



Supermetals

June 30, 2006

Mr. Michael Raddatz
U.S. Nuclear Regulatory Commission
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Re: Revised review and amendment of Decommissioning Funding Plan Cost Estimate
for Cabot Supermetals Boyertown Facility, License Number SMB-920, Docket
Number 40-6940

Dear Mr. Raddatz:

This letter and the accompanying document provide the revised final version of our amended Decommissioning Funding Plan (DFP) Cost Estimate for the above-referenced license. This document is a revision of our initial amended cost estimate delivered to you in March 2006. As we discussed in a telephone conversation on June 27, 2006, and as requested in your email of the same date, I have revised only the contingency factor in the cost estimate. It has been revised upward from 15% to 25% to comply with NRC standard guidance. All other information in the document remains unchanged as you requested.

I will modify our financial assurance vehicle and provide the appropriate documentation upon receipt of notification that you accept this revised cost estimate. Please contact me at (610) 369-8520, or John Eves at (610) 369-8673 if you have any questions. Thank you, in advance, for your time and consideration.

Sincerely,

Cabot Supermetal, Inc.



Timothy Knapp
Manager, SHE

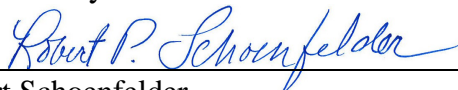
cc: John Eves, Cabot Supermetals, Inc.
Robert Schoenfelder, WESTON

**Cabot Supermetals, Inc.
2006 Decommissioning Cost Estimate
for the Boyertown, Pennsylvania Site**

Prepared by:

Weston Solutions, Inc.

Approved by:



Robert Schoenfelder
Project Manager

June 30, 2006
Date

Prepared for:

Cabot Supermetals, Inc.
County Line Road
Boyertown, PA 19512

June 30, 2006

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1. INTRODUCTION

Weston Solutions, Inc. (WESTON®) is providing a revised cost estimate for decommissioning the Cabot Supermetals, Inc. (CSM) Boyertown, Pennsylvania site. The revision is based on the prior cost estimate that was completed in March 2004 in support of the renewal of license SMB-920; however, it updates items that have changed at the site over the last two years. This revision fulfills the license condition that requires a review and update of the cost estimate every two years.

Important changes that impact the estimate of decommissioning costs are listed in the document, and the spreadsheets that quantify volumes of materials, labor hours, equipment costs, etc., have been revised to account for those changes. There have been no significant spills, contamination events, or additions/expansions to plant facilities since 2004. However, CSM has completed the removal and disposal of the largest individual category of residual contaminated waste at the site, as was planned at the time of the 2004 license renewal. More than 5000 metric tons (MT) of ore residues (presscake) that were stored in the bulk storage bins were packaged and safely transported for disposal in Utah in May 2004. Two subsequent shipments of presscake were completed in April 2005 (more than 600 MT) and September 2005 (more than 200 MT) to prevent the accumulation of presscake. No additional quantities of presscake have been produced since June 2005 as the plant has processed intermediate materials stockpiled from earlier operations. This cost estimate accounts for this major reduction of material to be transported and disposed.

WESTON also updated the cost estimate for site characterization; decontamination of equipment, tanks, concrete, and soils; radioactive waste volume reduction, packaging, shipping, and disposal; health physicist support; and final release surveys. This updated cost estimate reflects current costs and incorporates a 25% contingency factor that is the standard value used by the U. S. Nuclear Regulatory Commission.

The total cost estimated in 2004 was \$5,740,722. The revised grand total estimated for decommissioning is \$2,287,523. In general, the decrease in decommissioning costs resulted from the significant reduction in the volume of presscake requiring removal, packaging, transportation, and disposal when the site closes, which dwarfed the cost increases due to higher labor rates and equipment costs. The reduction is justified by the fact that CSM essentially incurred those costs for presscake disposal that were included in the previous cost estimate by disposing of that material over the past two years. Additional cost savings resulted from reductions in the disposal fees charged by Envirocare. These savings overshadow the cost increases related to labor and equipment rental rates. The 2006 decommissioning cost estimate represents a 60% decrease over the 2004 decommissioning cost estimate.

As in prior estimates, costs associated with the demolition and removal of non-contaminated equipment or structures are not included. The date of actual decommissioning is not known or projected, as this facility is expected to continue licensed operations for an extended period of time. The configuration of the site after license termination will be suitable for ongoing industrial use. The costs listed in this report are estimates based on typical costs for services contracted in 2005-2006. The cost estimate in this document should be used for budgetary purposes only and does not constitute a proposal or cost estimate for WESTON to perform the work. Cleanup limits

developed for this document are intended for cost estimating purposes only and are not intended for use as license termination criteria.

1.1 SCOPE

The scope of this report is limited to the derivation of the cost required to remove residual radioactivity after cessation of operations at this site. Costs in 2006 dollars include the following:

- Costs of site characterization after site operations have ceased and all stores of licensed material have been removed from site.
- Costs of manpower and equipment to remove or reduce residual radioactivity to levels that will permit release for unrestricted use.
- Costs of radioactive waste packaging, volume reduction, transportation, and disposal.
- Costs of final site release survey.
- Applicable sales tax for contracted activities, and a contingency amount as would be applied in a construction cost estimate.

This document follows the basic outline of the 2004 Decommissioning Cost Estimate and identifies changed items for each section of that report. Any item not specifically called out as a change is used as it was in the 2004 document. The section numbering and headings in this report exactly follow the Table of Contents of the 2004 document to facilitate comparison with the updated report.

1.2 DISCUSSION

The list of assumptions from the 2004 document is retained with the following exceptions.

1. Removal and disposal of the presscake stored in the bulk storage bins is included as a task in this estimate. The quantity of presscake (820 MT) used for this estimate is significantly less than in the 2004 document. This is justified because the large quantity of presscake present at the time of the 2004 cost estimate was removed and properly disposed in May 2004 leaving about 200 MT of the presscake. Two additional shipments have been made since May 2004 and each time the residual quantities were reduced below 200 MT. Relevant data from those three waste disposal activities are provided below:

Date of Disposal	Quantity Shipped	Quantity Left in Storage
March 2004	5500 MT	200 MT
April 2005	619	200
September 2005	252	180

Presscake has not been produced as part of the plant operations since June 2005, so the quantity of presscake in the bulk storage bins has been 180 MT for the past 6 months. However, the ore extraction circuit will become operational again when the stockpile of intermediate product is depleted. At that time presscake will again be produced and the quantity that is stored on-site is expected to increase until it reaches the quantities at which it will be removed and shipped for disposal. The quantity of material that was shipped in April 2005 (619 MT) represents the amount that accumulates in about one year. About 200 MT has routinely been left in storage after each disposal activity. The sum of these values, roughly 820 MT, represents a conservative value for the cumulative amount of presscake that might be present if the plant ceased operations and the license was terminated. The quantity of presscake used in the 2004 cost estimate (3628 MT) has been reduced to 820 MT for this updated estimate.

2. The ore extraction circuit of the plant is not currently operating while CSM conducts routine processing of stockpiled intermediate materials in other plant areas. The ore extraction circuits may again be used, although the time for that restart is not currently known. As a result, decontamination and decommissioning costs for that area of the plant remain a part of this document.
3. Labor hours remain as estimated in the 2004 document; however, labor rates and equipment costs have been increased to incorporate current prices.

2. GENERAL SITE DESCRIPTION

A new waste water treatment plant design was initiated in 2004, but alternate plans were developed and construction on the new system was never started. In place of the new plant, CSM now plans to modify the existing plant, which will not impact this cost estimate. The general site description in the 2004 document remains unchanged.

3. DESCRIPTION OF THE DECOMMISSIONING METHOD

The decommissioning methods and descriptions of specific plant areas remain unchanged with the exception of Section 3.10 Bulk Storage Bins. The presscake is not currently generated in Building 73, is not temporarily stored in hoppers, and is not being transported to the bulk storage bins for disposal. The 4,000 MT of presscake that was previously assumed for removal, transportation, and disposal is changed in this revised document to 820 MT. Disposal will continue at a uranium recovery facility, and current contract prices are incorporated.

Decontamination and disposal of the bulk storage bins has not been accomplished and is not planned prior to license termination. There has been no remediation of the soils in the surrounding area. These activities and their associated costs remain in this estimate.

4. SITE PRELIMINARY CHARACTERIZATION AND DOSE MODELING

The site characterization data and modeling used to establish derived concentration guidance levels (DCGLs) in the 2004 document remain appropriate for this cost estimate. There have been no contamination events at the site or changes in operations that would result in contaminated areas that were not previously characterized or changes in the previously determined values. There have been no changes in the regulatory guidance documents and models used to establish DCGLs that would make the prior work outdated or no longer valid.

The ores that were received and processed in 2004 and 2005 were consistent within the materials that were evaluated for the 2004 estimate, so assumptions and calculations related to the ratios of uranium and thorium remain applicable. The incoming ore surveys routinely performed by CSM during normal operations would have detected any significant deviations in the ores and triggered CSM's procedure to isolate and separately treat any such aberrant material.

Background dose rates and soil concentrations determined in 1993 and confirmed by WESTON in 2003 remain valid. The radon concentration in air around the bulk storage bins have been reduced significantly because the quantity of presscake stored there has gone from 4,000 MT to a maximum of 820 MT. However, that reduction in radon does not significantly impact the background concentrations of radon as determined at the site boundaries.

5. COST ESTIMATE

Details of the cost elements and methodologies provided in the 2004 document remain valid. The costs for decontamination and decommissioning of the buildings and plant area are based on the same plant specifications that were used in 2004 because there have been no notable changes to the physical items, and routine surveys of occupational areas have not detected any increases in surface contamination levels. Equipment formerly used in the ore extraction circuit remains in place and is included in this cost estimate in case it is again pressed into service at a later date.

The costs associated with the various tasks required to decommission the site have been updated by entering current values in to the spreadsheets for labor rates, equipment prices, and rental rates. The hours estimated for each task in the 2004 document were retained in this cost estimate because the previously assumed methods of demolition and decontamination are still commonly used, and there are no new methods that present any significant improvements or efficiencies over the others.

Current labor rates, transportation fees, and disposal charges were applied to the activities, and volumes and quantities of materials associated with the decommissioning effort. Rates, fees, and charges came from three sources, as listed below.

- Recent quotes or existing contract rates for transportation and disposal charges from the licensed disposal sites that are currently acceptable to CSM, including the most recent contract rates that applied when presscake was shipped to Utah for disposal;

- Labor rates that WESTON would quote in a competitive bid for similar work, as taken from proposals completed in the past two years; or
- Regional rates for construction labor and equipment rental quoted in industry references, such as “RS Means Labor Rates for Construction Industry, 2005, 33rd Edition” for the Reading, PA region.

5.1 ESTIMATING METHODOLOGY

WESTON modified the tables from the 2004 document that correlate closely with the guidance provided in NUREG 1757, Volume 3, Appendix A to provide the buildup to the total cost estimate. The revised cost estimate tables are provided in Attachment 1. The rationale for the values in those tables is valid as explained in the 2004 document with exceptions and explanations of variances as described herein.

5.1.1 Concrete and Surface Decontamination

Labor costs and equipment rental rates are taken from WESTON proposal efforts developed in the past year for similar activities and from accepted construction pricing references such as “RS Means Labor Rates for Construction Industry, 2005” for the Reading, PA region.

5.1.2 Soil Decontamination and Determination of Volumes

The volumes of contaminated soil to be excavated were retained from the 2004 document. The presscake (fluoride residues that are disposed at the bulk storage bins) volumes were conservatively assumed to be 820 tons, which is a volume that has not been exceeded since CSM began semi-annual shipments of the presscake for disposal.

5.1.3 Radioactive Waste Transportation and Disposal Cost

Contaminated piping, equipment, and objects that cannot be properly decontaminated or surveyed for surface contamination are assumed to be radioactive waste. These materials would be disposed of at a licensed disposal facility. Rates are provided in Table 11 that were acquired from WESTON project activities that have been completed since January 2005 for disposal of similar materials at Envirocare in Utah. Presscake, ores, soils, and concrete chips that exceeded release criteria would be transported to a licensed uranium mill in the western United States. CSM maintains a contract with IUC as of the date of this document and is listed on the IUC license as a source material supplier. Unlimited quantities of material may be transferred under this contract.

Material removal, loading, packaging, and transportation costs and disposal fees in this cost estimate associated with uranium recovery processing are current CSM contract rates of \$522 per ton and \$300 per ton, respectively. These costs are provided in Table 11 of Attachment 1.

5.1.4 Radioactive Waste Volume Reduction Cost

Soil processing and volume reduction in the form of segregation is assumed as described in the 2004 estimate. This soil segregation system has not been operated on a project site since 2004,

but WESTON contacted a former manager from the radiological services company that operated the segmented gate soil sorter to update the associated costs. There were no impacts to the costs of operation other than standard inflation increases of 7% for the period since 2004. The cost per cubic yard of soil was increased from \$20 to \$21.40. Soil volume reduction costs are listed as a line item in table 15 of Attachment 1.

5.1.5 Survey and Release

Labor rates for survey and release activities were updated with current contract rates on existing WESTON projects.

5.1.6 Health Physics Support Cost

Labor rates for construction workers and health physics staff were updated with current contract rates on existing WESTON projects.

5.1.7 Taxes and Contingency

Tax is estimated at the Pennsylvania state sales tax rate of 6%, which has not changed since 2004. According to WESTON financial managers, state taxes are applicable only to the activities that are completed within the state. A 25% contingency is applied to the full subtotal cost, as required by standard NRC guidance.

This estimate is for budgetary purposes only and is not a proposal or cost estimate for WESTON to perform work. Cleanup limits developed for this document are intended for cost estimating purposes only and are not intended for use as license termination criteria.

5.2 THE TOTAL COST OF DECOMMISSIONING THE BOYERTOWN SITE

The revised grand total estimated for decommissioning is \$2,287,523. In general, the decrease in decommissioning costs resulted from the significant reduction in the volume of presscake that will require removal, packaging, transportation, and disposal when the site closes. The reduction is essentially justified by the fact that CSM has incurred those costs by disposing of that material over the past two years. Additional cost savings resulted from reductions in the disposal fees charged by Envirocare. Those savings dwarf the cost increases related to labor and equipment rental rates. The 2006 decommissioning cost estimate represents a 60% decrease over the 2004 decommissioning cost estimate.

ATTACHMENT 1
Summary Tables for DFP Cost Estimate
Revised June 30, 2006

Attachment 1: Summary Tables for DFP Cost Estimate

Table 1. A.3.5 Number and Dimensions of Facility Components

Building or Area	Description	Number of Components	Mass (lb)	Volume (ft³)	Reference*
73	Digester System	322	22492	419	1
73	Filter Sludge Storage Area	12	9814	640	2
73	Filtration System	129	30428	2741	1
73	Kiln System	37	15218	378	1
73	Ore Grinding System	141	49361	4285	1
73	Outside Feed Tank Area	6	8892	1028	2
73	Outside Grinding Bag Filter Area	22	12812	183	2
73	Outside Kiln Bag Filter Area	17	3114	341	2
73	Outside Off-gas Scrubber System	68	9568	410	2
73	Roof Ore Classifier System	19	3203	298	2
73	Tanks	28	76523	6879	4
74	Extraction Systems	42	4011	82	2
74	Tanks	10	12936	5500	4
All	Pipe, conduit, stair railing	48	87583	1170	3
Bulk Storage Bins	Miscellaneous hardware	121	1760	539	2
Thorium doping systems	Miscellaneous (HEPA vac, ducts, 2 tables)	3	400	15	Current estimate
Total debris			348,115	24,908	

* Pages from Appendix 5 of 1993 SEG cost calculation sheets for the Boyertown Site.

Attachment 1: Summary Tables for DFP Cost Estimate

Table 2. A.3.5 Number and Dimensions of Facility Buildings

Building or Area	Description	Area (ft²)	% Contaminat	Depth (in)	Volume (ft³)	Reference*
73	Ceiling	13585	0	0	0	6
73	Floor	13585	100	0.25	283	6
73	Wall	16285	100	0.25	339	6
74	Ceiling	13585	0	0	0	6
74	Floor	13900	100	0.25	290	6
74	Wall	16285	100	0.25	339	6
87	Ceiling	13585	0	0	0	6
87	Floor	3440	100	0.25	72	6
87	Wall	22760	66	0.25	313	6
99&102	Ceiling	53845	100	0.25	1122	6
99&102	Floor	53845	100	0.5	2244	6
99&102	Wall	35866	100	0.25	747	6
Bulk storage bins	Soil	62500	100	12	62500	Current estimate
Thorium doping room	Ceiling	64	0	0	0	Current estimate
Thorium doping room	Floor	64	100	0.25	1	Current estimate
Thorium doping room	Wall	256	100	0.25	5	Current estimate
Winter Slag Storage Building	Slab	2558	100	0.5	107	6
73/74/87 soil	Soil	62500	100	12	62500	Current estimate
Haul road	Soil	56000	100	12	56000	Current
Total		454,508			186,862	

* Pages from Appendix 5 of 1993 SEG cost calculation sheets for the Boyertown Site, or other source.

Table 3. A.3.7 Dismantling of Radioactive Facility Components (Hours)

Building or Area	Description	Decon Method	Rad Tech	Demolition Worker	Heavy Equipment Operator	Rad Supervisor	Site Manager
73	Digester System	Remove, size, place in roll-offs	4	4	2	1	1
73	Filter Sludge Storage Area	Remove, size, place in roll-offs	6	6	3	2	2
73	Filtration System	Remove, size, place in roll-offs	27	27	14	9	9
73	Kiln System	Remove, size, place in roll-offs	4	4	2	1	1
73	Ore Grinding System	Remove, size, place in roll-offs	43	43	21	14	14
73	Outside Feed Tank Area	Remove, size, place in roll-offs	10	10	5	3	3
73	Outside Grinding Bag Filter Area	Remove, size, place in roll-offs	2	2	1	1	1
73	Outside Kiln Bag Filter Area	Remove, size, place in roll-offs	3	3	2	1	1
73	Outside Off-gas Scrubber System	Remove, size, place in roll-offs	4	4	2	1	1
73	Roof Ore Classifier System	Remove, size, place in roll-offs	3	3	1	1	1
73	Tanks	Remove, size, place in roll-offs	69	69	34	23	23
74	Extraction Systems	Remove, size, place in roll-offs	1	1	0	0	0
74	Tanks	Remove, size, place in roll-offs	55	55	28	18	18
All	Pipe, conduit, stair railing	Remove, size, place in roll-offs	12	12	6	4	4
Bulk Storage	Miscellaneous hardware	Remove, size, place in roll-offs	5	5	3	2	2
Thorium doping systems	Miscellaneous (HEPA vac, ducting, 2 tables)	Remove, size, place in roll-offs	0	0	0	0	0
Totals			249	249	125	83	83

Table 4. A.3.7 Unit Labor Factors

Unit Labor Factors (hours per ft ² or ft ³)						
Operation	Rad Tech	Decon Tech	Demolition worker	Rad Superv (1)	Heavy equip operator	Site Manager
Pressure Washing (2)	1.7E-03	1.7E-03	0	5.56E-04	0	5.56E-04
Scabbling (3)	1.00E-02	1.00E-02	0	3.33E-03	0	3.33E-03
Excavation (4)	5.00E-04	0	0	1.67E-04	5.00E-04	1.67E-04
Final Status (5)	5.00E-03	0	0	1.67E-03	0	1.67E-03
Remove, size equip't & debris(4)	1.00E-02	0	0.01	3.33E-03	5.00E-03	3.33E-03

- (1) 1 Rad Supervisor per 3 rad techs
- (2) Pressure washing rate of 600 ft² per hour
- (3) Scabble or remove/size eqpt/debris rate of 100 ft³/hour
- (4) Excavation rate of 2000 ft³ per hour
- (5) Final status survey rate is 200 ft²/hour

Table 5. A.3.7 Decontamination of Radioactivity Facility Components (Hours)

Building	Description	Flag 1-Pressure wash, Grit blast, Vacuum (1=yes, 0=no)	Flag 2:Scabbble, chip (1=yes, 0=no)	Flag 3: Excavate (1=yes, 0=no)	Rad Tech	Decon Tech	Heavy Equipment Operator	Rad Supervisor	Site Manager
73	Ceiling	1	0	0	23	23	0	8	8
73	Floor	1	1	0	25	25	0	8	8
73	Wall	1	1	0	31	31	0	10	10
74	Ceiling	1	0	0	23	23	0	8	8
74	Floor	1	1	0	26	26	0	9	9
74	Wall	1	1	0	31	31	0	10	10
87	Ceiling	1	0	0	23	23	0	8	8
87	Floor	1	1	0	6	6	0	2	2
87	Wall	1	1	0	41	41	0	14	14
99&102	Ceiling	1	0	0	90	90	0	30	30
99&102	Floor	1	1	0	112	112	0	37	37
99&102	Wall	1	1	0	67	67	0	22	22
Bulk Storage Bins	Soil	0	0	1	31	0	31	10	10
Thorium doping room	Ceiling	1	0	0	0	0	0	0	0
Thorium doping room	Floor	1	1	0	0	0	0	0	0
Thorium doping room	Wall	1	1	0	0	0	0	0	0
Winter Slag Storage	Slab	1	1	0	5	5	0	2	2
Building 73/74/87 soil	Soil		0	1	31	0	31	10	10
Haul road	Soil		0	1	28	0	28	9	9
Total hours					594	503	91	198	198

Table 6. A.3.8 Restoration of Contaminated Areas

Building	Description	Heavy Equipment Operator
Bulk Storage Bins	Soil	31.25
Building 73/74/87 soil	Soil	31.25
Haul road	Soil	28
Total hours	0	90.5

Table 7. A.3.9 Final Radiation Survey (Work Hours)

Building	Description	Rad Tech
18, 10, 23, 11, 41, 62	Floors/soil	142.5
73	Ceiling	67.925
73	Floor	67.925
73	Wall	81.425
74	Ceiling	67.925
74	Floor	69.5
74	Wall	81.425
87	Ceiling	67.925
87	Floor	17.2
87	Wall	113.8
99&102	Ceiling	269.225
99&102	Floor	269.225
99&102	Wall	179.33
Bulk storage facility	Soil	312.5
Thorium doping room	Ceiling	0.32
Thorium doping room	Floor	0.32
Thorium doping room	Wall	1.28
Winter Slag Storage	Slab	12.79
73/74 soil	Soil	312.5
Haul road	Soil	280
Total hours		2415.04

* Excludes Rad Supervisor, Site Manager, and CHP. Their costs show as factored values in Tables 8 and 10.

Table 8. A.3.11 Total Work Hours by Labor Category

Man Hours by Task							
Task	Rad Tech	Decon Tech	Demolition worker	Rad Supervisor	Heavy equip't operator	Site Manager	CHP
Planning and Preparation	0	0	0	100	0	100	200
Decon & Dismantling	843	503	249	281	215	281	0
Restoration*	0	0	0	0	30	30	0
Final Status	2,415	0	0	805	0	805	100
Total	3,258	503	249	1,186	245	1,216	300

*Recontouring is estimated at 1/3 the excavation time

Table 9. A.3.12 Worker Unit Cost Schedule

	Rad Tech	Decon Tech	Demolition worker	Rad Superv	Heavy equip operator	Site Manager	CHP
Fully loaded hourly billing rate	\$73	\$42	\$42	\$90	\$52	\$67	\$155
Total Cost per day	\$584	\$336	\$336	\$720	\$416	\$536	\$1,240

Table 10. A.3.13 Total Labor Costs by Major Decommissioning Task

Activity	Rad Tech	Decon Tech	Demolition worker	Rad Superv	Heavy equip't operator	Site Manager	CHP
Planning and Preparation	\$0	\$0	\$0	\$9,000	\$0	\$6,700	\$31,000
Decon & Dismantling	\$61,526	\$21,136	\$10,461	\$25,285	\$11,182	\$18,823	\$0
Restoration	\$0	\$0	\$0	\$0	\$1,569	\$2,021	\$0
Final Status Surveys	\$176,298	\$0	\$0	\$72,451	\$0	\$53,936	\$15,500
Total	\$237,824	\$21,136	\$10,461	\$106,736	\$12,751	\$81,480	\$46,500

**Table 11. A.3.14 Packaging, Shipping, and Disposal of Radioactive Material
(Excluding Labor Costs)**

Waste Type	Material Quantity (MT)	Number of Containers	Type of Container (20 cu yd)	Container Unit Cost	Total Packaging Costs
Debris	158	2	Roll-off Bin	\$390	\$899
Scabbling Dust & Soil	422	17	Roll-off Bin	\$390	\$6,748
Presscake	820	61	intermodal	\$122	\$3,705
Total					\$11,352
B. Shipping Costs					
Waste Type	Number of Loads	Cost per Load Truck/train (\$)	Total Cost		
Debris	2	\$7,920	\$18,266		
Scabbling Dust & Soil	17	\$7,920	\$137,032		
Presscake	61	\$5,400	\$328,000		
Total			\$483,298		
C. Disposal Costs					
Waste Type	Disposal Quantity (MT)	Unit Cost (\$/MT)	Surcharge	Total Disposal Costs	
Debris	158	\$114		\$17,987	
Scabbling Dust & Soil	422	\$240	\$66	\$129,384	
Presscake	820	\$300	\$66	\$300,245	
Total				\$447,615	

**Table 12. A.3.15 Equipment/Supply Cost
(Excluding Containers)**

Equipment & Supplies	Quantity days	Unit Cost (\$/day)	Total Equipment and Supply Cost
Crane	30	\$394	\$11,820
Front end loader/Backhoe	60	\$217	\$13,020
Cherry Picker	60	\$320	\$19,200
Expendables	870	\$42	\$36,527
Rad Equipment	90	\$110	\$9,900
Total			\$90,467

Table 13. A.3.16 Laboratory Costs

Activity	Total Cost
Gamma Spec	\$30,400
Shipping	\$1,000
Total	\$31,400
Based on 400 samples	

Table 14. A.3.17 Miscellaneous Costs

Cost Item	Total Cost
Mob/Demob	\$50,000
Total	\$50,000

Table 15. A.3.18 Total Decommissioning Cost

Task Component	Cost
Planning/Preparation from Table A 3.13	\$46,700
Decon & Dismantling from Table A.3.13	\$148,414
Restoration of Contaminated Areas	\$3,590
Final Radiation Survey	\$318,185
Site Stabilization and Long Term Surveillance	\$0
Volume Reduction Costs	\$148,105
Packing Material Costs from Table A 3.14	\$11,352
Laboratory Costs	\$31,400
Miscellaneous Costs	\$50,000
Equipment /Supply Costs	\$90,467
Subtotal	\$848,213
Pennsylvania Sales Tax (6%)	\$50,893
Transportation Costs from Table A 3.14	\$483,298
Waste Disposal Costs (Fees) from Table A 3.14	\$447,615
Full Subtotal	\$1,830,019
25% Contingency	\$457,505
Total Decommissioning Cost Estimate	\$2,287,523