	7.37E+06	6.52E+00
Strontium-90	2.92E-06	1.42E+02	3.78E+05	7.37E+06	1.21E+00
Technetium-99	1.25E-01	1.70E-02	3.78E+05	7.37E+06	6.21E+00
Thorium-228	1.31E-06	8.22E+02	3.78E+05	7.37E+06	3.13E+00
Thorium-230	1.36E-01	1.94E-02	3.78E+05	7.37E+06	7.69E+00
Thorium-232	4.24E+03	1.09E-07	3.78E+05	7.37E+06	1.35E+00
Uranium-233/234	9.44E+00	9.48E-03	3.78E+05	7.37E+06	2.61E+02
Uranium-234	5.24E+00	6.19E-03	3.78E+05	7.37E+06	9.47E+01
Uranium-235/236	9.36E+02	6.34E-05	3.78E+05	7.37E+06	1.73E+02
Uranium-236	0.00E+00	6.34E-05	3.78E+05	7.37E+06	0.00E+00
Uranium-238	8.69E+04	3.33E-07	3.78E+05	7.37E+06	8.45E+01
Uranium, Total**	3.92E+05	N/A	3.78E+05	7.37E+06	1.15E+03

[a] Notes: These weighted average concentrations are used as exposure point concentrations for calculating direct radiation doses to receptors during transportation under Alternative 3.

** The units for Total Uranium Concentration are ug/g, NOT pCi/g.

TABLE H-7

INHALATION EXPOSURE POINT CONCENTRATIONS FOR 31-YEAR PLAN (27 YEARS OF MATERIAL PLACEMENT INTO THE DISPOSAL FACILITY)

Constituents of Concern (COCs)	Concentration in Disposal Cell Material [a]	COC Resuspension Rate at Disposal Cell	Airborne Conc at Disposal Cell [b]	Airborne Concentration at NRW [c]	Airborne Concentration at Off-Property Resident [c]
Radionuclides (pCi/g)	(pCi/g)	(pCi/sec)	(pCi/m^3)	(pCi/m^3)	(pCi/m^3)
Uranium-233/234	4.44E+01	4.44E-01	2.66E-03	7.40E-04	1.97E-03
Uranium-234	5.99E+01	5.99E-01	3.59E-03	9.98E-04	2.66E-03
Uranium-235	5.56E+01	5.56E-01	3.33E-03	9.26E-04	2.47E-03
Uranium-238	6.01E+01	6.01E-01	3.60E-03	1.00E-03	2.67E-03
Thorium-228	3.61E+00	3.61E-02	2.16E-04	6.01E-05	1.60E-04
Thorium-230	2.24E+00	2.24E-02	1.34E-04	3.73E-05	9.94E-05
Thorium-232	1.09E+00	1.09E-02	6.53E-05	1.82E-05	4.84E-05
Technetium-99	2.60E+00	2.60E-02	1.56E-04	4.33E-05	1.15E-04
Strontium-90	3.78E+00	3.78E-02	2.26E-04	6.30E-05	1.68E-04
Radium-226	1.94E+00	1.94E-02	1.16E-04	3.23E-05	8.61E-05
Radium-228	4.72E+00	4.72E-02	2.83E-04	7.86E-05	2.09E-04
Cesium-137	8.72E-02	8.72E-04	5.22E-06	1.45E-06	3.87E-06
Lead-210	1.18E+00	1.18E-02	7.06E-05	1.97E-05	5.23E-05
Neptunium-237	1.23E-01	1.23E-03	7.36E-06	2.05E-06	5.46E-06
Plutonium-238	2.47E-01	2.47E-03	1.48E-05	4.11E-06	1.10E-05
Plutonium-239/240	1.14E-01	1.14E-03	6.82E-06	1.90E-06	5.06E-06
Plutonium-241	3.97E+00	3.97E-02	2.38E-04	6.61E-05	1.76E-04
Polonium-210	1.55E+00	1.55E-02	9.28E-05	2.58E-05	6.88E-05
Americium-241	1.17E-01	1.17E-03	7.00E-06	1.95E-06	5.19E-06
Metals (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Antimony	2.06E+00	1.78E+00	1.23E-07	3.43E-08	9.14E-08
Arsenic	6.25E+00	5.40E+00	3.74E-07	1.04E-07	2.77E-07
Barium	6.82E+01	5.90E+01	4.08E-06	1.14E-06	3.03E-06
Beryllium	1.35E+00	1.17E+00	8.08E-08	2.25E-08	5.99E-08
Cadmium	2.37E+00	2.05E+00	1.42E-07	3.96E-08	1.05E-07
Chromium	1.08E+01	9.36E+00	6.48E-07	1.80E-07	4.81E-07
Copper	1.86E+01	1.61E+01	1.11E-06	3.10E-07	8.25E-07
Lead	9.41E+00	8.13E+00	5.63E-07	1.57E-07	4.17E-07
Manganese	4.52E+02	3.91E+02	2.71E-05	7.53E-06	2.01E-05
Mercury	5.22E-02	4.51E-02	3.13E-09	8.70E-10	2.32E-09
Nickel	1.54E+01	1.33E+01	9.23E-07	2.57E-07	6.84E-07

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TABLE H-7 (continued)

INHALATION EXPOSURE POINT CONCENTRATIONS FOR 31-YEAR PLAN (27 YEARS OF MATERIAL PLACEMENT INTO THE DISPOSAL FACILITY)

Constituents of Concern (COCs)	Concentration in Disposal Cell Material [a]	COC Resuspension Rate at Disposal Cell	Airborne Conc at Disposal Cell [b]	Airborne Concentration at NRW [c]	Airborne Concentration at Off-Property Resident [c]
Metals (mg/kg) (Continued)					
Selenium	4.15E-02	3.59E-02	2.48E-09	6.91E-10	1.84E-09
Silver	9.77E+00	8.45E+00	5.85E-07	1.63E-07	4.33E-07
Thallium	3.15E-01	2.72E-01	1.89E-08	5.25E-09	1.40E-08
Vanadium	2.23E+01	1.93E+01	1.34E-06	3.71E-07	9.89E-07
Zinc	5.76E+01	4.98E+01	3.45E-06	9.60E-07	2.56E-06
Organics (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Tetrachloroethene	2.19E-04	1.89E-04	1.31E-11	3.65E-12	9.72E-12
Benzo(a)anthracene	7.55E-03	6.53E-03	4.52E-10	1.26E-10	3.35E-10
Chrysene	2.23E-02	1.93E-02	1.34E-09	3.71E-10	9.89E-10
bis(2-ethylhexyl)phthalate	1.61E-02	1.39E-02	9.64E-10	2.68E-10	7.14E-10
PCBs/Pesticides (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Arochlor-1248	1.52E-04	1.31E-04	9.10E-12	2.53E-12	6.74E-12
Arochlor-1254	2.89E-02	2.50E-02	1.73E-09	4.81E-10	1.28E-09
Arochlor-1260	1.82E-02	1.57E-02	1.09E-09	3.03E-10	8.07E-10
Dieldrin	2.74E-05	2.37E-05	1.64E-12	4.56E-13	1.22E-12
alpha chlordane	1.38E-04	1.19E-04	8.26E-12	2.30E-12	6.12E-12

Notes:

(a) SOURCE: Concrete concentrations take from Tables H.3-2 and H.3-4

(b) Airborne concentrations calculated using Near-Field Box model.

(c) Airborne concentration calculated using gaussian point source dispersion, distance of 380 meters for the NRW and 215 meters for the Off-Property Resident

NRW = Nonremediation Worker.

Disposal cell refers to the on-site disposal facility

TABLE H-8

INHALATION EXPOSURE POINT CONCENTRATONS FOR TEN-YEAR PLAN (7 YEARS OF MATERIAL PLACEMENT INTO DISPOSAL FACILITY)

Constituents of Concern (COCs)	Concentration in Disposal Cell Material (pCi/g) [a]	COC Resuspension Rate at Disposal Cell	Airborne Concentration at Disposal Cell [b]	Airborne Concentration at NRW [c]	Airborne Concentration at Off-property Residents [e]
Radionuclides (pCi/g)	(pCi/g)	(pCi/sec)	(pCi/m^3)	(pCi/m^3)	(pCi/m^3)
Uranium-233/234	4.44E+01	1.71E+00	1.03E-02	2.85E-03	7.60E-03
Uranium-234	5.99E+01	2.31E+00	1.38E-02	3.85E-03	1.02E-02
Uranium-235	5.56E+01	2.15E+00	1.28E-02	3.57E-03	9.51E-03
Uranium-238	6.01E+01	2.32E+00	1.39E-02	3.86E-03	1.03E-02
Thorium-228	3.61E+00	1.39E-01	8.34E-04	2.32E-04	6.18E-04
Thorium-230	2.24E+00	8.64E-02	5.17E-04	1.44E-04	3.83E-04
Thorium-232	1.09E+00	4.21E-02	2.52E-04	7.00E-05	1.87E-04
Technetium-99	2.60E+00	1.00E-01	6.00E-04	1.67E-04	4.45E-04
Strontium-90	3.78E+00	1.46E-01	8.73E-04	2.43E-04	6.47E-04
Radium-226	1.94E+00	7.49E-02	4.48E-04	1.25E-04	3.32E-04
Radium-228	4.72E+00	1.82E-01	1.09E-03	3.03E-04	8.08E-04
Cesium-137	8.72E-02	3.37E-03	2.01E-05	5.60E-06	1.49E-05
Lead-210	1.18E+00	4.55E-02	2.72E-04	7.58E-05	2.02E-04
Neptunium-237	1.23E-01	4.75E-03	2.84E-05	7.90E-06	2.10E-05
Plutonium-238	2.47E-01	9.53E-03	5.70E-05	1.59E-05	4.23E-05
Plutonium-239/240	1.14E-01	4.40E-03	2.63E-05	7.32E-06	1.95E-05
Plutonium-241	3.97E+00	1.53E-01	9.17E-04	2.55E-04	6.79E-04
Polonium-210	1.55E+00	5.98E-02	3.58E-04	9.96E-05	2.65E-04
Americium-241	1.17E-01	4.52E-03	2.70E-05	7.52E-06	2.00E-05
Metals (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Antimony	2.06E+00	6.87E+00	4.76E-07	1.32E-07	3.52E-07
Arsenic	6.25E+00	2.08E+01	1.44E-06	4.02E-07	1.07E-06
Barium	6.82E+01	2.27E+02	1.57E-05	4.38E-06	1.17E-05
Beryllium	1.35E+00	4.50E+00	3.12E-07	8.67E-08	2.31E-07
Cadmium	2.37E+00	7.92E+00	5.48E-07	1.53E-07	4.06E-07
Chromium	1.08E+01	3.61E+01	2.50E-06	6.96E-07	1.85E-06
Copper	1.86E+01	6.20E+01	4.30E-06	1.20E-06	3.18E-06
Lead	9.41E+00	3.14E+01	2.17E-06	6.05E-07	1.61E-06
Manganese	4.52E+02	1.51E+03	1.04E-04	2.90E-05	7.73E-05
Mercury	5.22E-02	1.74E-01	1.21E-08	3.35E-09	8.93E-09
Nickel	1.54E+01	5.14E+01	3.56E-06	9.90E-07	2.64E-06
Selenium	4.15E-02	1.38E-01	9.58E-09	2.67E-09	7.10E-09

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TABLE H-8 (continued)

INHALATION EXPOSURE POINT CONCENTRATONS FOR TEN-YEAR PLAN (7 YEARS OF MATERIAL PLACEMENT INTO DISPOSAL FACILITY)

Constituents of Concern (COCs)	Concentration in Disposal Cell Material (pCi/g) [a]	COC Resuspension Rate at Disposal Cell	Airborne Concentration at Disposal Cell [b]	Airborne Concentration at NRW [c]	Airborne Concentration at Off-property Residents [c]
Metals (mg/kg) (Cont'd)	(mg/kg)	(mg/sec)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Silver	9.77E+00	3.26E+01	2.26E-06	6.28E-07	1.67E-06
Thallium	3.15E-01	1.05E+00	7.27E-08	2.02E-08	5.39E-08
Vanadium	2.23E+01	7.44E+01	5.15E-06	1.43E-06	3.82E-06
Zinc	5.76E+01	1.92E+02	1.33E-05	3.70E-06	9.86E-06
Organics (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Tetrachloroethene	2.19E-04	7.30E-04	5.06E-11	1.41E-11	3.75E-11
Benzo(a)anthracene	7.55E-03	2.52E-02	1.74E-09	4.85E-10	1.29E-09
Chrysene	2.23E-02	7.44E-02	5.15E-09	1.43E-09	3.82E-09
bis(2-ethylhexyl)phthalate	1.61E-02	5.37E-02	3.72E-09	1.03E-09	2.75E-09
PCBs/Pesticides (mg/kg)	(mg/kg)	(mg/day)	(mg/m^3)	(mg/m^3)	(mg/m^3)
Arochlor-1248	1.52E-04	5.07E-04	3.51E-11	9.77E-12	2.60E-11
Arochlor-1254	2.89E-02	9.64E-02	6.67E-09	1.86E-09	4.94E-09
Arochlor-1260	1.82E-02	6.07E-02	4.20E-09	1.17E-09	3.11E-09
Dieldrin	2.74E-05	9.14E-05	6.33E-12	1.76E-12	4.69E-12
alpha chlordane	1.38E-04	4.60E-04	3.19E-11	8.87E-12	2.36E-11

Notes:

(a) SOURCE: Concrete Concentrations taken from Tables H.3-2 and H.3-4

(b) Airborne concentration calculated using Near-Field Box model.

(c) Airborne concentration calculated using gaussian point source dispersion, distance of 1100 meters for the NRW and 500 for the Off-Property Resident.

NRW = Nonremediation worker

Disposal cell refers to the on-property disposal facility.

TABLE H-9

ASSUMPTIONS AND PARAMETERS USED TO CALCULATE INHALATION EXPOSURE POINT CONCENTRATIONS

Parameter	Parameter symbol, Equation Reference	Value
Disposal cell fill rate	DR, Eq H.3-2	438 yd^3 per week for 10 year plan 113 yd^3 per week for 31 year plan
Concrete density	ρ, Eq H.3-1	2.4 gm/cm^3
Cell filling schedule	ET*EF*ED, Eq H.3-6 & 7	1 shift/day, 5 day/week/ 52 week/yr
Duration of cell filling schedule		7 yrs for 10-year plan 27 yrs for 31-year plan
Dump height [a]	h, Eq H.3-1	150 cm
Disposal Cell width	W_b, Eq H.3-3	140.3 m
Exposure height	H_b, Eq H.3-3	1.8 m
Average Wind speed	U_m, Eq H.3-3	0.66 m/s
Average wind speed at 10 m	U_{10}, Eq H.3-3	2.0 m/s
Pasquill Stability Class	Eq H.3-5 (to determine σ_y and σ_z)	F
Distance from center of cell to off-property public residents	Eq H.3-3 (to determine HQ) σ_y and σ_z)	215 m
Distance from center of cell to nonremediation worker	Eq H.3-3 (to determine X/Q) σ_y and σ_z)	380 m

[a] Dump height represents one half of actual drop height. This accounts for the steady reduction in the drop height as material is dumped due to the increasing height of the material in the cell over time.

Disposal cell refers to the on-property disposal facility.

TABLE H-10

ASSUMPTIONS USED FOR THE MICROSHIELD CALCULATIONS

Container	Contents	Assumptions
Large Metal Box (LMB)	Bulk Steel	• Container internal dimensions were 19 ft L x 7 ft W x 7.7 ft H. • Container volume equals 1025 ft^3. • The thickness of the container is 1/8 in. steel. • The density of bulk steel is 7.9 g/cm^3. • The weight capacity of the box will be reached prior to the volume limit when filled with bulk steel. This equates to 35,000 lbs steel per box.
B-12	Concrete Residue	• Container dimensions were 1.92 ft L x 3.83 ft W x 6.00 ft H with an internal volume of 44 cubic ft. • The thickness of the container is 10 gauge steel (0.1382"). • The weight capacity (9,000 lbs) of the B-12 Box will not be reached prior to the volume limit when filled with concrete chips. This calculation assumes the box will hold approximately 6,500 lbs of concrete.
B-25	Brick	• Container dimensions were 6.25 ft L x 4.17 ft W x 3 ft H with an internal volume of 80.3. • The thickness of the container is 1/8" steel. • The density of brick used in the calculation was 120 lbs/ft^3. • The weight capacity (6,800 lbs) of the box will be reached prior to the volume limit when filled with brick.
Intermodal Transportation Containers (ITCs)	Bulk Concrete	• Container dimensions were 20 ft L x 8 ft W x 6.4 ft H. Container volume equals 675 ft^3. • The thickness of the container is 1/8" steel. • The density of bulk concrete is 2.4 g/cm^3 (or 150 lb/ft^3). • The weight capacity of the ITC will be reached prior to the volume limit when filled with bulk concrete. This equates to 20 tons of concrete per ITC.
Pile	Bulk Concrete	• The dimensions of the pile are 100 ft x 50 ft x 25 ft. • Concrete bulking factor is 1.3. • Contaminant concentrations and concrete density will be same as that for Alternative 2 concrete. • The pile will be surveyed every worker shift. The survey will last approximately 15 minutes.
Pile	Bulk Steel	• The dimensions of the pile are 120 ft x 90 ft x 25 ft. • Steel bulking factor is 16.8. • Paint density is 1.2 g/cm^3. • Paint thickness is 10 mil. • The reference steel beam is a W36x359. • Reference steel beam surface area is 11.5 ft^2. • Reference steel beam cross section is 105 in^2. • The pile will be surveyed every worker shift. The survey will last approximately 15 minutes. • Contaminant concentrations will be same as that for Alternative 2 Steel.

TABLE H-11

RADIATION DOSE RATES WITH INCREASING DISTANCE FROM MATERIAL CONTAINERS[a]

Distance (meters)	LMB w/ bulk steel (mrem/hr)	B-12 w/ concrete chips (mrem/hr)	B-25 with brick (mrem/hr)	ITC with concrete (mrem/hr)	Concrete pile (mrem/hr)	Steel pile (mrem/hr)
0.1	3.36E-02	3.06E+00	5.06E-01	3.04E-02	6.18E-03	1.74E-05
0.2	2.91E-02	2.58E+00	4.19E-01	2.95E-02	1.35E-02	2.33E-05
0.3	2.40E-02	2.18E+00	3.44E-01	2.76E-02	1.86E-02	2.71E-05
0.4	2.01E-02	1.85E+00	2.85E-01	2.55E-02	2.20E-02	2.95E-05
0.5	1.72E-02	1.59E+00	2.38E-01	2.35E-02	2.42E-02	3.09E-05
0.6	1.49E-02	1.37E+00	2.00E-01	2.17E-02	2.55E-02	3.18E-05
0.7	1.31E-02	1.19E+00	1.70E-01	2.01E-02	2.62E-02	3.21E-05
0.8	1.17E-02	1.04E+00	1.46E-01	1.86E-02	2.65E-02	3.21E-05
0.9	1.05E-02	9.13E-01	1.27E-01	1.72E-02	2.65E-02	3.19E-05
1	9.51E-03	8.08E-01	1.11E-01	1.60E-02	2.63E-02	3.16E-05
2	4.46E-03	3.00E-01	3.86E-02	8.43E-03	2.18E-02	2.60E-05
3	2.58E-03	1.49E-01	1.90E-02	5.05E-03	1.77E-02	2.12E-05
4	1.66E-03	8.79E-02	1.16E-02	3.31E-03	1.46E-02	1.75E-05
5	1.15E-03	5.75E-02	7.31E-03	2.31E-03	1.22E-02	1.47E-05
6	8.34E-04	4.04E-02	5.15E-03	1.69E-03	1.03E-02	1.25E-05
7	6.30E-04	2.98E-02	3.81E-03	1.29E-03	8.84E-03	1.08E-05
8	4.92E-04	2.29E-02	2.93E-03	1.01E-03	7.65E-03	9.43E-06
9	3.93E-04	1.81E-02	2.32E-03	8.09E-04	6.68E-03	8.29E-06
10	3.21E-04	1.46E-02	1.88E-03	6.63E-04	5.88E-03	7.34E-06
50	1.14E-05	4.71E-04	6.43E-05	2.42E-05	3.68E-04	5.01E-07
100	2.21E-06	8.24E-05	1.22E-05	4.78E-06	7.45E-05	1.01E-07
150	7.57E-07	2.45E-05	4.03E-06	1.64E-06	2.53E-05	3.45E-08
200	3.26E-07	8.88E-06	1.66E-06	7.06E-07	1.07E-05	1.49E-08
250	1.59E-07	3.58E-06	7.71E-07	3.44E-07	5.08E-06	7.33E-09
300	8.48E-08	1.54E-06	3.89E-07	1.82E-07	2.62E-06	3.93E-09
350	4.79E-08	6.98E-07	2.09E-07	1.02E-07	1.44E-06	2.23E-09
400	2.83E-08	3.28E-07	1.17E-07	5.96E-08	8.30E-07	1.33E-09
450	1.73E-08	1.59E-07	6.83E-08	3.61E-08	4.98E-07	8.15E-10
500	1.09E-08	8.00E-08	4.11E-08	2.25E-08	3.09E-07	5.15E-10

[a] Each value represents the dose rate from one filled container or pile as per MicroShield model.

Notes:

Distance of maximumly exposed public to nearest OU3 Material is 500 meters.

Distance of nonremediation worker to nearest OU3 Material is 300 meters.

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TABLE H-12

SUMMARY OF INHALATION TOXICITY VALUES FOR CONSTITUENTS OF CONCERN (COC)

Constituents of Concern (COCs)	Inhalation Slope Factor [a]	Inhalation Reference Dose
Radionuclides	(Risk/pCi)	
Uranium-233/234	2.7E-08	n/a
Uranium-234	1.4E-08	n/a
Uranium-235	1.3E-08	n/a
Uranium-238	1.2E-08	n/a
Thorium-228	9.5E-08	n/a
Thorium-230	1.7E-08	n/a
Thorium-232	1.9E-08	n/a
Technetium-99	2.9E-12	n/a
Strontium-90	6.9E-11	n/a
Radium-226	2.8E-09	n/a
Radium-228	9.6E-10	n/a
Cesium-137	1.9E-11	n/a
Lead-210	1.7E-09	n/a
Neptunium-237	3.5E-08	n/a
Plutonium-238	2.7E-08	n/a
Plutonium-239/240	2.8E-08	n/a
Plutonium-241	2.3E-10	n/a
Polonium-210	2.1E-09	n/a
Americium-241	3.9E-08	n/a
Metals	$(mg/kg/day)^{-1}$ [b,c]	(mg/kg/day) [b,c]
Antimony	n/a	n/a
Arsenic	1.50E+01	n/a
Barium	n/a	1.4E-04
Beryllium	8.40E+00	n/a
Cadmium	6.30E+00	n/a
Chromium	4.20E+01	n/a
Copper	n/a	n/a
Lead	n/a	n/a
Manganese	n/a	1.4E-05
Mercury	n/a	8.6E-05
Nickel	8.40E-01	n/a
Selenium	n/a	n/a
Silver	n/a	n/a
Thallium	n/a	n/a
Vanadium	n/a	n/a
Zinc	n/a	n/a

Constituents of Concern (COCs)	Inhalation Slope Factor [b,c]	Inhalation Reference Dose [b,c]
Organic	$(mg/kg/day)^{-1}$	(mg/kg/day)
Xylenes, total	n/a	n/a
2-Butanone	n/a	2.9E-01
Ethylbenzene	n/a	2.9E-01
Di-n-octylphthalate	n/a	n/a
Phenanthrene	n/a	n/a
Pyrene	n/a	n/a
Tetrachloroethene	2.00E-03	n/a
Benzo(a)anthracene	n/a	n/a
Chrysene	6.10E-03	n/a
bis(2-ethylhexyl)phthalate	n/a	n/a
PCBs/Pesticides	$(mg/kg/day)^{-1}$	(mg/kg/day)
4,4-DDE	n/a	n/a
Arochlor-1248	n/a	n/a
Arochlor-1254	n/a	n/a
Arochlor-1260	n/a	n/a
Dieldrin	1.60E+01	n/a
Heptachlor epoxide	9.10E+00	n/a
alpha chlordane	1.30E+00	n/a
Endrin ketone	n/a	n/a

Notes: n/a: Not Available or Not Applicable

[a] EPA, 1994 HEAST Tables

[b] EPA, 1993 IRIS

[c] EPA, 1994 IRIS

TABLE H-13

OCCUPATIONAL AND NONOCCUPATIONAL TRANSPORTATION INJURY AND FATALITY HAZARD COEFFICIENTS[a]

Receptor	Fatality Coefficient ($mile^{-1}$)	Injury Coefficient ($mile^{-1}$)
Rail		
Off-Site Remediation Worker	4.6×10^{-8}	4.6×10^{-6}
Public Along Transportation Route[b]	1.8×10^{-6}	6.8×10^{-6}
Truck		
Off-Site Remediation Worker	2.1×10^{-9}	4.1×10^{-8}
Public Along Transportation Route	1.3×10^{-8}	1.2×10^{-7}

[a] (DOT 1986, DOT 1988, FHA 1988)
[b] The public along transportation route includes passengers, off-duty workers, pedestrians, and drivers and passengers in other vehicles, etc.

TABLE H-14

TRANSPORTATION TRIPS AND MILEAGE TO THE REPRESENTATIVE OFF-SITE DISPOSAL FACILITIES

Mode of Transport	Distance (miles)	Alternative 2 # of trips	Distance Traveled (miles)	Alternative 3 # of trips	Distance Traveled (miles)
Rail					
Train to Off-site facility	2049	N/A	N/A	158	323,742
Total Distance Traveled by Rail		N/A			323,742
Truck					
Truck to NTS	1924	508	977,392	508	977,392
Truck-to off-site disposal facility[a,b]	2049	83	170,067	N/A	N/A
Truck-to local landfill	5	496	2,480	496	2,480
Total Distance Traveled by Trucks			1,149,939		979,872

Notes:
The alternatives do not include the transportation of materials on-site.

[a] For purposes of cost-estimation and travel calculations, the off-site disposal facility is assumed to be Envirocare.

[b] Number of truck trips to Envirocare include 12 shipments with 6 B-12's each and 71 shipments with 6 B-25's each.

TABLE H-15

ESTIMATED INJURIES[b] AND FATALITIES[c] FOR ON-PROPERTY ACTIVITIES

	SIC Code[a]	Hazard Coefficient	Total Person-Hours[d]	Total Injuries/Fatalities
Alternative 2				
Injuries[b]	16	2.7×10^{-5}	530,491	14.3
Fatalities[c]	16	1.7×10^{-7}	530,491	0.1
Alternative 3				
Injuries[b]	16	2.7×10^{-5}	1,133,112	30.6
Fatalities[c]	16	1.7×10^{-7}	1,133,112	0.2

[a] SIC Standard Industrial Classification
[b] DOL 1994a
[c] DOL 1994b
[d] Total number of manhours taken from Appendix E, Section E.3 tables.

TABLE H-16
INCIDENT-FREE DOSE SUMMARY

Population Subgroup	RADTRAN Model (pers-rem)	Population	Number of Crew Trips	Over Life of Project INDIVIDUAL (mrem)	ILCR
12 x Trucks to Envirocare with 6 x B-12 Boxes of Concrete Chips					
Crew	3.09E-01	2	1.20E+01	3.09E+02	2.35E-04
Handlers	2.32E-02	10		2.78E+01	2.12E-05
Off Link	2.17E-03				
On Link	2.84E-02				
Stops	6.45E-03				
Storage	0.00E+00				
Public Total	3.70E-02	3.34E+05		1.33E-03	1.01E-09
71 x Trucks to Envirocare with 6 x B-25 Boxes of Brick					
Crew	4.39E-02	2	7.10E+01	2.60E+02	1.97E-04
Handlers	3.24E-03	10		2.30E+01	1.75E-05
Off Link	3.09E-04				
On Link	4.05E-03				
Stops	9.17E-04				
Storage	0.00E+00				
Public Total	5.28E-03	3.34E+05		1.12E-03	8.52E-10
158 x Rail Shipments to Envirocare with 108 x ITCs of Concrete + 60 ITCs of Steel					
Crew	3.61E-03	5	1.00E+02	7.21E+01	5.48E-05
Handlers	2.41E-02	10		3.80E+02	2.89E-04
Off Link	2.90E-03				
On Link	5.47E-04				
Stops	4.81E-03				
Storage	5.51E-04				
Public Total	8.81E-03	8.16E+05		1.71E-03	1.30E-09
508 x Trucks to NTS with LMBs of Concrete and Steel					
Crew	1.05E-08	2	1.00E+02	5.25E-04	3.99E-10
Handlers	1.27E-09	10		6.45E-05	4.90E-11
Off Link	1.22E-10				
On Link	5.56E-10				
Stops	6.39E-10				
Storage	0.00E+00				
Public Total	1.32E-09	9.34E+05		7.16E-10	5.44E-16

Defined Parameters

7.60E-07	Risk per mrem
1,000	mrem per rem
5	Rail Crew
2	Truck Crew
10	Total Rail Handlers
10	Total Truck Handlers
100	Lifetime maximum trips per crew member
28	Rail Crew Dose Rate Adjustment Factor
6	Adjustment Factor (packages per truck) for Truck Crews
2	Adjustment factor for number of handlings (model uses 2 but should have used 1)

Total Trips

508	Number of LMBs to NTS
12	Number of shipments of B-12s to Envirocare
71	Number of shipments of B-25s to Envirocare
158.0	Number of shipments of ITCs to Envirocare

Off Link, On Link, Stops, and Storage represent the public along route approximately 30 m from road, in passing vehicles along stops, and at storage depots. Together they comprise the public total.

TABLE H-17

INPUT PARAMETERS FOR INCIDENT-FREE RADTRAN MODEL OF RAIL TRANSPORT

Parameter	Value	Units
Rail Cars Per Shipment	28[a]	Rail Cars
Distance to Representative Disposal Facility	3090	km
ITCs per Rail Car	6[a]	ITCs/Rail Car
Dose Rate at 1m (Transport Index)	1.60E-2[b]	mrem/hr
Travel in Rural Population Zone	82	% of total
Travel in Suburban Population Zone	14	% of total
Travel in Urban Population Zone	4	% of total
Velocity in Rural Population Zone	64	km/hr
Velocity in Suburban Population Zone	40	km/hr
Velocity in Urban Population Zone	24	km/hr
Number of Crewmen	5[c]	People
Distance from Source to Crew	25.1[d]	m
Number of Handlings per Container[e]	1	Unitless
Stop Time per Kilometer	0.033	hr/km
Minimum Stop Time per Trip	10	hr
Zero Stop Time per Trip	60	hr
Minimum Number of Rail Classifications/Inspections	2	Insp.
Persons Exposed While Stopped	100	People
Average Exposure Distance While Stopped	20	m
Storage Time per Shipment	8	hr
Number of Exposed Persons During Storage	20	hr
Average Exposure Distance While In Storage	100	m
Number of People per Vehicle on Link	5	People
Maximum Number of Trips per Crew	100	Trips
Fraction of Urban Travel During Rush Hour	0	Unitless
Fraction of Urban Travel on City Streets	1	Unitless
Fraction of Rural-Suburban Travel on Freeways	0	Unitless
Traffic Count Passing a Specific Point-Rural Zone	1	Cars/Time
Traffic Count Passing a Specific Point-Suburban Zone	5	Cars/Time
Traffic Count Passing a Specific Point-Urban Zone	5	Cars/Time

[a] The number of packages for determining the dose to crew members was reduced to 1 rail car. The contribution from the trailing 27 cars would be negligible due to self-shielding. RADTRAN 4 does not take self-shielding into consideration in calculating dose. Each rail car holds six ITCs, therefore each shipment carries 168 ITCs of which 108 ITCs contain dispersable concrete and the other 60 ITCs contain nondispersable steel.

[b] The 1m dose rates were for concrete.

[c] The number of crew is per shipment.

[d] The distance from the source to crew is based on one diesel engine pulling the railcars. In reality, at least two diesels would be expected to pull 28 railcars. Also, shielding due to the diesel itself was not taken into consideration. RADTRAN 4 requires the user to increase this distance to account for shielding.

[e] The material will actually be handled twice. Once to load and once to unload. Material handlers at the FEMP are considered remediation workers. The material handlers evaluated here are those at the off-site facility.

TABLE H-18

INPUT PARAMETERS FOR INCIDENT-FREE RADTRAN MODEL OF TRUCK TRANSPORT

Parameter	LMB to NTS	B-12 to Envirocare	B-25 to Envirocare	Units
Units per truck	1	6	6	Container/Truck
Distance to Representative Disposal Facility	3065	3300	3300	km
Dose Rate at 1m (Transport Index)	1.45e-7	0.81	1.11E-1	mrem/hr
Travel in Rural Population Zone	85.9	88.4	88.4	% of total
Travel in Suburban Population Zone	11.6	10.4	10.4	% of total
Travel in Urban Population Zone	2.5	1.2	1.2	% of total
Velocity in Rural Population Zone	88.6	44	44	km/hr
Velocity in Suburban Population Zone	40.3	26	26	km/hr
Velocity in Urban Population Zone	24.2	12	12	km/hr
Number of Crewmen[a]	2	2	2[c]	People
Distance from source to crew	3.1	3.1	3.1	m
Number of Handlings[b]	1	1	1	Unitless
Stop Time per Kilometer	0.011	0.011	0.011	hr/km
Minimum Stop Time per Trip	36.0	36.0	36.0	hr
Persons Exposed While Stopped	4	4	4	People
Average Exposure Distance While Stopped	20	20	20	m
Storage Time per Shipment	0	0	0	hr
Number of People per Vehicle on Route	2	2	2	People
Maximum Number of Trips per Crew	100	100	100	Trips
Fraction of Urban Travel During Rush Hour	0.08	0.08	0.08	Unitless
Fraction of Urban Travel on City Streets	0.06	0.06	0.06	Unitless
Fraction of Rural-Suburban Travel on Freeways	0.85	0.85	0.85	Unitless
Traffic Count Passing a Specific Point-Rural Zone	470	470	470	Cars/Time
Traffic Count Passing a Specific Point-Suburban Zone	780	780	780	Cars/Time
Traffic Count Passing a Specific Point-Urban Zone	2800	2800	2800	Cars/Time

[a] The number of crew is per shipment.
[b] The material will actually be handled twice, once to load and once to unload. Material handlers at the FEMP are considered remediation workers. The material handlers evaluated here are those at the off-site facility.

TABLE H-19
RISK TO PUBLIC FROM TRANSPORTATION ACCIDENTS (BOTH TRUCK AND RAIL) ALONG ROUTE [a]

Accident Severity Class [a]	Probability of Having Truck Accident [b]	Total Accidents [c]	Consequences (pers-rem) [d]	Total Population Dose Risk (pers-rem) [e]	Population [f]	Individual Dose (rem) [g]
12 x Trucks to Envirocare with 6 x B-12 Boxes of Concrete Chips [i]						
RURAL						
1	1.88E-04	2.26E-03	0.00E+00	0.00E+00		
2	1.23E-04	1.48E-03	5.34E-10	7.88E-13		
3	7.35E-05	8.82E-04	4.52E-04	3.99E-07		
4	1.63E-05	1.96E-04	2.06E-03	4.03E-07		
5	4.90E-06	5.88E-05	6.83E-03	4.02E-07		
6	2.69E-06	3.23E-05	2.01E-02	6.49E-07		
7	2.33E-07	2.80E-06	5.37E-02	1.50E-07		
8	4.49E-09	5.39E-08	6.92E-01	3.73E-08		
SUBTOTAL	4.09E-04	4.90E-03		2.04E-06	1.08E+03	1.89E-09
SUBURB						
1	4.53E-04	5.44E-03	0.00E+00	0.00E+00		
2	2.99E-04	3.59E-03	2.74E-08	9.83E-11		
3	2.27E-04	2.72E-03	2.32E-02	6.32E-05		
4	5.25E-05	6.30E-04	1.06E-01	6.68E-05		
5	6.80E-06	8.16E-05	3.51E-01	2.86E-05		
6	1.75E-06	2.10E-05	1.03E+00	2.16E-05		
7	6.90E-08	8.28E-07	2.76E+00	2.29E-06		
8	6.07E-09	7.28E-08	3.55E+01	2.59E-06		
SUBTOTAL	1.04E-03	1.25E-02		1.85E-04	5.54E+04	3.34E-09
URBAN						
1	3.67E-04	4.40E-03	0.00E+00	0.00E+00		
2	2.41E-04	2.89E-03	1.17E-07	3.38E-10		
3	1.77E-05	2.12E-04	9.87E-02	2.10E-05		
4	4.06E-06	4.87E-05	4.50E-01	2.19E-05		
5	4.69E-07	5.63E-06	1.49E+00	8.39E-06		
6	9.50E-08	1.14E-06	4.39E+00	5.00E-06		
7	6.97E-09	8.36E-08	1.17E+01	9.79E-07		
8	6.27E-10	7.52E-09	1.51E+02	1.14E-06		
SUBTOTAL	6.30E-04	7.56E-03		5.84E-05	3.90E+05	1.50E-10
TOTAL	2.08E-03	2.49E-02		2.46E-04	4.46E+05	5.38E-09
RISK						4.09E-12
71 x Trucks to Envirocare with 6 x B-25 Boxes of Brick [i]						
RURAL						
1	1.88E-04	1.33E-02	0.00E+00	0.00E+00		
2	1.23E-04	8.73E-03	2.97E-04	2.59E-06		
3	7.35E-05	5.22E-03	1.04E-03	5.43E-06		
4	1.63E-05	1.16E-03	3.13E-03	3.62E-06		
5	4.90E-06	3.48E-04	8.53E-03	2.97E-06		
6	2.69E-06	1.91E-04	2.27E-02	4.34E-06		
7	2.33E-07	1.65E-05	5.77E-02	9.55E-07		
8	4.49E-09	3.19E-07	1.42E-01	4.53E-08		
SUBTOTAL	4.09E-04	2.90E-02		1.99E-05	1.08E+03	1.85E-08
SUBURB						
1	4.53E-04	3.22E-02	0.00E+00	0.00E+00		
2	2.99E-04	2.12E-02	1.53E-02	3.25E-04		
3	2.27E-04	1.61E-02	5.34E-02	8.61E-04		
4	5.25E-05	3.73E-03	1.61E-01	6.00E-04		
5	6.80E-06	4.83E-04	4.38E-01	2.11E-04		
6	1.75E-06	1.24E-04	1.17E+00	1.45E-04		

TABLE H-19 (continued)
RISK TO PUBLIC FROM TRANSPORTATION ACCIDENTS (BOTH TRUCK AND RAIL) ALONG ROUTE

Accident Severity Class [a]	Probability of Having Truck Accident [b]	Total Accidents [c]	Consequences (pers-rem) [d]	Total Population Dose Risk (pers-rem) [e]	Population [f]	Individual Dose (rem) [g]
71 x Trucks to Envirocare with 6 x B-25 Boxes of Brick [i] (Cont'd)						
SUBURB						
7	6.90E-08	4.90E-06	2.96E+00	1.45E-05		
8	6.07E-09	4.31E-07	7.29E+00	3.14E-06		
SUBTOTAL	1.04E-03	7.38E-02		2.16E-03	5.54E+04	3.90E-08
URBAN						
1	3.67E-04	2.61E-02	0.00E+00	0.00E+00		
2	2.41E-04	1.71E-02	6.49E-02	1.11E-03		
3	1.77E-05	1.26E-03	2.27E-01	2.85E-04		
4	4.06E-06	2.88E-04	6.83E-01	1.97E-04		
5	4.69E-07	3.33E-05	1.86E+00	6.19E-05		
6	9.50E-08	6.75E-06	4.97E+00	3.35E-05		
7	6.97E-09	4.95E-07	1.26E+01	6.24E-06		
8	6.27E-10	4.45E-08	3.10E+01	1.38E-06		
SUBTOTAL	6.30E-04	4.48E-02		1.70E-03	3.90E+05	4.35E-09
TOTAL	2.08E-03	1.48E-01		3.88E-03	4.46E+05	6.18E-08
RISK						4.70E-11
158 x Rail Shipments to Envirocare with 168 x ITCs of Concrete [j]						
RURAL						
1	9.02E-05	1.43E-02	0.00E+00	0.00E+00		
2	5.42E-05	8.56E-03	6.01E-02	5.15E-04		
3	9.76E-05	1.54E-02	2.11E-01	3.25E-03		
4	9.76E-06	1.54E-03	4.76E-01	7.34E-04		
5	1.62E-06	2.56E-04	8.67E-01	2.22E-04		
6	1.64E-07	2.59E-05	1.45E+00	3.76E-05		
7	8.67E-08	1.37E-05	2.21E+00	3.03E-05		
8	1.62E-08	2.56E-06	4.54E+00	1.16E-05		
SUBTOTAL	2.54E-04	4.01E-02		4.80E-03	1.26E+03	3.81E-06
SUBURB						
1	2.57E-04	4.06E-02	0.00E+00	0.00E+00		
2	1.55E-04	2.45E-02	3.22E+00	7.89E-02		
3	3.71E-04	5.86E-02	1.13E+01	6.62E-01		
4	3.71E-05	5.86E-03	2.55E+01	1.49E-01		
5	2.78E-06	4.39E-04	4.65E+01	2.04E-02		
6	1.34E-07	2.12E-05	7.76E+01	1.64E-03		
7	3.09E-08	4.88E-06	1.18E+02	5.76E-04		
8	2.57E-09	4.06E-07	2.43E+02	9.87E-05		
SUBTOTAL	8.23E-04	1.30E-01		9.13E-01	6.75E+04	1.35E-05
URBAN						
1	1.06E-03	1.67E-01	0.00E+00	0.00E+00		
2	6.36E-04	1.00E-01	1.39E+01	1.40E+00		
3	1.43E-04	2.26E-02	4.86E+01	1.10E+00		
4	1.43E-04	2.26E-02	1.10E+02	2.49E+00		
5	9.53E-07	1.51E-04	2.00E+02	3.01E-02		
6	3.45E-08	5.45E-06	3.34E+02	1.82E-03		
7	1.59E-08	2.51E-06	5.09E+02	1.28E-03		
8	1.33E-09	2.10E-07	1.05E+03	2.21E-04		
SUBTOTAL	1.98E-03	3.13E-01		5.01E+00	4.81E+05	1.04E-05
TOTAL	3.06E-03	4.83E-01		5.93E+00	5.50E+05	2.78E-05
RISK						2.11E-08

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TABLE H-19 (continued)
RISK TO PUBLIC FROM TRANSPORTATION ACCIDENTS (BOTH TRUCK AND RAIL) ALONG ROUTE

Accident Severity Class [a]	Probability of Having Truck Accident [b]	Total Accidents [c]	Consequences (pers-rem) [d]	Total Population Dose Risk (pers-rem) [e]	Population [f]	Individual Dose (rem) [g]
508 x Trucks to NTS with LMBs of Concrete and Steel [i, j]						
RURAL						
1	1.14E-04	5.79E-02	0.00E+00	0.00E+00		
2	7.45E-05	3.78E-02	0.00E+00	0.00E+00		
3	4.47E-05	2.27E-02	0.00E+00	0.00E+00		
4	9.93E-06	5.04E-03	0.00E+00	0.00E+00		
5	2.98E-06	1.51E-03	1.68E-12	2.54E-15		
6	1.63E-06	8.28E-04	3.65E-12	3.02E-15		
7	1.42E-07	7.21E-05	5.86E-12	4.23E-16		
8	2.73E-09	1.39E-06	1.25E-11	1.73E-17		
SUBTOTAL	2.48E-04	1.26E-01		6.01E-15	3.13E+03	1.92E-18
SUBURB						
1	3.16E-04	1.61E-01	0.00E+00	0.00E+00		
2	2.08E-04	1.06E-01	0.00E+00	0.00E+00		
3	1.58E-04	8.03E-02	0.00E+00	0.00E+00		
4	3.66E-05	1.86E-02	0.00E+00	0.00E+00		
5	4.74E-06	2.41E-03	9.52E-11	2.29E-13		
6	1.22E-06	6.20E-04	2.07E-10	1.28E-13		
7	4.81E-08	2.44E-05	3.32E-10	8.11E-15		
8	4.24E-09	2.15E-06	7.08E-10	1.52E-15		
SUBTOTAL	7.25E-04	3.68E-01		3.67E-13	1.77E+05	2.07E-18
URBAN						
1	4.79E-04	2.43E-01	0.00E+00	0.00E+00		
2	3.14E-04	1.60E-01	0.00E+00	0.00E+00		
3	2.31E-05	1.17E-02	0.00E+00	0.00E+00		
4	5.29E-06	2.69E-03	0.00E+00	0.00E+00		
5	6.11E-07	3.10E-04	3.60E-10	1.12E-13		
6	1.24E-07	6.30E-05	7.84E-10	4.94E-14		
7	9.09E-09	4.62E-06	1.26E-09	5.82E-15		
8	8.18E-10	4.16E-07	2.68E-09	1.11E-15		
SUBTOTAL	8.22E-04	4.18E-01		1.68E-13	1.11E+06	1.51E-19
TOTAL	1.79E-03	9.12E-01		5.41E-13	1.29E+06	4.14E-18
RISK [h]						3.15E-21

a RADTRAN 4 Classification of Accident Severity.

b Input value from RADTRAN 4 which represents the probability of one truck having an accident in that severity class in either a rural, suburban, or urban area.

c Probability of one truck having an accident times the number of trucks.

d Input value from RADTRAN 4 which represents the consequence of one accident of that severity in terms of rem.

e Consequence of one accident in rems times the number of potential accidents.

f Population based on route taken and distance traveled in that category of region (i.e., rural, suburban, and urban).

g Individual dose calculated by the total population dose by the population.

h Risk calculated using the risk coefficient 7.6 x 10-7 risk/mrem (EPA, 1994).

i Scenario applies to Alternative 2.

j Scenario applies to Alternative 3.

TABLE H-20

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2 (10 YEAR PLAN - 7 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[a]	HQ	Risk	Intake[a]	HQ	Risk	Intake	HQ	Risk	Intake[a]	HQ	Risk
Radionuclides (pCi/g)	pCi			pCi						pCi		
Uranium-233/234	1.3E+02	n/a	3.6E-06	1.3E+01	n/a	3.6E-07	n/a	n/a	n/a	3.3E+01	n/a	8.9E-07
Uranium-234	1.8E+02	n/a	2.5E-06	1.8E+01	n/a	2.5E-07	n/a	n/a	n/a	4.4E+01	n/a	6.2E-07
Uranium-235	1.7E+02	n/a	2.2E-06	1.7E+01	n/a	2.2E-07	n/a	n/a	n/a	4.1E+01	n/a	5.3E-07
Uranium-238	1.8E+02	n/a	2.2E-06	1.8E+01	n/a	2.2E-07	n/a	n/a	n/a	4.4E+01	n/a	5.5E-07
Thorium-228	1.1E+01	n/a	1.0E-06	1.1E+00	n/a	1.0E-07	n/a	n/a	n/a	2.7E+00	n/a	2.5E-07
Thorium-230	6.7E+00	n/a	1.2E-07	6.7E-01	n/a	1.2E-08	n/a	n/a	n/a	1.7E+00	n/a	2.8E-08
Thorium-232	3.3E+00	n/a	6.3E-08	3.3E-01	n/a	6.3E-09	n/a	n/a	n/a	8.1E-01	n/a	1.6E-08
Technetium-99	7.8E+00	n/a	2.2E-11	7.8E-01	n/a	2.3E-12	n/a	n/a	n/a	1.9E+00	n/a	5.5E-12
Strontium-90	1.1E+01	n/a	7.8E-10	1.1E+00	n/a	7.8E-11	n/a	n/a	n/a	2.8E+00	n/a	1.9E-10
Radium-226	5.8E+00	n/a	1.6E-08	5.8E-01	n/a	1.6E-09	n/a	n/a	n/a	1.4E+00	n/a	3.9E-09
Radium-228	1.4E+01	n/a	1.4E-08	1.4E+00	n/a	1.4E-09	n/a	n/a	n/a	3.5E+00	n/a	3.4E-09
Cesium-137	2.6E-01	n/a	5.0E-12	2.6E-02	n/a	5.0E-13	n/a	n/a	n/a	6.4E-02	n/a	1.2E-12
Lead-210	3.5E+00	n/a	5.9E-09	3.5E-01	n/a	5.9E-10	n/a	n/a	n/a	8.7E-01	n/a	1.5E-09
Neptunium-237	3.7E-01	n/a	1.3E-08	3.7E-02	n/a	1.3E-09	n/a	n/a	n/a	9.1E-02	n/a	3.1E-09
Plutonium-238	7.4E-01	n/a	2.0E-08	7.4E-02	n/a	2.0E-09	n/a	n/a	n/a	1.8E-01	n/a	5.0E-09
Plutonium-239/240	3.4E-01	n/a	9.5E-09	3.4E-02	n/a	9.5E-10	n/a	n/a	n/a	8.4E-02	n/a	2.3E-09
Plutonium-241	1.2E+01	n/a	2.7E-09	1.2E+00	n/a	2.7E-10	n/a	n/a	n/a	2.9E+00	n/a	6.7E-10
Polonium-210	4.6E+00	n/a	9.9E-09	4.6E-01	n/a	9.9E-10	n/a	n/a	n/a	1.1E+00	n/a	2.4E-09
Americium-241	3.5E-01	n/a	1.3E-08	3.5E-02	n/a	1.3E-09	n/a	n/a	n/a	8.6E-02	n/a	3.3E-09
Total Radiological Risk:			1.2E-05			1.2E-06						2.9E-06

TABLE H-20 (Continued)

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2
(10 YEAR PLAN - 7 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[a]	HQ	Risk	Intake[a]	HQ	Risk	Intake[b]	HQ	Risk	Intake[b]	HQ	Risk
Metals (mg/kg)	(mg/kg)			(mg/kg)			(mg/kg)			(mg/kg)		
Antimony	8.8E-05	n/a	n/a	8.8E-06	n/a	n/a	5.2E-05	n/a	n/a	2.2E-05	n/a	n/a
Arsenic	2.7E-04	n/a	1.6E-07	2.7E-05	n/a	1.6E-08	1.6E-04	n/a	9.3E-08	6.6E-05	n/a	3.9E-08
Barium	2.9E-03	8.0E-03	n/a	2.9E-04	8.0E-04	n/a	1.7E-03	4.7E-03	n/a	7.2E-04	2.0E-03	n/a
Beryllium	5.8E-05	n/a	1.9E-08	5.8E-06	n/a	1.9E-09	3.4E-05	n/a	1.1E-08	1.4E-05	n/a	4.7E-09
Cadmium	1.0E-04	n/a	2.5E-08	1.0E-05	n/a	2.5E-09	6.0E-05	n/a	1.5E-08	2.5E-05	n/a	6.2E-09
Chromium	4.6E-04	n/a	7.6E-07	4.6E-05	n/a	7.6E-08	2.7E-04	n/a	4.5E-07	1.1E-04	n/a	1.9E-07
Copper	7.9E-04	n/a	n/a	8.0E-05	n/a	n/a	4.7E-04	n/a	n/a	2.0E-04	n/a	n/a
Lead	4.0E-04	n/a	n/a	4.0E-05	n/a	n/a	2.4E-04	n/a	n/a	9.9E-05	n/a	n/a
Manganese	1.9E-02	5.3E-01	n/a	1.9E-03	5.3E-02	n/a	1.1E-02	3.1E-01	n/a	4.8E-03	1.3E-01	n/a
Mercury	2.2E-06	1.0E-05	n/a	2.2E-07	1.0E-06	n/a	1.3E-06	6.0E-06	n/a	5.5E-07	2.5E-06	n/a
Nickel	6.6E-04	n/a	2.2E-08	6.6E-05	n/a	2.2E-09	3.9E-04	n/a	1.3E-08	1.6E-04	n/a	5.3E-09
Selenium	1.8E-06	n/a	n/a	1.8E-07	n/a	n/a	1.1E-06	n/a	n/a	4.4E-07	n/a	n/a
Silver	4.2E-04	n/a	n/a	4.2E-05	n/a	n/a	2.5E-04	n/a	n/a	1.0E-04	n/a	n/a
Thallium	1.3E-05	n/a	n/a	1.3E-06	n/a	n/a	8.0E-06	n/a	n/a	3.3E-06	n/a	n/a
Vanadium	9.5E-04	n/a	n/a	9.5E-05	n/a	n/a	5.6E-04	n/a	n/a	2.4E-04	n/a	n/a
Zinc	2.5E-03	n/a	n/a	2.5E-04	n/a	n/a	1.5E-03	n/a	n/a	6.1E-04	n/a	n/a
Organics (mg/kg)	(mg/kg)			(mg/kg)			(mg/kg)			(mg/kg)		
Tetrachloroethene	9.4E-09	n/a	7.3E-16	9.4E-10	n/a	7.3E-17	5.5E-09	n/a	4.3E-16	2.3E-09	n/a	1.8E-16
Benzo(a)anthracene	3.2E-07	n/a	1.1E-11	3.2E-08	n/a	1.1E-12	1.9E-07	n/a	6.7E-12	8.0E-08	n/a	2.8E-12
Chrysene	9.5E-07	n/a	2.3E-13	9.5E-08	n/a	2.3E-14	5.6E-07	n/a	1.3E-13	2.4E-07	n/a	5.6E-14
bis(2-ethylhexyl)phthalate	6.9E-07	n/a	n/a	6.9E-08	n/a	n/a	4.1E-07	n/a	n/a	1.7E-07	n/a	n/a

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TABLE H-20 (Continued)

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2 (10 YEAR PLAN - 7 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[b]	HQ	Risk	Intake[a]	HQ	Risk	Intake[b]	HQ	Risk	Intake[b]	HQ	Risk
PCBs/Pesticides (mg/kg)	mg/kg			mg/kg			mg/kg			mg/kg		
Arochlor-1248	6.5E-09	n/a	n/a	6.5E-10	n/a	n/a	3.8E-09	n/a	n/a	1.6E-09	n/a	n/a
Arochlor-1254	1.2E-06	n/a	n/a	1.2E-07	n/a	n/a	7.3E-07	n/a	n/a	3.0E-07	n/a	n/a
Arochlor-1260	7.8E-07	n/a	n/a	7.8E-08	n/a	n/a	4.6E-07	n/a	n/a	1.9E-07	n/a	n/a
Dieldrin	1.2E-09	n/a	7.3E-13	1.2E-10	n/a	7.3E-14	6.9E-10	n/a	4.3E-13	2.9E-10	n/a	1.8E-13
alpha chlordane	5.9E-09	n/a	3.0E-13	5.9E-10	n/a	3.0E-14	3.5E-09	n/a	1.8E-13	1.5E-09	n/a	7.4E-14
gamma chlordane	6.3E-09	n/a	n/a	6.3E-10	n/a	n/a	3.7E-09	n/a	n/a	1.6E-09	n/a	n/a
Total Non-Radiological Risk:		5.4E-01	9.8E-07		5.4E-02	9.8E-08		3.2E-01	5.8E-07		1.3E-01	2.4E-07

Notes

a Intake is calculated using body weight of 70 kilograms. Averaging time was taken into account where appropriate.

b Intake adjusted for percent of time expected to be indoors (80%) with indoor concentration assumed at 20% of outdoor concentration

n/a: COC list is based on sampling and is intact for completeness. Those without inhalation toxicity or cancer values are defined as "n/a".

TABLE H-21

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2 (31 YEAR PLAN - 27 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[a]	HQ	Risk	Intake[a]	HQ	Risk	Intake	HQ	Risk	Intake[a]	HQ	Risk
Radionuclides (pCi/g)	pCi			pCi						pCi		
Uranium-233/234	1.3E+02	n/a	3.6E-06	1.3E+01	n/a	3.6E-07	n/a	n/a	n/a	3.3E+01	n/a	8.9E-07
Uranium-234	1.8E+02	n/a	2.5E-06	1.8E+01	n/a	2.5E-07	n/a	n/a	n/a	4.4E+01	n/a	6.2E-07
Uranium-235	1.7E+02	n/a	2.2E-06	1.7E+01	n/a	2.2E-07	n/a	n/a	n/a	4.1E+01	n/a	5.3E-07
Uranium-238	1.8E+02	n/a	2.2E-06	1.8E+01	n/a	2.2E-07	n/a	n/a	n/a	4.4E+01	n/a	5.5E-07
Thorium-228	1.1E+01	n/a	1.0E-06	1.1E+00	n/a	1.0E-07	n/a	n/a	n/a	2.7E+00	n/a	2.5E-07
Thorium-230	6.7E+00	n/a	1.2E-07	6.7E-01	n/a	1.2E-08	n/a	n/a	n/a	1.7E+00	n/a	2.8E-08
Thorium-232	3.3E+00	n/a	6.3E-08	3.3E-01	n/a	6.3E-09	n/a	n/a	n/a	8.1E-01	n/a	1.6E-08
Technetium-99	7.8E+00	n/a	2.2E-11	7.8E-01	n/a	2.3E-12	n/a	n/a	n/a	1.9E+00	n/a	5.5E-12
Strontium-90	1.1E+01	n/a	7.8E-10	1.1E+00	n/a	7.8E-11	n/a	n/a	n/a	2.8E+00	n/a	1.9E-10
Radium-226	5.8E+00	n/a	1.6E-08	5.8E-01	n/a	1.6E-09	n/a	n/a	n/a	1.4E+00	n/a	3.9E-09
Radium-228	1.4E+01	n/a	1.4E-08	1.4E+00	n/a	1.4E-09	n/a	n/a	n/a	3.5E+00	n/a	3.4E-09
Cesium-137	2.6E-01	n/a	5.0E-12	2.6E-02	n/a	5.0E-13	n/a	n/a	n/a	6.4E-02	n/a	1.2E-12
Lead-210	3.5E+00	n/a	5.9E-09	3.5E-01	n/a	5.9E-10	n/a	n/a	n/a	8.7E-01	n/a	1.5E-09
Neptunium-237	3.7E-01	n/a	1.3E-08	3.7E-02	n/a	1.3E-09	n/a	n/a	n/a	9.1E-02	n/a	3.1E-09
Plutonium-238	7.4E-01	n/a	2.0E-08	7.4E-02	n/a	2.0E-09	n/a	n/a	n/a	1.8E-01	n/a	5.0E-09
Plutonium-239/240	3.4E-01	n/a	9.5E-09	3.4E-02	n/a	9.5E-10	n/a	n/a	n/a	8.4E-02	n/a	2.3E-09
Plutonium-241	1.2E+01	n/a	2.7E-09	1.2E+00	n/a	2.7E-10	n/a	n/a	n/a	2.9E+00	n/a	6.7E-10
Polonium-210	4.6E+00	n/a	9.9E-09	4.6E-01	n/a	9.9E-10	n/a	n/a	n/a	1.1E+00	n/a	2.4E-09
Americium-241	3.5E-01	n/a	1.3E-08	3.5E-02	n/a	1.3E-09	n/a	n/a	n/a	8.6E-02	n/a	3.3E-09
Total Radiological Risk:			1.2E-05			1.2E-06						2.9E-06

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TABLE H-21 (Continued)

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2 (31 YEAR PLAN - 27 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[a]	HQ	Risk	Intake[a]	HQ	Risk	Intake[b]	HQ	Risk	Intake[b]	HQ	Risk
Metals (mg/kg)	(mg/kg)			(mg/kg)			(mg/kg)			(mg/kg)		
Antimony	8.8E-05	n/a	n/a	8.8E-06	n/a	n/a	1.4E-05	n/a	n/a	2.2E-05	n/a	n/a
Arsenic	2.7E-04	n/a	1.6E-07	2.7E-05	n/a	1.6E-08	4.1E-05	n/a	2.4E-08	6.6E-05	n/a	3.9E-08
Barium	2.9E-03	2.1E-03	n/a	2.9E-04	2.1E-04	n/a	4.5E-04	3.2E-04	n/a	7.2E-04	5.1E-04	n/a
Beryllium	5.8E-05	n/a	1.9E-08	5.8E-06	n/a	1.9E-09	8.9E-06	n/a	2.9E-09	1.4E-05	n/a	4.7E-09
Cadmium	1.0E-04	n/a	2.5E-08	1.0E-05	n/a	2.5E-09	1.6E-05	n/a	3.8E-09	2.5E-05	n/a	6.2E-09
Chromium	4.6E-04	n/a	7.6E-07	4.6E-05	n/a	7.6E-08	7.1E-05	n/a	1.2E-07	1.1E-04	n/a	1.9E-07
Copper	7.9E-04	n/a	n/a	8.0E-05	n/a	n/a	1.2E-04	n/a	n/a	2.0E-04	n/a	n/a
Lead	4.0E-04	n/a	n/a	4.0E-05	n/a	n/a	6.2E-05	n/a	n/a	9.9E-05	n/a	n/a
Manganese	1.9E-02	1.4E-01	n/a	1.9E-03	1.4E-02	n/a	3.0E-03	2.1E-02	n/a	4.8E-03	3.4E-02	n/a
Mercury	2.2E-06	2.6E-06	n/a	2.2E-07	2.6E-07	n/a	3.4E-07	4.1E-07	n/a	5.5E-07	6.5E-07	n/a
Nickel	6.6E-04	n/a	2.2E-08	6.6E-05	n/a	2.2E-09	1.0E-04	n/a	3.3E-09	1.6E-04	n/a	5.3E-09
Selenium	1.8E-06	n/a	n/a	1.8E-07	n/a	n/a	2.7E-07	n/a	n/a	4.4E-07	n/a	n/a
Silver	4.2E-04	n/a	n/a	4.2E-05	n/a	n/a	6.4E-05	n/a	n/a	1.0E-04	n/a	n/a
Thallium	1.3E-05	n/a	n/a	1.3E-06	n/a	n/a	2.1E-06	n/a	n/a	3.3E-06	n/a	n/a
Vanadium	9.5E-04	n/a	n/a	9.5E-05	n/a	n/a	1.5E-04	n/a	n/a	2.4E-04	n/a	n/a
Zinc	2.5E-03	n/a	n/a	2.5E-04	n/a	n/a	3.8E-04	n/a	n/a	6.1E-04	n/a	n/a
Organics (mg/kg)	(mg/kg)			(mg/kg)			(mg/kg)			(mg/kg)		
Tetrachloroethene	9.4E-09	n/a	7.3E-16	9.4E-10	n/a	7.3E-17	3.4E-10	n/a	1.1E-16	2.3E-09	n/a	1.8E-16
Benzo(a)anthracene	3.2E-07	n/a	1.1E-11	3.2E-08	n/a	1.1E-12	3.4E-10	n/a	1.7E-12	8.0E-08	n/a	2.8E-12
Chrysene	9.5E-07	n/a	2.3E-13	9.5E-08	n/a	2.3E-14	3.4E-10	n/a	3.5E-14	2.4E-07	n/a	5.6E-14
bis(2-ethylhexyl)phthalate	6.9E-07	n/a	n/a	6.9E-08	n/a	n/a	3.4E-10	n/a	n/a	1.7E-07	n/a	n/a

TABLE H-21 (Continued)

HYPOTHETICAL CANCER RISK AND HAZARD QUOTIENTS FROM INHALATION OF CHEMICALS FROM ALTERNATIVE 2 (31 YEAR PLAN - 27 YEARS OF AIRBORNE RESUSPENDED FRACTION)

Contaminants of Concern (COCs)	Remediation Worker			Non-Remediation Worker			Child Public			Adult Public		
	Intake[a]	HQ	Risk	Intake[a]	HQ	Risk	Intake[b]	HQ	Risk	Intake[b]	HQ	Risk
PCBs/Pesticides (mg/kg)	mg/kg			mg/kg			mg/kg			mg/kg		
Arochlor-1248	6.5E-09	n/a	n/a	6.5E-10	n/a	n/a	1.0E-09	n/a	n/a	1.6E-09	n/a	n/a
Arochlor-1254	1.2E-06	n/a	n/a	1.2E-07	n/a	n/a	1.9E-07	n/a	n/a	3.0E-07	n/a	n/a
Arochlor-1260	7.8E-07	n/a	n/a	7.8E-08	n/a	n/a	1.2E-07	n/a	n/a	1.9E-07	n/a	n/a
Dieldrin	1.2E-09	n/a	7.3E-13	1.2E-10	n/a	7.3E-14	1.8E-10	n/a	1.1E-13	2.9E-10	n/a	1.8E-13
alpha chlordane	5.9E-09	n/a	3.0E-13	5.9E-10	n/a	3.0E-14	9.1E-10	n/a	4.6E-14	1.5E-09	n/a	7.4E-14
gamma chlordane	6.3E-09	n/a	n/a	6.3E-10	n/a	n/a	9.7E-10	n/a	n/a	1.6E-09	n/a	n/a
Total Non-Radiological Risk:		1.4E-01	9.8E-07		1.4E-02	9.8E-08		2.1E-02	1.5E-07		3.4E-02	2.4E-07

Notes

a Intake is calculated using body weight of 70 kilograms. Averaging time was taken into account where appropriate.

b Intake adjusted for percent of time expected to be indoors (80%) with indoor concentration assumed at 20% of outdoor concentration

n/a: COC list is based on sampling and is intact for completeness. Those without inhalation toxicity or cancer values are defined as "n/a".

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TABLE H-22

DIRECT RADIATION DOSES AND RISKS FROM CONTAINERS AND PILES

Receptor	Radiation Source	Dose Rate per Container/Piles [c,d] (mrem/hr)	Exposure Time (hr/day)	Exposure Duration (day/yr)	Radiation Dose (mrem/yr)	ILCR from 10 years	ILCR from 31 years
			ALTERNATIVE 2				
Nonremediation Worker [a]	Concrete Piles [c]	2.62E-06	8.00	2.50E+02	5.2E-03	4.0E-08	1.2E-07
	Steel Piles [c]	3.93E-09	8.00	2.50E+02	7.9E-06	6.0E-11	1.9E-10
Totals					5.2E-03	4.0E-08	1.2E-07
Remediation Worker [b]	Concrete Piles [c]	2.63E-02	1.00	2.50E+02	6.6E+00	5.0E-05	1.5E-04
	Steel Piles [c]	3.16E-05	1.00	2.50E+02	7.9E-03	6.0E-08	1.9E-07
	LMB (bulk steel)	9.51E-03	1.00	2.50E+02	2.4E+00	1.8E-05	5.6E-05
	B-12 (concrete chips)	8.08E-01	0.50	2.50E+02	1.0E+02	7.7E-04	2.4E-03
	B-25 (brick)	1.11E-01	0.50	2.50E+02	1.4E+01	1.1E-04	3.3E-04
	ITC (concrete)	1.60E-02	5.00	2.50E+02	2.0E+01	1.5E-04	4.7E-04
Totals					1.4E+02	1.0E-03	3.2E-03
			ALTERNATIVE 3				
Nonremediation Worker [a]	Concrete Piles	2.62E-06	8.00	2.50E+02	5.2E-03	4.0E-08	1.2E-07
	Steel Piles	3.93E-09	8.00	2.50E+02	7.9E-06	6.0E-11	1.9E-10
Totals					5.2E-03	4.0E-08	1.2E-07
Remediation Worker [b]	Concrete Piles [c]	2.63E-02	1.00	2.50E+02	6.6E+00	5.0E-05	1.5E-04
	Steel Piles [c]	3.16E-05	1.00	2.50E+02	7.9E-03	6.0E-08	1.9E-07
	LMB (bulk steel)	9.51E-03	2.00	2.50E+02	4.8E+00	3.6E-05	1.1E-04
	B-12 (concrete chips)	8.08E-01	NA	NA	NA	NA	NA
	B-25 (brick)	1.11E-01	NA	NA	NA	NA	NA
	ITC (concrete)	1.60E-02	5.00	2.50E+02	2.0E+01	1.5E-04	4.7E-04
Totals					3.1E+01	2.4E-04	7.4E-04

a - Nonremediation worker is assumed to spend 4 hrs/day, 250 days/yr located approximately 300 meters from the closest OU3 pile, either concrete or steel

b - Remediation worker is assumed to spend 8 hrs/day, 250 day/yr working in the vicinity of the materials. Breakdown of exposure time is asssumed as listed.

c - Assumed dose rates at 300 meters for the nonremediation worker and at one meter for the remediation worker.

d - Material specific dose rates provided in Table H-11.

e - Workers are assumed to be exposed to both piles at the same time.

NA Not applicable

TABLE H-23

SUMMARY OF CANCER RISKS TO TRANSPORTATION WORKERS AND THE PUBLIC ALONG ROUTE FROM DIRECT RADIATION DURING INCIDENT FREE TRANPORTATION OF MATERIALS

SHIPMENTS APPLICABLE TO ALTERNATIVE 2					
Subgroup	RADTRAN model (per-rem)	Population	Number of crew shipments	Individual Dose (mrem)	ILCR
By Trucks to Envirocare					
12 x Trucks to Envirocare with 6 x B-12 Boxes of Concrete Chips					
Crew	3.1E-1	2.0E+0	1.2E+1	3.1E+2	2.3E-4
Handlers	2.3E-2	1.0E+1		2.8E+1	2.1E-5
Public Total	3.7E-2	3.3E+5		1.3E-3	1.0E-9
71 x Trucks to Envirocare with 6 x B-25 Boxes of Brick					
Crew	4.4E-2	2.0E+0	7.1E+1	2.6E+2	2.0E-4
Handlers	3.2E-3	1.0E+1		2.3E+1	1.7E-5
Public Total	5.3E-3	3.3E+5		1.1E-3	8.5E-10
By Trucks to NTS					
508 x Trucks to NTS with LMBs of Concrete and Steel					
Crew	1.1E-8	2.0E+0	1.00E+02	5.3E-4	4.0E-10
Handlers	1.3E-9	1.0E+1		6.5E-5	4.9E-11
Public Total	1.3E-9	9.3E+5		7.2E-10	5.4E-16
				Total Individual Dose	**Total ILCR**
Crew [a]				**5.7E+2**	**4.3E-4**
Handlers [a]				**5.1E+1**	**3.9E-5**
Public Total [b]				**2.5E-3**	**1.9E-9**

SHIPMENTS APPLICABLE TO ALTERNATIVE 3					
Subgroup	RADTRAN model (per-rem)	Population	Number of crew shipments	Individual Dose (mrem)	ILCR
By Rail to Envirocare					
158 x Rail Shipments to Envirocare with 168 x ITCs of Concrete					
Crew	3.6E-3	5.0E+0	1.0E+2	7.2E+1	5.5E-5
Handlers	2.4E-2	1.0E+1		3.8E+2	2.9E-4
Public Total	8.8E-3	8.2E+5		1.7E-3	1.3E-9
By Trucks to NTS					
508 x Trucks to NTS with LMBs of Concrete and Steel					
Crew	1.1E-8	2.0E+0	1.0E+02	5.3E-4	4.0E-10
Handlers	1.3E-9	1.0E+1		6.5E-5	4.9E-11
Public Total	1.3E-9	9.3E+5		7.2E-10	5.4E-16
				Total Individual Dose	**Total ILCR**
Crew [a]				**7.2E+1**	**5.5E-5**
Handlers [a]				**3.8E+2**	**2.9E-4**
Public Total [b]				**1.7E-3**	**1.3E-9**

Notes:
ILCR - Incremental Lifetime Cancer Risk
a - Total doses assumes that the transportation workers are limited to 100 trips per lifetime and the public could be potentially exposed to all shipments occuring over several years.
b - The total dose and ILCR to the public under both Alternatives assumes the total dose from the worse case route since the two types of shipment cover completely separate routes and therefore would expose different populations.

TABLE H-24
SUMMARY OF HYPOTHETICAL RISKS, HAZARD INDICES AND DOSES
(10-YEAR PLAN)

Receptor	Alternative 2 Dose	Alternative 2 ILCR	Alternative 2 HI	Alternative 3 [a] Dose	Alternative 3 [a] ILCR	Alternative 3 [a] HI
Remediation Worker [b]	(mrem/yr)			(mrem/yr)		
Direct Radiation	1.4E+02	1.0E-03	NA	3.1E+01	2.4E-04	NA
Inhalation (radionuclides)	NA	1.2E-05	NA	NA	NA	NA
Total ILCR (radionuclides)		1.1E-03			2.4E-04	
Inhalation (chemical)	NA	9.8E-07	5.4E-01	NA	NA	NA
Nonremediation Worker [b]	(mrem/yr)			(mrem/yr)		
Direct Radiation	5.2E-03	4.0E-08	NA	5.2E-03	4.0E-08	NA
Inhalation (radiation)	NA	1.2E-06	NA	NA	NA	NA
Total ILCR (radionuclides)		1.2E-06			4.0E-08	
Inhalation (chemical)	NA	9.8E-08	5.4E-02	NA	NA	NA
Transportation Crew [c]	(mrem)			(mrem)		
Direct Radiation	5.67E+02	4.33E-04	NA	7.21E+01	5.45E-05	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA
Transportation Material Handlers [c]	(mrem)			(mrem)		
Direct Radiation	5.1E+01	3.9E-05	NA	3.8E+02	2.9E-04	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA
Off-Property Resident (Adult)						
Direct Radiation	NA	NA	NA	NA	NA	NA
Inhalation (radiation)	NA	2.9E-06	NA	NA	NA	NA
Inhalation (chemical)	NA	2.4E-07	1.3E-01	NA	NA	NA
Off-Property Resident (Child)						
Direct Radiation	NA	NA	NA	NA	NA	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	5.8E-07	3.2E-01	NA	NA	NA
Public Along Route [d]	(mrem)			(mrem)		
Direct Radiation	2.5E-03	1.9E-09	NA	1.7E-03	1.3E-09	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA

a - Inhalation risks from Alternative 3 are not expected because respirable fraction will not be produced.

b - Direction Radiation ILCR to nonremediation and remediation workers assumes exposure to materials over entire duration of project.

c - Dose to the transportation workers (crew members and material handlers) is a project total dose and assumes that these receptors could potentially be exposed to all shipments since shipments occur over several years.

d - The dose to the public along route under Alternatives 2 and 3 is also a project total dose and assumes worst case of the two seperate routes, whic 151 rail shipments to Envirocare.

ILCR - Incremental lifetime cancer risk

HI - Hazard Index

TABLE H-25

SUMMARY OF HYPOTHETICAL RISKS, HAZARD INDICES AND DOSES (31-YEAR PLAN)

Receptor	Alternative 2 Dose	Alternative 2 ILCR	Alternative 2 HI	Alternative 3[a] Dose	Alternative 3[a] ILCR	Alternative 3[a] HI
Remediation Worker [b]	(mrem/yr)			(mrem/yr)		
Direct Radiation	1.4E+02	3.2E-03	NA	3.1E+01	7.4E-04	NA
Inhalation (radionuclides)	NA	1.2E-05	NA	NA	NA	NA
Total ILCR (radionuclides)		3.2E-03			7.4E-04	
Inhalation (chemical)	NA	9.8E-07	1.4E-01	NA	NA	NA
Nonremediation Worker [b]	(mrem/yr)			(mrem/yr)		
Direct Radiation	5.2E-03	1.2E-07	NA	5.2E-03	1.2E-07	NA
Inhalation (radiation)	NA	1.2E-06	NA	NA	NA	NA
Total ILCR (radionuclides)		1.3E-06			1.2E-07	
Inhalation (chemical)	NA	9.8E-08	1.4E-02	NA	NA	NA
Transportation Crew [c]	(mrem)			(mrem)		
Direct Radiation	5.7E+02	4.3E-04	NA	7.2E+01	5.5E-05	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA
Tranport. Material Handlers [c]	(mrem)			(mrem)		
Direct Radiation	5.1E+01	3.9E-05	NA	3.8E+02	2.9E-04	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA
Off-Property Resident (Adult)						
Direct Radiation	NA	NA	NA	NA	NA	NA
Inhalation (radiation)	NA	2.9E-06	NA	NA	NA	NA
Inhalation (chemical)	NA	2.4E-07	3.4E-02	NA	NA	NA
Off-Property Resident (Child)						
Direct Radiation	NA	NA	NA	NA	NA	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	1.5E-07	2.1E-02	NA	NA	NA
Public Along Route [d]	(mrem)			(mrem)		
Direct Radiation	2.5E-03	1.9E-09	NA	1.7E-03	1.3E-09	NA
Inhalation (radiation)	NA	NA	NA	NA	NA	NA
Inhalation (chemical)	NA	NA	NA	NA	NA	NA

a - Inhalation Risks from Alternative 3 is not expected because respirable fraction will not be produced.

b - Direct Radiation ILCR to nonremediation and remediation workers assumes exposure to materials over entire duration of project.

c - Dose to the transportation worker (crew members and material handlers) is a project total dose and assumes that the workers could potentially be exposed to all shipments since the transportation of material will occur over several years.

d - The doses to the public along route under Alternatives 2 and 3 are also project total doses and assume worst case of the two seperate r

NA - Not applicable.

ILCR -Incremental lifetime cancer risk

HI - hazard index

TABLE H-26

SUMMARY OF POTENTIAL TRANSPORTATION ACCIDENTS AND ASSOCIATED RISK TO THE PUBLIC ALONG TRANSPORTATION ROUTE

SHIPMENTS APPLICABLE TO ALTERNATIVE 2				
Region	Probability of an Accident[a]	Total number of Accidents[a]	Individual Dose (rem)[b]	Risk[c]
12 Trucks to Envirocare with 6 B-12's (containing concrete chips) each				
Rural	4.1E-04	4.9E-03	1.9E-09	1.4E-12
Suburban	1.0E-03	1.2E-02	3.3E-09	2.5E-12
Urban	6.3E-04	7.6E-03	1.5E-10	1.1E-13
Total	2.1E-03	2.5E-02	5.4E-09	4.1E-12
71 Trucks to Environcare with 6 B-25's (containing brick) each				
Rural	4.1E-04	1.8E-08	2.6E-08	2.0E-11
Suburban	9.4E-04	3.9E-08	5.0E-08	3.8E-11
Urban	6.3E-04	4.3E-09	6.3E-09	4.8E-12
Total	2.0E-03	6.2E-08	8.2E-08	6.2E-11
Totals from trucks to Envirocare	**4.1E-03**	**2.5E-02**	**8.7E-08**	**6.6E-11**
508 Trucks to NTS with 1 LMB (with concrete and steel) each				
Rural	2.5E-04	1.9E-18	1.0E-12	7.9E-16
Suburban	7.2E-04	2.1E-18	2.5E-12	1.9E-15
Urban	8.2E-04	1.5E-19	5.4E-13	4.1E-16
Total from Trucks to NTS	**1.8E-03**	**4.1E-18**	**4.1E-12**	**3.1E-15**

SHIPMENTS APPLICABLE TO ALTERNATIVE 3				
Region	Probability of an Accident[a]	Total number of Accidents[a]	Individual Dose (rem)[b]	Risk[c]
158 Rail Shipments to Envirocare with 168 ITCs (containing concrete) each				
Rural	2.5E-04	4.0E-02	3.8E-06	2.9E-09
Suburban	8.2E-04	1.3E-01	1.4E-05	1.0E-08
Urban	2.0E-03	3.1E-01	1.0E-05	7.9E-09
Total from Rail to Envirocare	**3.1E-03**	**4.8E-01**	**2.8E-05**	**2.1E-08**
508 Trucks to NTS with 1 LMB (with concrete and steel) each				
Rural	2.5E-04	1.9E-18	1.0E-12	7.9E-16
Suburban	7.2E-04	2.1E-18	2.5E-12	1.9E-15
Urban	8.2E-04	1.5E-19	5.4E-13	4.1E-16
Totals from Trucks to NTS	**1.8E-03**	**4.1E-18**	**4.1E-12**	**3.1E-15**

a - Details on probability, number of accidents and population dose per severity class are given in Table H.3-20

b - Dose icludes exposures from inhalation of resuspended concrete, direct radiation, and cloud shine.

c - Risk calculated using the risk coefficient 7.6E-07 risk/mrem (EPA, 1994).

TABLE H-27

SUMMARY OF OCCUPATIONAL AND NONOCCUPATIONAL TRANSPORTATION INJURIES AND FATALITIES

	Truck Injury/Fatality Coefficients[a]	Distance traveled by Trucks[b]	Injuries/Fatalities by Truck Transport[c]	Rail Injury/Fatality Coefficients[a]	Distance traveled by Rail[b]	Injuries/Fatalities by Rail Transport[c]	Total Transportation Injuries & Fatalities
ALTERNATIVE 2[d]							
Worker Fatality	2.1E-09	1.1E+06	2.3E-03	4.6E-08	NA	NA	2.3E-03
Worker Injury	4.1E-08	1.1E+06	4.5E-02	6.6E-06	NA	NA	4.5E-02
Public Fatality	1.3E-08	1.1E+06	1.4E-02	1.8E-06	NA	NA	1.4E-02
Public Injury	1.2E-07	1.1E+06	1.3E-01	6.8E-06	NA	NA	1.3E-01
ALTERNATIVE 3[d]							
Worker Fatality	2.1E-09	1.0E+06	2.1E-03	4.6E-08	3.2E+05	1.5E-02	1.7E-02
Worker Injury	4.1E-08	1.0E+06	4.1E-02	6.6E-06	3.2E+05	2.1E+00	2.1E+00
Public Fatality	1.3E-08	1.0E+06	1.3E-02	1.8E-06	3.2E+05	5.8E-01	5.9E-01
Public Injury	1.2E-07	1.0E+06	1.2E-01	6.8E-06	3.2E+05	2.2E+00	2.3E+00

a - See Table H-13

b - see table H-14

c - Injury/Fatality Coeffient x miles travelled

d - Injuries\fatalities are not included for on-site shipments (ie. the movement of ROBs under Alternative 2 and ITC under alternative 3. These values are included in the number of on-site injuries\fatalites listed in Table H-15 and are calculated based on person-hours.

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TABLE H-28

UNCERTAINTY ASSOCIATED WITH SHORT TERM RISK ASSESSMENT FOR OPERABLE UNIT 3

Potential Uncertainty	Source of Uncertainty	Magnitude of Uncertainty[a]	Expected Direction[b]	Remarks
Selection of COCs[c]	Adequacy of database	Low to Moderate		Database currently incomplete, will decrease uncertainty as completed
	Selection of COCs	Low to Moderate	Increase Conservatism	Selection based upon maximum values.
Exposure Assumptions	Selection and location of receptors	Low to Moderate	Increase Conservatism	Distance to receptors will effect risks, locations of wastes and disposal cell may change in future. Off-site receptors are assumed to be 500m downwind from center of disposal cell.
	Volumes of wastes	Low to Moderate	Increase Conservatism	Extent of contamination is conservatively defined and will probably decrease when actual remediation occurs.
	Person-hour estimates	Low to Moderate	Unknown	Hours preliminary at this time and depend on volumes and sampling results
Exposure pathways	Sources, release rates, and pathways selected for quantification	Low to Moderate	Unknown	Release rates (i.e., for inhalation analyses) selected to be highly conservative. Potential exposures from on-site treatment activities may be under estimated since they were not quantified.
	Determination of exposure factors	Low	Increase Conservatism	Pathways selected to encompass low risk pathways as well as significant pathways.

TABLE H-28 (Continued)

UNCERTAINTY ASSOCIATED WITH SHORT TERM RISK ASSESSMENT FOR OPERABLE UNIT 3

Potential Uncertainty	Source of Uncertainty	Magnitude of Uncertainty[a]	Expected Direction[b]	Remarks
Exposure point concentrations	Use of weighted average contamination concentrations	Low to Moderate	Increase Conservatism	Source terms (i.e., contamination levels) are based on weighted averages from sampling results. In addition, decontamination activities during the Interim Action have not been taken into account so higher contaminant levels, than the weighted average concentrations will probably not be seen in the OU3 remediation activities.
	Accuracy of predictive models	Moderate to High	Increase Conservatism	Air concentration modelled using ISC ST and LT Model.
Toxicological Information	Dose-Response assessment - chemicals	Low to Moderate	Increase Conservatism	Chemical dose response based on animal data, little information available on actual chronic low dose impacts on humans
	Dose-Response assessment - radionuclides	Low to Moderate	Increase Conservatism	Dose response based on extrapolations with little information available on actual chronic low dose impacts on humans
Risk Characterization	Assumed additivity	Low to Moderate	Increase Conservatism	Potential health effects driven by few COCs and few exposure pathways
	Failure to consider antagonism	Unknown	Increase Conservatism	Data unknown

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TABLE H-28 (Continued)

UNCERTAINTY ASSOCIATED WITH SHORT TERM RISK ASSESSMENT FOR OPERABLE UNIT 3

Potential Uncertainty	Source of Uncertainty	Magnitude of Uncertainty[a]	Expected Direction[b]	Remarks
	Failure to consider synergism	Unknown	Decrease Conservatism	Data unknown
Accident Assumptions	Parameters used	Low to Moderate	Increase Conservatism	Parameters and other assumptions made were selected to be conservative. Release fractions and dispersion assumptions used in RADTRAN are highly conservative for materials involved and chosen to result in the highest downwind concentrations and the highest individual doses.
Overall		High	Increase Conservatism	

[a] Magnitude is assumed qualitatively based on professional judgement and includes the following:
- Low-impacts risk by a factor of 10 or less
- Moderate-impacts risk by a factor 10 to 100
- High-impacts risk by a factor of 100 or more

[b] Direction is assessed qualitatively when an increased conservatism increase final health effects calculated in risk assessment

[c] COC Constituent of Concern

Primary Sources (Material Category)

- A - Accessible Metals
- B - Inaccessible Metals
- C - Process-Related Metals
- D - Painted Light-Gauge Metals
- E - Concrete
- F - Brick
- G - Non-Regulated ACM
- H - Regulated ACM
- I - Miscellaneous materials

Operation	Exposure Pathway	Remediation Worker	Nonremediation Worker	Off-Property Resident Adult	Off-Property Resident Child	Public along Transport. Route	Transportation Worker
		Potential Receptors					
Shipment Preparation	Direct Exp	X	2	2	2	1	1
	Dermal & Ingestion	2	2	2	2	1	1
	Inhalation	2	2	2	2	1	1
	Mechanical Hazard	X	X	1	1	1	1
Transportation	Direct Exp	1	1	1	1	X	X
	Mechanical Hazard	1	1	1	1	X	X
	Transport. Accident[b]	1	1	1	1	X[b]	X[b]
On-Property Disposal	Direct Exp	X	2	2	2	1	1
	Dermal & Ingestion	2	2	2	2	1	1
	Inhalation[a]	X[a]	X[a]	X[a]	X[a]	1	1
	Mechanical Hazard	X	X	1	1	1	1

X- Exposure Pathway Evaluated
1 - Pathway Not Applicable
2 - Exposure Pathway Considered Insignificant
a - Inhalation is evaluated for concrete only.
b - Transportation accidents include inhalation and direct exposure.

Figure H-1 Flowchart of Conceptual Model for Exposure Pathways

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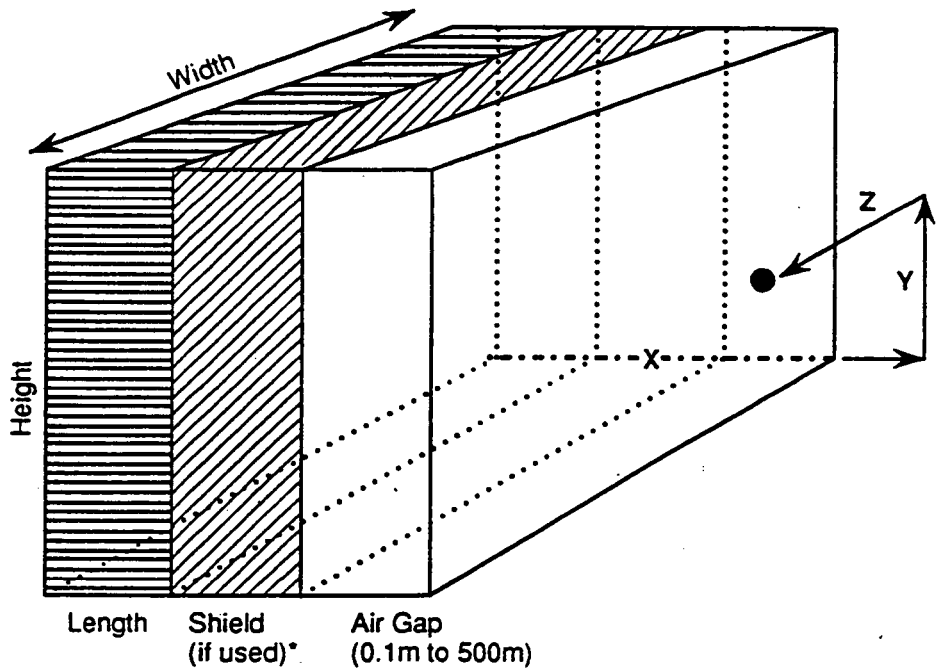

X = length of source plus shield thickness plus air gap
Y = height of dose point (one-half the height of source)
Z = one-half the width of source

* For B-12, B-25, small white and large metal box and ITCs, the shield is the container wall.

*ILLUS\OU-3\PO-135\MICROSHIELD.EPS

Figure H.2 - Rectangular Volume Geometry for Microshield

APPENDIX I

COMPREHENSIVE RESPONSE ACTION RISK EVALUATION

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LIST OF ACRONYMS AND ABBREVIATIONS

ACA	Amended Consent Agreement
AWWT	Advanced Wastewater Treatment (facility)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CPC	contaminant of potential concern
CRARE	comprehensive response action risk evaluation
CRDL	contract required detection limit
D&D	decontamination and dismantlement
DOE	United States Department of Energy
DOE-NV	United States Department of Energy - Nevada Field Office (Las Vegas, Nevada)
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FEMP	Fernald Environmental Management Project
FRL	final remediation level
FS	feasibility study
GMA	Great Miami Aquifer
GRA	general response action
HI	hazard index
ILCR	incremental lifetime cancer risk
IROD	Record of Decision for Interim Remedial Action
LARW	low activity radioactive waste
LDR	land disposal restriction(s)
LLW	low-level radioactive waste
LRA	leading remedial alternative
MCL	maximum contaminant level
MW	mixed waste
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NORM	naturally occurring radioactive material
NTS	Nevada Test Site
OU	operable unit
PCB	polychlorinated biphenyl
PRG	preliminary remediation goal
PRL	preliminary remediation level
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act, 1976 (Title 42)
RI	remedial investigation
RME	reasonable maximum exposure
ROD	record of decision
TSCA	Toxic Substances Control Act
WAC	waste acceptance criteria
yd^3	cubic yard

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I.0 COMPREHENSIVE RESPONSE ACTION RISK EVALUATION

The Comprehensive Response Action Risk Evaluation (CRARE) estimates the human health risks associated with the Fernald Environmental Management Project (FEMP) after all remedial actions have been completed. The CRARE evaluates the site-related risk to individuals from the combined sources of the five operable units (OUs) remaining at the FEMP.

I.1 INTRODUCTION

As defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Superfund program was designed to protect human health and the environment from current and potential threats posed by uncontrolled hazardous substance releases. CERCLA requires that the actions selected to remediate hazardous waste sites meet these criteria. Further, when a remedial action results in residual contamination at a site, reviews must be planned and conducted to assure that human health and environment continue to be protected in the future. These objectives are defined in the U.S. Environmental Protection Agency's (US EPA) Risk Assessment Guidance for Superfund (RAGS) (EPA 1991).

Specific guidance on implementation of these objectives is provided in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (EPA 1990), which sets the cleanup criteria for CERCLA response actions. That is, the risk to a receptor (i.e., a hypothetical member of the public) who is subject to the reasonable maximum exposure (RME) generally must not exceed an incremental lifetime cancer risk (ILCR) of 10^{-6} to 10^{-4} or a hazard index (HI) of 1. The CRARE process was designed specifically to ensure these requirements are met at the site in its post-remediation condition.

In accordance with the 1991 Amended Consent Agreement (ACA) between the U.S. Department of Energy (DOE) and the US EPA, a CRARE will be submitted with the feasibility study (FS) report for each OU. Specific objectives of the CRARE process are as follows:

- Provide a basis for determining residual concentrations of contaminants that may remain on-property and provide a best estimate of residual risks projected to remain at the site following completion of the sitewide remedy;
- Provide a consistent and comprehensive process for evaluating and documenting projected potential public health impacts associated with the site; and
- When residual contamination from all operable units is integrated, determine the status of the "risk budget" for the site and whether the anticipated risk range can be met, given the assemblage of preferred or leading remedial alternatives.

To achieve these objectives, the CRARE process was established to provide risk-related information to decision makers and stakeholders, who review the effectiveness of individual proposed operable unit remedial actions in a comprehensive, sitewide framework.

OU3, the former Production Area, is a source operable unit, comprised primarily of man-made structures and facilities that will be decontaminated and dismantled (D&D) through implementation of the interim remedial action. Based on the comparative analysis of alternatives for OU3 (Section 6 of this report), the on-property disposal facility remedy (Alternative 2) is the leading remedial alternative for final remediation of OU3. This alternative involves disposal of all OU3 materials that meet waste

acceptance criteria (WAC) in the sitewide, engineered, on-property disposal facility. All other OU3 materials would be dispositioned off-site. After completion of the interim and final remedial actions, OU3 would no longer exist, leaving only those post-remediation risks resulting from OU3 materials disposed in the engineered disposal facility.

The last CRARE performed at the FEMP was for OU5, which already assumed on-property disposal of most OU3 materials. The impact of disposing OU3 materials in the sitewide disposal facility was evaluated in the OU5 CRARE (DOE 1995a). Therefore, the intent of this appendix is to demonstrate that, because the OU5 CRARE conservatively estimated the impacts of disposing OU3 construction materials in the on-property disposal facility, the OU5 CRARE satisfies the requirement for performing an OU3 CRARE. In consideration of the leading remedial alternative for OU3, an additional evaluation of residual risks under the sitewide remedy would not provide a significantly different estimate of final residual risks at the site than the OU5 CRARE. This appendix provides an overview of the CRARE process, a description of the coordination between OU3 and OU5, a summary of OU3 source assumptions used in the OU5 CRARE, a comparison of current source estimates with those assumed in the OU5 CRARE, and conclusions.

I.2 OVERVIEW OF CRARE PROCESS

The CRARE process assesses the risks that could reasonably be attributed to the remediated FEMP site by examining a range of hypothetical on-property and off-site receptors. This is done in compliance with the EPA risk assessment guidance and methods, as presented in RAGS, using site-specific data to predict contaminant concentrations in site media following completion of remedial actions. Predicted risk levels for evaluated receptors were further analyzed in light of FEMP operational history as well as the natural occurrence, or background levels, of constituents of concern (COCs) in the environment. This analysis calculates risks attributable to background concentrations of contaminants and quantifies the role they play in the total risk. Combined with an uncertainty analysis, these comparisons provide pertinent information to regulatory agencies and the public on the assessment of potential site-related health risks.

The primary outcome of this analysis is the demonstration that the OU5 CRARE satisfies the ACA requirement to perform a CRARE for OU3. The OU5 CRARE assessed risks from predicted FEMP site conditions up to 1,000 years, assuming implementation of the preferred or selected remedial alternatives for each OU.

Based on the selected remedies and remedial alternatives for each of the OUs at the site, contaminated source materials (e.g. soils) above cleanup criteria would be removed. An engineered on-property disposal facility would be constructed to contain the contaminated materials that meet established WAC. Environmental media remaining outside of the engineered disposal facility would be required to meet the final remediation levels established in the OU5 Record of Decision (ROD) (DOE 1995b).

In the OU5 ROD, the undeveloped park was selected as the land use scenario for the site after completion of the sitewide remedy. The possible target receptors identified for this scenario include the on-property undeveloped park user, the off-property resident adult farmer, and the off-property resident child. Using the exposure assumptions for the target receptors in the OU5 Baseline Risk Assessment (DOE 1994a), risk-based preliminary remediation goals (PRGs) were calculated for environmental media. Preliminary remediation levels (PRLs) were developed based on the human health risk-based PRGs and with consideration of media-specific background concentrations, analytical detection limits, and other factors such as cross-media impacts. These PRLs serve as the starting point for the CRARE risk projections. The additional impacts of placing contaminated materials that meet protective WAC from all OUs in an on-property disposal facility are considered as well.

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I.2.1 Adopted Sitewide Remedy and Post-Remedial Site Conditions

This section provides a general description of the sitewide conditions that are assumed to exist after completing remedial actions for each OU. These final sitewide conditions were used in the modeling of exposure-point contaminant concentrations to support the OU5 CRARE process. The CRARE process evaluates the risks to hypothetical receptors evaluated under the implementation of the adopted sitewide remedy and provides a general overview of final sitewide conditions. For detailed information on specific OUs, refer to the individual Remedial Investigation/Feasibility Study (RI/FS) Reports and RODs, as applicable.

Although conservative assumptions were employed in the development of source term estimates, the CRARE may not, in all cases, apply a stringent upper-bound estimate of source terms. It should be recognized that the CRARE relies on existing individual OU RI data sets to project post-remedial conditions. Although there is inherent conservatism built into the methods of calculating source terms, the estimates may not strictly reflect standard reasonable maximum exposure (RME) calculations. As such, the resultant source terms and CRARE residual risk estimates are intended for use only in the FEMP CRARE process and may not be appropriate for other applications.

The RI data sets used in the CRARE process were collected over a period of ten years using various analytical methods and a range of contract required detection limits (CRDLs). The CRARE process optimizes the use of available data sets and employs practical statistical methods for predicting post-remediation source terms. This is done in an attempt to define a reasonable best estimate of residual concentrations of contaminants.

I.2.1.1 Description of Operable Unit Remedial Alternatives

Table I-1 and the following paragraphs describe the remedial actions selected for each operable unit from their respective RODs. The OU3 discussion represents a summary of Alternative 2 from Section 5 of this document.

Operable Unit 1 Remedy

The selected remedy for OU1 includes the removal, pretreatment (crushing/shredding), and drying of waste; off-site disposal of waste pit materials, covers, liners, and excavated soils; and decommissioning and removal of the drying treatment unit and associated facilities. The OU1 ROD (DOE 1994b) specifies that OU1 construction materials will be dispositioned in accordance with the disposition decision for OU3 construction materials. Therefore, on-property disposal of OU1 construction materials will be considered. The OU3 concrete WAC will be applied to OU1 concrete to determine its acceptability for on-property disposal. If contaminants are detected in OU1 materials that were not evaluated for OU3 materials, or if contaminants are detected at higher levels than maximum levels detected in OU3 materials, further evaluation of these materials may be required. All waste pit materials and other construction materials not acceptable for on-property disposal will be shipped off-site. Excavated areas will be backfilled with clean soil. The anticipated volumes to be excavated for disposition on-property and off-site are presented in Table I-2. It was estimated that 628,000 cubic yards (yd^3) of OU1 material will be disposed off-site.

Additional components of the OU1 remedy include construction of waste processing and loading facilities and removal of water from open waste pits for treatment at the OU5 Advanced Wastewater Treatment (AWWT) facility. The remedial actions for OU1 are presented in the OU1 Record of Decision (DOE 1994b).

Operable Unit 2 Remedy

The selected remedy for OU2, as presented in the OU2 ROD (DOE 1995c), includes excavation of all soils with COCs above the PRLs developed in the OU2 FS (DOE 1994c), material processing for size reduction and moisture control (as required), on-property disposal in an engineered disposal facility, and off-site disposal of a small fraction of the excavated material that exceeds the WAC of the on-property disposal facility. Free-standing water in the Lime Sludge Ponds will be removed and treated at the AWWT facility prior to discharge to the Great Miami River. In the South Field area, excavation of contaminated material above the OU2 PRLs will prevent significant amounts of contaminants from the source material from entering the Great Miami Aquifer via the underlying sand lenses in the glacial till.

Non-soil material (concrete, drums, steel, pallets, etc.) from all OU2 subunits will be segregated, hauled to the staging and material preparation area, processed for size reduction, analyzed, and placed in the on-property disposal facility. Contaminated material from the subunits will be excavated, transported, and placed in the on-property disposal facility; to improve the handling and compaction characteristics of the waste material, lime sludge will be mixed with other waste material as necessary. The volumes estimated for on-property and off-site disposal are presented in Table I-2, with 345,000 yd^3 slated for on-property disposal and 3,600 yd^3 for off-site disposal.

After excavation of OU2 waste materials, residual contaminated soil and waste materials will be evaluated using the area- and COC-specific final remediation levels (FRLs) presented in the draft OU5 ROD. If soils and waste are found to be present above the FRLs, additional excavations would be completed to attain OU5 FRLs in the OU2 area. After additional excavation, the areas will be regraded, backfilled with soil as necessary, and revegetated.

Operable Unit 3 Leading Remedial Alternative

OU3 structures and facilities will be decontaminated and dismantled as specified under the ROD for the Interim Remedial Action (IROD) (DOE 1994d). The OU3 leading remedial alternative (LRA) is on-property disposal of construction materials from the interim remedial action with limited off-site disposition. It is estimated that a maximum volume of 7.36×10^6 ft^3 of contaminated material from OU3 will be disposed in the on-property disposal facility. This volume includes all OU3 material categories except for the following materials:

- Process-Related Metals (Material Category C), which will be disposed off-site because of the presence of residues and hold-up material;
- Brick (Material Category F), which contains high concentrations of COCs due to processing activities;
- Product, Residues, and Special Materials (Material Category J), which will be dispositioned off-site in accordance with Removal Action No. 9 (Removal of Waste Inventories); and
- Scabbled concrete residues to meet OU3-specific WAC.

Additionally, approximately 3.09×10^5 ft^3 of materials have the potential for unrestricted release, as discussed in Section 5 of this report. At this time, it is assumed that no OU3 materials will be recycled based on economic considerations. If recycling becomes economically feasible, it will be performed to the maximum extent practical. Therefore, the listed OU3 volume for on-property

disposal (Table I-2) should be considered as a maximum estimate. However, the volume of materials associated with Material Category C may vary because of its development and segregation in the field during D&D activities.

Operable Unit 4 Remedy

The selected remedy for OU4 includes removing the waste stored in Silos 1, 2, and 3, stabilizing it by vitrification, and transporting the stabilized waste to the Nevada Test Site (NTS). Silos 1, 2, 3, and 4 will be decontaminated to the extent practical and demolished. Contaminated construction material from the silos and decant tank will be removed and temporarily stored on-property for disposal in conjunction with OU3 debris. The OU4 ROD (DOE 1994e) specifies that OU4 construction materials will be dispositioned in accordance with the disposition decision for OU3 construction materials. Therefore, on-property disposal of OU4 construction materials will be considered. The OU3 concrete WAC will be applied to OU4 concrete to determine its acceptability for on-property disposal. If contaminants are detected in OU4 materials that were not evaluated for OU3 materials, or if contaminants are detected at higher levels than maximum levels detected in OU3 materials, further evaluation of these materials may be required. Residual soils from OU4 will be evaluated to determine whether they are above or below the FRLs established for OU5. Residual soils above the FRLs are included in the OU5 source term and volume estimates. The excavated volumes for on-property and off-site disposal are presented in Table I-2. It was estimated that 14,000 yd^3 of OU4 waste material will be dispositioned off-site and 3,000 yd^3 will be disposed in the on-property disposal facility. These actions are presented in detail in the OU4 ROD (DOE 1994e).

Operable Unit 5 Remedy

OU5 consists of the environmental media (soil, sediment, and water) that remain on-property after completion of the remedial alternatives for OUs 1 through 4. For OU5, target receptor FRLs and disposal facility WAC were developed for each COC to comply with appropriate risk or environmental criteria. In the OU5 CRARE, soils that exceed both PRLs and the WAC for on-property disposal were assumed to be dispositioned off-site.

The remedy for OU5 includes excavation and on-property disposal of soils, sediment, and perched groundwater that have contaminant levels exceeding the target receptor FRLs under the undeveloped park land use scenario. All soils and sediment placed in the on-property disposal facility must meet the WAC; any that exceed the WAC will be shipped off-site. Groundwater from the Great Miami Aquifer, recovered perched groundwater, and process wastewater will be treated at the AWWT facility to achieve levels of compliance and discharged to the Great Miami River. Waste sludge generated by the water treatment will be dried, stabilized, and placed in the on-property disposal facility or shipped off-site. Table I-2 presents the estimated volumes to be generated for on-property and off-site disposal as a result of implementing the OU5 remedy (DOE 1995b). It was estimated that 25,000 yd^3 of OU5 material will be dispositioned off-site. Approximately 1,750,000 yd^3 of the total 2,370,000 yd^3 of materials estimated for on-property disposal are OU5 soils. This represents approximately 74 percent of the total volume of material in the on-property disposal facility.

I.2.1.2 Post-Remedial Site Conditions

Since completion of remedial actions for OU5 is assumed to occur after completion of remedial actions for OUs 1 through 4, the FRLs for OU5, which are based on an undeveloped park scenario following remediation, will determine final sitewide conditions. The sitewide remedy employs the consolidation of waste in an engineered, on-property disposal facility. The estimated total waste volume for on-property disposal under the adopted sitewide remedy is 2.37×10^6 yd^3 (see Table I-2).

The post-remedial site conditions will include a single, on-property disposal facility that contains consolidated contaminated soil, sediment, and debris designated for on-property disposal from all OUs at the FEMP. WAC were developed to ensure protection of the Great Miami Aquifer underlying the on-property facility. Acceptable groundwater protectiveness criteria, as defined in the OU5 ROD, are based on the promulgated or proposed maximum contaminant levels (MCLs), an incremental lifetime cancer risk (ILCR) of $1x10^{-5}$, or a hazard quotient (HQ) of 0.2 for post-remediation COCs. Materials that meet established WAC in the disposal facility are, therefore, within acceptable risk ranges. The disposal facility and immediate surroundings will have restricted access and will be owned and maintained by the federal government. The remaining area of the FEMP will be released for undeveloped park use, and institutional controls (e.g., deed restrictions) will be reinstated to preclude further development of the property. The FEMP site will remain under permanent federal ownership.

I.2.1.3 Description of the On-Property Disposal Facility

As remediation proceeds at the site, contaminated materials from all five OUs will either be placed in the on-property disposal facility or sent off-site for disposal. WAC are based on the type, source, and volume of waste and the protectiveness goals for the underlying aquifer, which are potentially influenced by anticipated land-use objectives and receptors. All waste placed in the on-property disposal facility will be evaluated to the extent practical to ensure that WAC are met. The disposal facility will be designed to last 200 to 1,000 years and to resist physical intrusion to the facility contents. The conceptual design of the on-property disposal facility is described in Appendix G of this report.

The established WAC may influence the size of the disposal facility required to accommodate the combined OU waste. While the remedies for each OU influence the treatment design and the volume of waste generated, the WAC dictate the type, source, and contaminant concentration of waste that can be placed in the on-property disposal facility.

I.3 COORDINATION OF OPERABLE UNIT 3 WITH OPERABLE UNIT 5 CRARE

Since all OU3 structures will undergo D&D during the interim remedial action, disposition will be required for all OU3 materials. The leading remedial alternative for OU3 provides that all OU3 materials will either be placed in an on-property disposal facility or permanently removed from the site. Therefore, the only contributions to residual risks from OU3 after remediation would occur from contaminants released from materials placed in the on-property disposal facility. Contaminant fate and transport modeling in the OU5 CRARE was used to estimate the potential releases from the on-property disposal facility, including the projected OU3 contribution. Based on the results of the OU5 CRARE, residual risks at the FEMP would be acceptable. If the refined OU3 volumes and source terms are within the bounds that were evaluated for OU3 in the OU5 CRARE, performing additional fate and transport modeling for an OU3 CRARE is not necessary. Therefore, this assessment will only compare refined OU3 volume and source term contributions to assumptions that were used in the OU5 evaluation to verify that the OU5 CRARE adequately bounded residual risks at the FEMP.

The objectives of the following sections are to: 1) summarize refined OU3 source terms and leachability information provided in this RI/FS report; 2) compare assumptions used in the OU5 CRARE and sensitivity analysis to the refined information in this report; 3) discuss uncertainties associated with the analysis; and 4) provide recommendations and conclusions based on the information presented.

I.4 OPERABLE UNIT 3 SOURCE TERM ASSESSMENT

This section describes determination of relevant COCs for the OU3 materials in the disposal facility and the assumptions used to estimate the associated source terms. This approximation utilized all OU3 analytical data available as of August 1995 to estimate representative source terms for OU3 materials. When data were not available, conservative assumptions were applied.

The OU5 CRARE demonstrated that the selected sitewide remedy will be within or below the 10^{-6} - 10^{-4} risk range for the target receptors. OU3 contributes an amount of contaminated material to the disposal facility, which is an integral component of the projected post-remedial site conditions evaluated in the OU5 CRARE.

I.4.1 Source Term Determination

The following text discusses the general approach used to identify OU3 post-remediation COCs, presents the post-remediation source terms, and summarizes volume estimates. Additional details are located in Appendices B and G.

I.4.1.1 General Assumptions

The OU3 RI/FS field characterization program (DOE 1993) was designed to identify the most contaminated location within each process area of each OU3 component for major media. A component is defined as a specific building, storage pad, or distinct area with similar waste media (e.g., soil piles). Components were divided into process areas, which were determined based on the different processes that occurred in a given area. To support characterization of OU3, field screening instruments were used to survey major media within each process area. Based on survey results, "hot spots" were selected as locations for collecting intrusive characterization samples. Therefore, characterization data collected for the RI should represent maximum contaminant levels for materials in each sampled area. Material types considered were concrete, paint coatings on structural steel, masonry, and asphalt. Representative concentrations for the major media types were determined based on analysis of intrusive samples.

Analytical results from the field characterization program were applied to all OU3 materials, either directly, where available, by material, component, process area, and depth, or indirectly, based on similarity between materials, location, and potential contamination. When results for a particular material were not available, process knowledge was used to estimate contaminant type and level.

The amount of contaminated material associated with each calculated OU3 volume was based on assumptions, surface area, density of material, and thickness of the contaminated layer. The analytical results for each material, component, process area, and depth are identified based on a conservative approach using maximum values, as discussed. Specific information concerning source term calculations and the assumptions used are contained in Appendix B.

I.4.2 Identification of Post-Remediation COCs

As detailed in Appendix G, OU3 COCs were evaluated to support development of WAC for safe disposal of construction materials in the on-property disposal facility. COCs were identified for construction materials that were considered for on-property disposal, based on maximum concentrations detected above the Part B Screening Criteria (see Appendix A). The identified COCs were then used as the initial COC list for determining potential long-term impacts from OU3 materials. Of 60 total COCs for all OU3 materials, 47 initial COCs are associated with materials considered for on-property disposal. The results of this analysis were used in the OU5 CRARE to evaluate combined sitewide residual risks and OU3-specific risks after remediation.

Once wastes are safely disposed in the disposal facility, vertical migration through the liner system and overburden to the Great Miami Aquifer is the potential primary exposure pathway of contaminants to receptors. Exposure through other pathways would be mitigated through engineering controls (e.g. dust suppression) incorporated into the design of the disposal facility. The OU5 RI presented a screening process based on mobility under natural conditions, or travel time in the vertical direction. Because the modeled protective time frame is 1,000 years, those constituents that failed to reach the aquifer in 1,000 years were removed from the COC list for the groundwater pathway. This screening process also considered the organic or radiological decay rate for contaminants. A COC was screened out if it accumulated thirty half-lives during the minimum calculated travel time before it reached the aquifer. The activity remaining after thirty half-lives for decaying radiological constituents would be insignificant, regardless of the initial mass.

Those contaminants which pass the conservative travel time screening are, therefore, acceptable for on-property disposal. The results of the travel time screening (see Appendix G) for OU3 show that there are only ten COCs which have the potential to break through the overburden under natural conditions (i.e., without considering the engineering controls in the disposal facility) and reach the Great Miami Aquifer: neptunium-237, strontium-90, technetium-99, total uranium, hexavalent chromium, mercury, alpha-chlordane, gamma-chlorodane, nitrobenzene, and tetrachloroethene.

Current contaminant source inventories for the ten potential breakthrough COCs were then evaluated to screen out additional COCs that do not have the potential to create unacceptable impacts after disposal, considering the effects of engineering controls in the disposal facility and applying conservative leachability assumptions. The EPA 70-year rule, which considers the maximum potential lifetime impact to human health, was used as the basis for this determination. The 70-year rule is intended for determining the maximum lifetime average exposure concentration for risk assessment purposes and has been applied to estimate the worst-case leaching potential for contaminants when more specific information is not available.

An allowable mass in the disposal facility for OU3 materials for each of the ten potential breakthrough COCs was developed to meet the 70-year rule assumption with groundwater criteria at MCLs (or 10^{-5} ILCR and HQ of 0.2). The total source inventories from all OU3 COCs (excluding materials that would administratively be disposed off-site) were assumed to dissolve into infiltration waters in the disposal facility within a 70-year period. Source term estimates were then compared to the OU3 allowable mass for each COC. In addition to the source term developed to support Section 3 of this report, a sensitivity analysis was performed to establish an upper bound on the source term estimates. These maximum source terms were used for comparison purposes to ensure that the allowable mass screening was still conservative. Among the potential breakthrough COCs, only source terms for uranium and technetium-99 exceed the conservatively determined OU3 allowable mass estimates. Therefore, uranium and technetium-99 are the only post-remediation COCs for OU3. Other potential breakthrough COCs do not require further evaluation, since actual source terms are significantly lower than the source term allowed in the on-property disposal facility under the 70-year rule assumption. A thorough discussion of the post-remediation screening process is presented in Appendix G of this report.

I.4.3 OU3-Specific WAC Development

Based on the screening results, only uranium and technetium-99 were identified as the OU3 post-remediation COCs. WAC for on-property disposal were developed for these post-remediation COCs only to ensure long-term protectiveness to the groundwater. Because of the significantly different physical and chemical conditions between soil and construction debris, it was expected that contaminants in OU3 materials would have different leachability than soil. Therefore, laboratory

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desorption batch tests were conducted to determine contaminant- and material-specific leachability in order to develop appropriate WAC for OU3 materials. Through the experimental leachability studies (see Appendix G), it was demonstrated that uranium leachate concentrations produced from samples of highest uranium concentrations in OU3 did not approach acceptable liquid phase WAC for the disposal facility. Conservative leaching assumptions for uranium were applied to materials that were not evaluated in the leachability study, and uranium source term estimates for these materials were much lower than the allowable mass of uranium that could be placed within the disposal facility. Therefore, uranium was eliminated from being a post-remediation COC for all OU3 materials considered for on-property disposal.

On the other hand, technetium-99 was determined to be highly mobile from OU3 materials, and source term estimates exceeded the conservative allowable mass for on-property disposal. The leachability study demonstrated that technetium-99 has the potential to leach at unacceptable levels. To meet the technetium-99 WAC, a WAC implementation strategy was developed in Section 5 of this report. In addition to disposing all materials in Categories C and F off-site, removing the top inch of concrete slabs in three process areas would be performed to meet the technetium-99 WAC and provide an adequate safety margin. Disposing of the removed concrete residues off-site would significantly reduce the estimated residual source term for technetium-99, as well as for many other contaminants, including uranium. A thorough discussion of the OU3 WAC development process is presented in Appendix G of this report. Post-remediation source term and material quantity estimates are provided and compared with previous estimates used in the OU5 CRARE in the following sections. These updated source terms represent the anticipated realistic conditions of OU3 materials that would be dispositioned in the on-property disposal facility under the leading remedial alternative for OU3.

I.4.4 Comparison of Estimated OU3 Volume and COC Mass for On-Property Disposal

The volume estimates used for OU3 construction materials are based on the volume estimates presented in Appendix B. The current total estimated volume of all OU3 materials is 9,260,000 ft^3. Of this volume, Material Categories C, F, and J have been administratively removed from consideration for on-property disposal since they are considered principal threat materials. Therefore, it was assumed that 7,370,000 ft^3 of the total 9,260,000 ft^3 are subject to the WAC screening process for determining which materials can be disposed within the on-property disposal facility. Furthermore, 7,360,000 ft^3 of OU3 materials meet the WAC for on-property disposal (see Table I-3). With the limited information available at the time of the OU5 FS submittal, an OU3 materials volume of 8,050,000 ft^3 was considered in the OU5 CRARE for on-property disposal. Therefore, the OU5 CRARE bounded the potential volume for on-property disposal from OU3 materials, which would affect the size of the facility.

In addition to volume estimates being lower than those used previously, the source term estimates have also been updated and are lower than were assumed in the OU5 CRARE. This was because of the extremely limited data set available in March 1995 that was used to generate the previous estimate. Because of a smaller data set, the analyte maximum value was applied over a greater volume of material, resulting in a higher source term value. The source terms developed and evaluated within the OU5 CRARE were 150,000 kg of uranium and 325 grams of technetium-99. The current source term estimates associated with OU3 materials considered for on-property disposal, after the WAC screening process was applied, for uranium and technetium-99 are 53,000 kg and 59 grams, respectively, as presented in Table I-4.

I.5 LEVEL OF CONSERVATISM

Since the refined OU3 volumes and source terms are within the bounds that were evaluated for OU3 in the OU5 CRARE, performing additional fate and transport modeling for an OU3 CRARE, is not necessary. Therefore, it is necessary to determine the level of conservatism the OU5 CRARE, given the refined estimate of OU3 contributions to the on-property disposal facility presented in this report. Considering all the OU3 materials, only uranium and technetium-99 have sufficient mass available to produce leachate concentrations in the disposal facility that could potentially impact the underlying aquifer, using conservative assumptions regarding contaminant leachability. The following two subsections discuss the level of conservatism in the OU5 CRARE assumptions regarding technetium-99 and uranium sources in OU3.

I.5.1 Technetium-99

As described in the OU5 CRARE, the average OU3 technetium-99 concentration estimated in March 1995 was just under the conservatively estimated soil concentration in the disposal facility based on a limited database for OU3 characterization results (both values were approximately 17 pCi/g). Based on current source term estimates presented in Section 5 of this report, the actual average post-remediation technetium-99 concentration in OU3 materials (after screening materials against WAC) is 2.9 pCi/g, which is much lower than earlier estimates.

Although technetium-99 has higher leachability from OU3 materials than from soil, all the OU3 materials to be placed in the disposal facility satisfy the OU3-specific WAC, which are developed using very conservative assumptions regarding leaching potential of technetium-99 (see Appendix G). Furthermore, OU3 materials would contribute only about ten percent of the total volume in the disposal facility, and the technetium-99 leached from OU3 materials could react with soils in the facility. Given the significantly lower actual concentration and mass of technetium-99 from OU3 materials and the basis of the WAC development process, the evaluation conducted in the OU5 CRARE is sufficiently conservative regarding the potential post-remediation impacts due to technetium-99.

In addition to the lower concentrations/source terms estimated in OU3, the average soil concentration in the OU5 CRARE was reevaluated since the final version. The original soil concentration was significantly affected by the high detection limit (1 pCi/g) for technetium-99 used in previous soil remediation investigations. In a more recent study conducted by OU5, most soil to be placed in the disposal facility would have technetium-99 concentrations much lower than 0.5 pCi/g. This revised estimate from OU5 further demonstrates that contributions from OU3 materials will not increase previously estimated future impacts to the Great Miami Aquifer from the disposal facility.

I.5.2 Uranium

The range of overall average uranium concentration in OU3 materials considered for on-property disposal after screening materials to meet the technetium-99 WAC is 157 μg/g. This is higher than the average OU5 soil concentration of 100 μg/g (DOE 1995a). The OU5 CRARE used the K_L value of 15 L/kg to estimate the uranium leachate concentration from all the materials in the disposal facility. Geochemical modeling results used to support WAC development for OU3 demonstrate that the leachability of uranium from concrete and paint is significantly lower for OU3 media than for soil. The source terms of all other OU3 materials were evaluated based on conservative leaching assumptions and were found to be significantly lower than allowable levels. As a result, OU3 materials would not cause a significant increase in future uranium leachate concentrations through the disposal facility. The actual leachate concentration from OU3 materials would be much lower than the concentrations assumed in the OU5 CRARE.

A sensitivity analysis on potential future impacts to the Great Miami Aquifer from the on-property disposal facility, including the possible range of average OU3 uranium concentrations (300 to 450 μg/g), was conducted in the OU5 CRARE. As indicated by the analysis, variation in groundwater concentrations resulting from average OU3 concentrations in this range were negligible relative to the groundwater uranium PRL. The conservative soil K_L of 15 L/kg was also applied to all materials in the disposal facility for this analysis, when realistic K_L values calculated for critical OU3 material categories are orders of magnitude greater than 15 L/kg (the higher the K_L value, the lower the leaching rate).

I.6 UNCERTAINTY ANALYSIS

The objective of this appendix is to document the adequacy of the CRARE conducted in support of the OU5 FS (DOE 1995a), with consideration of updated information provided by OU3, to satisfy the requirement for an OU3 assessment of sitewide post-remediation risks without performing another analysis of sitewide risks. The uncertainties presented here focus on the accuracy of contaminant mass estimates placed in the on-property disposal facility. A detailed summary of uncertainties inherent to the OU5 CRARE is presented in Section 5 of the OU5 FS.

I.6.1 Source Term Approximations

Source term estimates were based on best available information. Although there may be some minor variation between the approximation used here and the actual contaminant masses in material that would enter the disposal facility, the overall impact would be minimal. Any error in approximation would be conservative, since the source terms from OU3 materials to be placed in the disposal facility would be overestimated.

I.6.2 Accuracy of Concentration Terms

Because of the assumptions used in developing the source term, current calculations may not present a precise estimate of actual constituent masses. The OU3 RI/FS field characterization program was designed to identify the most contaminated location within each process area through field screening techniques. Therefore, the data collected during the RI should represent maximum levels for each sampled area. Determination of source terms with these maximum contaminant levels would tend to overestimate the actual contaminant mass to be placed in the disposal facility.

I.6.3 Treatment of Analytical Data

Because of the limited amount of information available, the maximum detected value for each media was used to identify post-remediation COCs. This conservative assumption would likely identify a greater number of analytes as COCs.

I.7 CONCLUSIONS

From the previously mentioned discussions of source term calculation and the demonstrated level of conservatism regarding the OU3 disposal facility contribution to residual risk, it is evident that the OU5 CRARE (DOE 1995a) adequately bounded the residual health risk for the contribution made by OU3. Based on the analysis presented in this appendix and within the OU5 CRARE, the implementation of Alternative 2 for OU3 would not cause unacceptable residual risks.

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TABLE I-1

OPERABLE UNIT REMEDIAL ACTIONS

Operable Unit	Key Activities
1-Waste Pits	- Excavation of pit contents, caps, berms, and lining system - Excavation of contaminated soil underlying pits and placement of soil and oversized debris meeting the WAC in the on-property disposal facility - Drying of excavated soil and waste, as required - Decontamination and demolition of all OU1 structures and support facilities - Shipment of excavated material (including soils and debris not meeting the WAC for the on-property disposal facility) by rail to the off-site disposal facility
2-Other Waste Units	- Excavation of waste materials and adjacent contaminated soil - Shipment to off-site disposal facility of material not meeting WAC of on-property disposal facility - Placement of excavated material meeting WAC in central, on-property disposal facility
3-Production Facilities and Inventories (activities to support both the IROD and final ROD)	- Off-site shipment of remaining waste and production inventories (including thorium) and decontamination residues (Category J) through ongoing remedial actions - Decontamination and demolition of all OU3 structures and facilities - Recycling/reuse of generated debris and equipment as economically feasible - Administrative off-site disposal of Material Categories C (Process-related Metals) and F (Brick) - On-property disposal of rubble and debris meeting WAC - Off-site disposal of concrete not meeting WAC for on-property disposal
4-Silos 1-4	- Removal and vitrification of waste inventories - Off-site disposal of vitrified waste - Excavation of contaminated soil and placement of soil attaining the WAC in the on-property disposal facility - Decontamination and demolition of silo structures and support facilities - Placement of rubble and debris in on-property disposal facility
5-Environmental Medium	- Excavation of soils, sediment, and perched groundwater zones - On-property disposal of soil, sediment, and waste sludge meeting WAC - Off-site disposal of waste exceeding WAC - Treatment of Great Miami Aquifer/perched groundwater and process wastewater at AWWT facility
All Operable Units	- Long-term environmental monitoring program for FEMP - Continued maintenance and surveillance of on-property disposal facility - Performance reviews of site conditions by EPA every 5 years - Continued federal ownership of on-property disposal facility - Restrictions placed in FEMP property deed pertaining to future uses of site

Sources:

Records of Decision for OU1 (DOE 1994b), OU2 (DOE 1995c), and OU4 (DOE 1994e).
Draft Record of Decision for OU5 (DOE 1995a).

TABLE I-2
OPERABLE UNITS 1 THROUGH 5 MATERIAL DISPOSITION FOR THE ADOPTED SITEWIDE REMEDY[a]

Operable Unit	Volume (yd^3)	Volume (ft^3)	Disposition
1	6.28×10^5	1.70×10^7	Off-site disposal
2	3.60×10^3 3.45×10^5	9.72×10^4 9.32×10^6	Off-site disposal On-property disposal facility
3	7.03×10^4 2.73×10^5	1.89×10^6 7.36×10^6	Off-site disposal On-property disposal facility
4	1.40×10^4 3.00×10^3	3.78×10^5 8.10×10^4	Off-site disposal On-property disposal facility
5[b]	2.50×10^4 1.75×10^6	6.75×10^5 4.73×10^7	Off-site disposal On-property disposal facility
Adopted Sitewide Remedy	7.41×10^5 2.37×10^6 [c]	2.01×10^7 6.41×10^7	Off-site disposal On-property disposal facility

[a] Remedial action volumes for Operable Units 1, 2, 4, and 5 are from their draft or draft final FS reports or RODs. The volumes for OU3 materials are the current best estimate for the leading remedial alternative.

[b] Volumes estimated for OU5 account for residual soils and waste remaining after Operable Units 1 through 4 have been remediated. These volumes do not include the wastes designated by other operable units for on-property disposal.

[c] Summation of volumes identified for on-property disposal from Operable Units 1 through 5.

TABLE I-3

OPERABLE UNIT 3 MATERIAL CATEGORIES AND VOLUMES

Material Category	Description	Current OU3 Volume Estimates for On-Property Disposal (ft^3)	Current OU3 Volume Estimates for Off-site Disposal (ft^3)
A	Accessible Metals	63,400	-----
B	Inaccessible Metals	1,740,000	-----
C	Process-Related Metals	-----	151,000
D	Painted, Light-Gauge Metals	7,150	-----
E	Concrete	4,700,000	2,190
F	Brick	-----	20,700
G	Non-Regulated ACM	71,300	-----
H	Regulated ACM	80,200	-----
I	Miscellaneous Materials	704,000	-----
J	Product, Residues, and Special Materials	-----	1,720,000
Total		7,360,000	1,890,000

Note: Material Categories C, F, and J are not considered for on-property disposal.

TABLE I-4

OPERABLE UNIT 3 SOURCE TERM COMPARISON

Post-Remediation COC	OU3 Source Terms Evaluated in Final OU5 CRARE (kg)	Current OU3 Post-Remediation Source Term Estimates (kg)
Technetium-99	0.325	0.059
Total Uranium	150,000	53,000

Appendix J

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LIST OF ACRONYMS AND ABBREVIATIONS

ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMSA	consolidated metropolitan statistical area
CRARE	comprehensive response action risk evaluation
dB	decibel
dBA	decibel (A-weighted)
DDT	dichlorodiphenyl trichloroethane
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EA	environmental assessment
EPA	U.S. Environmental Protection Agency
FEMP	Fernald Environmental Management Project
FONSI	finding of no significant impact
FS	feasibility study
ft^2	square feet
ft^3	cubic feet
HI	Hazard Index
L	liter
MSL	mean sea level
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NOI	notice of intent
NRHP	National Register of Historic Places
NTS	Nevada Test Site
OAC	Ohio Administrative Code
OU	Operable Unit
PCB	polychlorinated biphenyl
pCi	picocuries
PP	proposed plan
PRG	preliminary remediation goal
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
ROD	record of decision
SWCR	Sitewide Characterization Report
yd^3	cubic yards

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J.0 NATIONAL ENVIRONMENTAL POLICY ACT CUMULATIVE IMPACT ANALYSIS

This appendix provides a cumulative assessment of the impacts that would result from implementing the Operable Unit 3 (OU3) representative alternative (i.e., the alternative most likely to be selected based on the Remedial Investigation/Feasibility Study [RI/FS] evaluation), with the selected or preferred alternatives for each of the remaining four OUs at the US Department of Energy (DOE) Fernald Environmental Management Project (FEMP) site.

J.1 PURPOSE

Preliminary leading remedial alternatives (LRAs) for OUs 1 through 5 were developed in the Sitewide Characterization Report (SWCR) (DOE 1992a) and are considered leading remedial alternatives until they are analyzed in an FS document. For the purpose of an FS evaluation, the term representative alternative is used. Representative alternatives are those alternatives analyzed in RI/FS documents that are likely to be identified as preferred based on preliminary information. The term preferred alternative refers to the alternative identified in the proposed plan (PP) based on detailed analysis in the RI/FS. The term selected alternative identifies the alternative chosen in the Record of Decision (ROD); this alternative is chosen based on comments received on the PP and draft ROD from the public and regulators.

This assessment provides the reader with the most current information on how the potential impacts from OUs 1, 2, 4, and 5 relate to the potential impacts of OU3. This appendix is an update of the cumulative impact analysis provided in the OU4 FS/PP-Environmental Impact Statement and the OUs 1, 2, and 5 FS/PP. The description of the OU3 representative alternative has changed slightly from that evaluated in the OUs 1, 2, 4, and 5 documents; therefore, this appendix is being updated for the OU3 evaluation.

The OU3 RI/FS is an integrated Comprehensive Eenvironmental Response, Compensation and Liability Act(CERCLA)/National Environmental Policy Act (NEPA) evaluation. DOE's revised secretarial policy on NEPA requires inclusion of only the substantive aspects of NEPA. However, DOE agrees that opportunities exist to expand the text and further define cumulative impact as appropriate. Since the preferred alternatives for all OUs have been identified, impacts to wetlands, biotic resources, etc., have been accurately quantified. The original cumulative impact analysis prepared by OU4 evaluated cumulative impacts based on preliminary leading remedial alternatives identified in the SWCR, which assumed on-property disposal for all OUs.

J.1.1 NEPA/CERCLA Integration Approach at the FEMP Site

It is DOE policy to integrate the values of NEPA into the CERCLA process wherever practical. Integration is intended to (1) avoid duplication of effort and additional resources that would be needed to implement both NEPA and CERCLA separately, (2) avoid conflicts in analysis and the selection of a remedial alternative, and (3) minimize the risk of delaying remedial actions on procedural grounds. The primary instrument for DOE's NEPA/CERCLA integration is the RI/FS process, supplemented as needed to address NEPA values. The final product is to be a single integrated set of documents - a RI/FS Report and a PP that satisfies the requirements of CERCLA and addresses NEPA values.

The notice of intent for the NEPA/CERCLA integration approach was published in the Federal Register and concluded that (1) a FS/PP-Environmental Impact Statement was the appropriate level of NEPA documentation for the lead OU (i.e., OU4) and (2) NEPA/CERCLA integration is also to be provided in the remaining four OU FS/PP reports. The FS/PP for OUs 1, 2, and 5 contain a discussion of common issues and potential cumulative impacts, referencing OU4 as the lead

document. All subsequent OU reports, such as this cumulative impact analysis for the RI/FS, also reference the material presented by OU4.

On June 13, 1994, DOE issued a revised policy for NEPA compliance. The revised policy, "Secretarial Policy Statement of National Environmental Policy Act," allows for only the values of NEPA to be integrated into the development of CERCLA RI/FS documentation. The revised policy, which has obtained stakeholder approval, allows for reliance on the CERCLA process to meet the procedural requirements of NEPA. Therefore, DOE has supplemented the evaluations contemplated by RI/FS guidance to accommodate the evaluation of NEPA values in the preparation of this RI/FS. This information is also summarized in the OU3 PP. Additional details on this integration process for addressing NEPA values in the RI/FS process can be found in Section 1 of this document.

J.1.2 Report Organization

The descriptions of proposed remedial alternatives for OU3 are contained in the main text of this RI/FS Report; environmental impact analyses of OU3 alternatives are contained in the detailed analysis of alternatives in Section 6. The SWCR contains the baseline data required for analyses of potential impacts of sitewide remediation, including a baseline ecological risk assessment. The OU3 PP presents the preferred alternative and summarizes the impacts of implementation. Section J.2 contains a description of the preferred alternative for each operable unit. The cumulative environmental impacts of proposed on-property actions are described in Section J.3, which analyzes the potential impacts on the environment from concurrent implementation of remedial activities for the OUs and sitewide facilities.

Federal, state, and local agencies consulted during the compilation of data for the FS/PP-NEPA evaluation and the relationship of remediation at the FEMP site to the objectives of local, state, regional, and federal land use plans, policies, and controls, are described in Section J.4. An updated discussion of irreversible and irretrievable commitment of resources resulting from remedial activities at the FEMP site is in Section J.5.

J.1.3 Scope of Cumulative Impact Analysis

The detailed evaluation in this cumulative impact analysis includes incremental impacts of the proposed action when added to other past, present, and future actions. The actions on immediate adjacent lands to the FEMP site which are not related to the FEMP site will not impose significant cumulative impacts to the environment when combined with remediation activities at the FEMP. These activities will be addressed in this section. The cumulative impacts of remediating OUs 1 through 5 will be addressed in Section J.3.

The specific sites, separate from the FEMP site, that warrant some discussion of cumulative impacts include:

- A CERCLA site immediately south of the FEMP site (approximately one mile) that is undergoing the RI/FS process for an organic contamination plume in the Great Miami Aquifer. Two other sites are being evaluated as potential CERCLA sites, but their proximity to the FEMP site does not justify or warrant a discussion.

- A small quarry located less than a mile from the eastern boundary of the FEMP site.

- The potential for disposal of waste at an off-site location. The remaining areas around the FEMP site are primarily used for agricultural (i.e., cultivated fields) and limited residential domains.

Groundwater remediation at the FEMP, and at the CERCLA site south of the FEMP site, resulted in the evaluation of potential increases in contaminant loading to the Great Miami River and the possibility of land subsidence due to groundwater extraction. The contaminant loading in the Great Miami River will be nondetectable to minimal due to the treatment of the extracted groundwater before discharge. The groundwater does not act as a physical support mechanism in this geologic structure; therefore, the possibility of land subsidence is remote.

The cumulative groundwater impact to the health of off-site receptors was summarized in the OU5 RI/FS and FS reports. The RI/FS baseline risk assessment evaluated more current conditions and the FS CRARE risk assessment evaluated future residual conditions.

The Off-Property RME Farmer (Farmer) was evaluated as a maximum exposed off-site receptor. The highest estimated cancer risk (ILCR) to the off-property farmer was 1.5×10^{-3}. Pathways included in the RI/FS baseline risk assessment included drinking water, and dermal contact while bathing, as well as the use of groundwater in growing fruits and vegetables and raising cattle and the ultimate ingestion of these food products.

The CRARE risk assessment also evaluated the off-site receptors for groundwater exposure, however the impact of groundwater on food products was not evaluated separately. Thus, the groundwater pathways included in the FS CRARE risk assessment included drinking water and dermal contact. The estimated cancer risk (ILCR) to the off-property farmer was 1.81×10^{-5}.

Activities at the quarry east of the site involve some excavation and movement of soil and rock and is in the prevailing wind direction from the FEMP site. However, the quarry operation is on a relatively small scale when compared to the overall remediation of the FEMP site. In addition, cultivated fields are the predominant land use downwind of both the quarry site and the FEMP site. Therefore, the cumulative impacts associated with dust emissions from the quarry and the site will be minimal.

Fugitive dust from cultivated fields adjacent to the site, in combination with that associated with the excavation and transportation to and from the site, poses a very limited potential for cumulative impacts. These cumulative impacts to air quality will be minimal since (1) the dust remains suspended for a limited time and (2) the number of downwind receptors is limited. The focus of the detailed analysis in this appendix will, therefore, be limited to the concurrent response actions for the five OUs carried out at the FEMP site because their cumulative impacts to the environment and residents in the region are distinctly greater than those in combination with other activities in the area.

Efforts have been made throughout the cumulative impact analysis to quantify impacts to the extent possible. For example, impacts to wetlands and habitats have been quantified (i.e., estimation of acres disturbed) wherever possible. In addition, the overall impacts of the FEMP remedial activities on the local socioeconomic structure have been quantified to the extent possible. Due to the timing of the remedial activities, quantitative information was not available in all cases. In these situations, a qualitative evaluation of potential impacts has been provided.

J.1.4 Site-Wide Ecological Risk Assessment

A preliminary site-wide ecological risk assessment in the SWCR estimated the potential and future baseline risks of FEMP contaminants to ecological receptors. The United States Environmental Protection Agency (US EPA) and DOE agreed that the next iteration would be done as part of the OU5 RI Report. The Sitewide Ecological Risk Assessment, Appendix B of the OU5 RI Report (DOE 1994a), assesses the possible risks from current concentrations of site contaminants to ecological receptors inhabiting on- and off-property areas not presently targeted for remediation based on human health concerns.

J.2 OPERABLE UNIT REMEDIATION APPROACH

This section contains descriptions of each of the OUs at the FEMP site and identifies the preferred remedial alternative for OUs 1 through 5. For OU3, this section summarizes the description of the representative alternative, which is presented in detail in the RI/FS and PP evaluations. The no-action alternative for the site was evaluated in detail in the SWCR (DOE 1992a) and the cumulative impact analysis (Appendix I) of the OU4 FS (DOE 1994b).

The FEMP site was divided into five OUs under the original 1990 Consent Agreement. However, the definitions of the OUs have been revised under the Amended Consent Agreement, and the possibility of a comprehensive site-wide OU has been added. The five OUs and their revised definitions are presented below:

- Operable Unit 1 - Waste Pits 1 through 6, the Clearwell, the Burn Pit, berms, liners, and associated contaminated soil within the OU boundary
- Operable Unit 2 - the active and inactive flyash piles, the South Field, the lime sludge ponds, the solid waste landfill, berms, liners, and associated contaminated soil within the OU boundary
- Operable Unit 3 - the former Production Area, including all facilities and equipment (includes all above- and below-grade improvements) all structures, equipment, utilities, drums, tanks, solid waste, waste, product, thorium, effluent lines, K-65 transfer line, waste water treatment facilities, fire training facilities, scrap metal piles, feedstocks, and the coal pile
- Operable Unit 4 - Silos 1, 2, 3, and 4, berms, the decant sump tank system, and associated contaminated berms and soil within the OU boundary
- Operable Unit 5 - perched and regional groundwater, surface water, soil not associated with other OUs sediment, flora, and fauna.

J.2.1 Operable Unit 1

OU1 includes six low-level radioactive waste storage pits, the Burn Pit, and the Clearwell, all located west of the former Production Area. The pits contain large quantities of liquid and solid wastes that were generated by the various operations at the FEMP site and disposed before 1987. The OU1 waste units include a total volume of approximately 6.28×10^5 yd^3. A detailed description of the nature and extent of contamination associated with OU1 is provided in the RI Report (DOE 1994c).

The selected remedy for OU1 as identified in the OU1 ROD (DOE 1995a), involves the removal and treatment of materials from Waste Pits 1 through 6, the Burn Pit, and the Clearwell to achieve risk-based preliminary remediation goals (PRGs) and applicable or relevant and appropriate requirements (ARARs). The excavated area will be backfilled with clean soils. The excavated materials will be treated (dried) and transported by rail to a commercial disposal facility. This alternative also includes continued federal ownership of the land to control future land use (DOE 1995a).

Under the OU1 ROD, the pit wastes will be mechanically or hydraulically excavated and processed through a drying facility. The dried waste will be transferred to gondola cars to allow efficient transportation of the wastes via rail to a permitted commercial disposal facility near Clive, Utah. Soils underlying the waste pits will be remediated in conjunction with remedial actions associated with OU5. The standing water associated with the Waste Pits 5 and 6 and the Clearwell will be treated as necessary and discharged to the Great Miami River, meeting all surface water PRGs and ARARs.

J.2.2 Operable Unit 2

OU2 includes the following waste units: the solid waste landfill, two lime sludge ponds, an inactive flyash pile, an active flyash pile, and the South Field, which is an area located between and adjacent to the flyash piles. The volume of the wastes associated with these areas is approximately 300,000 yd^3. A detailed description of the nature and extent of contamination associated with OU2 is provided in the OU2 RI Report (DOE 1994d).

Data gathered in the OU2 RI Report indicate that the areas hold large volumes of solid waste into which small volumes of radiological and/or chemical wastes may have been co-disposed. A review of the RI/FS sampling data for the active and inactive flyash piles and the South Field indicates concentrations of uranium-238 in all media (DOE 1994d).

Contaminated material with concentrations above the expanded trespasser and on-property resident farmer cleanup levels would be excavated and segregated according to radiological contamination. The contaminated material would be placed in an on-property disposal facility in the northeast corner of the FEMP site. Any firing range soil that fails the Resource Conservation and Recovery Act (RCRA) toxicity characteristic leaching procedure test would be managed as a RCRA hazardous waste and dispositioned at an off-site mixed waste disposal facility. Water would be collected and pumped to a treatment facility, as necessary. Institutional controls would include physical barriers and groundwater monitoring.

J.2.3 Operable Unit 3

OU3 consists of all man-made facilities and structures, including improvements that were related to administrative support as well as processing uranium and thorium metal. Section 1.2.1 of this report provides a detailed description of OU3.

The production of uranium metal products at the FEMP involved a series of chemical and metallurgical conversions that occurred in nine specialized plants within OU3. A number of other buildings housed support operations. Each of these facilities had a distinct purpose, resulting in important differences in the process operations, chemical forms, and types of individual conveyance, storage, and containment units associated with the respective facilities. Solid waste materials associated with uranium metals production are presently stored on property in steel drums, awaiting further processing or off-property disposal at approved facilities. These wastes include oils, sludges, contaminated combustibles, filter cake, off-specification uranium or thorium tetrafluoride, and reject uranium trioxide. The drums sit on various pads or in warehouses and are inspected weekly.

Contents of deteriorated drums are repackaged. As detailed in Section 3, the total volume of material in OU3 is approximately 9,270,000 ft^3.

The leading remedial alternative for OU3 involves decontamination and dismantlement of the buildings and structures through the interim remedial action to reduce the potential for contaminant migration. Most OU3 contaminated materials will be permanently disposed of in an on-property disposal facility. Approximately 151,000 ft^3 would be administratively disposed of at the Nevada Test Site (NTS) facility and another 23,000 ft^3 would be dispositioned at the representative off-site disposal facility. Finally, 364,000 ft^3 would be potentially released for unrestricted disposition at a local sanitary landfill.

J.2.4 Operable Unit 4

Waste units in OU4 consist of two earthen-bermed concrete silos (Silos 1 and 2) containing K-65 residues (high-specific-activity, radium-bearing residues resulting from the pitchblende refining process), one concrete silo containing metal oxides (Silo 3), and one unused concrete silo (Silo 4). All the silos are located south of the waste pit area. The domed waste storage silos measure 80 ft in diameter, 36 ft high to the center of the silo dome, and 27 ft to the top of the vertical walls. The walls are eight inch thick concrete as are the outer part of the domes, which taper to four inch thickness at the center. Silos 1 and 2 are surrounded by an earthen berm to a height of approximately 26 ft, while Silos 3 and 4 are freestanding.

Silos 1 and 2 received radium-bearing residues, formed as by-products of uranium ore processing, from 1952 to 1958. Waste raffinates were pumped into the silos where the solids would settle. The free liquid was decanted through a series of valves placed at various levels along the height of the silo walls. Settling and decanting continued until the silos were filled to approximately four feet below the top of the vertical walls. The volume associated with Silos 1, 2, and 3 are 5,446 yd^3, 4,651 yd^3, and 6,160 yd^3 respectively. These volumes include both structures and K-65 residues as appropriate.

Corrective actions have been performed to maintain the structural integrity of Silos 1 and 2. These included repairing the walls, constructing a berm on a 1.5 to 1 slope (mid-1960s), and enlarging the berm to a 3 to 1 slope in the early 1980s. In 1985, a structural assessment was performed which revealed that the walls and base slab were structurally stable and could function as a containment of dry solids for a period of 10 to 15 years. However, the center 20 ft section of the dome was determined to be structurally unsound for a load greater than the existing static load. Repair actions taken since 1985 include placement of protective covers constructed of steel and plywood over the center portion of each silo dome. A three inch layer of rigid polyethylene foam, topped by a 45-mil waterproof, ultraviolet-resistant, urethane-finish coating, was placed over each silo dome in 1987 to provide weather protection and insulation. A radon treatment system was implemented for this project to reduce radiation exposure to the workers during the installation process. In 1991, a layer of bentonite clay was inserted over the residues in Silos 1 and 2 to reduce radon levels in the silos and to provide protection in the event of silo dome collapse (this was done under a removal action).

Silos 3 and 4 were constructed in 1952 and were designed to receive dry materials only. Waste raffinate slurries from refinery operations were dewatered in an evaporator and spray calcined to produce a dry waste form for storage in the silo. The waste was blown in under pressure to fill Silo 3. Silo 4 was never used and, except for rainwater infiltration, remains empty.

There are three selected remedies for the remediation of OU4. Two of the selected remedies, for the contents of Silos 1 and 2 and for Silo 3, involve the removal of the silo contents, stabilization by vitrification, and off-site disposal at the NTS. In the third remedy, the silo structures (including Silo

4), berms, subsoil beneath Silos 1 and 2, decant sump tank, process piping, and process piping trenches would be removed, decontaminated, and disposed in an on-property disposal facility. Additional details on these alternatives are provided in Section 4 of the FS Report for OU4 (DOE 1994b).

J.2.5 Operable Unit 5

The components of OU5 include groundwater, perched water, surface water, soil, sediment, flora, and fauna and are described in detail in the SWCR (DOE 1992a). Estimates of quantities of groundwater and soil requiring remediation are provided in the OU5 RI Report (DOE 1995b). Approximately 1.8 million yd^3 of soil will require remediation.

The proposed remedy for OU5 involves the extraction of contaminated groundwater, treatment at an on-property facility, and discharge of the treated effluent to the Great Miami River through the newly constructed effluent line. The proposed remedy also involves the excavation of contaminated sediment/soil necessary to meet risk-based PRGs and ARARs, and transport of soil/sediment to an on-property disposal facility. Borrow material would be obtained on-property from the southeast portion of the FEMP and would temporarily disturb approximately 32 acres of soil. This alternative also assumes continued federal ownership of the land to control future land use.

To support remediation of OU5, both soil removal and groundwater treatment would occur. Soil excavation would occur both on-property and off-site. Soils would be excavated to meet risk-based PRGs and ARARs. The excavated soil that contains constituents below the remediation goals, would be separated and used as backfill. Excavated soils that meet waste acceptance criteria for the disposal facility will be disposed of on-property. This volume is estimated at approximately 1,750,000 yd^3. An additional 25,000 yd^3 of material may be transported off-site for disposal.

Groundwater extraction would occur through recovery wells installed in the regional aquifer. These wells will be used to produce an average flow rate of approximately 650 gallons per minute from each well. Groundwater extraction would continue until risk-based PRGs and ARARs for the regional aquifer are met. Treatment of the extracted groundwater would include a carbon adsorption pretreatment step, followed by precipitation for metals removal, ion exchange for uranium removal, and sludge dewatering. This treatment will reduce contaminant concentrations to levels necessary to meet risk-based PRGs and ARARs. The treated water will be discharged to the Great Miami River. The sludge generated by the treatment system will be stabilized as necessary and disposed of in an on-property disposal facility.

J.3 CUMULATIVE IMPACTS OF PROPOSED ON-PROPERTY ACTIONS

Under the current $276 million funding case, scheduling indicates that all of the OUs will be conducting remediation activities concurrently, with most actions completing by 2005. All on-property actions will avoid or minimize environmental impacts to the extent practicable. Mitigative measures will be employed to minimize adverse impacts. A discussion of the more significant environmental cumulative impacts due to concurrent implementation of remedial activities follows.

J.3.1 Soil and Geology

The mechanical and/or hydraulic removal of pit wastes, soil, and buildings and other structures from the former Production Area poses a potential short-term threat of releases through subsurface soil to groundwater. Adverse impacts could result if there is a breach of a pit liner during the removal process or if loose contamination is released from the structures. If contaminants remain on the ground surface for extended periods of time, infiltration of rainwater or storm water runoff could

cause migration of the contaminants into the subsurface soil. Mitigative measures such as routine covering of excavated areas will minimize the potential for these impacts.

The selected alternative for OU1 would result in the temporary disturbance of approximately 36.4 acres of land due to the excavation of the waste pits and associated soil. However, these areas would be regraded and evaluated to promote positive drainage. Furthermore, the preferred alternative for OU1 does not involve on-property disposal, so there will be no long-term impacts to soil and geology.

The selected alternative for OU2 and OU5 and the representative alternative for OU3 involves on-property disposal of remediation generated wastes. This would result in temporary impact to approximately 75 acres and the permanent commitment of an area approximately 800 ft by 4,300 ft or 80 acres for on-property disposal.

Removal of wastes from OU4 would temporarily disturb approximately eight acres of soil. Disturbed areas would be regraded and returned to their previous elevations following remediation.

When the selected alternatives in the OUs 1, 2, 4 and 5 RODs are combined with the representative alternative for OU3 , it is likely that approximately 517.2 acres will be disturbed during remediation, with 80 acres permanently committed to disposal.

Adverse impacts on surface soil could occur during waste removal, segregation, and treatment. There is the potential for spills to occur during the handling and packaging of waste as well as during transport to the treatment facility. Spills would be expected to affect only localized areas; therefore, impacts on surface soil from spills would likely be minor. Appropriate spill prevention and response procedures would be performed in accordance with the site standard operating procedure (SSOP-0067) entitled "Spill Incident Reporting and Clean-up" and site plan #2194 entitled "Spill Prevention Control and Countermeasure Plan" (SPCC). If spills are encountered, mitigative measures such as adequate containment dikes and use of absorbent pads would be employed to minimize adverse impacts. Therefore, impacts on surface soil from spills would likely be minor. Appropriate spill prevention and response procedures will ensure impacts related to spills are negligible.

The removal of contaminated structures from the former Production Area (i.e., OU3), along with waste treatment and decontamination associated with OUs 1, 2, 4 and 5, would have beneficial long-term effects on both surface and subsurface soil due to the removal of contaminant sources. Pumping and treatment of the contaminated perched and regional groundwater should stop contaminant migration in the subsurface soil. No impacts are anticipated on the regional geology of the area as a result of OU remedial activities.

J.3.2 Water Quality and Hydrology

Adverse impacts to both the perched groundwater and the regional aquifer would not be increased by concurrent remedial activities. The possibility of contaminant migration to the aquifer exists during any remedial activity, whether the activities are performed individually or concurrently. The rate at which contaminants are supplied to the regional aquifer may be increased with concurrent remediation activities, but the overall contaminant load would remain the same. The EPA proposed drinking water standard for uranium in drinking water is 20 parts per billion (EPA 1986).

Groundwater monitoring will continue throughout, and upon completion of, remedial actions to ensure that areas exceeding the standards are identified and appropriate response actions are implemented. A groundwater monitoring and contingency plan will be developed during the remedial design process.

Long-term groundwater quality should improve through implementation of the selected and preferred remedial alternatives since FEMP wastes will be eliminated and/or isolated from rainwater and storm water runoff, preventing the potential infiltration of these contaminants to perched groundwater and the regional aquifer. The on-property disposal facility has been determined to be protective through conservative modeling assumptions. The modeling utilized to establish the uranium waste acceptance criteria for the on-property disposal facility was based on the natural protection of the gray clay located under the proposed location of the on-property disposal facility and did not consider the additional protection due to the synthetic membranes in the engineered disposal facility, the clay liner, or the leachate collection and leak detection system. The Leachate Collection and Detection Systems, combined with appropriate maintenance activities, would be the primary mitigative measures for the disposal cell.

Future land use of the FEMP has not been determined. A land use scenario of an undeveloped park was used in the Operable Unit 5 FS for risk assessment purposes to determine final remediation levels. These final remediation levels established the permissible concentration of contaminants which could remain at the site following the completion of remedial actions, presenting a potential for exposure and risk to future users of the FEMP. The degree of exposure and risk associated with remaining concentrations would be directly linked to the type and duration of future land use. Future land uses contemplating direct contact for longer intervals would be expected to yield a higher calculated exposure and risk than would future uses which involve less opportunities for long-term exposure. DOE will work with the local communities during remedial design on establishing a final land use for the FEMP property. Mitigative measures to minimize long-term impacts will be considered upon establishing final land use. For example, administrative controls on land use, such as deed restrictions, will be considered.

Groundwater monitoring will continue throughout, and upon completion of, remedial actions to ensure that areas exceeding the standards are identified and appropriate response actions are implemented.

J.3.2.1 Surface Water

The simultaneous implementation of remedial alternatives would potentially increase surface water quality impacts over those which would normally be expected from implementation of a single project. Impacts to surface water quality in Paddys Run could result during removal of OU2 waste units, during removal and treatment of OU5 material, and during the removal of the waste pit material associated with OU1. Short-term impacts resulting from these activities may include contaminated runoff entering Paddys Run, erosion of exposed wastes and the subsequent influx of contaminated soil into the stream during waste removal, and increased stream turbidity resulting from excavation of contaminated sediment and relocation of portions of the stream. However, appropriate engineering controls would be implemented to control runoff and other impacts to Paddys Run. The use of silt fences, straw bales, and other drainage and erosion control measures would be particularly critical as part of the remedial activity for the inactive flyash pile (OU2) and the waste pit area (OU1).

Over the long term, surface water quality in Paddys Run should improve since FEMP wastes will be isolated from rainwater and storm water runoff, thus eliminating the potential migration of contaminated material into Paddys Run. No cumulative impacts on the Great Miami River are anticipated from the simultaneous implementation of the remedial alternatives. All effluents produced by the remedial alternatives will be treated to comply with the FEMP National Pollutant Discharge Elimination System permit limits and conditions before discharge to the Great Miami River.

J.3.3 Air Quality

Cumulative air quality impacts will be based on projected emissions from the remedial alternatives for each of the OUs at the FEMP. The emissions of primary short- and long-term concern with respect to ambient air involve the reentrainment of radiologically contaminated fugitive dust and the volatilization of toxic chemicals.

Remedial alternatives that involve substantial waste handling, excavation, ground clearing, demolition, cut-and-fill operations, loading/unloading trucks, or heavy equipment traffic have the potential to generate radiologically contaminated dust and other waste constituents. During these activities, periods of turbulent wind conditions can resuspend particles of disturbed surface materials (e.g., contaminated soil) in ambient air and transport them to on-property and/or off-site receptors. The amount of dust resuspended depends on wind speed and other site conditions such as soil moisture, particle size, and vegetative cover. Engineering controls such as dust suppressants and revegetation would be employed to keep these levels as low as reasonably achievable.

Additional potential airborne pollutants associated with remedial activities at the FEMP site include inorganic constituents, volatile organics, semivolatiles, PCBs, dichlorodiphenyl trichloroethane (DDT), herbicides, radionuclides, and radon. Emissions of these pollutants could result from the removal and handling of volatile or semivolatile wastes, waste segregation activities, and vitrification processes.

In the past, radon has been a significant portion of the annual dose to the public adjacent to the FEMP site. Until remedial activities are complete, DOE Order 5400.5 regulates radon concentrations in the atmosphere above facility surfaces or openings at and adjacent to the FEMP. When added to background levels, the concentrations mandated by DOE Order 5400.5 must not exceed an annual average concentration of 30 picocuries per liter (pCi/L) at the facility and 3 pCi/L at or above any location outside the facility. Once remedial activities have been completed, the National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart Q standard (40 CFR 61 Subpart Q) of 20 $pCi/m^2/s$ for radon-222 will be applied to site storage and disposal areas for radon-producing wastes. An active monitoring system has been in place at the FEMP site since the early 1980s. As a point of comparison, the average site boundary total radon concentration of 0.57 pCi/L in 1992 was about 29 percent of the average indoor radon concentration (2.0 pCi/L) for homes in the Cincinnati area. Monitoring will continue throughout the remedial activities and upon completion of remedial activities (as appropriate) to ensure that radon levels remain in compliance with all applicable regulations.

Guidelines for concentrations of radionuclides other than radon-222 are also established by DOE Order 5400.5. These concentrations, referred to as derived concentration guidelines, are concentrations of radionuclides that, under conditions of continuous exposure for one year by one exposure mode, would result in a dose of 100 mrem. In addition to the derived concentration guidelines, radiological emissions to the ambient air from the FEMP site will also be subject to the NESHAP Subpart H standard (40 CFR Part 61 Subpart H), which stipulates that radiological emissions from the site cannot exceed those amounts that might cause any member of the public to receive an annual effective dose equivalent of 10 mrem per year. Monitoring of the air pathway for radionuclides during the FEMP site remedial activities will continue to ensure that emission levels do not exceed applicable derived concentration guidelines or the NESHAP Subpart H standard. If emission levels are exceeded, a compliance strategy would be prepared to assess the impact. The purpose of the compliance strategy is to remain in compliance with applicable regulations and to ensure non-compliant conditions do not reoccur.

The impacts associated with the generation of fugitive dust and the volatilization of toxic chemicals tend to be short term. Cumulative air quality impacts that would occur during phases of remedial activity at the FEMP site would include pollutants generated off-site as well as those generated on-property. Although there are no major sources of pollutants in the vicinity of the FEMP site, there would be an increase of transportation-related particulates generated off-site by the large number of trucks necessary to supply construction materials for the disposal facility (see Section J.6.3.4). In addition to particulates generated on-property by disposal facility construction, filling, soil excavation and closure, the cumulative air quality impact would also depend on: 1) the remedial alternatives chosen, 2) the remediation schedule (e.g., the extent of simultaneous remedial activities across the FEMP site), 3) the mitigating measures or controls chosen, and 4) their effectiveness. Typical control methods for various remedial activities and qualitative evaluations of their effectiveness, advantages, and disadvantages are included in the OU4 FS Report, Appendix I, Attachment I.I, Table I.I-3 (DOE 1994b). The potential for long-term residual risks associated with the FEMP site in a postremediation condition is evaluated in the OU5 CRARE. The assumed future land use of an undeveloped park would not impact air quality.

J.3.4 Biotic Resources

Cumulative impacts on vegetation could result from short- and long-term removal and disturbance of habitat associated with remediation of contaminated soils and waste units; construction of staging areas, support facilities, and the disposal facility; and general physical disturbance of soil. The removal of OU2 waste areas would result in the permanent disruption of approximately 15.8 acres of introduced grassland, managed field, and old field habitats. Construction of the on-property disposal facility for OUs 2, 3, 4, and 5 could also disturb introduced grasslands, old field, and mid-successional and riparian woodland habitats resulting in a total loss of approximately 196 acres. Construction of support facilities would have a similar impact, although restoration may be possible once wastes are removed from the FEMP site.

Concurrent implementation of remediation activities could have impacts on wildlife primarily through the short- and long-term removal and disturbance of habitat as described above, with correlated reductions in local wildlife populations. Cumulative impacts on wildlife would differ from the impacts of these same preferred alternatives considered separately. For example, if remedial activities were spread out over time, adjacent undisturbed areas could provide refuges for displaced wildlife. These "safe" areas would not be available if activities are conducted simultaneously. Cumulative project-related noise and increased levels of human activity could disrupt nearby wildlife. However, it is not expected that wildlife will be permanently displaced from the site since the approximate 100 acre northern woodland represents the majority of wood and wetland habitat on the site and is not expected to be impacted. Impacts to migratory bird species would be minimal since the FEMP is not a primary stopover for these species. Cumulative impacts on aquatic organisms from remedial actions involve the potential contamination of Paddys Run, the Great Miami River, and various drainageways, floodplains and wetland areas. Potentially affected aquatic organisms include fish, invertebrates, amphibians, reptiles, and semiaquatic species such as muskrats. Loss of habitat or contaminant exposure could also lead to a reduction in species biodiversity.

Contaminant levels could increase in Paddys Run and in wetland drainage areas from soil erosion and runoff during concurrent waste removal, stabilization, and isolation activities. Additionally, disruption of aquatic habitat in these areas from the excavation of contaminated sediments for OU5 could adversely affect organisms residing in this area. Small affected areas in Paddys Run and the wetland drainages resulting from isolated remedial actions would probably recover quickly, but recovery from simultaneous impacts over a larger area would likely require a much longer time to restabilize. Adverse cumulative impacts on aquatic organisms could be substantially mitigated by

diversion and collection of runoff and by performing removal activities when flow in Paddys Run and the storm sewer outfall ditch is low or nonexistent.

Waste removal, stabilization, and isolation activities conducted for OU1 would likely result in short-term adverse cumulative impacts on the organisms in the wetland drainages in this area. Long-term, negative effects on aquatic organisms would be minimized if the areas were revegetated to prevent erosion after completion of the activities. Of particular concern is the 26-acre tract of forested wetlands in the northern portion of the FEMP site. This area would be avoided as much as possible. The cumulative impacts would be beneficial in the long term by reducing or eliminating exposure of biotic resources to wastes, reducing the potential for contaminant transfer through the food chain.

J.3.4.1 Threatened and Endangered Species

Cumulative impacts on threatened and endangered species include the potential loss of habitat, disruption of breeding activities, and loss of individuals. Disturbances in the riparian corridor along Paddys Run could result in impacts to the Sloan's crayfish (*Orconectes sloanii*) and suitable habitat for the Indiana bat (*Myotis sodalis*). The use of relocation and erosion control measures will be employed to minimize short-term adverse impacts on Sloan's crayfish. Since the FEMP is not a primary stopover for threatened and endangered migratory birds, minimal impacts would occur to these species. In the long term, the cumulative impacts of FEMP site remedial activities will be beneficial due to the prevention of releases of contaminants into the environment.

J.3.5 Wetlands and Floodplains

A sitewide delineation was conducted in February 1993 in accordance with the 1987 Army Corps of Engineers Wetlands Delineation Manual and approved on August 12, 1993. The purpose of the delineation was to determine the extent of jurisdictional wetlands and waters of the United States at the FEMP site and to avoid or minimize impacts to these resources during future activities. Results from the sitewide delineation indicate a total of 35.9 acres of jurisdictional freshwater wetlands on the FEMP site. Wetland impacts as a result of remedial activities would be minimized by implementing best management practices during and following remediation. Proper notification and mitigative measures (placement of silt fences, minimization of heavy equipment traffic) would occur to these species would be executed if impacts are expected to occur.

Cumulative wetland impacts may also arise from the implementation of the remedial alternatives, particularly the various emergent wetlands associated with site drainage ditches. Wetland impacts could result from siting a disposal facility and from excavation during waste removal and construction activities. Proposed DOE actions in these wetlands would first be evaluated for potential adverse effects on the wetlands (10 CFR 1022), and consideration would be given to natural and beneficial values provided by the wetlands when considering mitigation alternatives to offset the impacts. Appropriate Federal Register notifications, as required under 10 CFR 1022, would take place for all actions affecting wetlands.

Floodplains within the FEMP property are confined to the north-south corridor containing Paddys Run. Outside the boundaries of the FEMP, the 100- and 500-year floodplain of the Great Miami River extends west of the big bend to an elevation near the eastern boundary of the facility. The 100- and 500-year floodplain of the river also extends northward along Paddys Run from the confluence of the two streams to a point north of the northern boundary of the FEMP. During remediation, some impact to the 100-year and 500-year floodplain of Paddys Run may occur due to excavation activities. In extreme cases, the relocation of Paddys Run and the floodplain may be necessary. During remedial action, engineering controls (e.g., silt fences and berms) will be used to

minimize floodplain impacts. In cases where relocation is required, the floodplain will be reestablished to near original condition.

J.3.6 Socioeconomics and Land Use

The following is a discussion of the potential impacts of concurrent remedial activity at the FEMP site on the local economy, land use, background noise levels, transportation systems, and community services.

J.3.6.1 Socioeconomics

Cincinnati is the focal point of a regional market encompassing thirteen counties in Ohio, Kentucky, and Indiana. Referred to as a consolidated metropolitan statistical area (CMSA), the 13 county region consists of: Brown, Butler, Clermont, Hamilton, and Warren counties in Ohio; Boone, Campbell, Gallatin, Grant, Kenton, and Pendleton counties in Kentucky; and Dearborn and Ohio counties in Indiana. Population within the 13 counties was 1.8 million in 1991. Population density within the CMSA varies from 2,062 residents per square mile (residents/mi^2) in Hamilton County to 44 residents/mi^2 in Pendleton County. Excluding the heavily urbanized area of Hamilton County (Cincinnati), the average population density in the 13 county region was 278 residents/mi^2 in 1990. Ethnic composition of the CMSA is 87.2 percent white, 11.7 percent black, less than one percent Asian and Pacific Islander, and less than one percent Hispanic (Ohio Data Users Center 1993).

The population within a five mile radius of the FEMP site was estimated at 22,927 residents in 1990 (DOE 1992a). Population density within the five mile radius of the site is 917 residents/mi^2. The daytime population within a five mile radius of the site is approximately 29,000 (daytime population was calculated by adding subpopulations and area workers to the resident population figure). Overall levels of employment at the FEMP site are expected to remain constant throughout the remedial process.

J.3.6.2 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," was signed by President Clinton on February 11, 1994, and requires federal agencies to focus on planning and enforcement of specific actions designed to promote environmental equality in minority and low-income communities.

The area surrounding the FEMP does not contain unusually high populations of low-income or minority groups. The average household income in 1994 within three townships surrounding the FEMP (Ross, Morgan, and Crosby) was $41,000 annually, well above the $18,500 household income poverty level for the United States. Income figures are averaged from household incomes ranging from one to ten household members (Federal Register, 1994). Ethnic composition is primarily Caucasian with minority groups widely dispersed throughout the 13 county region (Ohio Data Users Center 1993).

J.3.6.3 Labor Force and Economy

Hamilton County is the economic nucleus of the 13-county CMSA. The majority of business and industry population, labor force, and transportation resources are located within this county. Butler County is second to Hamilton County in the availability of these resources.
Most of the labor force in the 13-county region hold occupations in technical, sales, and administrative support positions working for private profit, durable material production and retail companies. The work force population within the CMSA was 1,374,281 in 1990 (Ohio Data Users Center 1993).

Over half of the employees associated with the FEMP including DOE, FERMCO, teaming partners, and various subcontractors, live within the CMSA, with the higher concentrations in Hamilton and Butler counties. Some of these employees work at off-site locations; however, the majority of employees work at the FEMP location. In addition to employees at the FEMP 32 private businesses employ 700 individuals within a two mile radius of the site.

In addition to the current work force, additional remedial workers will be brought to the FEMP in a response to specialized skill and training requirements. However, currently employed site workers will be used to the extent possible.

As a result of remedial activities, the local community surrounding the FEMP will experience revenue fluctuations in select sectors of the economy. For example, concrete, aggregate, and lumber will be needed for the construction of the disposal facility and support structures; however, these fluctuations are not expected to substantially impact the local economy.

J.3.6.4 Land Use

Known as the tri-state area, Cincinnati is the center of a three-state commerce community including Ohio, Kentucky, and Indiana. It is home to 16 "Fortune 500" companies and has over 800 firms engaged in international trade. Cincinnati has grown into a major center for manufacturing, wholesaling, and retailing. The area within 600 miles of Cincinnati contains 59 percent of the nation's population, 59 percent of the nation's purchasing power, and 58 percent of the nation's manufacturing establishments (1993 Greater Cincinnati Chamber of Commerce pamphlet).

The "urban-flight" syndrome, commonly seen in modern American cities, is very apparent in Cincinnati; the population decreased by approximately 20,000 from 1970 to 1980 and by 60,000 from 1980 to 1990. Simultaneously, the surrounding counties of Clermont, Butler, and Warren have increased in population by approximately 45,000 over the same 20-year period. Consequently, the land use of Cincinnati and the surrounding communities could be described as in a state of "urban sprawl" (former farming communities becoming developed through the construction of subdivision settlement dwellings connected by interregional highways).

The land adjacent to the FEMP site is primarily devoted to open land use such as agriculture and recreation. Commercial activity is generally restricted to the village of Ross (Venice) Ohio, approximately three miles northwest of the facility, and along State Route 128 just south of the village. Industrial use is concentrated in the areas southwest of the FEMP and in a small industrial park on State Route 128 between Willey and New Haven Roads. Residential units are situated immediately north in Ross and directly east in a trailer park adjacent to the intersection of Willey Road and State Route 128. Other residents located around the site are generally associated with farmsteads. There are no areas within the FEMP boundaries considered to be prime farmland under the Farmland Protection Act of 1981 (7 CFR 658). Because the area had been intensively used for agricultural purposes prior to the establishment of the FEMP site, there is no land on or in the vicinity of the FEMP site where a historic natural environment remains intact. The land closest to this description is the recreated prairie lands on the Miami Whitewater Forest property, located five miles south of the site.

J.3.6.5 Noise

Noise is defined as unwanted or undesirable sounds that have an adverse effect on human beings and their environment including land, structures, natural wildlife, and ecological systems (Canter 1977). The measurements of noise are expressed in a logarithmic ratio of sound pressure referred to as the sound pressure level and are quantified using the term "decibel" (dB). To obtain a representative

sound level that contains a wide range of frequencies to which humans respond to, the "sound pressure level" is A-weighted, resulting in the term dBA. Normal human hearing capabilities range from 0 dBA (the threshold of hearing) to 140 dBA (a jet plane on the ground at 20 ft).

With a population density of 917 residents/ml^2, combined with the presence of industry in the area, land use within a five mile radius around the FEMP site could operationally be classified as agricultural/quiet residential. This classification provided by Canter (1977), combined with noise-level data, recorded by the Westinghouse Environmental Management Company of Ohio in 1991, indicate that the current average background noise level within the five mile radius of the FEMP is approximately 50 dBA.

Rather than increasing and decreasing in a linear fashion, noise propagating from a point source changes logarithmatically. Consequently, for every doubling of the distance away from the source of the noise, the sound level decreases by six dBA. Most remedial activities will take place towards the center of the FEMP site. Consequently, an activity emitting a sound level of 100 dBA would decrease to 60 dBA once the sound wave reaches a resident one mile away from the sound source. It is assumed noise levels emitted from remedial activities will fluctuate according to the type of activity and might very well be heard by surrounding communities; however, the noise levels to the nearest resident will not increase more than 10 to 15 dBA over the background noise level of 50 dBA during a normal eight-hour working day. Although no sound barriers will be constructed during remedial activities, noise levels will be reduced though engineering controls. Noise levels for on-property workers will not exceed the 85 dBA (Occupational Safety and Health Act 29 CFR Part 1910.95) standard through the implementation of the noise conservation program currently enforced at the FEMP site.

J.3.6.6 Transportation

The activity with potentially the greatest direct effect on local residents from concurrent implementation of OU remedial activities is the increased traffic flow from waste shipment. Transportation routes off-site will be impacted by four categories of shipments: (1) transport of waste for off-site disposal either at the NTS or a permitted commercial disposal facility; (2) bringing backfill and construction materials from off-site regional sources; (3) movement of backfill waste and material within site boundaries; and (4) a variety of wastes, hazardous materials, laboratory, and treatability samples which are to be dispositioned during CERCLA removal actions. Category 4 includes RCRA wastes, hazardous wastes, mixed waste, low-level waste, PCB-contaminated waste (currently stored on-property and awaiting final disposal), and hazardous materials which resulted from past production operations (e.g., low-level residues, high-grade residues, orange oxide [UO_3], green salt [UF_4], uranium derbies, and refinery feedstock currently awaiting final disposition). Facilities that are to receive and ship the waste, hazardous materials, and samples include, but are not limited to, the following: privately owned, licensed treatment and disposal facilities; privately owned laboratories; privately owned nuclear facilities; and federal facilities (e.g., other DOE sites).

OUs 1, 3, 4, and 5 are likely to ship waste off-site for disposal during concurrent implementation of remedial actions. OU1 estimates 638 train shipments over five years will depart for a permitted commercial disposal facility in Clive, Utah. OU3 will transport waste by truck to a representative commercial disposal facility in Clive, Utah and NTS. OUs 4 and 5 will transport waste by truck to NTS located in Mercury, Nevada. The following truck trips are estimated: OU3 (508 truck trips over 10 years); OU4 (2,231 truck trips over six years); and OU5 (833 truck trips over 22 years). OU2 may transport waste material which exceeds the on-property Waste Acceptance Criteria. This waste would be transported by rail to the representative permitted commercial disposal facility and

consist of approximately 3,300 yd^3 of waste material which would not significantly increase rail shipments.

The transportation route for rail shipments would traverse through the following cities and states: Hamilton, Dayton, and Lima, Ohio; Gary, Indiana; Chicago, Illinois; Cedar Rapids, Iowa; Fremont, Nebraska; Cheyenne, Wyoming; Ogden, Salt Lake City, and Clive, Utah. The transportation route for truck shipments would traverse through the following cities and states: Indianapolis, Indiana or Louisville, Kentucky; St. Louis and Joplin, Missouri; Tulsa and Oklahoma City, Oklahoma; Amarillo, Texas; Albuquerque, New Mexico; Flagstaff and Kingman, Arizona; Las Vegas and Mercury, Nevada.

The lifetime cancer risk to an individual living along the rail or truck route, as evaluated in each OU's respective FS report is less than 1×10^{-6} for all off-site waste shipments. The average monthly increase in truck traffic (Monday through Friday) would be approximately 17 truck trips/month. Train traffic would increase by approximately 11 trains per month. This increase in traffic flow would impact local residents from increased noise and dust.

Air emissions in the forms of total hydrocarbons, carbon monoxide, and nitrogen oxides would occur from truck transport of OUs 3, 4, and 5 waste. Air emissions were calculated assuming 8,640 heavy duty diesel powered vehicles would be traveling 4,130 miles round trip at a speed of 55 miles per hour. The model year of the vehicles is assumed to be 1990. Air emissions were also calculated based on the following factors: total hydrocarbons 1.60 grams/mile, carbon monoxide 5.45 grams/mile, and nitrogen oxides 18.15 grams/mile (EPA 1985). The calculated air emissions converted from grams to tons are as follows: total hydrocarbons 56.2 tons, carbon monoxide 191.4 tons, and nitrogen oxides 637.4 tons.

Backfill for all OUs is expected to be obtained on site and therefore would not significantly contribute to local traffic impacts.

J.3.6.7 Community Services

Community services that could be affected by remedial activities include schools, health care facilities, housing, emergency and protective services, and water and wastewater treatment systems. Impacts to these services would primarily arise from relocating large numbers of workers during major activities such as the remediation. Because the employment requirements for FEMP site remediation are not expected to result in a major influx of workers during remedial activity, due in part to the work being spread over time, no long-term impacts on these services are anticipated.

J.3.7 Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act, DOE must take into account the effects of remedial activities on historic properties. An Historic property is defined as any prehistoric or historic building, archeological site, structure, or object that is listed or eligible for listing on the National Register of Historic Places. DOE must also afford the Advisory Council on Historic Preservation (the Council) a reasonable opportunity to comment on the effects of a project to historic properties. To accomplish this, DOE is developing a process for the survey, avoidance, and mitigation of historic properties in conjunction with the Ohio Historic Preservation Office (OHPO) and the Council. For archeological sites, DOE will survey for historic properties within uncontrolled areas prior to the initiation of remedial action and consult with OHPO and the Council regarding appropriate mitigation actions. For all buildings and structures, DOE will document the architecture and history of the primary facilities, using existing information whenever possible. These two approaches to compliance with Section 106 of the National Historic Preservation Act are being

developed through two separate Programmatic Agreements with OHPO and the Council, as promulgated in 36 CFR 800.13.

J.4 AGENCIES CONSULTED AND RELATIONSHIP TO OBJECTIVES OF LOCAL, STATE, REGIONAL, AND FEDERAL LAND USE PLANS, POLICIES, AND CONTROLS

During the development of the OU4 FS a number of federal, regional, state, and local organizations were contacted for information or assistance. This information has been referenced herein for the OU3 RI/FS/PP-NEPA evaluation. Some of these agencies were also contacted for consultation under 40 CFR 1502.16, which requires a discussion of "possible conflicts with the objectives of state, federal, regional, and local land use plans, policies, and controls" in environmental documents. Agencies were contacted under this provision to determine whether any conflicts would arise as a result of remedial activity at the FEMP site. No agency or organization that was contacted considered future remedial actions at the FEMP site to be in conflict with its land use plans, policies, or controls in the area. The following organizations were contacted:

Federal

- U.S. Environmental Protection Agency
- U.S. Department of the Interior
- U.S. Department of Transportation
- Bureau of Land Management
- U.S. Fish and Wildlife Service
- Federal Emergency Management Agency
- Army Corps of Engineers, Louisville, Kentucky District

State

- Ohio Environmental Protection Agency
- Ohio Department of Natural Resources, Wildlife Division
- Ohio Department of Transportation
- Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Parks Department
  - Soil Conservation Service
  - Ohio Historic Preservation Office
  - Ohio Department of Commerce, Data Users Center
  - Ohio Department of Rehabilitation and Correction

County

- Hamilton County Planning Commission
- Hamilton County Park District
- Hamilton County Engineer
- Hamilton County Cooperative Extension Service
- Butler County Planning Commission
- Butler County Park District
- Butler County Engineer
- Butler County Cooperative Extension Service
- Butler County Treasury Office
- Hamilton County Treasury Office

- Warren County Auditors Office
- Clermont County Accounting Office
- Brown County Auditors Office
- Boone County (Kentucky) Auditors Office
- Gallatin County (Kentucky) Auditors Office
- Kenton County (Kentucky) Treasury Office
- Grant County (Kentucky) Treasury Office
- Campbell County (Kentucky) Payroll Office
- Pendleton County (Kentucky) Auditors Office
- Dearborn County (Indiana) Auditors Office
- Ohio County (Indiana) Treasury Office

Regional

- Ohio-Kentucky-Indiana Regional Council of Governments - A regional planning agency involved in a variety of areas, including water resources, solid waste management, population studies, public services management, transportation, and land use in the Greater Cincinnati area.

- Ohio River Valley Sanitation Commission - A group responsible for monitoring and reporting the water quality of the Ohio River and its major tributaries.

- Water Management Association of Ohio - An organization dedicated to supporting the development, conservation, control, protection, and use of Ohio's water resources for beneficial purposes.

- Miami Conservancy District - A water conservation subdistrict responsible for the observation and evaluation of water resources in the area between Hamilton and New Baltimore.

- Miami Purchase Association for Historic Preservation

Local

- Hillside Trust - A nonprofit organization dedicated to promoting the preservation and thoughtful use of the hillsides in the Greater Cincinnati area.
- Hamilton County Prisons
- Great Rivers Council, Girl Scouts of America
- Ross Township Trustees
- Crosby Township Trustees

J.5 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The implementation of the remedial alternatives for OUs 1 through 5 will result in the commitment of land, economic resources, and regional raw materials. The alternatives will require a commitment of resources to retain wastes on property. These alternatives could result in the restricted use of the land for thousands of years. The commitment of raw materials, economic resources, and some land is unavoidable for any remedial alternative at the FEMP site. The irretrievable commitment of the site as a permanent waste facility needs to be examined carefully in terms of DOE's future policies in the

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waste management program. The following paragraphs will analyze these commitments. The purpose of the resource commitment evaluation of is to outline the major issues and tradeoffs to be considered in the final selection of remedial and waste management alternatives for the FEMP site.

Each remedial alternative will require some commitment of land, economic resources, and regional raw materials. The alternatives that require excavation, on-property treatment, and on-property disposal will require the highest commitment of land, economic resources, and regional raw materials. At least 517.2 acres of land would be disturbed during remediation operations. The waste that is removed (with the exception of most OU4 and all OU1 material) will be placed in an on-property disposal facility, which will require 208 acres of land at the 1,050-acre site.

Approximately 208 acres would be irretrievable and committed to the DOE waste management program and DOE ownership as a result of on-property disposal. The remaining 842 acres of site property could be made available for restricted use such as industrial or recreational (developed or undeveloped park).

As part of the commitment of land at the FEMP, the subsequent loss of various types of habitat will likely occur. It is likely that a portion of the acreage committed to on-property disposal will be in the form of wetlands and various habitats. In addition, managed field habitat in the solid waste landfill would be lost as a result of containment activities.

If the FEMP site were to remain a permanent waste facility and part of the DOE waste management program, there would be a commitment to retain most of the wastes stored on property in a stabilized form. Some of the FEMP site will not be returned to its original agricultural condition. The facility will be monitored and the land will be controlled for an indefinite period of time.

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Appendix K

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K.0 SUPPORTING DOCUMENTATION

K.1 INTRODUCTION

Appendix K contains the Operable Unit 3 (OU3) data management approach, along with tables which are referenced in various sections of the document. The tables are described below.

Table K-1 is the OU3 Hazardous and Solid Waste Management Unit table referenced in Section 1.2.2.1. This table contains the Hazardous Waste Management Unit (HWMU) number and description, associated components, type of unit, wastes managed within the HWMU, the approximate dimensions of the unit, operational status, and closure status for the HWMU. This table also includes HWMUs which have been reclassified as Solid Waste Management Units (SWMUs).

Table K-2 is the OU3 Sample Specific Variance Log for samples taken during the OU3 Remedial Investigation/Feasibility Study (RI/FS) characterization study. This variance log is referenced in Section 2.4. The table contains the variance number, the affected component, the sample date, and a description of the variance.

Table K-3 is the OU3 General Methodology Variance Log for the OU3 RI/FS characterization study. The variances on this log may refer to more than one sample falling under the variance. The individual sample numbers affected by the variance are not listed, but the type of sample affected is described. This variance log is referenced in Section 2.4. The table contains the variance number, the affected component, the date of the variance, and a description of the variance.

K.2 OU3 DATA MANAGEMENT

OU3 field screening data, sample collection data and laboratory analytical results generated during the RI were systematically verified for accuracy and ultimately stored in the FEMP's Sitewide Environmental Database (SED). To ensure data entry or electronic transfer accuracy between documents and the databases, both electronic and manual verification methods were employed dependent on the analytical support level (ASL) (See Section 2.6) and type of characterization data. This section summarizes the process of documentation and electronic capture of data gathered during the RI.

Field samples collected from OU3 components for laboratory analyses were initially scheduled into the Fernald Analytical Computerized Tracking System (FACTS), where records are created on an analyte level. The FACTS is an information management system designed to store, track, and report sample/analytical data from the sample planning phase through the analytical results validation phase. The system utilizes bar code technology and manual data entry as methods of updating and tracking a sample record throughout the life of a FACTS sample.

Chemical analytical results were manually keyed into the FACTS followed by an accuracy verification step. Validation qualifiers were manually entered for each analyte, independently verified, and finally approved by a data validator by verifying the accuracy against the original validated laboratory report.

Following complete verification of analytical results, the FACTS records were transferred to the SED, which serves as the final data repository and allows controlled user access. The SED's relational database structure provides a wide range of reporting capabilities, including statistical summaries. These procedures fully comply with the data management requirements specified in Appendix F of the Sitewide CERCLA Quality Assurance Project Plan.

Radiological analytical data were entered directly into the SED using either double-key manual entry or electronic data transfer supplied by the laboratories. FACTS was not used for the radiological data because of the program's inability to upload electronic data. Validation qualifiers were manually entered for each isotope, independently verified, and finally approved by a data validator by verifying the accuracy against the original validated laboratory report.

Field screening data were also incorporated into the SED through double-key entry or electronic download from field instruments. These field screening data include radiological survey data, X-ray fluorescence instrument surveys, PCB field kit results, and organic vapor surveys. Through the relational capabilities of the SED, individual field measurements were linkable, for reporting purposes, to all other sample and analytical data for a common location (component, process area, or even intrusive sample location).

The flow of OU3 samples and laboratory analytical data is illustrated in Figure K.1-1.

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TABLE K-1

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
1	Fire training facility	73A, B, C, D, E	Disposal	Metal	1 WMB	F002, F005	105 ft x 134 ft; 85 ft x 68 ft	Inactive	RAWP/CPID submitted 06-Aug-93	Attain closure through CERCLA response	Potential media contamination
				Const. Debr	5 WMB	F002, F005					
				Sludge	57 drums	F001, F002, F005, D008, D018, D019, D029					
				Soils	108 drums	F001, F002, F005					
					5 WMB	F001, F002, F005					
2	Parts cleaner in Welding Shop	12A	Reclassified to SWMU	N/A	N/A	N/A	4 ft x 6 ft x 6 ft	Inactive	N/A	N/A	N/A
3	Waste oil storage at garage	31A	Storage	Concrete	2	F002	10 ft x 10 ft	Inactive	Revised CPID submitted 17-Feb-95	Clean close under RCRA	Limited or no potential for media contamination
				PPE	8	F002					
4	Drum storage area near loading dock (lab)	15A	Storage	PPE, Herculite	40	TBD	76 ft x 22-40 ft	Inactive	CPID approved by Ohio EPA 05-May-95	Attain closure through CERCLA response	Limited or no potential for media contamination
				Rinsewater	250 gal	TBD					
5	Drum storage area south of W-26 (lab)	15A	Storage	PPE, Herculite	24	TBD	32 ft x 41 ft	Inactive	CPID submitted 08-Oct-92; requested closure under CERCLA via letter 17-Feb-95	Attain closure through CERCLA response	Potential media contamination
6	Drummed HF residue storage area inside Plant 4	4A	Storage	HF Residues	152	U134	4 ft x 17 ft	Inactive	Clean closed 28-Apr-95	Clean close under RCRA	Limited or no potential for media contamination
				Decon Water	80	U134					
				Trash	8	U134					
7	Drummed HF residue storage area NW of Plant 4	N/A	Storage	Hold-up	19 drums	U134	25 ft x 30 ft	Inactive	Additional closure documentation submitted 05-Jun-95	Clean close under RCRA	Limited or no potential for media contamination

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TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
8	Drummed HF residue storage south of cooling tower	19D	Storage	Hold-up	19 drums	U134	14 ft x 40 ft x 15 ft	Inactive	Clean closed 13-Apr-95	Clean close under RCRA	Limited or no potential for media contamination
9	Nitric acid rail car and area	N/A	Storage	Nitric Acid	100 gal.	D002	10 ft wide x 40 ft long x 15 ft high	Inactive	Clean closed 25-Apr-95	Clean close under RCRA	Limited or no potential for media contamination
				Rinsewater	500 gal.	D002					
10	NAR system components	2A	Storage	Acid	27,815 gal.	D002/D007	13,262 ft^2	Inactive	CPID submitted 30-Jun-93	Attain closure through CERCLA response	Potential media contamination
11	Tank farm sump	19D	Treatment	Hold-up	25 gallons	D002	165 ft x 135 ft	Inactive	TBD	Attain closure through CERCLA response	Potential media contamination
12	Wheelabrator	66	Reclassified to SWMU	N/A	N/A	N/A	24 ft x 20 ft	Inactive	N/A	N/A	N/A
13	Wheelabrator dust collector	66	Storage	Hold-up	85	D006/D008	30 ft x 17 ft	Inactive	Revised CPID submitted 10-Jul-95	Clean close under RCRA	Limited or no potential for significant media contamination
				Dust Tubes	24	D006/D008					
14	Box furnace	74R	Treatment	Firebrick	46	F001/F002	18 ft x 14 ft	Inactive	TBD	Attain closure through CERCLA response	Potential media contamination
				Metal	700	F001/F002					
				Hold-up	11 drums	F001, F002, D005, D007, D008, D011					
				PPE	24	F001, F002					

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TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
15	Oxidation furnace #1	8A	Treatment	Steel		F002	85 ft^2	Inactive	TBD	Attain closure through CERCLA response	Unit removal better addressed in conjunction with CERCLA response
				Firebrick		F002					
				Concrete		F002					
				Hold-up	126	F002					
16	Primary calciner	8A	Reclassified to SWMU	N/A	N/A	N/A	13.5 ft diam. x 40 ft high	Inactive	N/A	N/A	N/A
17	Plant 8 east pad	74C	Storage	Concrete	381	D001, D008, D035	18,300 ft^2	Inactive	TBD	Attain closure through CERCLA response	Potential media contamination
				PPE	24						
18	Plant 8 west pad	74D	Storage	Concrete	256	D001, D008, D035	10,000 ft^3	Inactive	TBD	Attain closure through CERCLA response	Potential media contamination
				PPE	24						
19	CP Storage warehouse	56A	Storage	Hold-up	TBD	TBD	50 ft x 180 ft	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Potential media contamination
				PPE	TBD	TBD					
20	Plant 1 storage pad	74T	Storage	TBD	TBD	F002, F003, D005, D008	461,000 ft^2	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action; Potential media contamination
21	Hilco oil recovery[c]	5A	Storage	Filter Material	6	(D001/D018)	272 ft^2	Inactive	TBD	Clean close under RCRA	Limited or no potential for media contamination
				Hold-up	2060 gal.	(D001/D018)					

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TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
22	Abandoned sump west of Pilot Plant	13A	Storage	Hold-up	1450 gal.	D005, D007, D008, D009, D018, D039	2 ft d. x 14 ft dp	Inactive	TBD; Sump removed as reported in Removal Action final report approved by USEPA 14-Jan-94	Attain closure through CERCLA response	Potential media contamination
				Sump	1 WMB	D005, D007, D008, D009, D018, D039					
				Concrete	6 drums	D005, D007, D008, D009, D018, D039					
				Soils	35 drums	D005, D007, D008, D009, D018, D039					
23[a]	Well drilling storage area	N/A	Reclassified to SWMU	N/A	N/A	N/A	29 ft x 56 ft	Inactive	N/A	N/A	N/A
24[a]	Equipment storage area	N/A	Reclassified to SWMU	N/A	N/A	N/A	45 ft x 145 ft	Inactive	N/A	N/A	N/A
25[a]	Plant 1 storage building	67	Storage	Hold-up	TBD	TBD	40 ft x 100 ft	Inactive	TBD	Attain closure through CERCLA response	Unit removal better addressed in conjunction with CERCLA response
				Concrete	653	TBD					
				PPE	32	TBD					
26	Detrex still	1A	Storage	Metal	231 lbs.	F002	1 ft x 2 ft x 8 ft	Inactive	Revised CPID submitted 02-Mar-94; closure work completed 30-Sept-94	Clean close under RCRA	Limited or no potential for medial contamination
				Water	165 gal.	F002					
				Concrete	441 lbs.	F002					
				PPE	3 drums	F002					

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TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
28	Trane incinerator	39A 39B 74W	Treatment	Hold-up	1000	D008, F001, F002	50 ft x 52 ft	Inactive	Revision 3 to be submitted; date TBD	Attain closure through CERCLA response	Potential media contamination
				Concrete	200	D008, F001, F002					
				Rinsewater	500 gal.	D008, F001, F002					
				PPE	80	D008, F001, F002					
29	Plant 8 warehouse	80	Storage	Concrete	212.5	TBD	60 ft x 170 ft	Active	In section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action
				PPE	24	TBD					
30	Barium chloride salt treatment facility	13A	Treatment	TBD	TBD	D005	75 ft x 50 ft	Inactive	Clean closed 19-Apr-90	Clean close under RCRA	Limited or no potential for media contamination
31	Tank T-5	13D	Storage	Hold-up	Disposed	F002	15 ft h x 10 ft dm.	Inactive	CPID submitted 18-Nov-93; closure work has been initiated	Clean close under RCRA	Limited or no potential for media contamination
32	Tank T-6	13D	Storage	Hold-up	Disposed	F002	15 ft h x 10 ft d.	Inactive	CPID submitted 18-Nov-93; closure work has been initiated	Clean close under RCRA	Limited or no potential for media contamination
33	Pilot plant warehouse	68	Storage	Concrete	9	TBD	69 ft x 7 ft	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action
				PPE	8	TBD					
34	KC-2 warehouse	63	Storage	Concrete	591	TBD	46 ft x 82 ft	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action
				PPE	32	TBD					
35	Plant 9 warehouse	81	Storage	Concrete	42	TBD	80 ft x 100 ft	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action
				PPE	16	TBD					

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TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[a]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
36	Storage pad north of Plant 6	74J	Storage	PPE	24	D008, F002	8 ft x 40 ft	Inactive	CPID submitted 30-Dec-93; closure work has been initiated	Attain closure through CERCLA response	Potential media contamination
				Rinsate		D008, F002					
				Soil	324	D008, F002					
37	Plant 6 warehouse	79	Storage	Concrete	354	TBD	100 ft x 170 ft	Active	In Section I of Part B 29-Mar-93	Attain closure through CERCLA response	Unit will be used during CERCLA response action
				PPE	16	TBD					
38	HF tank car	19A	Storage	Acid	Neutralize 4500 gal	D002	10 ft wide x 34 ft long x 15 ft high	Inactive	CPID approved 14-Feb-95; completed field work 31-Jul-95; Certification of Clean closure to be submitted Sept-95	Clean close under RCRA	Potential media contamination
39	Clearwell	88	Reclassified to SWMU	N/A	N/A	N/A	Surface area: 30,600 ft^2 Depth: 25 ft Capacity: 4 million gal.	Inactive	N/A	N/A	N/A
40	Bio-surge lagoon	18A	Reclassified to SWMU	N/A	N/A	N/A	Surface area: 160,000 ft^2 Depth: 9 ft	Inactive	N/A	N/A	N/A
41	Sludge drying beds	25F	Treatment	TBD	TBD	F002	79 ft x 52 ft	Inactive	TBD	Attain closure through CERCLA response	Potential media contamination
44	Coal pile runoff basin	18C	Reclassified to SWMU	N/A	N/A	N/A	107 ft x 54 ft Depth: 11 ft	Inactive	N/A	N/A	N/A
45	UST No. 5	N/A	Reclassified to SWMU	N/A	N/A	N/A	3 ft diam. x 6 ft long	Inactive	N/A	N/A	N/A
46	UNH tanks - NFS storage area	2E	Storage	Hold-up	TBD	D002, D005, D007, D008, D009	61 ft x 52 ft	Inactive	CPID submitted 22-Jun-93	Attain closure through CERCLA response (RA 20)	Potential media contamination
47	UNH tanks - north of Plant 2	2A	Storage	Hold-up	TBD	D002, D005, D007, D008, D009	63 ft x 40 ft	Inactive	CPID submitted 22-Jun-93	Attain closure through CERCLA response (RA 20)	Potential media contamination

TABLE K-1 (Continued)

OU3 HAZARDOUS AND SOLID WASTE MANAGEMENT UNITS

No.	Unit Description	Associated Component	Type of Unit[a]	Hazardous Wastes Managed in Unit[c]			Approximate Dimensions	Operational Status	Closure Status	Closure Strategy[b]	Basis for Adopted Closure Strategy
				Type	Quantity	Codes (by media)					
48	UNH tanks - southeast of Plant 2	2A	Storage	Hold-up	TBD	D002, D005, D007, D008, D009	Tank: 25,000 gal. Containment area: 55 ft x 45 ft	Inactive	CPID submitted 22-Jun-93	Attain closure through CERCLA response (RA 20)	Potential media contamination
49	UNH tanks - digestion area (2 locations)	2A	Storage	Hold-up	TBD	D002, D005, D007, D008, D009	Each location: 20 x 127 ft	Inactive	CPID submitted 22-Jun-93	Attain closure through CERCLA response (RA 20)	Potential media contamination
50	UNH Tanks - raffinate building (2 locations)	3E	Storage	Hold-up	TBD	D002, D005, D007, D008, D009	14 ft x 50 ft; 15 ft x 30 ft	Inactive	CPID submitted 22-Jun-93	Attain closure through CERCLA response (RA 20)	Potential media contamination
52	North and south solvent tanks	13D	Storage	Hold-up (onsite)	TBD	D001	6.5 ft dm. each	Inactive	Response to comments on CPID submitted 05-Jan-95; closure work completed 30-Jun-94	Clean close under RCRA	Limited or no potential for media contamination
				Hold-up (shipped)	TBD	D001					
53	Safe geometry digestion sump	1A	Storage	Hold-up and rinsate	20 gal. disposed	D008	1 ft long x 8 in diam.	Inactive	Closure work completed; letter of closure completion submitted 13-Feb-95	Clean close under RCRA	Limited or no potential for media contamination
54	Thorium nitrate Tank T-2	13D	Storage	Lab Waste	100	D002, D006, D007[d]	10 ft dm	Inactive	CPID to be submitted 15-Nov-95	Attain closure through CERCLA response	Unit better addressed in conjunction with CERCLA response
				Concrete	400- 55 gal. drums	D002, D006, D007[d]					

[a] Although unit types vary, most units were designated as HWMUs because they held hazardous wastes for more than 90 days.
[b] Closure strategy for each HWMU is based on the information currently available and negotiation/discussions with OEPA. The final strategy will be driven by the Director's Findings and Orders (when signed).
[c] HWMU determinations on several units are being reevaluated. The units may, with OEPA approval, be reclassified as SWMUs.
[d] D006 and D007 (toxicity characteristic for cadmium and chromium, respectively) will be reevaluated because of possible uranium and thorium interferences in the lab analyses.
[e] The waste codes for each unit are based on best available information to date and may be revised as waste characterizations are completed for each unit.

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TABLE K-2

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
202	1A	3/16/94	The analysis requested for sample 1A-006 was changed from TCLP metals and organics to radiological only. The field blank was associated with 1A-003 instead of 1A-005 as identified in the FWP.
109	1A	3-10-94	Cancel loose media sample 1A-033 with associated field QC samples 1A-034 and -035. No media for collection.
108	1A	3-10-94	Cancel loose media sample 1A-012 with associated field QC samples 1A-013 and -014. No media for collection.
117	1A	3-15-94	Correction to SWAR, SPL-94-1106. FACTS number was missing "0" for sample 1A-005 (200044008.011).
124	1A	3-16-94	OCTR 6974/100002130 should be corrected to change the collection time for sample 200044046/1A-021 and mark sample 200044077/1A-031 as a "Lab QC" sample.
104	2A	2-15-94	Tha sampling location for 2A-028 to -030 (200036140.47) was moved 5 ft. south-2 ft. west of sample location identified in the FWP. Sample point was inaccessible by sampling equipment. New location had same rad contamination as original.
101	2A	2-14-94	The sampling procedure for collecting sample 2A-012 (200036082.85) was changed from EP-CRU3-009 to EP-CRU3-001 due to lack of liquid in the sump.
203	2A	3/2/94	Sample 2A-021B & C (200036122.23) were manually changed from TCLP VOCs (2651) to TCL VOCs (2526).
103	2A	2-15-94	The sample location for 2A-044R was moved 5 ft. west of location identified in the FWP due to the needle scaler being inoperational. Additional room was needed for the sampler to use a paint scraper.
102	2A	2-15-94	The equipment rinsate sample 2A-050 was cancelled because the associated liquid sample was collected using disposable equipment.
011	2A	9-23-93	Field blank 2A-034 cancelled. Use 2A-032.
012	2A	9-23-93	Field blank 2A-043 cancelled. Use 2A-045.
158	2B	6-21-94	Cancelled Radiological, VOCs and SVOCs on loose media sample due to insufficient sample media for collection.
182	2D	7/20/94	The sample location for 2D-003A to -005A (200076286.93) was changed from the chemical hotspot to the radioloigical hotspot. The FWP location incorrectly identified a masonry spot instead of concrete.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
180	2D, 69, 2E, 15A, 18H	NA	These FWPs were modified to cancel steel samples and/or inorganic portions of the bottom concrete cores due to the change in the RI scope. A copy of the WPA modification letter is attached to the variance.
175	2D	7/18/94	One of the 2-1 gallon containers for radiological analysis for sample 2D-017 (200076331) was dropped prior to shipment. The other gallon was shipped for analysis.
176	2D	7/21/94	The sample location for 2D-012 (200076313) was changed due to water in the original location.
173	2E	NA	Samples 2E-008 to 2E-010 were cancelled/modified due to lack of media. The field blank was modified to rad only.
204	2F	5/10/94	Sample 2F-004A (200055326) location was changed to location of 2F-004.
152	2H	5-31-94	Samples 2H-014 and 2H-015 have been cancelled due to lack of media.
154	2H	6-2-94	Sample 2H-005 (field duplicate) was cancelled due to lack of media.
049	3A	10-19-93	The sample location for 3A-003 to -005 (200018554.59) was moved from that identified in the FWP.
064	3C	12-6-93	Moved sample location for 3C-003. Hot spot at original spot was due to tar not concrete. Moved to concrete hotspot.
068	3C	12-7-93	Combined sample locations for 3C-005 and 3C-005A. Cancelled alpha/beta sample for 3C-005A.
067	3C	12-7-93	Correct chain of custody form SPL-93-4856. The FACTS sample ID should be 200025805 instead of 2000254805.
073	3D	12-8-93	Combined sample locations for 3D-005 and 3D-005A. Cancelled alpha/beta sample for 3D-005A.
090	3E	1-3-94	Samplers changed procedures to collect liquid samples, 3E-008 and -010. Used EP-CRU3-001 instead of FWP identified procedure EP-CRU3-004. Permission given by D. Dalga.
088	3E	1-10-94	Correct dates on SWARs SPL-94-0119 and -0138 from 2/10/94 and 2/11/94 to 1/10/94 and 1/11/94 respectively. Change dates in corresponding logbooks also.
089	3E or 3F	1-3-94	SPL broke sample container for either sample 3E-009 or 3F-009 (could not remember which). Should be enough sample for analysis.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
205	3F	8/15/94	Rinsate sample 3F-010 was cancelled due to use of disposable equipment used to collect sample.
132	3G	4-6-94	The sample location for 3G-007A/200047327.28 was changed. The original location was deemed inaccessible by the sample team. Also, the customer number on the SWAR should be 3G-007A instead of 3G-700A.
130	3J	4-5-94	The sample locations for 3J-002/200048473 to 3J-005/200048483 was changed. The original location was under standing water. The original location will be resampled later.
131	3J	4-5-94	The sample location for 3J-006/200048484.86 was changed to the location for 3J-006-A (I-beam F1-405). The original I-beam was in standing water.
005	4A	9-21-93	Analyses for field blanks associated with Transite will be changed from TCLP to Total TCLP Metals and S-VOAs. TCLP VOAs will remain the same due to different analyte lists.
045	4A	9-23-93	The samplers used the same coring tool and bushing tool for all sections of the concrete core instead of changing tools for each section. Samples 4A-017 to -020 (200014172.78).
044	4A	9-15-93	The sample location for 4A-034 and -035 (200014206.12) was moved from the west sump to the east sump.
007	4A	9-15-93	Field blank 4A-008 cancelled. Use 4A-010.
008	4A	9-21-93	Trip blank 4A-038 added to FWP.
194	4A	4/13/94	The sample media for the top 1/2 inch of the concrete core for sample 4A-028A (200034454) was a black, dusty sample and different from the other two layers.
100	4A	2-10-94	New containment system used for collection of sample 4A-007A. Old containment system did not have enough vacuum to collect all steel scrapings.
004	4A	9-15-93	VOA and Metals liquid samples were not acidified for sample 4A-009. Water contained large content of "soapy solution", samples will be treated as a "concentrated waste". VOA could not be collected without headspace due to bubbles from soap.
010	4A	9-21-93	Field blank 4A-026 cancelled. Use 4A-024.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
042	4A/ 13A	various	Several samples missed the holding time for mercury. The lab was instructed to analyze the samples anyway. Memo and list of samples is included with variance form.
060	5A	11-30-93	The TCLP Extraction: TCL S-VOCs sample was not collected. The analytical procedure ruins GC/MS columns and its necessity is being evaluated. The sample may be collected at a later date.
059	5A	11-30-93	Combined sample locations for 5A-039 and 5A-039A. Cancelled alpha/beta sample for 5A-039A. Same for associated field blanks 5A-040 and 5A-040A.
058	5A	11-29-93	Change analysis code for Trip blank 5A-008A from 2651 to 2526 and change ASL from B to C. Trip blank was used when collecting both transite and loose media and must meet requirements for most stringent.
061	5A	12-2-93	Combined sample locations for 5A-023 and 5A-023A. Also, field blank locations 5A-024 and 5A-024A. Cancelled alpha/beta sample for 5A-023 and 5A-024.
057	5A	11-29-93	Sample 5A-031 cancelled due to lack of loose media.
199	5A 13A	6/13/94	The FACTS sample numbers on the SWARs for samples 5A-058 to -060 (200064954.61) and 13A-080 to -082 (200066159.67) were backwards from what was requested on the OCTR and logged into FACTS.
065	5A	12-6-93	Combined sample locations for 5A-012 and 5A-012A. Cancelled alpha/beta sample for 5A-012.
082	5A	12-15-93	Laboratory missed hold time on VOA field blank sample 200024100. Analysis will be analyzed anyway.
062	5A	12-2-93	Combined sample locations for 5A-026 and 5A-026A. Cancelled alpha/beta sample for 5A-026A.
054	5A	11-22-93	Combined sample locations for samples 5A-057 and 5A-057A. Cancelled alpha/beta for 5A-057.
072	5A	12-8-93	Combined sample locations for 5A-047 and 5A-047A. Cancelled alpha/beta sample for 5A-047.
070	5A	12-7-93	Cancelled VOC and SVOC analyses for field blank 5A-032. Not needed since all VOC and SVOC samples had previously been cancelled in this process area.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
006	5A	------	Steel sample in 5A, PA#7 cancelled prior to final approval of FWP. Also, cancel masonry sample in PA#10. Not accessible for sampling.
069	5A	12-7-93	Combined sample locations for 5A-030 and 5A-030A. Cancelled alpha/beta sample for 5A-030.
163	5A	6-13-94	One sample jar for sample 5A-058 (200064955) broke during transit form field to SPL. There was enough sample to continue analysis.
055	5A	11-23-93	Combined sample locations for samples 5A-043 and 5A-043A. Cancelled alpha/beta for 5A-043A.
071	5A	12-10-93	Cancelled trip blanks, 5A-008, 5A-016, and 5A-033. Not needed.
161	5A	6-14-94	The sample location for samples 5A-064 to -069 (200064973.83) were moved to area of higher rad survey reading.
056	5A	11-24-93	Combined sample locations for samples 5A-021 and 5A-021A. Cancelled alpha/beta for 5A-021A.
112	5C	2-28-94	The field blank, 5C-005, was not collected accidently. There was a miscommunication about the new requirment for cancelling the TAL Inorganics (see CRU3-110). The rad should have been collected.
097	6A	2-1-94	Sample location for 6A-022 to -026 (200033517.26, 200033678.79) moved 3 feet south of location identified in FWP. No explanation given by sampling personnel.
174	6E	NA	All samples from component 6E were cancelled. Some due to lack of media, others due to safety concerns.
140	6E	5-3-94	Sample 6E-004 (loose media) was cancelled due to lack of media. The trip blank, 6E-006, was also cancelled. The field blank, 6E-005, cancelled the VOCs and SVOCs.
034	8A	10-21-93	The analyte code on SWAR/CR SPL-93-4217 for sample 8A-040 (200018849) should be changed from 3500 to 2500 (TAL Inorganics).
191	8A	2/3/94 3/21/94	The sample locations for 81-005 and 81-005A were switched.
135	8A	2-10-94	Sample location changed for sample 8A-086 (200032940.41). The location was changed to the alternate location 8A-086A.
031	8A	10-20-93	Trip blank 8A-048 cancelled. Use 8A-011.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
095	8A	1-25-94	Sample location 8A-088 (200032943.46) was moved 12 ft. west of location identified in FWP. Original location did not have enough media for sample.
096	8A	1-27-94	Sample 8A-080 to -082 (200032925 to 32) location was changed from that identified in the FWP due to mis-identification of sample media in FWP. Map showed location for loose media, sample should have been concrete.
030	8A	10-20-93	Liquid sample 8A-046 cancelled. No media to collect.
035	8A	10-26-93	Loose media sample 8A-057 was cancelled due to lack of media.
032	8A	10-25-93	Loose media sample 8A-015 to -019 cancelled along with associated field QA/QC samples.
129	8A	3-25-94	The sample location for 8A-101A was moved due to the natural migration of the loose media to the N.W. corner of the dike by the action of the sump.
036	8A	10-26-93	Liquid sample 8A-059 was cancelled along with its associated field QA/QC samples (8A-060 and -061). No media to collect.
037	8A	9 and 10/93	The incorrect matrix code for steel scrapings was written in the FWP and therefore on most SWAR/CR forms. The code written was M317 and should be M315.
039	8A	11-2-93	The ASL for sample 8A-068 (200019146) was written incorrectly on the SWAR/CR. It should be ASL D instead of ASL C.
001	8A	------	The duplicate and rinsate sample for 8A, PA#2, has been reassigned to 39A, PA#1. Sample location no longer exists.
002	8A	9-13-93	Field blank 8A-065 cancelled. Use 8A-063.
099	8A	2-10-94	Additional gross alpha/beta rinseate sample collected, 8A-104 added to FWP. Used to verify that needle scaler given to CRU3 by the FERMCO high-level cleaners was decontaminated.
107	8A	1-24-94	Corrections to be made to OCTR for release 6884. Had incorrect CRU3 sample ID for 8A-062A. (Left off "A".) All other information correct.
077	8A	11-1-93	DataChem Lab missed hold time on VOA for trip blank sample 8A-011 (200018844).

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
043	8A	10-21-93	The sample location for 8A-003 (200018820) was changed from listed in FWP.
122	8B	3-15-94	Samples 8B-008 (loose media) and 8B-009 (liquid) were cancelled due to lack of media. Associated trip blanks 8B-011 and -011A were also cancelled. All but radiological analyses were cancelled for field blank, 8B-007.
169	8C	7-14-94	The sample locations for both 8C-003 and 8C-005 (200075982.86) were moved.
156	9A	6-8-94	No trip blanks were collected with samples 9A-048 and -049 (200064926.27 and 64933) due to scheduling oversight.
081	9A	12-14-93	Combined sample locations 9A-011 and 9A-011A. Cancelled alpha/beta sample 9A-011A.
080	9A	12-14-93	Moved sample point from original location due to lack of media. Combined sample locations 9A-019 and 9A-019A. Cancelled alpha/beta sample 9A-019A.
076	9A	12-13-93	Correct SWAR/CR, SPL-93-4949, to change sample 200026554 from ASL C to ASL B.
083	9A	12-20-93	Combined sample locations 9A-006 and 9A-006A due to inaccessibility of other steel structures. Reduced sample amount for Rad and Inorg. samples. Cancelled alpha/beta sample for 9A-006.
075	9A	12-13-93	Correct SWAR/CR, SPL-93-4950, to check field blank and trip blank as "GRAB" samples.
078	9A	12-13-93	For trip blanks, used FERMCO Groundwater Monitoring water instead of QC Dept. supplied trip blanks. QC was not present to supply.
091	9A	12-27-93	Sample location for sample 9A-047A (200026671.72) changed from I-beam "8H" to "7H" due to inaccessibility of FWP identified location.
093	9B	1-12-94	Sample location for sample 9B-008A (200032243.46) changed due to inaccessibility of FWP identified location.
111	10B	3-15-94	The radiological analysis for sample 10B-009 was cancelled due to lack of media for collection. No other I-Beam was accessible for collection.
025	12A	10-13-93	Field blank 12A-034 cancelled. Use 12A-036.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
027	12A	10-5-93	Analyses requested for samples 12A-042 (200015965/200015966) do not agree between the sample labels and the SWAR/OCTR. 200015965 should be TCL VOAs; 200015966 should be TCL S-VOAs on a TCLP extraction.
026	12A	10-13-93	Field blank 12A-047 cancelled. Use 12A-043.
024	12A	10-13-93	Field blank 12A-029 cancelled. Use 12A-027.
021	12A	10-12-93	Field blank 12A-055 cancelled. Use 12A-051.
022	12A	10-12-93	Field blank 12A-053 cancelled. Use 12A-051.
118	12A	3-1-94	Cancel sample 12A-028 due to inaccessibility of sampling point.
023	12A	10-12-93	Field blank 12A-019 cancelled. Use 12A-017.
121	13A	?	The incorrect FACTS number was used on SWAR and data package. Memo written to identify correct FACTS ID number, 13A-069 (200015597.98).
015	13A	10-4-93	Field blank 13A-072 cancelled. Use 13A-075.
014	13A	10-4-93	Field blank 13A-067 cancelled. Use 13A-075.
046	13A	9-30-93	The sample location for samples 13A-003 to -005 (200015543.46 and 15930.31) was moved from that identified in FWP. Could not get containment unit flush with ground at original site.
017	13A	10-5-93	Rinsate 13A-019 cancelled due to use of disposable coliwasas being used in the field.
016	13A	10-5-93	Field blank 13A-014 cancelled. Use 13A-018.
013	13A	10-4-93	Field blank 13A-040 cancelled. Use 13A-036.
181	15A	NA	The HVAC filter sample 15A-022 was cancelled due to lack of media.
193	16A	NA	The steel scraping sample 16A-006 and -006A were cancelled for safety reasons.
198	16C	4/19/94	The laboratory analyzed sample 16C-005 (200052783) for TCL VOCs instead of PCBs as requested on both the OCTR and SWAR.
139	16D	5-3-94	Sample 16D-005 (loose media) was cancelled due to lack of media. The trip blank, 16D-007, was also cancelled. The field blank, 16D-006, cancelled the VOCs and SVOCs.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
105	18A	11-30-93	Samples for 18A-002 (200023013.15) were sent to the incorrect laboratory for analyses. The location was resampled and the sample ID changed to 18A-002A. This caused a duplication of this sample ID number but the FACTS ID numbers are unique.
155	18C	6-3-94	Sample 18C-008R was not preserved due to the high pH of the sample at collection (pH 10).
153	18C	6-1-94	Sample 18C-002R was not preserved due to the number of particulates present in the sample. The sample team feared a reaction when acid was added.
150	18M	5-25-94	Sample location for 18M-003 (200054077.80) was changed because the original location was under water.
018	19D	10-7-93	Field blank 19D-012 cancelled. Use 19D-014.
047	19D	10-7-93	The sample location for 19D-003 to -005 (200016964.69) was moved from that identified in FWP. The shroud on the rotary hammer would not work on its side.
020	19D	10-7-93	Field blank 19D-008 cancelled. Use 19D-014.
019	19D	10-7-93	Field blank 19D-006 cancelled. Use 19D-014.
142	25F	5-16-94	Samples 25F-003/200053281.84 could not be acidified due to safety reasons. The samples reacted when the samplers attempted to add acid.
144	25F	4/26/94	Samples 25F-005, -007 (200053290.95) had to be discarded. See explanation above.
149	25G	5-25-94	Sample 25G-007R was not preserved. The sample reacted when the samplers attempted to add acid.
145	25H	5-17-94	Samples 25H-007 (sediment) and 25H-009 (trip blank) have been cancelled due to lack of media.
143	25H	4-26-94	Samples 25H-005 to -008 (200051776.79, 51788.90, 51796) had to be discarded and resampled due to an unscheduled power outage in the laboratory. The temperature of the samples exceeded the required temperature range.
148	25H 31A	5-16-94	The following samples were received at the laboratory at 8 deg. C: 25H-005 (200051796), 25H-006 (200054555), 25H-008 (200054575), 31A-008 (200051777.78), 31A-014 (200051788). Two trip blanks (200053294 and 200054574) also had small bubbles in all three containers.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
147	30A	5-17-94	The sample location for 30A-009 (200053039.41) was changed due to the original location was covered by drums.
160	30A	6-15-94	The sample location for sample 30A-004 (200053029) was changed to collect from a higher rad reading location.
029	32B	10-14-93	Field blank 32B-006 cancelled. Use 32B-004.
038	37	11-3-93	Loose media sample 37-025 was cancelled due to lack of media.
040	37	11-8-93	Liquid sample 37-040 was cancelled due to lack of media.
041	37	11-8-93	The matrix code for sample 37-032 (200021377 to 80) should be M325 instead of M310. Also the charge number for SWAR/CR SPL-93-4469 should be 3ABA3 not 3ABA2.
051	39A	11-15-93	The sample locations for 39A-028 and 39A-028-A were switched in the field. 39A-028-A was found to be the spot of highest contamination so the rad sample was collected there.
052	39A	11-15-93	Change the ASL from C to B on rinsate and trip blank samples 39A-018 and -019. Incorrectly assigned in FWP.
053	39A	11-18-93	Combined sample locations for samples 39A-032 and 39A-032-A. Also for associated field blank 39A-033 and 39A-033-A.
050	39A	11-15-93	Sample 39A-029 was cancelled due to lack of media.
146	39A	5-17-94	Sampe ID was incorrect on OCTR. Sample 39A-030 (200020609) was listed as 200020604 on the OCTR and laboratory results.
028	39D	10-14-93	Field blank 39D-004 cancelled. Use 39D-006.
079	45A	12-9-93	Combined sample locations 45A-005 and 45A-005A. Cancelled alpha/beta sample 45A-005.
159	46	6-21-94	The field duplicate for steel sample 46-011 was cancelled due to lack of media.
084	54A	12-21-93	Switched sample locations between 54A-016 and 54A-016A due to insufficient media at highest radiologically contaminated location to collect rad sample. There was enough, however, to collect the inorganic sample.
092	54A	12-30-93	Sample location for sample 54A-024 (200028575.76) moved 15 ft. east of location identified in FWP due to inaccessibility.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
126	54C	3-29-94	The sample location for 54C-004 was changed from that identified in the FWP. No reason stated in logbook.
187	55A	2/3/94	The sample location for 55A-003 (200036397) was changed.
098	55A	2-3-94	Sample location for 55A-005 (200036402.03) changed from location identified in FWP. FWP incorrectly identified hotspot for sample location per D. Dunderman.
133	55B	4-11-94	The laboratory made the concentration of the VOA calibration standard too concentrated. The samples will need to be resampled for VOCs.
164	56A	6-10-94	The sample location for sample 56A-004 (200056164) was moved due to inaccessiblity of original sample point.
166	64	7-13-94	The sample location for sample 64-004 (200067145) was moved for ALARA purposes.
172	64	NA	Samples 64-005 to -007 were cancelled/modified due to lack of media. The field blank was modified to rad only.
186	66	NA	The FWP was hand corrected to correct mistakes in the FWP. Analyte groups were missing from field blanks and duplicates.
151	66	5-26-94	Sample location for 66-005 was changed to use the location with a higher radiological reading.
185	66	6/28/94	The matrix for 66-010 (200057196.99) was changed from liquid to loose media.
184	67	8/3/94	All field duplicates and rinsates were cancelled for ALARA reasons. These field QC samples were transferred to component 5B.
171	69	NA	Samples 69-014 and -015 were cancelled due to lack of media.
170	72	NA	The field blank, 72-004, was not collected due to an oversight.
177	72	7/8/94	The sample location for 72-005A (200062961) was changed to the location for 72-005 because the location was deemed unattainable.
196	74B	4/20/94	The sample location for sample 74B-003 (200051731) was changed due to a sealand sitting on the original location.
183	74G	NA	The customer sample ID numbers were manually changed by the sample group to reflect what was logged into FACTS.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
066	74N	12-6-93	Correct chain of custody form SPL-93-4840. The preservative code for sample 200025741 should be P09, P01 instead of P06.
063	74N	12-6-93	Cancelled liquid sample 74N-005 due to insufficient media.
168	74P	7-13-94	The sample locations in the FWP were reversed.
141	74Q	5-10-94	The sample location for 74Q-007&009/200054476.81 were moved due to the original location being under water.
048	74R	10-18-93	The sample location for 74R-009 (200018068.71) was moved from that identified in the FWP. No loose media found at original location.
125	74T	3-28-94	SAmples 74T-003 (loose media) and 74T-007 (trip blank) were cancelled due to lack of media.
134	74T	3-23-94	The following samples had not been preserved properly according to the laboratory: 74T-005/200047099 (pH 3) and 74T-013/200047122 (pH 7).
195	74W 74A	4/18/94	The sampling procedure for liquid samples 74W-005 (200051574.77) and 74A-003 (200052139.42) was changed from CRU3-009 to CRU3-001.
192	77	4/13/94	The sample location for 77-004 and 77-004A (200049987) were changed to allow for a larger amount of media collection.
188	79	2/25/94	The sample location for 79-005A (200040495) was moved 35 feet north of the original location.
190	81	2/3/94	The sample location for 81-003 (200036427) was moved to the same location as 81-003A.
009	All	--------	Changes to FWPs: 1) unit code for alpha/beta screening changed from U18 to U17; 2) Verify metals preservative to be P11; 3) alpha/beta sample for duplicates dropped.
106	All	3-8-94	Change in procedure in where the radiological surveys are documented. The FWP states that this information will be documented in Radiological logbooks, but they have been entering the data in the Intrusive logbooks instead. The FWPs will be changed from this date to reflect this.
201	G02	8/2/94	The incorrect analysis was requested on the SWAR (VOCs instead of PCBs).

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
157	G13	NA	Change in grid pattern for soil pile #7, third street pile, from 20 ft. by 20 ft. to a 40 ft. by 40 ft.. The map included in the FWP was actually the larger grid size.
165	G13	6-23-94	Sample G13-001R was collected with a scoop instead of the auger specified due to the amount of gravel and concrete in the soil pile.
167	G13	6-29-94	Soil pile #6 was split into a north and south section because of the large size of the pile.
162	Lab	6-16-94	Non-conformance from lab concerning samples arriving outside of required temperature ranges and the OCTR incorrectly listing analysis tables.
074	many	starting 12-2-93	Using FERMCO Groundwater Monitoring dept. water supply for field blanks and rinsates. Out of Iceberg water.
138	OCTR	4-4-94	The OCTR for release 7159/100002269 was not signed by SPL.
136	OCTR	5-3-94	New OCTRs needed to be written to separate rad samples from two different task orders.
123	OCTR 6964	3-15-94	OCTR 6964/100002129 should be corrected to change the FACTS release number from 2129 to 2128.
128	OCTR	4-11-94	Corrections need to be made to the following OCTRs: 7021, 7034, 7119, 7099, 7100, 7137, 7121, and 7108.
178	see list	various	This list contains the steel scraping samples that were collected and archived, however, the radiological analysis was cancelled due to the change in the RI scope.
137	Swar	4-11-94	Errors were found on various SWARs/CRs and logbook pages. The errors were corrected by the sampling teams.
200	vary	various	Sample locations were changed during the walkdown of components prior to sampling. The daily operations unit of the field investigation team then modified the FWP maps to refect these changes. Attached are several of these modified maps.
197	vary	various	OCTR corrections for releases: 8040, 3362, 3376, 3277, 3149, and 3230.
110	vary	after 2-22-94	For field blanks associated with solid samples, the TAL Inorganics analysis has been cancelled. See memo M:CRU3:94-0183.
116	vary	vary	Corrections to OCTRs for Rad releases 6770 and 6769.

TABLE K-2 (Continued)

OU3 SAMPLE SPECIFIC VARIANCE REPORT LOG

OU3	Comp #	Sampling Date	General Description
115	vary	vary	Corrections to OCTRs for releases 6653, 6543, 6613, and 6681.
114	vary	after 3-4-94	The preservative code for volatile organics in liquids is being changed from P09/P01 (4 drops HCL, Cool to 4 · C) to P01 (Cool to 4 · C) only. Already approved FWPs will be changed manually, new FWPs will have the change incorporated. Acid preservative dropped due to difficulty in shipping corrosive liquids.
119	vary	vary	Corrections to OCTRs for releases 6353, 6348, 6339, 6296, 6272, 6186, and 6202.
120	vary	vary	For steel scrapings, the total amount of sample identified in FWP could not be collected due to lack of media. Specific samples and total amounts collected are attached to variance.
085	vary	12-27-93	Permission has been given to cancel the alpha/beta screening sample for all future field blanks and equipment rinsate blanks.
179	vary	various	See above, same for composite swipe and air filters. (No sample list is attached to variance.)
086	vary	12-27-93	Cancel the Inorganic analysis on the steel scraping, highest radiologically contaminated location. Second location used due to insufficient media.
087	vary	12-27-93	Cancel the "A" version on the steel scraping, second highest radiologically contaminated location. Entire sample collected at the original location.

TABLE K-3

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
59	1A	2-22-94	PA2: deleted loose media sample due to insufficient media.
60	1A	2-22-94	PA7: changed concrete chip to concrete core. Redesignation of process area from "dry" to "wet". Added loose media sample.
61	1A	2-22-94	PA3,4: deleted concrete cores. Floors are steel plating, not concrete.
96	1C	11-18-94	No samples to be colleted in RI program. Ore Silo's currently being removed as part of Removal Action.
45	2A	1-6-94	PA5: deleted concrete core sample. Concrete surface had been replaced with steel plating prior to RI sampling program.
75	2B	4-7-94	Added loose media sample.
82	2C	5-26-94	Added sediment sample.
76	2D	5-12-94	PA3: deleted masonry sample. No masonry present in process area.
83	2H	5-26-94	Added liquid, sediment, and loose media samples.
26	3E	12-29-93	Added concrete core sample.
58	3L	2-14-94	Deleted PCB screening and sampling. Transformer removed and floor cleaned and painted.
10	5A	11-17-93	PA10: add loose media sample.
9	5A	11-17-93	PA6: delete liquid sample due to lack of media.
28	5A	12-29-93	PA10: Delete masonry sample. None available for sampling.
7	5A	11-17-93	PA1: deleted liquid sample due to lack of media.
27	5A	12-29-93	PA7: Delete steel sample because no structural steel available for sampling.
8	5A	11-17-93	PA2: change liquid sample to loose media sample.
53	5C	2/3/94	Deleted scheduled PCB screening. Electrical equipment in component does not contain PCB dialectric fluids. Past screening proved negative for PCBs.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
14	6A	11-29-93	PA5: deleted one liquid sample due to lack of media.
13	6A	11-29-93	PA1: added three concrete cores and one loose media sample.
67	6B	3-8-94	Added liquid sample.
52	6C	2-3-94	Changed concrete chip to concrete core. Process area redesignated from "dry" to "wet".
15	6D	11-30-93	Added one loose media sample.
21	6E	12-13-93	Deleted steel sample because steel in component is galvanized and not suited for sampling.
22	6E	12-13-93	Added three loose media samples.
44	8A	1-6-94	PA2: deleted masonry sample. No masonry present in process area. PA3: deleted concrete sample. Concrete had been removed prior to RI sampling program. PA5: added liquid sample.
19	9A	11-30-93	PA1: added loose media sample and deleted transite sample. PA2: added loose media sample. PA3: added loose media sample.
20	9A	11-30-93	PA4: added transite sample. PA5: added masonry sample. PA6: added masonry sample.
16	9B	11-30-93	Added one loose media sample.
91	9E	6-6-94	Upgraded status of component from non-sampled to sampled based on radiological surveys. Sampled concrete chip and steel sample.
51	9F	1-14-93	Deleted steel sample because no structural steel available for sampling.
56	10B	2-14-94	Deleted liquid sample. Basin had been sampled previously and is now covered.
1	12A	11-15-93	PA 4: sample 12A-037, changed matrix from liquid to loose media. Added inorganic sample 12A-030.
2	13A	11-15-93	PA 1: added masonry sample 13A-011 and liquid sample 13A-015. PA2: deleted loose media but added liquid sample 13A-041. PA3: added liquid sample 13A-073.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
80	15A	5-23-94	PA3: added liquid sample.
78	15A	5-23-94	PA2: renamed loose media sample to sediment.
79	15A	5-23-94	PA3: added masonry sample.
62	16A	2-23-94	Deleted liquid sample due to insufficient media.
85	16C	5-26-94	Added wood and loose media sample.
25	18A	12-21-93	Addd nine water samples and six loose media samples for a CERCLA/RCRA integration effort.
3	18C	11-15-93	Added one sediment and one liquid sample.
29	19D	12-29-93	PA2: Delete loose media sample. None available for sampling.
73	20C	3-22-94	Changed concrete core to concrete chip. Cancelled radiological and chemical screening prior to sampling due to possible health concerns.
47	22E	1-7-94	Added liquid sample.
4	24B	11-15-93	Deleted structural steel scraping sample. None avaliable for sampling.
69	24B	3-16-94	Deleted PCB screening and sampling. Visual inspection indicated no testing necessary.
30	25E	12-29-93	Delete steel sample because no structural steel available for sampling.
48	25F	1-7-94	Change concrete core sample to concrete chip sample. Concrete to thin to obtain core.
43	25G	1-3-94	Written to correct WPA table 25G-1 to be consistent with D9 text for component 25G. Table incorrectly identified concrete chip to be collected, should be concrete core.
95	30B	10-27-94	Radiological survey data indicated upgrading of component status from non-sampled to sampled; however, media was considered unaccessible for sampling.
86	31A	5-26-94	Added liquid sample.
49	37	1-7-94	PA1: added steel sample. PA6: deleted liquid sample due to insufficient media. PA7: added liquid sample.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
5	39A	11-15-93	PAs 1-4: steel samples (rad and inorg) collected from two separate locations due to lack of media. PA 3: add one loose media and one PCB sample.
24	39B	12-15-93	Added liquid sample.
6	39D	11-15-93	Add PCB sample.
87	46	5-26-94	Added sediment and liquid sample.
74	53A	3-28-94	PA2: deleted masonry sample. PA1, 3: deleted all samples. No concrete or masonry available for sampling.
11	54A	11-17-93	PA8: delete steel sample because no structural steel available for sampling.
65	54B	3-2-94	Added steel sample. Deleted masonry sample. No masonry available in component.
17	54C	11-30-93	Added one loose media sample.
63	55B	3-1-94	Added loose media and liquid sample.
54	55B	2-4-94	Added steel sample.
66	56A	3-7-94	Deleted PCB screening. Transformers have been removed and the floor cleaned and sealed.
97	60 61 65	11-18-94	No samples to be collected in RI program due to safety (ALARA) concerns. Components contained thorium wastes or thorium contaminated materials.
88	62	5-26-94	Added liquid sample.
89	64	5-26-94	Added liquid sample.
68	66	3-8-94	PA4: deleted concrete sample due to recent resurfacing with an additional 12 inches of concrete.
64	69	3-1-94	Added loose media and one sediment sample.
81	72	5-23-94	PA1: added second concrete chip sample due to high inorganics found during XRF survey.
92	73B	6-7-94	Sampling for RI program cancelled. Component to be removed as part of Removal Action #28.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
93	73D	6-7-94	Sampling for RI program cancelled. Component to be removed as part of Removal Action #28.
31	73D	12-29-93	Added loose media sample.
57	74D	2-14-94	Added loose media sample.
23	74G	12-14-93	Added one loose media sample.
12	74G	11-23-93	Add liquid sample.
18	74K	11-30-93	Deleted loose media sample due to lack of media.
50	74N	1-7-94	Deleted liquid sample due to insufficient media.
71	74Q	3-21-94	Changed concrete core to concrete chip sample. Do not want to impair function of pad as a containment device.
72	74Q	3-21-94	Added concrete chip.
90	74T	5-26-94	PA1,2,3,4A, and 4D: not sampled because concrete was resurfaced with an additional 8 inches of concrete during Removal Action. PA 4B, 4C: added loose media, liquid, and sediment.
55	74W	2-8-94	Added liquid sample and appropriate field QA sample.
77	88	5-17-94	Deleted loose media sample. No loose media present in component.
94	G-003	6-30-94	Delete loose media sample. Data available from Storm Water Retention Basin sampling.
70	G-005	3-17-94	Delete all sampling of USTs. Majority had been removed in 1990 and remaining have been emptied and recovered with clean fill.
46	G-13	1-7-94	Cancelled sampling of 6 of the 12 scheduled soil piles due to removal of the piles prior to RI sampling program. Addition of 1 soil pile north of 54B and redesignation of 5A soil pile from west of 5A to south of 5A.
37	General	1-3-94	Clarification of how air samples are to be collected and from what types of components (having four walls and a roof) the air filters will be collected.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
34	General	1-3-94	Changes frequency of field QA/QC samples from "1 per 20 per process area per day" to "1 per 20 per process area". See attached memo M:CRU3:93-0789 for explanation.
39	General	1-3-94	Steel scrapings to be collected using Needle Scaler and Vacuum, procedure number EP-CRU3-28.
38	General	1-3-94	TCLP analysis to be analyzed at ASL B instead of ASL C/D. Laboratory contracts do not allow for analysis of TCLP at higher ASL.
32	General	1-3-94	For steel samples, allows for identification of second hotspot for collection of inorganic sample because sufficient material may not be present to collect both radiological and inorganic sample at location of highest radiological survey reading.
35	General	1-3-94	For confirmatory sampling, the grid size identified in the WPA for radioligcal and XRF surveys were made variable and dependent on component size. The grid size was reduced to 3 x 3 ft. for smaller components.
33	General	1-3-94	Addition of TCL VOCs, TCLP VOCs, TCL SVOCs, and TCLP SVOCs to analysis requested for leachability samples identified in WPA. Necessary for complete characterization of leachate obtained.
36	General	1-3-94	Modification of the procedure for extracting a concrete core sample. Use of bushing tool to take chips for collect at specified depths. Inability to collect try core.
40	P-004	1-3-94	No samples to be collected in RI program because the copper scrap metal pile is to be removed as part of Removal Action 15.
98	P-005	11-18-94	No samples to be collected in RI program. Data for liquid runoff is available from Coal Pile Runoff Basin sampling.
41	P-006	1-3-94	No samples to be collected in RI program because the scrap metal pile is to be removed as part of Removal Action 15.

TABLE K-3 (Continued)

OU3 GENERAL METHODOLOGY VARIANCE REPORT LOG

Variance #	Component	Date	Description
42	P-007	1-3-94	No samples to be collected in RI program because the outside equipment storage area is to be removed as part of Removal Action 15.

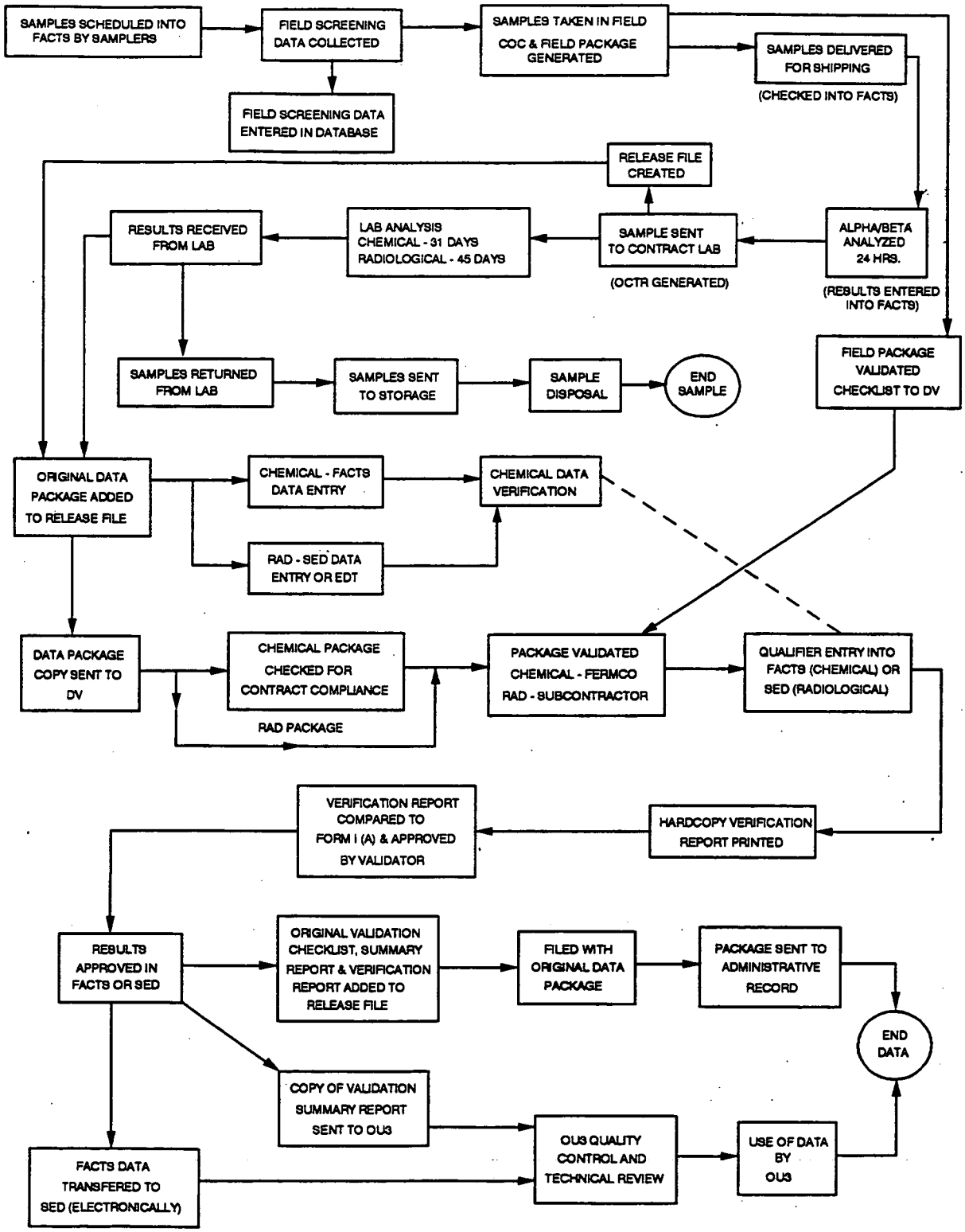

FIGURE K.1-1 OU3 SAMPLE AND DATA TRACKING

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