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EG&G
MOUND APPLIED TECHNOLOGIES

Pre-Conceptual Engineering Study
Technical (T) Building

September 26, 1996

EG&G Mound Applied Technologies
P.O. Box 3000
Miamisburg, OH 45343-3000

MOUND
is operated for the
U.S. Department of Energy
under Contract No. DE-AC04-88-DP43495

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EXECUTIVE SUMMARY

ES-1.0 ENGINEERING STUDY OBJECTIVES

The primary objective of the pre-conceptual engineering study is to evaluate the methods and estimated costs of decontaminating and decommissioning T-Building to comply with Federal, State, and local guidance. Additionally, the design shall ensure that the clean-up activities are performed safely and cost-effectively.

ES-2.0 PROJECT SCOPE

The project scope is to produce an engineering study and associated cost estimate, at a conceptual level of detail that separately examines several disposition alternatives for T-Building. The feasibility, the short-term and long-term benefits (with regard to cost and risk [to personnel and the environment]) of each alternative, and other options will be investigated.

ES-3.0 DESIGN BASIS

The Design Basis Document defines the criteria for design and estimating activities associated with the D&D of the T-Building, as well as the envelope of regulations within which the D&D activities will be conducted. Criteria for release, restoration, and waste acceptance are established in the design basis. The release criteria for tritium, asbestos, and hazardous materials are defined. The basis for defining the restoration criteria for each T-Building decommissioning alternative is provided. Waste acceptance criteria consider where the waste from the D&D activities will be disposed of and in what approved waste packages.

Detailed information concerning the design basis is in *T-Building and SW/R Tritium Complex Design Basis Document, Revision 0*, located in Appendix C of this study.

ES-4.0 ALTERNATIVE EVALUATION

ES-4.1 Alternative 1 - D&D for Unrestricted Use

The primary locations of contamination within T-Building are the inside of the glovebox associated equipment and process lines. The construction of these gloveboxes is essentially the same throughout the building, with sizes varying. The major difference that must be addressed for D&D planning is the degree of complexity due to either the system configuration within the glovebox or the level of contamination. Additionally, the level of effort required to remove a fume hood was assumed to be equal to that required to remove a glovebox. Therefore, for this conceptual study, the removal method and associated effort for the gloveboxes and

fume hoods was defined for three levels - Low, Medium, and High (depending on either complexity or contamination). A description of the defined removal method and labor effort for each of these levels is provided in Appendix D.

In general, glovebox equipment will be removed and immediately packaged within a tented enclosure. Miscellaneous room equipment will also be removed and immediately packaged. Gloveboxes themselves will be separated from the base and sealed so that they can be transferred through the building to a centralized size reduction point where they will be packaged for disposal. HVAC ductwork associated with the Effluent Recovery System (ERS) and the Emergency Containment System (ECS) is located throughout the building. This ductwork is considered contaminated and will also be removed.

D&D activities have been planned to address primarily tritium contamination, since tritium is the only radionuclide present in appreciable quantities. Some areas of the building are known to have residual amounts of alpha-emitting radionuclides, and similarly, small amounts of hazardous chemicals may be present. Neither of these hazards, however, are significant enough to impact the planning at this level of detail. Planned personnel protection methods for tritium used in the cost estimate associated with this study are conservative enough to address all anticipated hazards.

ES-4.2 Alternative 2 - Decay in Place

Decay in place is a D&D alternative for facilities contaminated with radioactive isotopes of relatively short half-lives. The concept is to delay the final disposition of the facility until after the natural decay of the radiological contamination has reduced the quantity of contaminant to unrestricted release levels. T-Building is a candidate for this alternative because its primary contaminant is tritium, which has a 12.3-year half-life.

Once tritium operations are completed in T-Building, accountable tritium inventory will be shipped to a receiver site. The residual tritium quantities in the majority of the process and support equipment would require more than 250 years of natural radioactive decay to achieve unrestricted release levels (1,000 dpm/100 cm^2 per the Design Basis Document).

High-level waste repositories have set a precedent of 100 years (40 CFR 191) for the maximum amount of time that institutional controls will be maintained by the government. T-Building requires a decay period greater than the 100-year limit and will require some initial D&D to lower the residual contamination levels to

those which will decay to unrestricted release levels within 100 years. The initial D&D effort is required to remove tritium contamination above 282,000 dpm/100 cm^2; any contamination below this level will decay to less than 1,000 dpm/100 cm^2 within 100 years.

Initial D&D will prepare T-Building for a 100-year decay period. Activities completed during initial D&D include:

- Removal of residual non-tritium radioactive and chemical contamination
- Removal of classified equipment
- Removal of highly contaminated process equipment
- Purging of gloveboxes
- Removal of purging lines and tritium capture system internals
- Verification that residual levels are low enough to allow natural decay
- Sealing of all access points

Institutional control of T-Building will begin at completion of initial D&D activities.

ES-4.3 Other Alternatives

Other Decontamination and Decommissioning (D&D) alternatives which were technically considered but not initially selected include No Action, Delayed D&D, In Situ Disposal, and others as appropriate to each individual project.

ES-4.3.1 No Action

Although always an alternative to any proposed action, it is obvious that a "decay in place" no-action option is not viable or acceptable for any stakeholder. Therefore, this option is not further considered.

ES-4.3.2 Delayed D&D

Delayed D&D is different from the Decay in Place option in that, because of funding, resource availability, priority, or other constraints, initiation of D&D is delayed.

Although delayed D&D may be an unwanted but realistic occurrence at Mound, the impact of this option is higher surveillance and maintenance costs during the delay period and a resulting increase in the total project cost. An additional impact during this delay period is the potential loss of experienced T-Building operations personnel who may become committed to other projects or leave the site. This loss of "corporate" experience would increase cost, schedule, and the potential for

personnel exposures and tritium release. Finally, as time goes on, regulations and requirements generally become increasingly restrictive, creating additional project costs and lengthening the schedule.

ES-4.3.3 In Situ Disposal

In situ disposal is a technically viable and cost-beneficial option but may not be acceptable to some stakeholders. Several variations of this option exist, from entombment to disposal of only suspect waste (both hazardous and radioactive) to long-term storage or disposal of higher level waste (e.g., transuranic [TRU] waste).

Entombment is a method in which radioactive contaminants are encased in a structurally long-lived material, such as concrete. The entombed structure is appropriately maintained, and continued surveillance is performed until the radioactivity decays to a level permitting unrestricted release of the property. Based on process knowledge, this would require approximately 250 years for tritium in T-Building to decay to currently established unrestricted release levels.

Several variations of entombment exist, from partial entombment of areas with higher levels of contamination to complete entombment of the building. Other variations include purging equipment for several years to reduce contamination and/or removing highly contaminated equipment prior to entombment.

A variation of in situ disposal is actually an entombment, except that waste from other D&D and clean-up projects could be consolidated and compacted in the T-Building prior to final entombment of the contents in the facility.

ES-4.3.4 D&D for Restricted Reuse

This option would assume that a re-use for the T-Building by DOE or a commercial operation dealing with radioactive materials exists or would exist in the future. The facility would only then require the minimal D&D to eliminate significant hazards for the new user. This reduces the initial D&D cost but may not relieve DOE of the liability for the eventual D&D of the building for unrestricted release. If this is the case, the total D&D project cost to D&D would be much higher than the immediate D&D case. However, since a new user has not yet been identified, this option is not being considered at this time.

ES-5.0 TRITIUM CAPTURE SYSTEM ANALYSIS

An assumption for the T-Building Pre-Conceptual D&D Engineering Study was that the TERF system would be operated at the outset of the D&D activities. During the D&D process, the TERF system will be used to support the removal of

other tritium systems by accepting and decontaminating the air purges of tritium process/transfer lines and gloveboxes. With the TERF system needed to safely decontaminate and decommission the T-Building and SW/R Tritium Complex, the system should remain operational until the end and should be the final system to be decontaminated and decommissioned.

As the D&D effort nears completion, the TERF system will be exposed to constantly decreasing concentrations of tritium and will, consequently, be self-purging during the final stages of D&D. Both the amount and concentration of tritium in the TERF will be low and will continuously decrease toward the completion of the project. With no significant off-gassing of the gloveboxes or the process equipment, the system could safely be vented to the stack. This would eliminate the need for a portable effluent capture system in support of the D&D of the TERF.

Portable TERF systems (as currently designed) do not provide sufficient tritium containment/capture capabilities to be considered for the 1,000-curie case. Portable TERF systems could be cost competitive with the Mound TERF if the DOE were to re-use the portable systems at other D&D sites.

ES-6.0 SCHEDULE

Appendix E contains the proposed schedule for Alternative 1 (Immediate D&D for Unrestricted Use) and Alternative 2 (Decay In Place). Physical D&D activities span approximately 8 years for Alternative 1. This segment of work is broken into an initial 7 years of work, followed by a Surveillance and Maintenance (S&M) period during which the SW/R Tritium Complex D&D Project will utilize the TERF. The final year of D&D activities will then be required to remove the TERF. Alternative 2 requires an initial 3 year period of D&D activities, followed by a 3-year purge period through the TERF, one year to remove the TERF, and an institutional control period of 100 years. Scheduling for project management and engineering is expected to be the same for both alternatives.

ES-7.0 PROGRAM SCHEDULE IMPACT ASSESSMENT

The Decontamination and Decommissioning project for the Technical Building can and should be initiated early in order to meet the DOE's goal to release the site as soon as possible. In order to initiate the project early, several constraints must be satisfied.

Funding needs to be made available earlier than planned to accelerate both Safe Shutdown and D&D activities in those areas to be initiated early.

Priority should be placed on providing a dedicated work force for the project. Planning activities could be supplemented with subcontractor support, but initial field physical activities would require the use of a primarily Mound work force (because of security considerations). Later in the D&D process, subcontract support for field activities could be utilized as security requirements lessen.

Impacts to the ongoing tritium processing operations must be minimized until their operations are completed. This will require close coordination of all activities within the T-Building (Operations, Operations Support, Safe Shutdown, Maintenance, and D&D).

To make key areas available earlier than planned, funding will have to be provided for safe shutdown earlier for these areas. The safe shutdown schedule would then be closely coordinated with the accelerated D&D schedule.

Under the 1,000 Ci/year airborne tritium emissions administrative control level criteria, only low potential (for tritium release) D&D operations will be scheduled until processing operations cease and the actual tritium release level decreases from the current 600-800 Curies per year.

In order to proceed, the appropriate DOE and regulatory approvals must be reached early, and other stakeholders informed of the planned removal actions. The project approval process could be accelerated by dividing the large T-Building D&D project into subprojects (similar to removal actions) to facilitate approval. These subprojects would most likely be: assessment and remediation of low-, medium-, and high-potential areas. These categories could be further broken down into groups of rooms within T-Building.

Applying the graded approach to requirements, the subproject documents would be more succinct, less complex, and would lend themselves to a more timely review and approval.

Specific activities that can be initiated early include:

- Characterization and Assessment
- ES&H, QA, and Waste Management Documentation
- Engineering
- Project Plan
- Decommissioning Plan
- Preparation of Low-Potential and Select Work Packages

- Field Preparations
- Readiness Checklists of the Low-Potential and Select Work Packages
- Removal of Low-Potential Equipment and Services

Specific areas that can be initiated early include shutdown areas, non-tritium radioactive contamination areas, and hazardous contaminated areas (including asbestos abatement).

ES-7.1 Impact of Tritium Inventory on Facility Classification

When "Safe Shutdown" is complete and all accountable tritium has been removed from T-Building and the SW/R Tritium Complex, these facilities will still be classified as "Nuclear Facilities" (refer to DOE-STD-1027-92 for the Nuclear Facility classification establishing a 1,000 curies of releasable tritium inventory threshold) because of the tritium holdup and contamination in the process piping and equipment. This tritium holdup is well known within the tritium processing community. Tritium holdup is normally in two forms, condensable compounds (commonly tritiated ammonia and tritiated water) and tritium gas not released from process equipment such as uranium beds (U-beds), molecular sieve traps, and carbon traps after this equipment has gone through the normal process of regeneration and/or tritium removal.

Extensive discussions about tritium holdup can be found in the Mound document MLM-ML-85-49-004, *Investigation of Tritium Inventory Differences at Mound* (Reference 11-4). Through the use of this document, current knowledge of tritium processing, and interviews with Mound tritium processing personnel, it is estimated that about 100 grams of tritium (25g in T-Building and 75g in SW/R Tritium Complex) will remain in the two tritium complexes after the accountable tritium has been removed. The majority of this will be in U-beds, molecular sieve traps, and carbon traps. The average U-bed will contain about 1g of tritium. The average molecular sieve trap will contain about 4 grams per kilogram of molecular sieve. The average tritium process line carbon trap will contain about 0.5 grams of tritium.

The 75 grams of tritium in the SW/R Tritium Complex would classify it as a Hazard Category II Nuclear Facility at the start of D&D. The 25 grams of tritium in T-Building would classify it as a Hazard Category III Nuclear Facility. The threshold of 30 grams of tritium for a Hazard Category II Nuclear Facility is close to the 25 grams present in the T-Building; therefore, the D&D operations and the impact on facility categorization require consideration. It should be noted that some of the SW/R Tritium Complex tritium will most likely be transferred to T-

Building via transfer lines or the TERF lines during the D&D process, thus possibly increasing the tritium inventory in T-Building. The amount of tritium in each of the tritium facilities during D&D will depend on the D&D process and the schedule. However, it is conceivable that the tritium inventory in the T-Building could exceed 30 grams at some point in the D&D process since the expected flow of tritium will be toward the T-Building. It is unlikely that either building can be classified as a Radiological Facility (<1,000 Ci of tritium) until all the process systems and gloveboxes have been removed.

ES-8.0 RECOMMENDATIONS

ES-8.1 Recommended Alternative

Based on comparison of the various alternatives analyzed in this study, the immediate D&D for unrestricted use approach (Alternative 1) emerges as the most feasible approach, based on several key issues. These include but are not limited to the following:

- Under Alternative 1, T-Building can be released for unrestricted use by the year 2005. This is not possible with Alternative 2 due to the initial D&D required and the 100-year institutional control period required to allow remaining tritium contamination to naturally decay to currently established free release levels.

- Alternative 1 would be more acceptable to stakeholders because it demonstrates the DOE's commitment to clean up the Mound site.

- Alternative 1 eliminates the long-term risk of the building being breached by "100-year" probable events such as major earthquake or significant exposure to groundwater/surface water and possible releases of tritium to the environment.

- Alternative 1 eliminates a long-term liability to the DOE.

- Based on current process knowledge, T-Building could not be released for unrestricted use for approximately 250 years under an In Situ option such as "Entombment." An assumption from the Design Basis Document states that institutional controls will be considered viable for no more than 100 years. A performance assessment of T-Building would be required to address potential concerns of certain stakeholders over the misconception that T-Building is being "abandoned" by the government.

- To enable the release of T-building for unrestricted use at the end of the decay period, Alternative 2 requires some initial D&D activities. The costs associated with management, engineering, and physical removal of highly contaminated process equipment substantially impact the total cost of this option. Though the total cost of this option is lower than Alternative 1, the difference is not prohibitive.

ES-8.2 Additional Recommendations

Other areas should be further investigated to determine whether additional benefits can be realized.

- Determine the impact of various tritium release quantities per year using risk analysis. High release limits would allow more flexibility for D&D, use of additional waste volume reduction processes, lower schedule interruption risk, and a more timely completion of cleanup of the project and other tritium D&D projects.

VOLUME I

T-BUILDING D&D PRE-CONCEPTUAL ENGINEERING STUDY

(Rev. 0)

September 26, 1996

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Volume I - Technical

TABLE OF CONTENTS **PAGE**

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

APPENDICES

FIGURES PAGE

1.0 INTRODUCTION

1.1 Mound Site

The Mound Plant (see Figure 1.1-1) has supported the nation's nuclear weapons program for over 45 years. As a result of the downsizing and reconfiguration of the United States Department of Energy's (DOE's) nuclear weapons complex, Defense Program (DP) activities at Mound have ceased.

In support of the DOE program, Mound had constructed 130 administrative, production, storage, laboratory, and service buildings on 306 acres located in the suburban Dayton, Ohio, area.

The DOE mission for Mound is to make Mound real property, equipment, and facilities available for development as a commercial industrial site as safely, economically, and timely as possible. This will include management and execution of the stockpile directive schedules, site remediation, and transition of the facilities for future use through economic development.

Though the weapons-related mission has concluded, Mound will continue to support non-weapons-related work. This work consists of continued support for the Radioisotope Thermoelectric Generator program and the DOE Office of Environmental Restoration and Waste Management (EM), which includes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and Decontamination and Decommissioning (D&D) programs.

1.2 T-Building

1.2.1 Facility Overview

Construction of T-Building was completed in 1948. The building was originally used to produce neutron generators. Extraction processes were developed by Mound personnel and used in the production mode. Bismuth was contained in welded aluminum cans during the irradiation and for transport to the Mound. The aluminum and the bismuth contained impurities such as iron, silicon, cobalt, lead, tin, silver, chromium, vanadium, and gallium. After and during irradiation these impurities produced radionuclides that represented a health hazard during the processing. Some of these radionuclides are still present in T-Building.

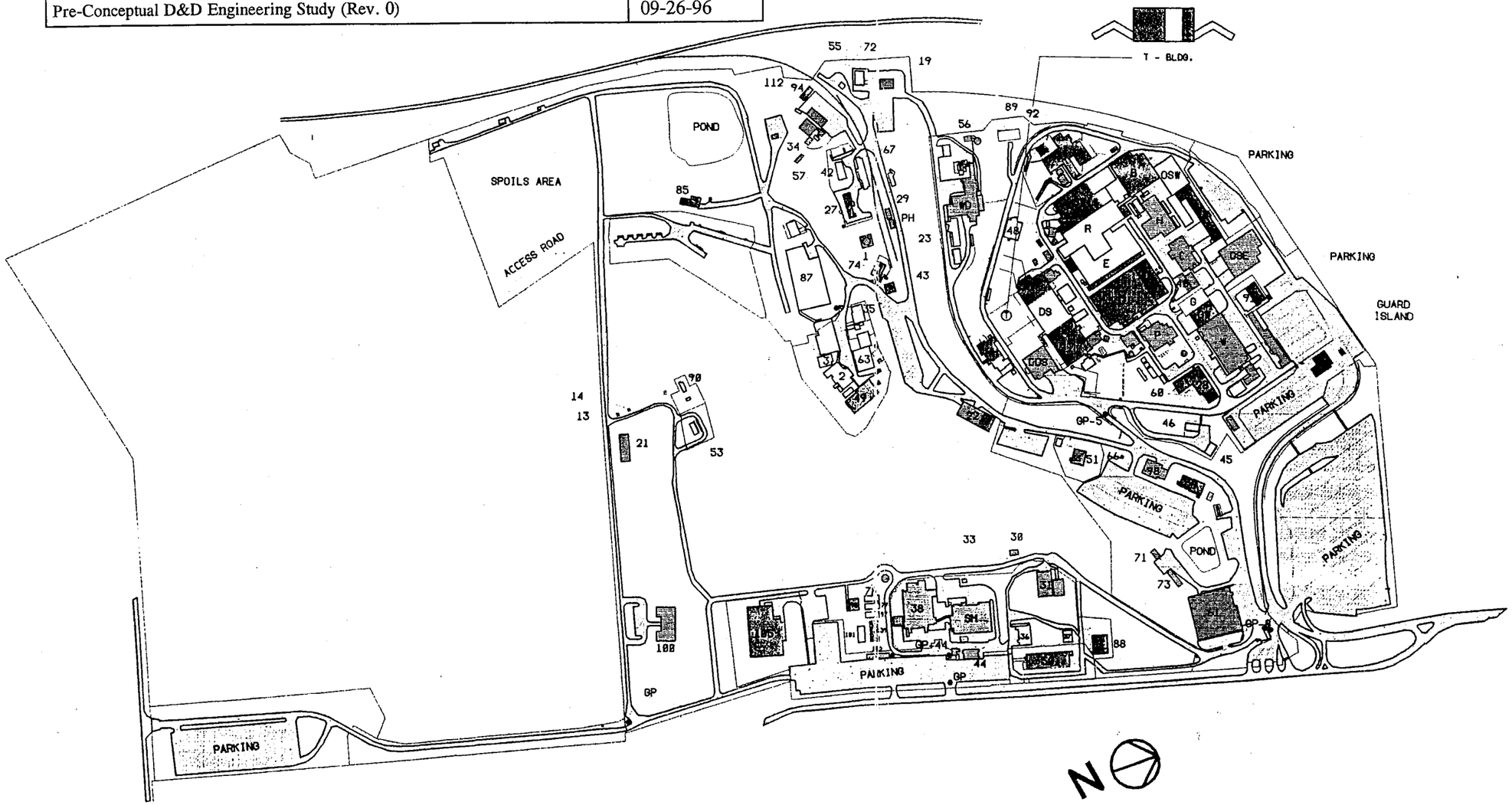

Figure 1.1-1 - The Mound Site

Later, polonium-210 was used as a radionuclide in radioisotopic thermoelectric generators. Because of polonium-210's short half-life (138 days), it was replaced by other materials and technology as they became available. Polonium research, development, and separation were phased out in the early 1970s.

Other since-discontinued activities in T-Building include:

1) Beryllium machining - Supported the production of neutron generators, was conducted on the first floor of T-Building

2) Nickel carbonyl decomposition plating

3) Storage of fuel oil

4) Machining of ferrous metals and ceramic parts

The materials available in the 1940s and 1950s were not as resistant to process chemicals as those currently available. Consequently, corrosion of the process piping resulted in the loss of radioactive solutions to the gloveboxes, sumps, and floors. Trace quantities of radionuclides were also part of the waste streams transferred to the Hydrolysis House (HH) Building.

A limited scope decontamination and decommissioning (D&D) of the building was started in 1971 and completed in 1974. The D&D effort included the wall-to-wall and floor-to-ceiling removal of radioactively contaminated equipment, gloveboxes, process piping, and other items. Contaminated ductwork was removed or cleaned. The contaminated drains and sumps were decontaminated and/or sealed. However, this limited scope of this D&D project left residual radionuclides in some of the concrete floors/walls and in some sealed drains/sumps. The residual radionuclides are thought to include cobalt-60 and cesium-137. Most of the current operations/facilities were introduced into T-Building after completion of the polonium-210 D&D.

As part of the project for the installation of the Kyle Facility in the early 1980s, the Kyle area was surveyed for gamma and neutron radiation. Several areas of contamination of greater than 1 mr/hr (the 1981 Mound D&D goal) were discovered on the first floor and verified. Neutron radiation was not detected. The gamma radiation measured was in the >400 Kev energy range. Radiation levels as high as 70 mr/hr were measured. The radiation levels were reduced to the 1981 D&D goal of <1 mr/hr, at the surface, either by removal or by lead shielding. Only two areas

(former sumps or sump lines) required lead shielding. The two lead shielded areas are in T-43 and T-50.

The existing facilities are expected to remain either operational or in the standby mode in the near-term future. Basic processes that are currently conducted in the building include:

- Tritium processing, recycle, enrichment, and purification
- Mass spectroscopy
- Research and development
- Materials processing and evaluation
- Welding
- Microballoon loading
- Calorimetry research, development, and production
- Calorimetric Assays, including Special Nuclear Materials (SNM) Verification
- Radiography and non-destructive testing
- Leak testing
- Nuclear measurements (gamma-ray spectroscopy)
- Neutron activation analysis
- Shipping, packaging, and receiving of radioactive materials
- Transition support

1.2.2 Facility Structure

T-Building is a heavily reinforced subterranean concrete structure located under the Development and Standards (DS) Building. Construction on the T-Building structure and associated equipment was completed in 1948. The building has an entry-level (Tower) floor at a geographical elevation of 878 feet, 6 inches above sea level. The building has two floors: the first floor at an elevation of 817 feet, 9 inches, and the second floor at an elevation of 834 feet, 9 inches. Each floor is compartmentalized into three general areas by two 30-inch- thick, reinforced concrete fire walls (see Figures 1.2-1, 1.2-2, 1.2-3, 1.2-4, and 1.2-5).

The building was constructed by excavating the side of a hill, assembling the basic reinforced concrete building shell, and then backfilling the excavated area to essentially the original slope and height. The interior dimensions of the basic building shell are 345 feet long, 150 feet wide, and 34 feet high. The reinforced concrete exterior shell has a 15-foot thick roof; 16-foot, 7-inch-thick walls; and an 8-foot, 3-inch thick floor slab. The structure was designed to withstand a direct hit by a 2,000-pound, semi-armor-piercing, jet-assisted bomb or a 2,000-pound general purpose bomb. The roof's

overburden is a nominal 3 feet with DS-Building on top of most of the building footprint.

Large doors permit vehicles and personnel to enter the building at either end of the second floor. Two towers (designated as the East Tower and West Tower) are located at either end along the north wall of the main building shell. These towers contain stairways, passenger elevators, and air shafts. Each tower has six levels, including stairways, passenger elevators, lobbies, storage rooms, equipment rooms, penthouses, guard shelters (Security Posts), and air shafts (see Figures 1.2-1, 1.2-2, 1.2-3, 1.2-4, and 1.2.5 for the layout of the towers). The air required for the ventilation of the main body of the building enters at the penthouse level of each individual tower.

A reinforced concrete air inlet structure is centrally located along the north face of T-Building. A free-standing masonry stack is located northeast of T-Building near the Paint Shop. A second stack is located to the west of the building which was part of the original facility. This stack is not included within the scope of this project.

The easternmost tower has been designated the East Tower (or Tower 1) and the westernmost tower has been designated the West Tower (or Tower 1A). The East Tower also provides space for various utility lines coming into the building.

2.0 ENGINEERING STUDY OBJECTIVES

The primary objective of the pre-conceptual engineering study is to evaluate the methods and estimated costs of decontaminating and decommissioning the selected areas to comply with Federal, State, and local guidance. Additionally, the design shall ensure that the clean-up activities are performed safely and cost-effectively.

(See Appendix F)

Figure 1.2-1 - Floor of T-Building (First Floor)

(See Appendix F)

Figure 1.2-2 - Floor of T-Building (Second Floor)

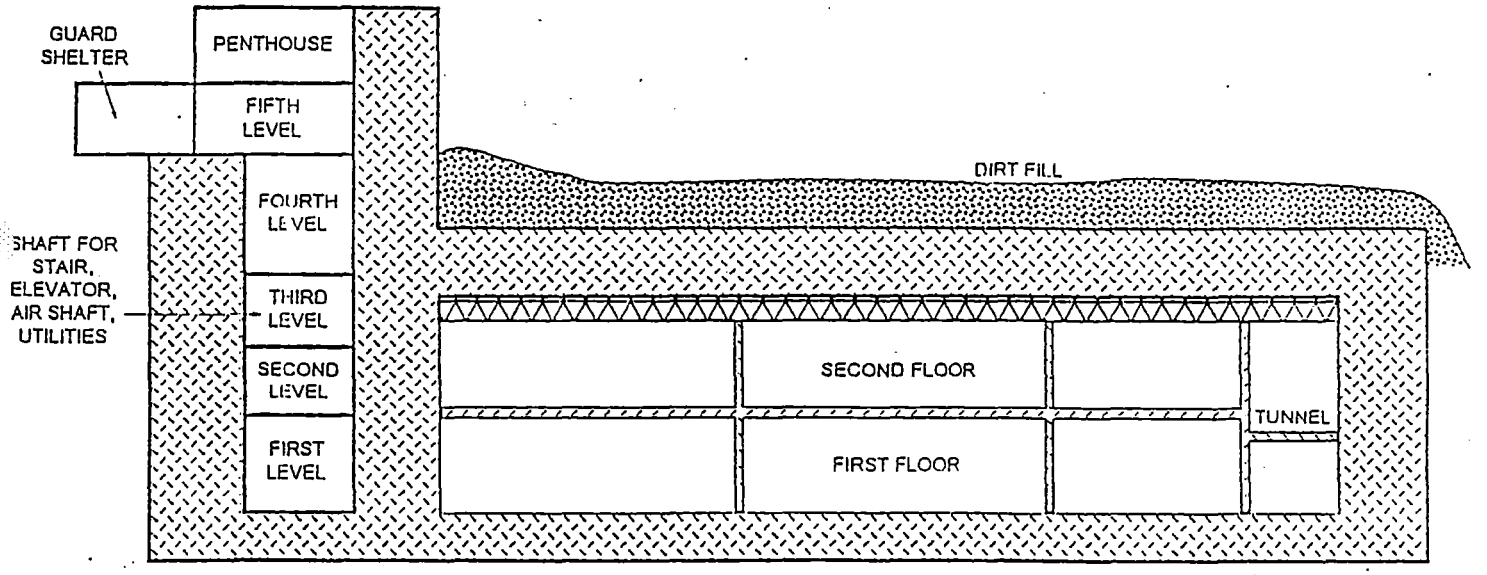

Figure 1.2-3 - Cross section of T-Building Looking East

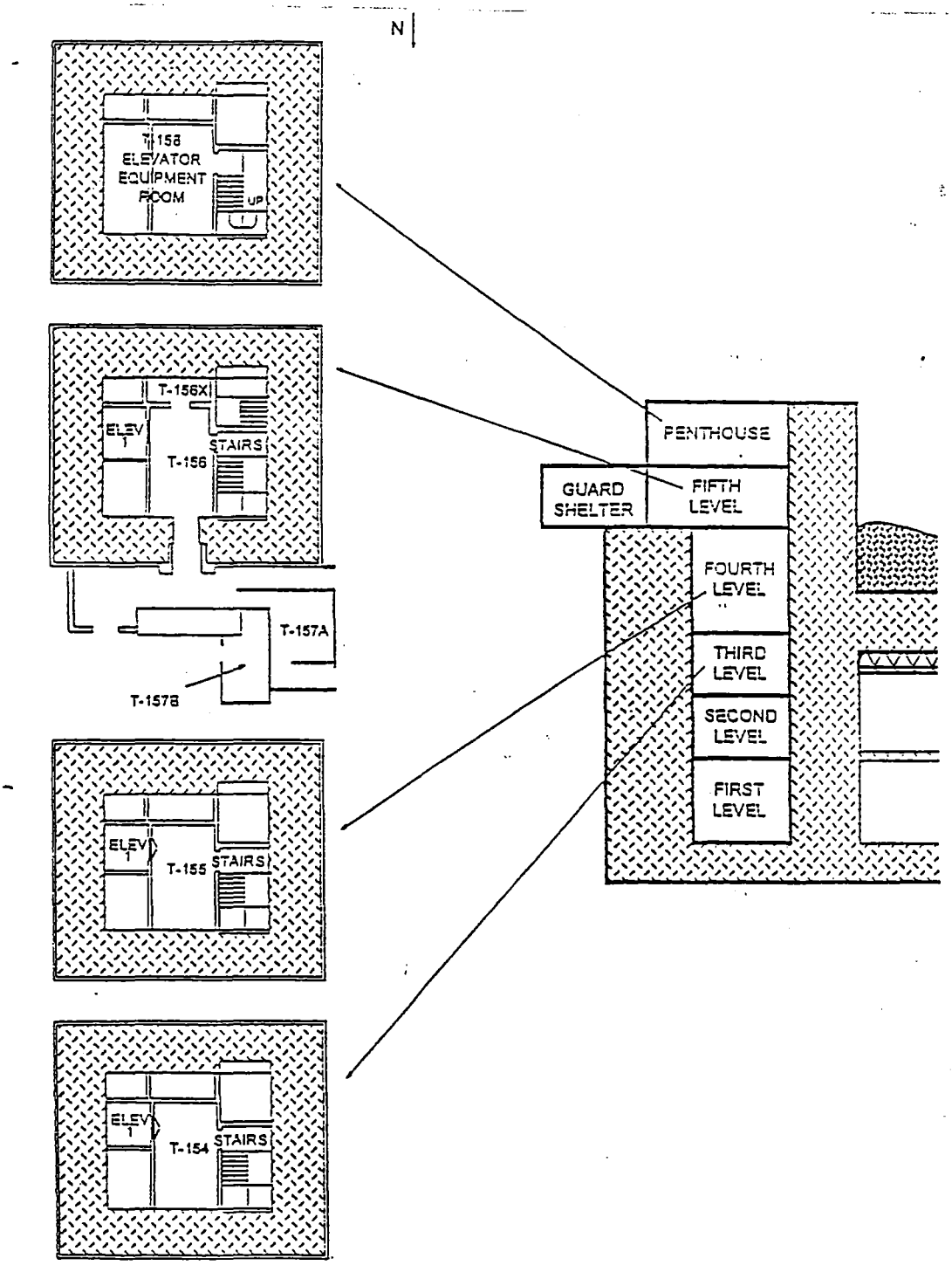

Figure 1.2-4 - East Tower Levels 3-6

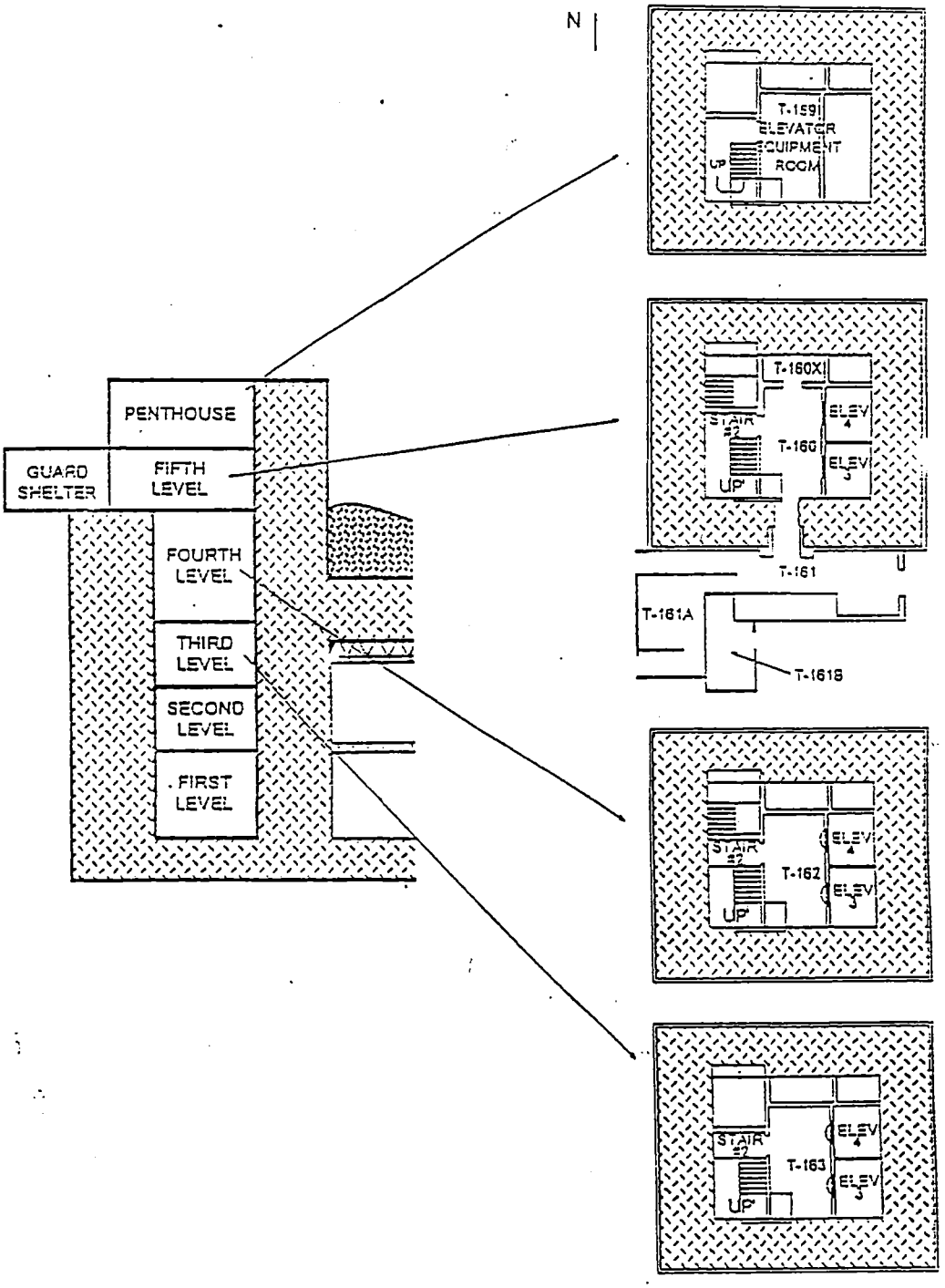

Figure 1.2-5 - West Tower Levels 3-6

3.0 PROJECT SCOPE

The project scope is to produce an engineering study and associated cost estimate, at a conceptual level of detail that separately examines several disposition alternatives for T-Building.

The feasibility, the short-term and long-term benefits (with regard to cost and risk (to personnel and the environment) of each alternative, and other options will be investigated. This engineering study and its associated cost estimate involve reviewing schedules for physical work being done in T-Building; reviewing completed check sheets for assessing D&D cleanup requirements in each room within T-Building; evaluating various cleanup methods for T-Building using the check sheets; and completing the engineering study and associated cost estimate.

3.1 Alternative 1 - D&D for Unrestricted Use

D&D for unrestricted use is the first alternative for dispositioning T-Building. The engineering study establishes the D&D activities that will be performed in such a manner as to protect the workers, the public, and the environment.

3.1.1 Preparation Activities

Preparation activities include work force mobilization; site preparation; and glovebox, piping, and equipment purging prior to removal.

3.1.2 Removal Activities

Removal activities include removal of radioactive and hazardous chemical contaminated systems and equipment.

3.1.3 Decontamination Activities

Decontamination activities include building and remaining equipment (if any) decontamination for both radiological and hazardous contamination.

3.1.4 Restoration Activities

Minimal restoration activities will be completed after removal and decontamination activities in T-Building. They may include structural restoration to satisfy basic safety considerations.

3.2 Alternative 2 - Decay in Place

Decay in place is a D&D alternative in which the natural decay process is used for facilities contaminated with radiological isotopes of relatively short half-lives. The final disposition of the T-Building will be delayed until the natural decay of tritium has

reduced the contaminant levels to unrestricted release levels. During the time it takes to meet these levels, deactivation activities will be implemented to place T-Building in a safe and stable condition.

3.2.1 Preparation Activities

Preparation activities include work force mobilization; site preparation; and equipment purging prior to removal (if required).

3.2.2 Removal Activities

Removal activities may include the removal of contaminated equipment and utilities.

3.2.3 Decontamination Activities

Decontamination activities may include building and remaining equipment decontamination for both radiological and hazardous contamination through the use of tritium effluent capture systems.

3.2.4 Restoration Activities

Minimal restoration activities will be completed prior to decaying in place. They may include regrading and restoration of areas where temporary removal of certain services or structures was needed. Restoration activities will also include sealing entryways and establishing institutional controls (long-term surveillance and maintenance activities) during the 100-year period of tritium decay to unrestricted use levels.

3.3 Other Alternatives

Other D&D alternatives that were technically considered but not initially selected include No Action, Delayed D&D, In Situ Disposal, and others as appropriate to each individual project.

4.0 DESIGN BASIS

The Design Basis Document (Rev 1) defines the criteria for design and estimating activities associated with the D&D of the T-Building, as well as the envelope of regulations within which the D&D activities will be conducted. Criteria for release, restoration, and waste acceptance are established in the design basis. The release criteria for tritium, asbestos, and hazardous materials are defined. The basis for defining the restoration criteria for each T-Building decommissioning alternative is provided. Waste acceptance criteria consider where the waste from the D&D activities will be disposed of and in what approved waste packages.

Detailed information concerning the design basis is in *T-Building and SW/R Tritium Complex Design Basis Document, Revision 0*, (Reference 4-1) located in Appendix C of this study.

5.0 WORK BREAKDOWN STRUCTURE

The detailed Work Breakdown Structure (WBS) is in Volume II, Cost Estimate, of this document. The following is a description of typical elements of the WBS:

Project Management includes project plans, scheduling, cost estimating, procurement support, technical writing, change control, cost/schedule project reporting, funds management, training, Architect/Engineering(A/E) coordination, and the responsibility for controlling the subcontractor's portion of the work.

Engineering includes the Conceptual Engineering Study, Technical Specifications, Safety Assessment, Environmental Compliance, Readiness Checklists, Engineering Inspection and Detailed Work Procedures, Facility Release Survey Plans, and Final Report.

Site Services includes environmental monitoring, procurement, safeguards and security, utilities, computer maintenance, and sampling and analysis.

T-Building D&D Activities includes preparations; glovebox removal; miscellaneous equipment removal; service removal/crawlspace cleanout; and area decontamination. These activities are discussed in detail in Section 6.0.

Waste Management and Waste Disposal activities are discussed in Section 10.0. Among the activities within this element are:

- Establish waste streams;
- Write procedures in conformance with receiver sites;
- Activities to handle materials and equipment on site; and
- Transport by truck to burial site.

Independent Verification Contractor. A process of verification is performed for all ER projects by an independent verification contractor (IVC). The IVC surveys the site to confirm that the release criteria has been satisfied.

6.0 TECHNICAL APPROACH

6.1 Alternative 1 - D&D for Unrestricted Use

The primary locations of contamination within T-Building are the inside of the glovebox-associated equipment and process lines. The construction of these gloveboxes is essentially the same throughout the building, with sizes varying. The major difference that must be addressed for D&D planning is the degree of complexity due to either the system configuration within the glovebox or the level of contamination. Additionally, the level of effort required to remove a fume hood was assumed to be equal to that required to remove a glovebox. Therefore, for this conceptual study, the removal method and associated effort for the gloveboxes and fume hoods was defined for three levels of effort - Low, Medium, and High (based on either complexity or contamination). A description of the defined removal method and labor effort for each of these levels is provided in Appendix D.

In general, glovebox equipment will be removed and immediately packaged within a tented enclosure. Miscellaneous room equipment will also be removed and immediately packaged. Gloveboxes themselves will be separated from the base and sealed so that they can be transferred through the building to a centralized size reduction point where they will be packaged for disposal. HVAC ductwork associated with the Effluent Recovery System (ERS) and the Emergency Containment System (ECS) is located throughout the building. This ductwork is considered contaminated and will also be removed.

D&D activities have been planned to address primarily tritium contamination, since tritium is the only radionuclide present in appreciable quantities. Some areas of the building are known to have residual amounts of alpha-emitting radionuclides, and similarly, small amounts of hazardous chemicals may be present. Neither of these hazards, however, are significant enough to impact the planning at this level of detail. Planned personnel protection methods for tritium used in the cost estimate associated with this study are conservative enough to address all anticipated hazards.

The following sections provide a description of the planned D&D activities.

6.1.1 T Second Floor South

D&D activities within the T Second Floor South area are expected to include the following:

Room 234

Room 234 is located within a Radiological Buffer Area (RBA). Mechanical equipment to be removed includes pumps, bell jar, and piping. Electrical equipment to be removed includes lighting, T_2 monitor, and Continuous Air Monitor (CAM) lines. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 236

Room 236 is a dock facility which was previously located within an RBA. There is a small area of contamination located adjacent to elevator 9. An approximate 1-cubic-foot volume of concrete will need to be removed. Floor, wall, and ceiling surfaces will be decontaminated. This study assumes that decontamination will consist of washing with copious amounts of water.

Room 237

Room 237 is located within an RBA. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 238

Room 238 is located within an RBA. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 1W, located within the T Second Floor South area, has no known radioactive contamination but is located within an RBA. D&D activities in this room will be limited to removal of floor tile and decontamination of wall, floor, and ceiling surfaces.

Other Areas

The following rooms, located within the T Second Floor South area, are not expected to require any D&D activities:

2W	3E	4E
5E	6E	203
204	205	208
208A	209	212
213	214	214A
215	215A and C	216
217	218	219
220	221	222
223	224	225

226	227	227B
229	230	235
241	242	Corridors 20, 20A, 20B, 21, and 22D

6.1.2 T Second Floor Middle

D&D activities within the T Second Floor Middle area are expected to be primarily in Rooms 5W, 243, 246, 266, and 274.

TERF

The TERF, with its major operating equipment located in Rooms 243 (upper level) and 5W (lower level), will be utilized to capture tritium emissions generated from D&D activities conducted in both T-Building and the SW/R Tritium Complex. Therefore, D&D of the TERF cannot occur until all other building area D&D activities have been completed. Once this has occurred, D&D of the TERF will require the removal of some of the effluent processing gloveboxes, which are listed below in Table 6.1-1.

Table 6.1-1 - TERF Gloveboxes

ROOM	GLOVEBOX	EFFORT
243	D1	High
243	D2	Low
243	D3	Medium
243	D4	Medium
243	D5	Low
243	D6	Low
243	D7	Medium
243	D8	High
243	D9	Medium
5W	Fumehood	Low
5W	A1	Low
5W	A2	Medium
5W	A3	Medium
5W	A4	Low
5W	B1	High
5W	B2	High
5W	B3	Low
5W	B4	Medium

ROOM	GLOVEBOX	EFFORT
5W	C1	High
5W	C2	High
5W	V1	High
5W	F1	Medium
5W	R1	Medium
5W	R2	Medium
5W	R3	Low
5W	S1	Medium
5W	H1	Low

HISS

The Hydrogen Isotope Separation System (HISS) is located in Rooms 274 and 57. D&D activities within Room 57 are addressed in the T First Floor Middle area. The HISS was used to separate tritium from mixtures of hydrogen isotopes through cryogenic distillation. D&D of the HISS within Room 274 requires removal of the gloveboxes listed below in Table 6.1-2.

Table 6.1-2 - HISS Gloveboxes

ROOM	GLOVEBOX	EFFORT
274	A	Medium
274	B	Medium
274	C	Medium
274	D	Medium
274	E	High
274	F	Low

TEDL

The Tritium Engineering Development Laboratory (TEDL), located in Room 266, provided a central location for conducting tritium-based research experiments. Some alpha contamination may be present in addition to tritium. D&D of the TEDL requires removal of the gloveboxes listed below in Table 6.1-3.

Table 6.1-3 - TEDL Gloveboxes

ROOM	GLOVEBOX	EFFORT
266	S1	High
266	S2	High
266	S3	High
266	P1	Medium
266	P2	Low
266	P3	Medium
266	F1	Low
266	F2	Low
266	F3	Low
266	V1	Medium
266	V2	Medium
266	I1/I2	Low
266	I3	Low

TEDL and HISS Contaminated Services - Above Rooms 266 through 274

The ducting above Rooms 266 through 274 is contaminated and will require D&D. ECS Heating, Ventilation, and Air Conditioning (HVAC) duct will be removed. Wall and ceiling surfaces may become contaminated during removal operations and require cleanup.

Room 246

Room 246 is a laboratory which contains two fume hoods. D&D activities within this room will consist of the removal of these two fume hoods, removal of the floor tile, and decontamination of the floor, wall, and ceiling surfaces.

The following rooms located within the T Second Floor Middle area, have no known radioactive contamination but are or have been located within an RBA. D&D activities in these rooms will be limited to removal of floor tile and decontamination of wall and floor surfaces.

270	275
277 A-L	281
282	Corridor 22A

Other Areas

The following rooms, located within the T Second Floor Middle area, are not expected to require any D&D activities:

244	245	245A, B, and C
247A, B, and C	248	249
251	252	253
253A	254	257
259	259A	260
283	284	Corridors 22, 22B, 22C, 24, and 24A

6.1.3 T Second Floor North

Room 307 is the only room within the T Second Floor North area which is expected to require some D&D. This room was used for tritium sample preparation. Within Room 307 are two contaminated fume hoods and two non-contaminated fume hoods as well as several workbenches and sinks. Planned D&D activities include removing the two contaminated fume hoods, removing the floor tile in the immediate area surrounding the two contaminated fume hoods, and decontaminating the floor, wall, and ceiling surfaces.

Room 326, located within the T Second Floor North area, has no known radioactive contamination but is located within an RBA. D&D activities in Room 326 will be limited to removal of floor tile and decontamination of wall, floor, and ceiling surfaces.

Other Areas

The following rooms, located within the T Second Floor North area, are not expected to require any D&D activities:

285	286	287
288	289	290
291	291A	294
295	295B and C	296
297	298	299
300	300A, B, and C	302
302A, B, and C	303	304
305	305A	306
306A	309	310
311	312	313

314	315	316
318	319	320
320A and B	321	322
323	324	328
329	330	330A and B
331	332	335
336	337	338
342	343	345
346	349	350A and B
351		Corridors 26, 27, 28, and 28A

6.1.4 T First Floor South

D&D activities within the T First Floor South area are expected to include the following:

Room 2C

Remove gloveboxes A through F. Remove 280 linear feet of 4-inch Dri Train lines. A Dri Train is an inert gas recirculating system that removes H_2O and sometimes O_2. Equipment is to be disposed of as classified Low Specific Activity (LSA) waste. Floor covering is to be removed and wall and ceiling surfaces will be decontaminated.

Room 2B

Remove 60 linear feet of 4-inch Dri Train lines, three Dri Trains, and two Filters. Equipment is to be disposed of as classified LSA waste. Floor covering is to be removed and wall and ceiling surfaces will be decontaminated.

Room 11

Remove gloveboxes #1, #2, and #3 and Inert/Dri Train lines. Equipment is to be disposed of as classified LSA waste. Floor covering is to be removed and wall and ceiling surfaces will be decontaminated.

Room 11B

Remove gloveboxes #1 and #2, three Dri Trains, and six Process Stations. Equipment is to be disposed of as classified LSA waste. Floor covering is to be removed and wall and ceiling surfaces will be decontaminated.

Above Rooms 2A and 2B

The area above rooms 2A and 2B is contaminated with beryllium and will require D&D. Health and safety precautions will be required to protect workers removing

equipment, duct, piping, electrical components, and residue from walls and ceiling surfaces contaminated with beryllium.

Room 16A
Mechanical equipment to be removed includes base cabinets and compactor. Electrical equipment to be removed includes 81 linear feet of 2-inch conduit, light fixtures, and T_2 monitor. Floor covering is to be removed and wall and ceiling surfaces will be decontaminated.

The following rooms located within the T First Floor South area have no known radioactive contamination but are or have been located within an RBA. D&D activities in these rooms will be limited to removal of floor tile and decontamination of wall, floor, and ceiling surfaces.

1	1A and B	2A
3	4	4B and C
5	5A and B	6
7	8	9
9A	10	11A, C, D, E, and F
14	15	15A
16	16B	17
17A and C	19	19B
Corridors 1, 2, 3, and 9		

Other Areas
The following rooms, located within the T First Floor South area, are not expected to require any D&D activities:

15B	18
19A	

6.1.5 T First Floor Middle

D&D activities within the T First Floor Middle area are expected to include the following:

Rooms 22, 23, 24, 25, and 26
Some alpha contamination may be present in these areas due to residual levels of plutonium and americium. Floor, wall, and ceiling surfaces will be decontaminated.

Room 27

Mechanical equipment to be removed includes downdraft fume hood, shelving, and 4 linear feet of exhaust duct from the downdraft hood. Electrical equipment to be removed includes 6 linear feet of cable tray, wall panel, criticality monitor, and light fixtures. Slight alpha contamination may be present in this room. Floor, wall, and ceiling surfaces will be decontaminated.

Room 37

Mechanical equipment to be removed includes decontamination gloveboxes and fume hoods, base and wall cabinets, 83 linear feet of 1/2-inch-diameter utility piping, 35 linear feet of 1/2-inch ERS line, 10 linear feet of 2-inch-diameter sump discharge line, and 60 linear feet of 1/2-inch-diameter CAM line, and one vacuum pump. Electrical equipment to be removed includes lighting fixtures and 120 linear feet of conduit. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 41

Mechanical equipment to be removed includes gloveboxes A-1 and A-2, fume hoods F-1 and F-2, base cabinets, relay/instrument racks, flammables cabinet, 108 linear feet of 3/4-inch-diameter utility piping, 25 linear feet of 2-inch-diameter ERS lines, 20 linear feet of 2-inch-diameter Bubbler line, 38 linear feet of 3/4-inch-diameter tritium transfer line, 20 linear feet of 2-inch-diameter vacuum line, 20 linear feet of exhaust line, and 50 linear feet of CAM line. Electrical equipment to be removed includes a transformer, wall control panel, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 48

Mechanical equipment to be removed includes gloveboxes M-1, M-2, N-1, N-2, N-3, N-4, P-1, G-1, G-2, H-1, H-2, H-3, H-4, H-5, and H-6; fume hoods FH-1 and FH-2; base and wall cabinets; relay/instrument racks; laser system racks; hydrogen/deuterium cabinet; 465 linear feet of 3/8-inch-diameter utility line; 580 linear feet of 1/2-inch-diameter utility line; 35 linear feet of 1-inch-diameter utility line; 160 linear feet of 1/2-inch and 2-inch-diameter ERS and Bubbler line; 100 linear feet of 3/4-inch tritium transfer line; five standard purge systems; 100 linear feet of 1/4-inch-diameter stainless steel calibration lines; 100 linear feet of 1/2-inch- diameter CAM lines; and 50 linear feet of 3/8-inch stainless steel ion chamber T_2 monitor lines. Electrical equipment to be removed includes 200 linear feet of cable tray, 420 linear feet of box conduit, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Corridor 49

Remove any piping and monitors. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 50

Mechanical equipment to be removed includes gloveboxes A-1 through A-5, B-1, C-1 through C-5, D-1, E-1, and F-1; fume hoods FH-1 and FH-2; base and wall cabinets; relay/instrumentation racks; 20 linear feet of 1/2-inch-diameter utility line; 710 linear feet of 3/4-inch-diameter utility line; six water baths; and 125 linear feet of 1/2-inch-diameter CAM line. Electrical equipment to be removed includes 80 linear feet of cable tray, 90 linear feet of 1-inch-diameter conduit, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 57

Mechanical equipment to be removed includes base and storage cabinets, 60 linear feet of 1/2-inch-diameter utility line, 20 linear feet of 2-inch-diameter utility line, 20 linear feet of 3/8-inch-diameter utility line, 25 linear feet of 2-inch-diameter ERS line, 25 linear feet of 2-inch-diameter Bubbler line, 350 linear feet of 3/4-inch-diameter Tritium transfer line, 30 linear feet of 1/2-inch-diameter vacuum line, two doubly contained 600-liter tanks, one 600-gallon tank, and 70 linear feet of 1/2-inch-diameter CAM line. Electrical equipment to be removed includes six linear feet of cable tray, 490 linear feet of 1-1/2-inch-diameter conduit, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 58

Mechanical equipment to be removed includes gloveboxes K-1, K-2, L-1, and L-2; fume hoods F-1, F-2, and F-3; base and wall cabinets; relay/instrumentation racks; storage cabinet; one 20-gallon Halon tank; two 1-gallon oil reservoirs; 355 linear feet of 1/2-inch-diameter utility lines; 70 linear feet of 1-1/2-inch-diameter ERS line; 40 linear feet of 2-1/2-inch-diameter Bubbler line; 315 linear feet of 1-inch-diameter Tritium transfer line; 225 linear feet of 1-1/2-inch-diameter vacuum line; and 65 linear feet of 1/2-inch-diameter CAM line. Electrical equipment to be removed includes 290 linear feet of cable tray, 310 linear feet of 1-1/2-inch-diameter conduit, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 59

Some alpha contamination may be present in this room due to residual levels of uranium. Mechanical equipment to be removed includes gloveboxes T-1 through T-5, S-1 through S-5, and R-1 and R-2, fume hood, relay/instrument racks, 2,110 linear feet of 1/2-inch-diameter utility line, 25 linear feet of 3/4-inch-diameter utility line, 100 linear feet of 2-1/2-inch-diameter ERS line, 200 linear feet of 4-inch-diameter Bubbler line, 450 linear feet of 3/4-inch-diameter tritium transfer line, and 100 linear feet of 1/2-inch-diameter CAM line. Electrical equipment to be removed includes 2,000 linear feet of 1/2-inch-diameter power/electronic cable, 210 linear feet of cable tray, 450 linear feet of 3-inch-diameter conduit, and light fixtures. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 61

Mechanical equipment to be removed includes gloveboxes 1 through 6, ERS lines, bubblers, bubbler lines, and two doubly contained 400-liter tanks. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 62

Remove wall cabinet, 4 linear feet of cable tray, 6 linear feet of shelving, and 6 linear feet of 4-inch-diameter ERS line. Floor, wall, and ceiling surfaces will be decontaminated.

Room 63

Mechanical equipment to be removed includes gloveboxes A, B, C-1, and C-2 and fume hood. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated. ECS Mechanical equipment to be removed includes reactor, blower, exchange beds, recirculation system, and process piping.

Room 75

Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 76

Remove 21 linear feet of 1-inch-diameter conduit, light fixtures, 8 linear feet of 1-inch-diameter utility line, 25 linear feet of tritium transfer line, and 15 linear feet of 1/4-inch-diameter of CAM line. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 77
Remove base and wall cabinets, relay/instrument racks, 30 linear feet of cable tray, 500 linear feet of 2-inch-diameter conduit, and 20 linear feet of 1/2-inch-diameter CAM line. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Corridor 7
Remove relay/instrument racks, light fixtures, 130 linear feet of 1-inch-diameter conduit, 108 linear feet of 1-inch-diameter utility line, 46 linear feet of 2-inch-diameter ERS line, 116 linear feet of 1-inch-diameter tritium transfer line, and 44 linear feet of 1/2-inch-diameter CAM line. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Corridor 7A
Remove 150 linear feet of 1-inch-diameter conduit, flammables cabinet, fire hose cabinet, 80 linear feet of 1-inch-diameter utility line, 150 linear feet of fire water line, light fixtures, 40 linear feet of 2-1/2-inch ERS line, 130 linear feet of tritium transfer line, and 100 linear feet 1/2-inch-diameter CAM line. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Corridor 74
Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Other Areas
The following rooms located within the T First Floor Middle area have no known radioactive contamination but are or have been located within an RBA. D&D activities in these rooms will be limited to removal of floor tile and decontamination of walls, floor surfaces, and ceiling.

20	36	36A
38	40	43
44	47	100
101	102	103
Corridors 1, 4, and 51		

6.1.6 T First Floor North

D&D activities within the T First Floor North area are expected to include the following:

Room 78B

Remove exhaust fan, duct, piping, and electrical components from room. Floor, wall, and ceiling surfaces will be decontaminated.

Room 92

Room 92 contains a chilled water system which serves Rooms 61 and 63 (Tritium Effluent Control Labs). Removal activities include the water tank, pump, and heat exchanger. Asbestos insulation covers much of the system. Floor covering is to be removed, and wall and ceiling surfaces will be decontaminated.

Room 96

The room is essentially empty. A section of chilled water line passes through the room from the adjacent Room 92, which is covered with asbestos insulation. This line is to be removed along with the rest of the chilled water system. The floor covering is also to be removed and the wall and ceiling surfaces decontaminated.

Rooms 98 and 99

Rooms 98 and 99 house the hot side chilled water system which serves the TERF. Therefore, removal of this system cannot occur until operation of the TERF is no longer necessary. At that point, the system is to be drained and removed. HVAC fans and other exhaust equipment is also to be removed. Floor, wall, and ceiling surfaces will be decontaminated.

Room 154

Room 154 is located on the third level of the East Tower. Planned D&D activities include removal of the exhaust duct and decontamination of the floor, wall, and ceiling surfaces.

Other Areas

The following rooms, located within the T First Floor North area, are not expected to require any D&D activities:

78	78A	79
80	81	82
83	84	85
86	87	88
90	91	97
106	Tunnels 1 and 2	Corridor 8
East/West Towers		

6.1.7 T-East Stack

The interior of the T-East Stack will be decontaminated by pressure washing. Subsequently, the stack will be demolished and the debris removed.

6.2 Alternative 2 - Decay in Place

6.2.1 Overview

Decay in place is a D&D alternative for facilities contaminated with radioactive isotopes of relatively short half-lives. The concept is to delay the final disposition of the facility until after the natural decay of the radiological contamination has reduced the quantity of contaminant to unrestricted release levels. T-Building is a candidate for this alternative because its primary contaminant is tritium, which has a 12.3-year half-life.

Once tritium operations are completed in T-Building, accountable tritium inventory will be shipped to a receiver site. The residual tritium quantities in the majority of the process and support equipment would require more than 250 years of natural radioactive decay to achieve unrestricted release levels (1,000 dpm/100 cm^2 per the Design Basis Document).

High-level waste repositories have set a precedent of 100 years (40 CFR 191) for the maximum amount of time that institutional controls will be maintained by the government. T-Building requires a decay period greater than the 100-year limit and will require some initial D&D to lower the residual contamination levels to those which will decay to unrestricted release levels within 100 years. The initial D&D effort is required to remove tritium contamination above 282,000 dpm/100 cm^2; any contamination below this level will decay to less than 1,000 dpm/100 cm^2 within 100 years.

6.2.2 Initial D&D

Initial D&D will prepare T-Building for a 100-year decay period. Activities completed during initial D&D include:

- Removal of residual non-tritium radioactive and chemical contamination
- Remove ^{60}Co and ^{137}Cs from old drains and sumps on first floor
- Removal of classified equipment
- Removal of highly contaminated process equipment

- Purging of gloveboxes
- Removal of purging lines and tritium capture system internals
- Verification that residual levels are low enough to allow natural decay
- Sealing of all access points

Areas in T-Building containing non-tritium contamination are noted in Section 6.1. They are primarily radionuclides with decay times that are much greater than of tritium. Therefore, initial D&D activities will address complete removal of residual contamination in these areas. Unrestricted release levels must be achieved.

Due to security concerns, equipment in classified areas of T-Building will be removed during the initial D&D activities. This includes equipment from Rooms 2B, 2C, 11, 11B, and 266.

Highly contaminated process equipment (pumps, U-beds, etc.) with contamination levels in excess of 282,000 dpm/100cm^2 will be removed. This includes most glovebox internals, and potentially, several glovebox enclosures with unusually high internal surface contamination.

Once the highly contaminated process equipment is removed, the level of residual tritium in the gloveboxes is expected to require additional tritium removal to reduce tritium levels below 282,000 dpm/100cm^2. This study assumes that a 5-year purging period will be adequate (based on process knowledge and uncertainties in the levels of tritium contamination), using moist air to remove residual tritium contamination on the inside surfaces of the gloveboxes. The existing glovebox purging system can be used with one minor alteration. The nitrogen supply line that is part of the existing glovebox purging system will be cut off before the check valve. This will allow the ambient room air to be drawn into the check valve, through the glovebox, and into the TERF.

The use of moist air as a purging medium has been demonstrated to be more effective at removing tritium contamination than nitrogen gas. However, the TERF systems will create tritiated water as a result of using moist air. Over the planned 5-year purging period, an estimated 14,610 gallons of tritiated water will be disposed of in 1,973 waste containers.

Once the purging operation is complete, the highly contaminated portions of the TERF system and the ERS lines will be removed. Another Mound tritium facility, the SW/R Tritium Complex, will use the TERF during D&D activities. Therefore, deactivation

of the TERF cannot occur until SW/R Tritium Complex D&D activities have been completed unless a replacement system is provided for. If required, a portable tritium capture system may be used during the removal activities to minimize potential tritium releases.

Verification that the initial D&D activities have reduced tritium contamination levels to less than 282,000 dpm/100cm^2 must be performed prior to the start of the decay period. This will ensure that the project goal of less than 1,000 dpm/100cm^2 of tritium contamination will be achieved at the end of 100 years.

With the highest levels of tritium contamination removed, the remainder of T-Building internals will be left to decay in place. The final step in the initial D&D of T-Building is to seal all access points and post placards to prevent uncontrolled entry. This step includes constructing concrete walls at the entrances of the East and West Tunnel doors and welding plate steel over the entrances to the East, Central, and West Towers. The T-Building East stack will also be removed and supply duct sealed. Protective barriers such as bollards will be installed to protect primary access seals.

6.2.3 Decay Period

Institutional control of T-Building will begin at completion of initial D&D activities. In accordance with 40 CFR 192 (Reference 6-1), institutional controls will be in place for 100 years at high-level waste repositories. These same criteria for institutional controls duration will be applied to the decay period of T-Building. During this period, in accordance with DOE Order 6430.1A, Section 1300-1.4.2 (Reference 6-2), accidental releases due to human-induced activities, or reasonably foreseeable but unplanned natural processes following permanent closure, will be prevented.

During the 100-year decay period, regulatory review/environmental monitoring will be performed at no less than 5-year intervals in accordance with CERCLA §121(c) to ensure that the sealed building provides adequate protection of human health and the environment. The regulatory review/environmental monitoring may be patterned after inspection criteria for hazardous waste storage facilities (40 CFR 265 [Reference 6-3]) and should include the following:

- Monitoring of existing groundwater wells to ensure that residual tritium is contained within T-Building
- Exterior inspection and monitoring of sealed openings to prevent the release of tritium or other airborne hazards

- Exterior inspection of passive protective devices (e.g., bollards, etc.) to ensure the protection of sealed openings
- Exterior inspection of perimeter to verify structural integrity of the roof and walls. Failure of the roof or walls would be indicated by soil subsidence (i.e., sinkholes, sloughing, or slides)
- Interior inspections by remote methods to verify that inflow of groundwater is not occurring and that the integrity of slabs on grade is maintained

It is anticipated that at the conclusion of the 100-year decay period, T-Building may be considered noncontaminated if the surface release limits for removable tritium contamination are 1,000 dpm/100 cm^2 or less. At this time the building may be dismantled using standard dismantlement practices, or, if structurally sound, retrofitted and re-used by a new user.

6.3 Other Alternatives

Other Decontamination and Decommissioning (D&D) alternatives which were technically considered but not initially selected include No Action, Delayed D&D, and In Situ Disposal.

6.3.1 No Action

Although always an alternative to any proposed action, it is obvious that a "deteriorate in place" no-action option is not viable or acceptable for any stakeholder. Therefore, this option is not further considered.

6.3.2 Delayed D&D

Delayed D&D is different from the Decay in Place option in that, because of funding, resource availability, priority, or other constraints, initiation of D&D is delayed. In some cases (i.e., nuclear reactors) this is a preferred option that the NRC calls SAFSTOR. In cases where the facility is immediately D&D'd, the NRC calls this approach DECON (Reference 6-4).

Although delayed D&D may be an unwanted but realistic occurrence at Mound, the impact of this option is higher surveillance and maintenance costs during the delay period and a resulting increase in the total project cost. An additional impact during this delay period is the potential loss of experienced T-Building operations personnel who may become committed to other projects or leave the site. This loss of "corporate" experience would increase cost, schedule, and the potential for personnel exposures and tritium release. Finally, as time goes on, regulations and requirements

generally become increasingly restrictive, creating additional project costs and lengthening the schedule.

6.3.3 In Situ Disposal

In situ disposal is a technically viable and cost-beneficial option but may not be acceptable to some stakeholders because of the desire to achieve unrestricted release of the site. Several variations of this option exist, from entombment to disposal of only suspect waste (both hazardous and radioactive) to long-term storage or disposal of higher level waste (e.g., transuranic [TRU] waste).

6.3.3.1 Entombment

Entombment (called ENTOMB by NRC) is a method in which radioactive contaminants are encased in a structurally long-lived material, such as concrete. The entombed structure is appropriately maintained, and continued surveillance is performed until the radioactivity decays to a level permitting unrestricted release of the property. Based on process knowledge, this would require approximately 250 years for tritium in T-Building to decay to currently established unrestricted release levels.

Several variations of entombment exist, from partial entombment of areas with higher levels of contamination to complete entombment of the building. Other variations include purging equipment for several years to reduce contamination and/or removing highly contaminated equipment prior to entombment.

6.3.3.2 Waste Repository

A variation of in situ disposal is actually an entombment, except that waste from other D&D and clean-up projects could be consolidated and compacted in the T-Building prior to final entombment of the contents in the facility. This approach would be similar to the approach being utilized at another DOE site in southern Ohio. At the Fernald Environmental Restoration Management Project (FEMP), low levels of hazardous and radioactive waste above unrestricted release levels but below a predetermined regulatory level will be consolidated and disposed in the "On-Site Disposal Facility" (OSDF) (Reference 6-5). Currently, this alternative is unacceptable to the stakeholders.

6.3.4 D&D for Restricted Reuse

This option would assume that a re-use for the T-Building by DOE or a commercial operation dealing with radioactive materials exists or would exist in the future. The facility would only then require the minimal D&D to eliminate significant hazards for

the new user. This reduces the initial D&D cost but may not relieve DOE of the liability for the eventual D&D of the building for unrestricted release. If this is the case, the total D&D project cost to D&D would be much higher than the immediate D&D case. However, since a new user has not yet been identified, this option is not being considered at this time.

6.4 Tritium Capture System Analysis

6.4.1 Tritium Emission Reduction Facility

The TERF system is utilized to protect the environment and the public from discharge of radioactive tritium. The TERF is located in five rooms in the west end of T-Building. The facility was designed as a three-phase project and is currently operating with two phases of the project installed and space available for the third phase.

Gaseous process effluents from Mound's tritium handling systems are collected by a series of headers and piped to either the TERF system or the ERS located in SW-Building. The gases going to the TERF system are filtered, compressed, heated, and passed through "reactors" which contain platinum on aluminum pellets where the tritium and tritium-containing compounds are oxidized to form tritiated water. The gases from the reactors are cooled when they are passed through a heat exchanger and then fed to a series of absorption trains (dryers) filled with Type 4A molecular sieve at room temperature to absorb the tritiated water. The decontaminated gases are then monitored and released to the stack.

The dryers are regenerated as required. The water is removed, collected, purified, assayed, and packaged in T-63 for burial. The tritium concentration in the TERF inlet, on the average, is 1 ppm at a gas flow rate of 10 to 80 cfm with sprint capacity of 150 cfm.

If the TERF discharge gases still contain concentrations of tritium too high for direct discharge to the atmosphere, or if the effluent flows at the inlet to the TERF system are excessive, these may both be diverted to two surge tanks which have a total volume of 5,600 ft^3. These surge tanks are maintained at a pressure of 0.5 psia.

Most of the TERF equipment is enclosed in gloveboxes to ensure containment of tritium in case of leaks and during system maintenance. Secondary confinement is provided for moving parts and for mechanical joints under pressure or thermal stress. Items containing gas below one atmosphere are not confined by a secondary container.

However, items that normally contain tritiated liquids have a secondary confinement. This secondary confinement includes gloveboxes and double-jacketed pipe.

An assumption for the "T-Building and SW/R Tritium Complex D&D Pre-Conceptual Engineering Study" was that the TERF system would be operated at the outset of the D&D activities. During the D&D process, the TERF system will be used to support the removal of other tritium systems by accepting and decontaminating the air purges of tritium process/transfer lines and gloveboxes. With the TERF system needed to safely decontaminate and decommission the T-Building and SW/R Tritium Complex, the system should remain operational until the end and should be the final system to be decontaminated and decommissioned.

As the D&D effort nears completion, the TERF system will be exposed to constantly decreasing concentrations of tritium and will, consequently, be self-purging during the final stages of D&D. Both the amount and concentration of tritium in the TERF will be low and will continuously decrease toward the completion of the project. With no significant off-gassing of the gloveboxes or the process equipment, the system could safely be vented to the stack. This would eliminate the need for a portable effluent capture system in support of the D&D of the TERF.

A systematic and phased approach toward decontaminating and removing the TERF system must be used. The effluent input lines, accountability system, surge tanks, and calorimeter system can be removed first. All this equipment will have extremely low levels of contamination and no special precautions will be necessary. The next phase would include the large (Rix) compressor, house vacuum pumps, transfer pumps, and dryer regeneration system. Before the dryer regeneration system is removed, the dryers should be regenerated for the last time so they can be used to continue to collect water vapors during the remaining D&D of the TERF.

Once the dryers are regenerated, all the equipment in this phase can be disconnected inside the gloveboxes. The pipe ends may then be sealed and some basic decontamination may be conducted. The glovebox may be covered with a tent exhausted to the stack. The equipment can then be removed from the gloveboxes and placed directly into containers for final disposition.

Next, the water purification and handling system may be dismantled. Due to the potential for some trapped tritiated water in the system, this will be the most hazardous part of the TERF dismantling and must be accomplished within the gloveboxes. The equipment in the regeneration system will be sealed before removal from the

gloveboxes. It will then be placed into shipping containers for burial. The remaining gloveboxes, support equipment, and piping can then be removed using standard D&D precautions with the compressor, reactors, and dryers being removed last. The drying towers are used as a primary container for the molecular sieve, sealed, and placed in proper containers for burial. The water packaging system in T-63 can then be removed.

6.4.2 Portable Tritium Capture Systems

A portable tritium capture system (portable TERF) was developed by Lawrence Livermore National Laboratory (LLNL) and used to D&D several laboratories in LLNL's tritium processing building. A single system has an effective processing rate of 30 L/min, or about 1 cfm with a tritium capture efficiency of 99.9 percent. This system is a batch process which requires process shutdown during the regeneration process. Several new systems, built to existing prints, would cost about $490,000 each. Approximately 100 of these systems would be needed to provide the continuous flow capabilities of the T-Building TERF system. The full capability of the TERF is needed by both the 1,000-curie and the 10,000-curie cases of this study. The portable TERF and the one noted in the paragraph below would not provide emergency flow capabilities as does the Mound TERF system. A LLNL-type portable TERF would not be a viable concept as a replacement for the existing T-Building TERF during D&D.

A retired Mound nuclear engineer has designed a portable TERF with 20 cfm capabilities. The design utilized existing and proven technologies. This portable TERF was designed to fit into a semi-trailer truck. At least five of these $200,000 systems would be needed to replace to Mound's current TERF capacity. Listed below are several of the advantages and disadvantages of the portable TERF as compared to the T-Building TERF system.

6.4.2.1 Advantages

1) Portable - readily moved to another job site (at another plant)

2) Can be moved to a different Mound job site for D&D. This portability might assist in more efficient job planning and manpower utilization

6.4.2.2 Disadvantages

1) Does not provide secondary containment to capture tritium released from system by leaks

2) Does not provide secondary containment for the regeneration process when the inherently more dangerous tritiated water is removed from the system

3) Does not provide emergency flow capability, which is required for containing accidental releases which are expected to occur during D&D

Portable TERF systems (as currently designed) do not provide sufficient tritium containment/capture capabilities to be considered for the 1,000-curie case. Portable TERF systems could be cost competitive with the Mound TERF if the DOE were to re-use the portable systems at other D&D sites.

6.5 Applicability of Innovative Technologies and Approaches

The applicability of new, emerging, and innovative technologies and the creative application of existing technologies to the physical D&D activities of the T-Building have been reviewed, and the results are summarized below. Of particular interest are areas where these technologies could reduce costs, shorten schedules, reduce waste, or improve worker safety, environmental protection, and productivity. Special emphasis is placed on reducing significant cost components, such as labor and waste.

Generic classes of physical D&D activities where these technologies may apply include characterization, personnel protective equipment, working environment, monitoring, waste treatment/storage/disposal, decontamination, removal, remote, and containment/confinement/capture.

Although innovative approaches also apply to the planning, management, administration, control and regulation of D&D activities, these areas are being addressed through application of the DOE's new approaches such as "Work Smart, Graded, Integrated, Stakeholder Involvement, and Performance Based" objectives (Reference 6-6).

6.5.1 Emerging Technologies

Emerging technologies (both on a national and international level) in the future may significantly change the currently acceptable standards methods to D&D a tritium facility. This is especially significant in light of several Mound tritium D&D projects being planned, but also for application to other non-Mound tritium facilities. Emerging technology may become more applicable as time goes on and should be re-evaluated during preparation of the decommissioning plan and periodically throughout the D&D process of the T-Building.

6.5.2 Innovative Technologies

Innovative technologies include for example, the application of computerization, utilization of state of the art instrumentation and equipment, use of microwave/high frequency/electrical/sonic/laser/thermal technology, new chemical compounds, microbiotics, and robotics.

6.5.3 Innovative Applications

Innovative applications are processes being utilized in other industries that can be applied to D&D. For example, the use of a medical bacteriological decontamination technique could apply to the decontamination of tritiated organic material.

Such areas as ventilation recycling, air flow reduction, concentration of tritiated water, Personal Protective Equipment (PPE) decontamination, water misting tritium capture, were reviewed and not considered feasible.

6.5.4 Conclusions

In conclusion, there may be promising techniques that may apply to the D&D of the T-Building. Although these techniques might not appear to be cost beneficial if applied only to the T-Building, economy of scale may be reached when the total Mound D&D program is considered. In addition, several of these techniques may be worthy of pilot testing in T-Building prior to the initiation of the physical D&D activities.

6.5.5 Recommendations

After reviewing the T-Building D&D project, the following options are recommended.

- Review the total Mound D&D program for application of new, creative or existing technologies to see if a sitewide economy of scale can be achieved. Use of such processes and centralized facilities as "Super Compaction, Central Decontamination Facility, Metal Smelting, Central Waste Segregation/Size Reduction and Packaging Facility" should be considered.

- Investigate the possibility of an on-site disposal area (possibly T-Building itself) for suspect radioactive and mixed waste that cannot be adequately monitored for unrestricted release yet has a very low potential for containing radioactive or hazardous material above release limits.

7.0 SCHEDULE

Appendix E contains the proposed schedule for Alternative 1 (Immediate D&D for Unrestricted Use) and Alternative 2 (Decay In Place). Physical D&D activities span approximately 8 years for Alternative 1. This segment of work is broken into an initial 7 years of work, followed by a Surveillance and Maintenance (S&M) period during which the SW/R Tritium Complex D&D Project will utilize the TERF. The final year of D&D activities will then be required to remove the TERF. Alternative 2 requires an initial 3 year period of D&D activities, followed by a 3-year purge period through the TERF, one year to remove the TERF, and an institutional control period of 100 years. Scheduling for project management and engineering is expected to be the same for both alternatives.

A phased approach to D&D of T-Building was not investigated during this study because of the required integration with the SW/R Tritium Complex D&D Project. The TERF, located within T-Building, is necessary for purging operations in both projects. Consequently, the controlling path for completion of the T-Building D&D Project is determined by the longer, SW/R Tritium Complex, D&D project.

8.0 PROGRAM SCHEDULE IMPACT ASSESSMENT

The Decontamination and Decommissioning project for the Technical Building can and should be initiated early in order to meet the DOE's goal to release the site as soon as possible. In order to initiate the project early, several constraints must be satisfied.

Funding needs to be made available earlier than planned to accelerate both Safe Shutdown and D&D activities in those areas to be initiated early.

Priority should be placed on providing a dedicated work force for the project. Planning activities could be supplemented with subcontractor support, but initial field physical activities would require the use of a primarily Mound work force (because of security considerations). Later in the D&D process, subcontract support for field activities could be utilized as security requirements lessen.

Impacts to the ongoing tritium processing operations must be minimized until their operations are completed. This will require close coordination of all activities within the T-Building (Operations, Operations Support, Safe Shutdown, Maintenance, and D&D).

To make key areas available earlier than planned, funding will have to be provided to safe shutdown earlier for these areas. The safe shutdown schedule would then be closely coordinated with the accelerated D&D schedule.

Under the 1,000 Ci/year airborne tritium emissions administrative control level criterion, only low potential (for tritium release) D&D operations will be scheduled until processing operations cease and the actual tritium release level decreases from the current 600-800 Curies per year.

In order to proceed, the appropriate DOE and regulatory approvals must be reached early, and other stakeholders informed of the planned removal actions. The project approval process could be accelerated by up dividing the large T-Building D&D project into subprojects (similar to removal actions) to facilitate approval. These subprojects would most likely be: assessment and remediation of low-, medium-, and high-potential areas. These categories could be further broken down into groups of rooms within T-Building.

Applying the graded approach to requirements, the subproject documents would be more succinct, less complex, and would lend themselves to a more timely review and approval.

Specific activities that can be initiated early include:

- Characterization and Assessment
- ES&H, QA, and Waste Management Documentation
- Engineering
- Project Plan
- Decommissioning Plan
- Preparation of Low-Potential and Select Work Packages
- Field Preparations
- Readiness Checklists of the Low-Potential and Select Work Packages
- Removal of Low-Potential Equipment and Services

Areas that can be initiated early include shutdown areas, non-tritium radioactive contamination areas, and hazardous contaminated areas (including asbestos abatement).

9.0 RESOURCE UTILIZATION

9.1 Project Costs

The T-Building D&D total project costs for the major alternatives considered are identified in Volume II. The costs are broken down by major WBS element, with supporting details contained in Volume II. The basis for the estimates are also contained in Volume II and in the Design Basis Document (DBD), which is included in Appendix C.

9.2 Project Schedules

Summary level schedules are included in Appendix E with detailed information contained in Volume II.

9.3 Resource Utilization

Resource utilization is a key to the success of any project. To optimize resources, several parameters need to be considered:

- Internal work force versus subcontract - includes mixture of types of personnel, jurisdictional concerns, potential work stoppages, wage rates (e.g., Davis-Bacon Act versus Service Contract Act), etc.
- Contractual Agreements and Commitments
- Liabilities
- Typical Work Crew Composition
- Internal Constraints includes types of permits required, number and levels required, depth of procedures, special review committees, number of dry runs required, prejob conferences, training, meetings, overseers, special requirements, special procedures, approvals, etc., and the appropriateness and timeliness of these constraints
- Precedents Set includes unwritten work rules (e.g., breaks at a certain time, two-person rule, not my area, etc.)
- Stakeholder Expectations
- Political Influence

- Availability of Work Force - includes pool and competition for resources
- Training and Certification
- Experience - includes both general and specific experience required
- Suitability - for the type of work
- Productivity
- Stability of Funding
- Continuity of Operations
- Project Size, Complexity, and Duration
- Project Scope Uncertainty
- Security and Access Requirements
- Weekly Work Schedule - including 8- versus 10-hour shifts, multi-shifts, 4- to 7-day work week, availability and feasibility of overtime
- Weather and Other Environmental Constraints
- Perform D&D under CERCLA. This would allow the use of the Applicable, Relevant, and/or Appropriate Requirements (ARARs) process which would easily eliminate DOE Orders and Rules which are not applicable. This process would also allow the classification of DOE Orders and Rules into Administrative and Substantive Requirements. Those requirements considered Administrative are not required to be performed under CERCLA as long as the Substantive Requirements are met.

9.4 Resource Utilization Approach Assumed

Based on discussions with DOE and EG&G Mound Applied Technologies (EG&G MAT) personnel and the assumptions included in the May 3, 1996, Integrated Comprehensive Plan (ICP) (Reference 9-1), this estimate utilizes the existing Mound work force for work in any classified areas and for the initial cleanup. This approach would fully utilize the Mound work force on this and other planned D&D projects.

The remaining cleanup and demolition work would be performed on a fixed-price contract awarded to commercial contractors. This approach would best support the DOE's goals, meet stakeholders' interests, and allow the cleanup of T-Building and the Mound site to proceed on a timely and cost beneficial basis.

10.0 WASTE MANAGEMENT

All D&D projects will generate waste that must be disposed. The requirements for acceptance of waste, called Waste Acceptance Criteria (WAC), and the associated packaging requirements for each of the disposal options are defined for Mound's generated waste. Detailed WAC, including certification and packaging requirements, are contained in the Mound Technical Manual MD-81070, *Mound Plant Waste Certification Manual* (Reference 10-2); Technical Manual MD-10332, *D&D Decontamination Procedures* (Reference 10-3); Technical Manual MD-10167, *D&D Operations Procedures* (Reference 10-4).

LLW requirements are identified in NVO-325, *Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements* (Reference 10-5). Envirocare does not have a formal WAC. Mound uses the Envirocare license as guidance for packaging and shipping waste.

TRU Waste requirements are identified in WIPP-120, *Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (Reference 10-6), and in Technical Manual MD-70205, *TRU Waste Management* (Reference 10-7); Technical Manual MD-10203, *Mound WIPP Certification Program for Newly Generated Contact Handled (CH) Transuranic Waste* (Reference 10-8); Technical Manual MD-10332, *D&D Decontamination Procedures*; and Technical Manual MD-10167, *D&D Operations Procedures*.

10.1 Waste Minimization

Waste management begins with waste minimization. Work performed shall be conducted in such a manner as to keep the amount of waste generated as low as realistically possible. In general, the following work practices shall be observed.

- Take into the radiation control area only those materials absolutely required to perform the task.
- Minimize the use of consumable objects such as wrapping plastic, bags, rags, and paper. Use only the amount needed for the job; conserve and re-use whenever possible.

- When possible, wrap equipment and tools in a protective material (plastic sheeting, etc.) to prevent the equipment from becoming contaminated.
- Unpack equipment and tools in a clean area to avoid bringing excess clean material into the contamination area.
- Whenever possible, use tools and equipment identified for radiological work.
- Segregate radioactive waste in the receptacles identified for radioactive waste, not in receptacles intended for non-radioactive material.
- Do not throw non-radioactive waste, or radioactive waste that may be re-used, into radioactive waste containers.
- Segregate compactable material from non-compactable material.
- Place tools in the proper storage location after use.
- Store supplies neatly and out of the contamination area until ready to use.
- Dispose of waste and used protective clothing in proper receptacles.
- Perform daily housekeeping.
- Do not knowingly mix hazardous materials with radioactively contaminated materials.
- Observe the waste packaging procedures identified in MD-81070, *Mound Plant Waste Acceptance Criteria* (Reference 10-1).
- Minimize the use of liquids and activities that will generate potentially contaminated liquid.
- Use the engineered controls to minimize the spread of contamination.
- Observe waste minimization methods whenever possible, provided that they do not compromise the overall safety or potential environmental impact of this project.

10.2 Waste Disposal Acceptance and Packaging Criteria

MD-81070 and MD-10713, User's Handbook: Waste Accountability, Shipping and Packaging (WASP) also provides guidelines to generators of radioactive waste. There is guidance on how to properly identify, characterize, analyze, package, and document radioactive waste streams. To ensure that all applicable Federal and State regulations are followed, MD-81070 should be followed prior to treatment, storage, transportation, and disposal. WAC for all waste expected to be generated by this project are described in MD-81070.

All radioactive wastes will be disposed of at an approved disposal site in accordance with their WAC and disposal requirements. Radioactive waste includes soil, construction and subsurface debris, and sediment contaminated with radioactive material along with gloveboxes, clothing, piping, equipment, etc. All non-hazardous solid waste, as defined by the Resource Conservation and Recovery Act (RCRA), will be disposed of in accordance with Mound Plant solid waste procedures. Mixed waste is combined radioactive waste and hazardous waste and will be disposed of at Envirocare.

10.3 Tritium-Containing Waste

For this engineering study it was assumed that all tritium-containing waste will be placed in one of the Mound standard containers as described in MD-10173. No allowance was made for any special handling of T_2 waste containers to the Nevada Test Site that contain > 1,080 Ci. For waste suspected to outgas, the steel waste container will be placed in the tent and, when filled, welded while in the tent to reduce emissions during packaging. All welds must be dye penetrant tested and sniffed for leaks.

Any waste container that is outgassing must be put into one of the standard Mound steel boxes and welded shut, with the appropriate test performed on the weld.

All process piping and process equipment that has been exposed to tritium should be considered outgassing waste and should be placed into one of the standard steel boxes and welded shut. Waste will be bagged out of gloveboxes rather than passed out through pass boxes.

Other containers than those listed in MD-10173 may become useful for this project.

However, there should be considerable waste that is only suspect or very lightly contaminated. This suspect waste should be placed into the largest container

practicable. Since no outgassing is expected, this type of waste is disposable in larger boxes or Sealand containers.

The WASP computer system will be used for this project. It provides a system of control for the containers, metal drums, liners, and boxes that are available for use in containing radioactive waste. The WASP system will also provide a system of control and data storage for the drums and boxes that have been filled with nuclear waste. The system will provide a listing of empty containers and filled units. All shipping data required by the Nevada burial site will be generated and transmitted to the site via Personal Computer mode. Technical WASP Manual, MD-10713, describes processes and forms necessary for packaging and shipping nuclear waste.

Envirocare can accept tritium-containing waste if it has on average less than 20,000 pCi/g. Because all process equipment and process lines are considered to have contamination greater than this Envirocare limit, all such waste are estimated to be disposed of at the Nevada Test Site.

Because Envirocare has a requirement that any waste product disposed of must be less than 8 inches high, they must size reduce cemented waste drums. There is an additional fee of $65 per hour for this service (approximately $27 per drum).

Mound's Waste Management Group is looking at other ways of processing beta-water. If the water can be absorbed into other media that will hold the water and allow Envirocare to dump the waste form into the disposal pit and compact it there, great savings on disposal will be realized. Not only will the $65 per hour surcharge be saved, they will charge at the soil rate (FY97 $8.86 per cu. ft.) instead of the debris rate (FY97 $18.91 per cu. ft.).

10.4 Nonradioactive Waste

MD-81070, *Mound Plant Waste Acceptance Criteria*, provides guidelines to individuals who generate nonradioactive waste to properly identify, characterize, analyze, package, and document nonradioactive waste streams, ensuring that all applicable Federal and State regulations are followed prior to treatment, storage, transportation, and disposal.

Radiation Protection must certify whether waste containers from controlled areas meet the free release criteria of DOE Order 5400.5.

10.5 Hazardous Waste

Hazardous waste generated during this project will be handled according to MD-81070. The Hazardous Waste Management group has the responsibility for managing hazardous waste at Mound and is the focal point for contact with treatment and disposal sites.

10.6 Mixed Waste

Mixed waste contains both radioactive and hazardous waste components, as defined by the Atomic Energy Act and RCRA, respectively. MD-81070 provides guidelines to properly identify, characterize, analyze, package, and document mixed waste. MD-81070 will be followed during this project.

10.7 Transuranic Waste

If any TRU waste is generated, MD-81070 and MD-10173 will be followed.

11.0 Environmental, Safety, and Health

11.1 Facility Classification

As part of a DOE EM activity, the T-Building and associated D&D operations must be subjected to a series of evaluations for the hazards present. DOE EM-STD-5502-94, Hazard Baseline Determination (Reference 11-1), provides the first step in facility classification. The next evaluation of the facility is based on radiological inventory as directed by DOE STD-1027-92 (Reference 11-2), Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis (Reference 11-1). The Nuclear Facility Requirements for Nuclear Safety as presented in DOE Order 5480.23, Nuclear Safety Analysis Reports (Reference 11-3), is then deemed applicable for the facility. While this document presents a general description of facility classification, the appropriate document (i.e., a Safety Analysis or a SAR) should be reviewed for a more complete discussion.

When "Safe Shutdown" is complete and all accountable tritium has been removed from T-Building and the SW/R Tritium Complex, these facilities will still be classified as "Nuclear Facilities" (refer to DOE-STD-1027-92 for the Nuclear Facility classification establishing a 1,000 curies of releasable tritium inventory threshold) because of the tritium holdup and contamination in the process piping and equipment. This tritium holdup is well known within the tritium processing community. Tritium holdup is normally in two forms, condensable compounds (commonly tritiated ammonia and tritiated water) and tritium gas not released from process equipment such as uranium beds (U-beds), molecular sieve traps, and carbon traps after this equipment has gone through the normal process of regeneration and/or tritium removal.

Extensive discussions about tritium holdup can be found in the Mound document MLM-ML-85-49-004, "Investigation of Tritium Recovery Differences at Mound" (Reference 11-4). Through the use of this document, current knowledge of tritium processing, and interviews with Mound tritium processing personnel, it is estimated that about 100 grams of tritium (25g in T-Building and 75g in SW/R Tritium Complex) will remain in the two tritium complexes after the accountable tritium has been removed. The majority of this will be in U-beds, molecular sieve traps, and carbon traps. The average U-bed will contain about 1g of tritium. The average molecular sieve trap will contain about 4 grams per kilogram of molecular sieve. The average tritium process line carbon trap will contain about 0.5 grams of tritium.

The 75 grams of tritium in the SW/R Tritium Complex would classify it as a Hazard Category II Nuclear Facility at the start of D&D. The 25 grams of tritium in T-Building would classify it as a Hazard Category III Nuclear Facility. The threshold of 30 grams of tritium for a Hazard Category II Nuclear Facility is close to the 25 grams present in the T-Building; therefore, the D&D operations and the impact on facility categorization require consideration. It should be noted that some of the SW/R Tritium Complex tritium will most likely be transferred to T-Building via transfer lines or the TERF lines during the D&D process, thus possibly increasing the tritium inventory in T-Building. The amount of tritium in each of the tritium facilities during D&D will depend on the D&D process and the schedule. However, it is conceivable that the tritium inventory in the T-Building could exceed 30 grams at some point in the D&D process since the expected flow of tritium will be toward the T-Building. It is unlikely that either building can be classified as a Radiological Facility ($<1{,}000$ Ci of tritium) until all the process systems and gloveboxes have been removed.

11.2 Safety and Health

Worker Safety and Health is addressed by the implementation of a variety of regulations, codes, and standards as directed by DOE EM. The role of these requirements is to provide a safe work environment in a variety of functional areas for the D&D activities. The functional areas and governing requirements are summarized in Table 11.2-1. Discussion of the specific sections in the regulations and codes (e.g., 29 CFR 1926.350 for Welding and Cutting) for the T-Building D&D operations are outside the scope of this document and will be developed in more detail as part of the Work Plan and/or Health and Safety Plan in the Detailed Engineering phase for the project. DOE Order 5480.4 (Reference 11-5) presents the mandatory statutory and policy requirements and non-mandatory standards for this project.

Table 11.2-1 Safety and Health

Functional Area	Regulations, Standards, and DOE Orders	Impact
Nuclear Safety	EM-STD-5502-94	Establishes Facility Hazard Classification needs Establishes Nuclear Safety Analysis Report
	DOE Order 5480.23	
Fire Protection	NFPA (Reference 11-6)	Establishes safe operating conditions through the program development and controls for fire sources
	29 CFR 1926 (Reference 11-7)	
Radiation Protection	10 CFR 835 (Reference 11-8	Establishes occupational radiation protection for exposure limits, dosimetry, ALARA implementation and radiological procedures/permits
	DOE Order 441.1 (Reference 11-9)	
	DOE Order 5480.11 (Reference 11-10)	
	DOE RadCon Manual (Reference 11-10)	
Industrial Hygiene and Safety	10 CFR 1910 (Reference 11-11)	Establishes worker hazardous operations requirements (including, but not limited to, PPE, confined space entry and lockout/tagout), hazard communication requirements, and use of protective equipment (other than PPE)
	10 CFR 1926 (Reference 11-7)	
	DOE Order 231.1 (Reference 11-12)	
	DOE O 440.1 (Reference 11-13)	
Training	10 CFR 835 (Reference 11-8)	Establishes training requirements for D&D project workers
	29 CFR 1910 (Reference 11-11)	
Life Safety	NFPA 101 (Reference 11-6)	Establishes Life Safety Codes
Occupational Medical Services	29 CFR 1910(Reference 11-11)	Establishes the requirements for medical services, first aid, and record keeping
Transportation Safety	10 CFR 71 (nuclear) (Reference 11-14)	Establishes requirements of waste materials for packaging, shipment, and disposal
	49 CFR 170-179 (DOT hazardous) (Reference 11-15)	
	DOE Order 460.1 (Reference 11-16)	

If D&D of T-Building is conducted under CERCLA, then the ARARs process is applicable to these mandatory, statutory, and policy requirements and non-mandatory standards for this project. Therefore, only the Substantive Requirements need to be met.

11.3 Environmental Compliance

An environmental compliance strategy for the T-Building D&D will seek to establish that all releases of contaminants from the site are at levels in compliance with the applicable regulations and that any residual contaminants meet site release criteria. Changes in T-Building operations (i.e., D&D activities) may require modification of existing permits to include Best Available Technology to control releases. Major operations for the D&D of the T-Building focus on interior building work and do not involve major demolition activities for the structure. Accordingly, the environmental compliance is geared to controlling D&D activities within individual work areas and directing the airborne materials through a capture system with collection capabilities. Water quality standards for release to groundwater and surface are not included, as D&D activities should not impact these. Monitoring of the groundwater is included as part of the institutional controls for the Decay In Place option. No biological hazards for this D&D activity are considered viable. The recognition and development of the potential hazards for D&D are presented in Section 11.4. The release criteria to the environment are presented in Table 11.3-1.

11.4 Risk Assessment

The risks presented by the decommissioning project are (1) the immediate consequences of an accident and inadvertent release of materials, and (2) the potential impact on the public, environment, and the worker. These risks can be qualitatively assessed for the decommissioning process to identify the potential hazards prior to starting D&D and aid in developing D&D procedures for the life of the D&D project. For the D&D project the risks can be divided into the following three hazard categories:

1) Radiological exposure/release
2) Toxic/hazardous material release/exposure
3) Industrial safety hazards resulting in an undesirable consequence

As a product of the risk assessment, Table 11.4-1 presents the T-Building D&D hazards and their causes, consequence (effect), and measures to prevent or mitigate the hazard. Hazards presented in this table are those having a significant effect on the worker, public, and/or environment. For the D&D activities considered in this study,

releases to surface water and groundwater are not considered credible. Controls, and capture systems will be used for air exhaust systems. Prior to release of contaminated process equipment from T-Building, the contamination will be removed or the process equipment will be containerized. D&D procedures are an example of administrative controls when identified as preventive/mitigative measures. The use of containments and emission controls are examples of engineering controls.

Table 11.3-1 Environmental Compliance

Release Mechanism	Regulations, Standards, and DOE Orders	Implementation
Air (six criteria pollutants including particulates)	40 CFR 50 (Reference 11-17) Ohio Administrative Code (OAC) 3745 (Reference 11-18)	Ensure that airborne releases to the environment are within permissible limits
Air (radiological)	40 CFR 61 (NESHAPS) (Reference 11-14) DOE Order 5400.5 (Reference 11-20)	Ensure that airborne radiological releases to the environment are within permissible limits
Groundwater	40 CFR 141 (Drinking Water regulations) (Reference 11-21) DOE Order 5400.5 (Reference 11-20) OAC 3745 (Reference 11-18)	Determine whether groundwater releases occur and that any possible releases are below acceptable criteria
Waste Materials (Containerized and Free Release)	40 CFR 61 (Asbestos) 49 CFR 171 through 179 DOE Order 5420.2A (LLW) NTS Acceptance Criteria (Reference 11-22) OAC 3745	Ensure that materials are packaged, transported, and disposed of properly

Table 11.4-1 T-Building D&D Hazards

Hazard	Cause	Major Effect	Preventive/Mitigative Measures
Radiological release	Leak from process equipment or glove box	Potential worker external exposure	D&D Procedures Construction of containment PPE TERF Monitoring system Administrative control stop operations

Hazard	Cause	Major Effect	Preventive/Mitigative Measures
		Potential worker internal exposure	D&D Procedures Construction of containment PPE Monitoring system
		Potential release to environment	D&D Procedures Construction of containment TERF Monitoring system
Asbestos	Release from equipment removal	Potential worker internal exposure	D&D Procedures Construction of containment PPE Airborne monitoring system HEPA filtration for exhaust
		Potential worker external exposure	D&D Procedures PPE Airborne monitoring system
Toxicological/hazardous material release	Process Equipment	Potential worker external exposure	D&D Procedures Construction of containment PPE
		Potential worker internal exposure	D&D Procedures Construction of containment PPE
		Potential release to environment	Construction of containment Airborne monitoring system Administrative control stop operations
Industrial (moving parts)	Exposed equipment	Potential worker injury	Preplan review and monitoring of work environs D&D Procedures Engineering controls
Industrial (cutting torch, welders, etc. parts)	Equipment	Potential worker injury	Preplan review and monitoring of work environs D&D Procedures PPE
Industrial (noise)	Equipment	Potential worker injury	Preplan review and monitoring of work environs D&D procedures PPE (as required)

12.0 RECOMMENDATIONS

12.1 Recommended Alternative

Based on the initial comparison of the various alternatives analyzed in this study, the immediate D&D for unrestricted use approach (Alternative 1) is the recommended approach, based on several key issues. These include but are not limited to the following:

- Under Alternative 1, T-Building can be released for unrestricted use by the year 2005. This is not possible with Alternative 2 due to the initial D&D required and the 100-year institutional control period required to allow remaining tritium contamination to naturally decay to currently established free release levels.

- Alternative 1 would be more acceptable to stakeholders because it demonstrates the DOE's commitment to clean up the Mound site.

- Alternative 1 eliminates the long-term risk of the building being breached by "100-year" probable events such as major earthquake or significant exposure to groundwater/surface water and possible releases of tritium to the environment.

- Alternative 1 eliminates a long-term liability to the DOE.

- Based on current process knowledge, T-Building could not be released for unrestricted use for approximately 250 years under an In Situ option such as "Entombment." An assumption from the Design Basis Document states that institutional controls will be considered viable for no more than 100 years. A performance assessment of T-Building would be required to address potential concerns of certain stakeholders over the misconception that T-Building is being "abandoned" by the government.

- To enable the release of T-building for unrestricted use at the end of the decay period, Alternative 2 has D&D activities associated with it. The costs associated with management, engineering, and physical removal of highly contaminated process equipment substantially impact the total cost of this option. Though the total cost of this option is lower than Alternative 1, the difference is not significant.

12.2 Additional Recommendations

Other areas should be further investigated to determine whether additional benefits can be realized.

- Determine the impact of various tritium release quantities per year using risk analysis. High release limits would allow more flexibility for D&D, use of additional waste volume reduction processes, lower schedule interruption risk, and a more timely completion of cleanup of the project and other tritium D&D projects.

APPENDIX A

ACRONYMS

Appendix A
Acronyms

ARARs	Applicable, Relevant, and/or Appropriate Requirements
A/E	Architect/Engineer
CAM	Continuous Air Monitor
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Ci	Curie
D&D	Decontamination and Decommissioning
DBD	Design Basis Document
DOE	United States Department of Energy
DOT	United States Department of Transportation
DP	Defense Program
DS	Development and Standards
ECS	Emergency Containment System
EG&G MAT	EG&G Mound Applied Technologies
EM	DOE Office of Environmental Restoration and Waste Management
ERS	Effluent Recovery System
ES&H	Environmental Safety and Health
FEMP	Fernald Environmental Management Project
HH	Hydrolysis House
HISS	Hydrogen Isotope Separation System
HVAC	Heating, Ventilation, and Air Conditioning
ICP	Integrated Comprehensive Plan
IVC	Independent Verification Contractor
LLNL	Lawrence Livermore National Laboratory
LLW	Low-Level Waste
LSA	Low Specific Activity
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
NTS	Nevada Test Site
OAC	Ohio Administrative Code
OSDF	On-site Disposal Facility
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment

Acronyms (continued)

RBA	Radiological Buffer Area
RCRA	Resource Conservation and Recovery Act
S&M	Surveillance and Maintenance
SNM	Special Nuclear Materials
SW/R	Semi-Works and Research
TEDL	Tritium Engineering Development Laboratory
TERF	Tritium Emissions Reduction Facility
TRU	Transuranic
WAC	Waste Acceptance Criteria
WASP	Waste Accountability Shipping and Packaging
WBS	Work Breakdown Structure

APPENDIX B

REFERENCES

4-1 Parsons, *T-Building, SW/R Tritium Complex and R-Building D&D Pre-Conceptual Engineering Studies*, July 1996.

5-1 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended 42 U.S.C. ξ9601 et. seq.

6-1 U.S. Environmental Protection Agency, 40 CFR 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, as revised December 1993.

6-2 U.S. Department of Energy, DOE Order 6430.1A, *General Design Criteria*, April 1989.

6-3 U.S. Environmental Protection Agency, 40 CFR 265, *Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities*, as revised July 1996.

6-4 U.S. Department of Energy, DOE/EM-142P, *Decommissioning Handbook*, March 1994.

6-5 U.S. Department of Energy, *Final Record of Decision for Remedial Actions at Operable Unit 2*, Fernald Area Office, May 1995.

6-6 U.S. Department of Energy, *Decommissioning Resource Manual*, August 1995e.

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10-1 EG&G Mound Applied Technologies, MD-81070, *Mound Plant Waste Acceptance Criteria*, Issue 4, April 4, 1996.

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10-8 EG&G Mound Applied Technologies, MD-10203, *Mound WIPP Certification Program for Newly Generated Contact Handled (CH) Transuranic Waste*, Issue 6, April 14, 1989.

11-1 DOE-EM-STD-5502-94, *Hazard Baseline Determination*, July 1994.

11-2 DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, "Nuclear Safety Analysis,"* December 1992.

11-3 DOE Order 5480.23, *Nuclear Safety Analysis Reports.*

11-4 MLM-ML-85-49-004, *Investigation of Tritium Inventory Differences at Mound,* September 1985.

11-5 DOE Order 5480.4, *Environmental Protection Safety and Health Protection Standards,* as revised January 1993.

11-6 National Fire Protection Association, *National Fire Codes,* as revised July 1996.

11-7 Occupational Safety and Health Administration, 20 CFR 1926, *Safety and Health Regulations for Construction,* as revised July 1995.

11-8 U.S. Department of Energy, 10 CFR 835, *Occupational Radiation Protection,* December 1993.

11-9 U.S. Department of Energy, DOE Order 441.1, *Radiological Protection for DOE Activities,* September 1995.

11-10 U.S. Department of Energy, *Radiological Control Manual,* April 1994.

11-11 Occupational Safety and Health Administration, 29 CFR 1910, *Occupational Safety and Health Standards,* as revised July 1996.

11-12 U.S. Department of Energy, DOE Order 231.1, *Safety and Health Reporting Requirements,* October 1995.

11-13 U.S. Department of Energy, DOE 440.1, *Worker Protection Management for DOE Federal Contractor Employees,* October 1995.

11-14 U.S. Nuclear Regulatory Commission, 10 CFR 71, *Packaging and Transportation of Radioactive Material,* as revised July 1996.

11-15 U.S. Department of Transportation, 49 CFR 171-179, *Hazardous Material Regulations,* as revised July 1996.

11-16 U.S. Department of Energy, DOE O 461.1, *Packaging and Transportation Safety,* October 1995.

11-17 U.S. Environmental Protection Agency, 40 CFR 50, *National Primary and Secondary Ambient Air Quality Standards,* as revised July 1996.

11-18 State of Ohio, Ohio Administrative Codes, Title 3745, Environmental Protection Agency, *Ohio Ambient Air Quality Standards,* as amended July 1996.

11-19 U.S. Environmental Protection Agency, 40 CFR 61, *National Emissions Standards for Hazardous Air Pollutants,* as revised July 1996.

11-20 U.S. Department of Energy, DOE Order 5400.5, *Radiation Protection of the Public and Environment,* as revised January 1993.

11-21 U.S. Environmental Protection Agency, 40 CFR 141, *National Primary Drinking Water Standards,* as revised July 1996.

APPENDIX C
DESIGN BASIS DOCUMENT (Rev 1)

T-Building, SW/R Tritium Complex and R-Building D&D Pre-Conceptual Engineering Studies

DESIGN BASIS DOCUMENT

July 29, 1996
Revision 1 Draft

EG&G Mound Applied Technologies
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TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

1.1 Document Purpose

This Design Basis Document defines the criteria for design activities associated with Decontamination and Decommissioning (D&D) of the T-Building, SW/R Tritium Complex, and R-Building. The envelope of regulations within which the D&D activities will be conducted is delineated as well.

1.2 Mound

Mound is located on a 306-acre site in southern Montgomery County in southwestern Ohio, within the southern boundary of the Miamisburg city limits. The site is 16 km (10 mi) southwest of Dayton, Ohio, and 50 km (31 mi) north-northeast of Cincinnati, Ohio.

Mound is topographically characterized by two high areas divided by a minor northeast to southwest trending valley that drains to the river. Most of the buildings are located on the northwest high area known as the Main Hill. A few buildings lie on the southeast high area known as the SM/PP Hill. The remainder of the buildings are located on the valley slopes or otherwise interspersed throughout the remaining northern portion of the site.

The main mission of Mound was to manufacture both non-nuclear and nuclear weapon components for nuclear weapons that were assembled at another United States Department of Energy (DOE) site. Currently, ongoing activities at the site are Defense Programs, Nuclear Energy, Facility Disposition, Safe Shutdown, Environmental Restoration (including D&D), and Waste Management. In addition, the Miamisburg Mound Community Improvement Corporation is involved in redevelopment of the site for commercial purposes.

1.3 T-Building

T-Building (172,963 ft^2) is a heavily reinforced underground concrete structure built in 1948. It is located under DS-Building on the Main Hill at Mound. T-Building has

two floors that are each compartmentalized into three general areas by two 30-inch thick reinforced concrete fire walls. The reinforced concrete exterior structure, which has a 15-foot thick roof; 16-foot, 7-inch walls; and an 8-foot, 3-inch floor slab, was designed to withstand a direct hit by a 2,000 pound semi-armor piercing, jet-assisted bomb, or a 2,000 pound general purpose bomb. The original mission of T-Building was to purify polonium-210. However, the building was also used to extract various radionuclides, to house the plutonium verification facility, and to store transuranic (TRU) materials.

Since 1980, a number of tritium handling facilities have been added to the building. One of these is the Tritium Emissions Reduction Facility (TERF). Radionuclides other than tritium which may be present within T-Building include, but are not limited to, isotopes of uranium, plutonium, americium, iron, radium, cadmium, cobalt, cesium, iridium, and strontium.

The boundary for T-Building is considered to be the structures, soil, and utilities contained within the footprint of T-Building and the T-East stack (excluding structures, soil, and utilities associated with DS-Building).

1.4 SW/R Tritium Complex

SW-Building (43,066 ft^2) is a two-story building used primarily for handling tritium. Originally constructed in 1950, the SW-Building has undergone 13 major additions. The SW-Building, along with Building 58 (6,610 ft^2) and one corridor of rooms which houses tritium operations in the adjacent R-Building form the SW/R Tritium Complex. Radionuclides other than tritium which may be present within the SW/R Tritium Complex include, but are not limited to, isotopes of uranium, plutonium, americium, protactinium, radium, radon, and actinium.

The boundary for the SW/R Tritium Complex is considered to be the structures, soil, and utilities contained within the footprint of SW-Building and the SW stack as well as the tritium contaminated laboratory equipment and utilities (within those laboratories) located west of R-Corridor 5 within R-Building.

1.5 R-Building

R-Building is a one-story (55,003 sq. ft.) concrete block and brick building built in 1948, with several additions to the original building over the years. The building contains laboratories for both radioactive and non-radioactive work, offices, and service rooms. Radionuclides present in R-Building include, but are not limited to, uranium, plutonium, americium, protactinium, radium, radon, actinium, and tritium.

2.0 TASK SCOPE

The scope of this task is to conduct an engineering study at a conceptual level of detail which will define the activities necessary to effectively decontaminate and decommission T-Building, the SW/R Tritium Complex, and R-Building.

2.1 T-Building

Several alternative methods to achieve unrestricted release of the T-Building site will be considered during the task. A comparative evaluation of these alternatives will be performed which considers factors such as feasibility, cost, resource requirements, and risk to personnel and the environment. The following subsections describe the alternatives under consideration.

2.1.1 Alternative 1 - Immediate D&D for Unrestricted Use

Immediate D&D for unrestricted use involves removal, packaging, and disposal of all radioactively contaminated equipment and systems from within T-Building, decontamination of interior building surfaces, and/or demolition of structures.

2.1.2 Alternative 2 - Decay in Place

The decay in place alternative involves conducting deactivation activities necessary to place T-Building in a safe and stable condition whereby institutional controls can be implemented for the length of time necessary to allow natural decay of the radioactive materials to unrestricted release levels (in excess of 100 years). This may include removing highly contaminated equipment and systems, upgrading tritium effluent capture systems, sealing entryways, and establishing the long-term surveillance and maintenance (S&M) program.

2.1.3 Other Alternatives

Another alternative will be given consideration during design. This alternative involves minimal D&D (i.e., limited removal of equipment) followed by the air purging of the tritium systems to a tritium capture system for a sufficient period until a 100-year decay period will achieve unrestricted release.

Other alternatives which were considered but not selected and which will be briefly discussed include:

- No Action
- Delayed D&D for Unrestricted Release
- In Situ Disposal
- Others, as appropriate

2.1.4 Surveillance and Maintenance

As appropriate, minimal S&M requirements will be established for the alternatives under consideration. The basis for determining these requirements will be Chapter 4 of the *EM-40 Decommissioning Resource Manual* and the requirements of DOE Order 5480.23, *Nuclear Safety Analysis Reports* by invoking DOE-STD-3011-94.

2.1.5 Impact of Building Hazard Classification

When "Safe Shutdown" is completed and all the accountable tritium has been removed from the building, the facility will still be classified as a "Nuclear Facility" because of the tritium contamination in the process piping and equipment. The building will more than likely contain more than 1,000 Ci of tritium, thus classifying the facility as a Category 3 Nuclear Facility. This study will evaluate the possibility that the facility may contain greater than 30 grams of tritium, which would classify it as a Category 2 Nuclear Facility, and discuss the resulting impacts.

2.2 SW/R Tritium Complex

Several alternative methods to achieve unrestricted release of the SW/R Tritium Complex site have been considered. A comparative evaluation of these alternatives will be performed which addresses factors such as feasibility, cost, resource requirements, and risk to personnel and the environment.

2.2.1 Alternative 1 - Immediate D&D for Unrestricted Use

Immediate D&D for unrestricted use involves removal, packaging, and disposal of all radioactively contaminated equipment and systems from within the SW/R Tritium Complex, decontamination of interior building surfaces, and/or demolition of SW Building. Demolition (if appropriate) of R-Building is not within the scope of the SW/R Tritium Complex study.

2.2.2 Other Alternatives

Other alternatives that will not be addressed beyond a comparative evaluation but which will be briefly discussed include:

- Decay in Place
- No Action
- Delayed D&D for Unrestricted Release
- In Situ Disposal
- Others, as appropriate

2.2.3 Surveillance and Maintenance

As appropriate, minimal S&M requirements will be established for the alternatives under consideration. The basis for determining these requirements will be Chapter 4 of the *EM-40 Decommissioning Resource Manual* and the requirements of DOE Order 5480.23, *Nuclear Safety Analysis Reports*.

2.2.4 Impact of Building Hazard Classification

When "Safe Shutdown" is completed and all the accountable tritium has been removed from the building, the facility will still be classified as a "Nuclear Facility" because of the tritium contamination in the process piping and equipment. The building will more than likely contain more than 1,000 Ci of tritium, thus classifying the facility as a Category 3 Nuclear Facility. This study will evaluate the possibility that the facility may contain greater than 30 grams of tritium, which would classify it as a Category 2 Nuclear Facility, and discuss the resulting impacts.

2.3 R-Building

Several alternative methods to achieve unrestricted release of the R-Building site have been considered. A comparative evaluation of these alternatives will be performed which addresses factors such as feasibility, cost, resource requirements, and risk to personnel and the environment.

2.3.1 Alternative 1 - Immediate D&D for Demolition

Immediate D&D for demolition involves removal, packaging, and disposal of all radioactively contaminated equipment and systems in R-Building, decontamination of interior building surfaces, and demolition of R-Building.

2.3.2 Decontamination to Minimize S&M

Decontamination activities necessary to minimize the facility surveillance and maintenance requirements.

2.3.3 Other Alternatives

Other alternatives that will not be addressed beyond a comparative evaluation but which will be briefly discussed include:

- No action
- Others, as appropriate

2.3.4 Surveillance and Maintenance

As appropriate, minimal S&M requirements will be established for the alternatives under consideration. The basis for determining these requirements will be Chapter 4 of the *EM-40 Decommissioning Resource Manual* and the requirements of DOE Order 5480.23, *Nuclear Safety Analysis Reports*.

3.0 ASSUMPTIONS AND BASIS OF ESTIMATE

3.1 General

The following general assumptions apply to preparation of the engineering studies and cost estimate(s). Other assumptions will be identified and documented during the course of the study.

- The design basis for radioactive particulate emissions is not to exceed Mound's site limit of 10 mrem/year (for inhalation) per NESHAP's 40 Code of Federal Regulations (CFR) Part 61, Subpart H.

- The design basis for the level of off-site tritium emissions at T-Building and the SW/R Tritium Complex is not to exceed 1,000 Ci/year, including accidents. An alternative study will use 10,000 Ci/year as a basis for proposing a cleanup method.

- The cost estimate(s) will be prepared under the assumption that subcontractors will be used for part of the D&D activities after a baseline effort is done by Mound employees.

- Much of the estimate will be prepared without the benefit of reliable characterization data. Therefore, assumed contamination levels will be used based primarily on process knowledge.

- Direct labor rates, escalation rates, and indirect and overhead factors are to be supplied by EG&G MAT Finance.

- Labor and other efficiencies will be developed jointly between EG&G MAT and the Parsons Team.

- The level of detail for the cost estimate(s) will be conceptual as defined in DOE Order 4700.1. The level of accuracy will be -10 percent to +50 percent. Contingency levels will be between 20 percent and 40 percent.

- Safe shutdown will remove all stored material and waste from the facilities.

- Safe Shutdown activities will be completed per the May 3, 1996, "Mound Integrated Comprehensive Plan: DOE Exit Plan."

- Wastes which are "listed wastes" or exhibit characteristics of ignitability, corrosivity, and/or reactivity as determined by 40 CFR 261, Subpart C, will be removed during Safe Shutdown activities.

- The "graded approach" will be assumed in compliance with DOE Orders; DOE Orders are also assumed to be consolidated and streamlined.

- Funding for Fiscal Year 1998 and beyond is not constrained.

- Schedule of D&D activities will be based on the most cost-effective approach within existing parameters.

- Exceptions to DOE Order compliance will be considered, when appropriate.

- United States Environmental Protection Agency (US EPA) and Ohio Environmental Protection Agency (Ohio EPA) involvement will be limited to a review of the D&D Project Plan and approval of the final radiological/chemical verification sampling and results.

- Institutional controls can be assumed for no more than 100 years with a regulatory review of the institutional controls no less frequently than every 5 years.

- Only one classified area will remain after safe shutdown is completed.

- Analysis of the structures has been completed by other studies and only potential future concerns will be identified.

- A Readiness Assessment (utilizing checklists) will be completed prior to D&D. An Operational Readiness Review is not required.

- The existing Safety Analysis Reports will require modification. In addition, Basis for Interim Operations (BIO) Reports will be prepared.

- The BIO Reports will be completed by the completion of Safe Shutdown.

- The intent of the National Environmental Policy Act (NEPA) will be met by following the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

- Monitoring of sectioned tritium lines using an LLNL approach is acceptable.

- Residual volumes (approximately 20 cubic centimeters or less) of oil within vane pumps will not be considered free liquids for packaging and disposal requirements.

- Unnecessary size reduction of equipment is not required for disposal (i.e., thermal diffusion columns).

3.2 T-Building

The following specific assumptions apply to preparation of the T-Building engineering studies and cost estimates.

- The TERF will be operational at the outset of D&D activities.
- The TRU waste currently stored in the T-Building will be removed prior to completion of safe shutdown activities.

3.3 SW/R Tritium Complex

The following specific assumptions apply to preparation of the SW/R Tritium Complex engineering studies and cost estimates.

- R-Building D&D activities considered within the scope of this study do not address the crawlspace, structural removal, removal of utilities, or any soil removal (which are addressed in the following section on R-Building).
- The boundary of the tritium handling portion of R-Building is considered to be those areas to the west of R-Corridor 5.
- The estimate will include the cost of removing the tritium processing equipment and tritium contaminated fixtures, and decontaminating the surfaces of walls, floors, and ceilings.

3.4 R-Building

The following specific assumptions apply to the preparation of the R-Building engineering study and cost estimate.

- The entire crawlspace above the rooms in the original R-Building structure is contaminated from migration. The contamination migrated from the crawlspace above the former radioactive research and development area into the crawlspace above rooms that did not contain radioactive material. Specifically, the existing

firewall was not an effective barrier for contamination because of the many unsealed penetrations and fluctuations in pressure differentials over the years.

- The former contaminated glovebox drains in the floor have been removed during previous D&D efforts. This assumption may change if the study uncovers areas where this might not have happened.

- R-109 contains an underground concrete tank containing tritium contaminated water. The SW/R Tritium Complex project will remove the contaminated water and this project will dispose of the tank itself.

- The D&D project scheduled for R-140 will have been completed prior to this project.

- The D&D project scheduled for SW/R Tritium Complex will have been completed prior to this project. The impact of this not occurring will be addressed.

4.0 REGULATIONS AND REQUIREMENTS

This section includes the envelope of primary regulations which will bound the actual D&D activities. A statement about the rationale for application of each regulation is included if required.

4.1 Federal

- Code of Federal Regulations:

  - 10 CFR 71 - "Packaging and Transportation of Radioactive Material"

  - 10 CFR 830.120 - "Nuclear Safety Management; Contractor and Subcontractor Activities, Quality Assurance Requirements"

  - 10 CFR 835 - "Occupational Radiation Protection"

- 10 CFR 1021 - "Compliance with the National Environmental Policy Act"
- 29 CFR 1910 - "Occupational Safety and Health Standards"
- 29 CFR 1926 - "Safety and Health Regulations for Construction"
- 40 CFR 61 - "National Emission Standards for Hazardous Air Pollutants"
- 40 CFR 141 - "National Primary Drinking Water Regulations"
- 40 CFR 260 - "Hazardous Waste Management System: General"

- Resource Conservation and Recovery Act (RCRA) - Hazardous wastes, as defined by RCRA, are regulated as specified in 40 CFR Parts 260-272. These regulations will govern identification, handling, and disposal of hazardous wastes.
- Federal Facilities Agreement - Agreement between the DOE, US EPA, and Ohio EPA signed in July 1993 on Mound CERCLA cleanup.
- CERCLA - Applicable to removal actions of contaminated soil. Limited application to the D&D of buildings (i.e., review of project plans and approval of final radiological/chemical sampling and verification when D&D is completed).
- National Environmental Policies Act - The intent of NEPA will be met by following the CERCLA process.
- Atomic Energy Act - Governing regulation for D&D of buildings not covered by CERCLA process.
- Toxic Substances Control Act (TSCA) - Asbestos abatement activities are regulated by TSCA as specified in 40 CFR Part 763.

- DOE Orders - The key DOE Orders in accordance with which the D&D activities must be conducted are listed below. Other orders may apply but do not have a significant impact on this engineering study. Note: DOE Orders are being replaced by Code of Federal Regulations.

  - DOE Order 1540.1, *Material Transportation and Traffic Management* - Applicable to transportation of wastes.

  - DOE Order 1540.2, *Hazardous Material Packaging for Transport* - Applies to packaging of waste.

  - DOE Order 4700.1, *Project Management* - Determines project engineering requirements.

  - DOE Order 5400.1, *General Environmental Protection Program* - This order defines the unrestricted release criteria for radiological contaminants.

  - DOE Order 5400.4, *Comprehensive Environmental Response, Compensation, and Liability Act.*

  - DOE Order 5400.5, *Radiation Protection of the Public and Environment* - to be replaced by 10 CFR 834.

  - DOE Order 5480.11, *Radiation Protection for Occupational Workers.*

  - DOE Order 5480.23, *Nuclear Safety Analysis Reports* - Determines facility hazard classification.

  - DOE Order 5480.3, *Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Waste* - Applies to waste generation.

- DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization.*
- DOE Order 5700.6C, *Quality Assurance* - Determines quality requirements.
- DOE Order 5820.2A, *Radioactive Waste Management* - This order establishes the policies, guidelines, and requirements by which the DOE manages its radioactive and mixed waste and contaminated facilities.
- DOE Order N-4700.7, *Project Control System Guidelines.*
- DOE Order N450.3, *Use of the Necessary and Sufficient Process.*
- DOE Order 6430.1A, *General Design Criteria.*
- DOE/EH-02567, *Radiological Control Manual* - Though not an order, this guidance was superseded by the requirements of 10 CFR 835.

4.2 State of Ohio

The D&D process will be implemented following the intent of the documents listed below.

- Federal Facilities Agreement - Agreement between the DOE, US EPA, and Ohio EPA signed in July 1993 on Mound CERCLA cleanup.

4.3 Mound

The D&D process will be implemented following the intent of the manuals and procedures listed below:

- MD-10019, *Radiological Control Manual*
- MD-10167, *D&D Operations Procedures*

- MD-10173, *User's Handbook: Waste Accountability Shipping and Packaging*
- MD-10286, *Mound Safety and Hygiene Manual*
- MD-10332, *D&D Decontamination Procedures*
- MD-10396, *Overall Sampling and Analysis Plan for Packaged Waste Generated from D&D Project(s) Sites*
- MD-10397, *Specific Sampling and Analysis Plan for Packaged Waste Generated from D&D Project(s) Sites*
- MD-20209, *Health Physics Procedures, SW Building*
- MD-21835, *Health Physics Precautions, Technical Building*
- MD-22130, *Low-Level Radioactive Material Characterization*
- MD-22153, *Mound Site Radionuclides by Location, Issue 1*
- MD-70180, *Mound Radioactive Liquid Waste Disposal*
- MD-80036, *Radiological Operations Procedures*
- MD-81010, *Mound Plant Application to Ship Waste to the Nevada Test Site*
- MD-81020, *Mound Plant Waste Certification Program Plan*
- MD-81040, *Waste Certification Procedures Manual*
- MD-81070, *Mound Plant Waste Acceptance Criteria*

- MD-81240, *Low-Level Radioactive Management Operations*

- MD-_____, *Mound Design Criteria Guide*

4.4 Mound System Manuals

The D&D process will be implemented following the intent of the manuals listed below:

- System Manual 804, *Project Management*
- System Manual 820, *D&D Program Management*

4.5 Other

- NVO 325, *Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements*

- EnviroCare Waste Acceptance Criteria

5.0 RELEASE CRITERIA

5.1 Radiological Release Criteria

The primary radioactive contaminant of concern is tritium (^3H) for T-Building and SW/R Tritium Complex and plutonium-238 for the remaining R-Building area. Allowable residual radioactive surface contamination is defined in DOE Order 5400.5 and in subsequently released implementation guidance for tritium. This guidance recommends the use of 10,000 dpm/100 cm^2 as the tritium limit for residual removable surface contamination. Consistent with the As Low As Reasonably Achievable concept, Mound has adopted an administrative surface release limit for removable tritium contamination of 1,000 dpm/100 cm^2. The 1,000 dpm/100 cm^2 criterion will be used as the design basis. The impact of the recommended release limit of 10,000 dpm/100 cm^2 will be evaluated. Table 5-1 lists radioactive release criteria for residual surface contamination.

Table 5-1. Allowable Total Residual Surface Activity (dpm/100 cm^2)[1]

Radionuclides[2]	Average[3/4]	Maximum[4/5]	Removable[6]
Group 1 - Transuranics, I-125, I-129, Ac-227, Ra-226, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2 - Th-natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1000	3000	200
Group 3 - U-natural, U-235, U-238, and associated decay products, alpha emitters	5000	15000	1000
Group 4 - Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous[7] fission) except Sr-90 and others noted above	5000	15000	1000
Tritium (applicable to surface and subsurface)[8]	N/A	N/A	10000

Notes

1 As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

2 Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

3 Measurements of average contamination should not be averaged over an area of more than 1 m^2. For objects of smaller surface area, the average should be derived for each such object.

4 The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm.

5 The maximum contamination level applies to an area of not more than 100 cm^2.

6 The amount of removable material per 100 cm^2 of surface area should be determined by wiping an area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. It is not necessary to use wiping techniques to measure removable contamination levels if direct scan surveys indicate that the total residual surface contamination levels are within the limits for removable contamination.

Table 5-1. Allowable Total Residual Surface Activity (dpm/100 cm^2) (continued)

[7] This category of radionuclides includes mixed fission products, including the Sr-90 which is present in them. It does not apply to Sr-90 which has been separated form the other fission products or mixtures where the Sr-90 has been enriched.

[8] Property recently exposed or decontaminated should have measurements (smears) at regular time intervals to ensure that there is not a build-up of contamination over time. Because tritium typically penetrates material it contacts, the surface guidelines in group 4 are not applicable to tritium. The Department has reviewed the analysis conducted by the DOE Tritium Surface Contamination Limits Committee ("Recommended Tritium Surface Contamination Release Guides," February 1991), and has assessed potential doses associated with the release of property containing residual tritium. The Department recommends the use of the stated guideline as an interim value for removable tritium. Measurements demonstrating compliance of the removable fraction of tritium on surfaces with this guideline are acceptable to ensure that non-removable fractions and residual tritium in mass will not cause exposures that exceed DOE dose limits and constraints.

5.2 Asbestos Release Criteria

Asbestos abatement activities are regulated by the TSCA as specified in 40 CFR Part 763. Removal of and demonstration that the presence of friable asbestos has been eliminated is to be conducted in accordance with these regulations.

Friable asbestos material refers to asbestos containing material which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

5.3 Hazardous Materials Release Criteria

Hazardous wastes are regulated by RCRA. Waste materials can be considered hazardous only if they are a "listed waste" or exhibit a hazardous waste characteristic (40 CFR 261). A waste is considered a hazardous waste if it exhibits any characteristics of ignitability, corrosivity, reactivity, or toxicity as defined by 40 CFR 261, Subpart C.

None of the waste collected during D&D activities is expected to meet the criteria for ignitability since:

- There are no free non-aqueous liquids containing less than 24 percent alcohol by volume with a flash point less than 60 degrees C.

- There are no solids capable of causing fire through friction under standard temperature and pressure conditions.

- There are no ignitable compressed gases.

- There are no oxidizers as defined by 49 CFR 173.151.

None of the waste collected during D&D activities is expected to meet the criteria for corrosivity since:

- There are no aqueous liquids with a pH less than or equal to 2 or greater than or equal to 12.5.

- There are no liquids which corrode steel at a rate greater than 6.35 mm per year at a test temperature of 55 degrees C.

None of the waste collected during D&D activities is expected to meet the criteria for reactivity since:

- There are no wastes normally unstable which readily undergo violent change without detonating.

- There are no wastes which react violently with water.

- There are no wastes which form potentially explosive mixtures with water.

- There are no cyanide or sulfide bearing wastes which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

- There are no wastes capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement.

Table 5-2. Toxicity Characteristic Constituents and Regulatory Levels

Contaminant	Level* (mg/L)	Contaminant	Level* (mg/L)
Arsenic	5.0	Barium	100.0
Benzene	0.5	Cadmium	1.0
Carbon tetrachloride	0.5	Chlordane	0.03
Chlorobenzene	100.0	Chloroform	6.0
Chromium	5.0	o-Cresol	200.0
m-Cresol	200.0	p-Cresol	200.0
Cresol	200.0	2,4-D	10.0
1,4-Dichlorobenzene	7.5	1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7	2,4-Dinitrotoluene	0.13
Endrin	0.02	Heptachlor (and its epoxide)	0.008
Hexachlorobenzene	0.13	Hexachlorobutadiene	0.5
Hexachloroethane	3.0	Lead	5.0
Lindane	0.4	Mercury	0.2
Methoxychlor	10.0	Methyl ethyl ketone	200.0
Nitrobenzene	2.0	Pentrachlorophenol	100.0
Pyridine	5.0	Selenium	1.0
Silver	5.0	Tetrachloroethylene	0.7
Toxaphene	0.5	Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0	2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0	Vinyl chloride	0.2

*Based on TCLP method of analysis

- There are no wastes which are "forbidden explosives" as defined in 49 CFR 173.51, or Class A explosives as defined in 49 CFR 173.53, or Class B explosives as defined in 49 CFR 173.88.

The toxicity characteristic is the only reasonable characteristic that may be exhibited. The wastes would exhibit the toxicity characteristic if toxicity characteristic leaching procedure (TCLP) testing indicates the presence of one or more compounds in Table 5-2 at or above the listed regulatory level. If process history indicates that there is a potential presence of the listed substances, it must be analytically demonstrated that the regulatory threshold is not exceeded.

6.0 RESTORATION CRITERIA

This section provides the basis for defining the restoration requirements for T-Building and the SW/R Tritium Complex under each decommissioning alternative.

6.1 T-Building

Restoration will be minimal and limited to the extent necessary to ensure the basic health and safety of the public. No future re-use will be provided for.

6.2 SW/R Tritium Complex

Restoration will be minimal and limited to the extent necessary to ensure the basic health and safety of the public. No future re-use will be provided for. If the building is demolished, restoration will be limited to reshaping and reseeding the excavation site.

6.3 R-Building

Restoration will be minimal and limited to the extent necessary to ensure the basic health and safety of the public. No future re-use will be provided for. If the building is demolished, restoration will be limited to reshaping and reseeding the excavation site.

7.0 WASTE ACCEPTANCE CRITERIA

This section states where the D&D waste from this project will be disposed of and what approved waste packaging containers are applicable.

7.1 Non-Radioactive Waste

Disposition using currently approved commercial off-site locations.

7.2 Mixed Waste

Disposition using future approved DOE or commercial off-site locations.

7.3 Low-Level Radioactive Waste

Nevada Test Site or EnviroCare, as appropriate. Classified low-level radioactive waste will be sent to the Nevada Test Site.

7.4 Contact Handled-Transuranic Waste

Not applicable as no TRU waste is expected to be generated.

8.0 REFERENCES

1. United States Department of Energy, August 1995. *Decommissioning Resource Manual.* DOE/EM-0246.

2. United States Department of Energy, March 1994. *Decommissioning Handbook.* DOE/EM-0142P.

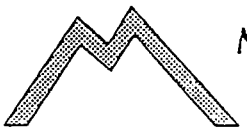
APPENDIX A

ACRONYMS

Appendix A
Acronyms

BIO	Basis for Interim Operations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Ci	curies
cm	centimeter
D&D	Decontamination and Decommissioning
DOE	United States Department of Energy
dpm	disintegrations per minute
ft	feet
mm	millimeter
NEPA	National Environmental Policy Act
Ohio EPA	Ohio Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
RCRA	Resource Conservation and Recovery Act
S&M	Surveillance and Maintenance
TCLP	Toxicity Characteristic Leaching Procedure
TERF	Tritium Emissions Reduction Facility
TRU	Transuranic
TSCA	Toxic Substances Control Act
US EPA	United States Environmental Protection Agency

APPENDIX D
1,000-CURIE RELEASE LIMIT LABOR STANDARDS



Mound Technical and Environmental Services, Inc.

Labor Standards for D & D Estimate
(1,000 curie case)

FINAL DRAFT 7/18/96

As part of determining the D & D cost estimate for the tritium facilities at Mound labor standards and tentative work practices were developed. The work practices were developed assuming that the total release of tritium from Mound during the D & D effort would be less than 10,000 curies per year. This release limit would allow the D & D work to proceed with 3-4 D & D teams working in the SW/R Tritium Complex and 3-4 D & D teams working in T-Building. The Final Draft of this report was released on 6/17/96[1]. Recently we were asked to determine the D & D cost for the T-Building and the SW/R Tritium Complex assuming a 1,000 curies per year of tritium release limit (Mound total) during the D & D effort. This is a considerable challenge because the tritium released from Mound for 1995 was 770 curies. To date, the 1996 tritium releases are a little smaller on a month by month basis, but not significantly smaller.

Reducing the potential tritium releases as compared to the 10,000 curies per year case can be accomplished by several methods including: reducing the amount of D & D work done in a year, increasing the cleanup of the contaminated systems prior to disassembly, increasing the tritium confinement efforts during D & D, and increased training of the D & D workers. Each of the items will increase cost and extend the

(1) "Checksheets, Work Packages, and Labor Standards for D & D Estimate, FINAL DRAFT", 6/17/96, 10,000 curie case.

schedule.

Several changes will be made in the processes as compared to the 10,000 curie case in order to reduce the tritium emission during the D & D process. These include the following:

1. Each D & D team will be provided with additional training (approximately 1 month) which will concentrate on practical hands-on operations with equipment, gloveboxes, and process equipment which has never been exposed to radioactive materials. This training could take place in T-20 or T-8.
2. Potential major residual tritium sources such as U-beds, molecular sieve traps, and carbon traps (and other items which could have "heels") would be removed early in the project.
3. The gloveboxes would be purged to the TERF/ERS with (room) air. The length of time of the purge would be longer, as compared to the 10,000 curie case. Moist warm (above room temperature) air should be studied (not part of this cost estimate) as a potential purging candidate to enhance the tritium removal.
4. Trash would be "bagged out" of gloveboxes rather than using pass boxes to reduce tritium emissions.
5. The shipping containers would be placed in the tents, filled up and then sealed to reduce emissions during the packaging. This would result in an increase in the size of tent required for each job and an increase in the amount of decontamination required of the shipping containers[2].

(2) Labor to place the shipping container in the tent, weld it shut, and remove it from the tent is not included in the "labor standards".

Additional contaminated waste would be generated because of the bigger tents and by the decontamination efforts on the shipping containers.

6. The full capacity of the TERF/ERS would be used on tent operations during the day to reduce the chance of tritium diffusing into the room and then up the stack. Essentially the full capacity of the TERF/ERS would be used during the off hours to purge the process piping and the glove boxes.

7. Additional cleaning of the interior of the gloveboxes and the equipment inside by scrubbing with a cleaner such as "Grease-B-Gone", as was used in the SW-142 clean-up[3]. For the SW-142 operation the scrubbing reduced contamination and generated additional waste. Box purging was conducted during and after the scrubbing of the interior of the gloveboxes. The interior of some gloveboxes was foamed with "Froth-Pack" to contain oil and to some extent retard the outgasing from tritium contamination.

(3) "Decontamination and Decommissioning of Room 142 in SW Building", by L. R. Kent, presented at the JOWOG 12A Meeting held at Livermore, CA 11/17/92.

LABOR HOURS FOR GLOVEBOX/FUMEHOOD BY COMPLEXITY/CONTAMINATION
(unencumbered labor hours - 1,000 Ci case)

LOW LEVEL GLOVEBOX/FUMEHOOD

Air Purge process piping = Ten day air purge to cleanup. 10% require repurge after line break and monitor check.

Crew

lead technician	process technician
mechanic	pipe fitter
electrician	R C technician
decontamination worker	

Crew hours

lead technician	7 hours
process technician	28
mechanic	9
pipe fitter	11
electrician	3
R C technician	4
decon. worker	6
repurge glovebox (P T)	20

Special labor(1)

Box removal

mechanic (2 each - buddies)	32
R C technician (2)	16
decon. worker	16

Volume of waste from glovebox/fume hood in excess of special items - 3 55-gal. drums

Notes

(1) Tent and bubble suits required for disconnect and removal of glovebox/fumehood. Bag out all trash - do not use pass boxes. Seal trash in shipping container in tent. Tent exhausted to TERF/ERS at high purge rate.

Includes labor to disconnect box/fumehood, reseal with metal blanks. Does not include the labor to seal in a shipping container within the tent.

Materials List

plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
Bubblesuits (8)	metal blanks to seal box	
paper		

LABOR HOURS FOR GLOVEBOX/FUMEHOOD BY COMPLEXITY/CONTAMINATION
(unencumbered labor hours - 1,000 Ci case)

MEDIUM LEVEL GLOVEBOX/FUMEHOOD

Air Purge process piping = 24 day purge to cleanup. 30% require repurge after line break and monitor check.

Crew

lead technician	process technician
mechanic	pipe fitter
electrician	R C technician
decontamination worker	

Crew hours

lead technician	7 hours
process technician	48
mechanic	18
pipe fitter	22
electrician	5
R C technician	8
decon. worker	12
repurge glovebox (P T)	25

Special labor(1)

Box removal

mechanic (2 each - buddies)	32
R C technician	16
decon. worker	24

Volume of waste from glovebox/fume hood in excess of special items - 5 55-gal drums

Notes

(1) Tent and bubble suits required for disconnect and removal of glovebox/fumehood. Bag out all trash - do not use pass boxes. Seal trash in shipping container in tent. Tent exhausted to TERF/ERS at high purge rate.

Includes labor to disconnect box/fumehood, reseal with metal blanks. Does not include labor to seal in a shipping container within the tent.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
tent	paper	Bubblesuits (8)
metal blanks to seal box		

LABOR HOURS FOR GLOVEBOX/FUMEHOOD BY COMPLEXITY/CONTAMINATION
(unencumbered labor hours - 1,000 Ci case)

HIGH LEVEL GLOVEBOX/FUMEHOOD

Air Purge process piping = Four week air purge to cleanup. 50% require repurge after line break and monitor check.

Crew

lead technician	process technician
mechanic	pipe fitter
electrician	R C technician
decontamination worker	

Crew hours

lead technician	14 hours
process technician	82
mechanic	22
pipe fitter	40
electrician	7
R C technician	16
decon. worker	24
repurge glovebox (P T)	30

Special labor(1)

Box removal

mechanic (2 each - buddies)	32
R C technician	16
decon. worker	32

Volume of waste in excess of special items from glovebox/fumehood - 8 55-gal. drums

Notes

(1) Tent and bubble suits required for disconnect and removal of glovebox/fumehood. Bag out all trash - do not use pass boxes. Seal trash in shipping container in tent. Tent exhausted to TERF/ERS at high purge rate.

Includes labor to disconnect box/fumehood, reseal with metal blanks. Does not include labor to seal in a shipping container within the tent.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
metal blanks to seal box	paper	Bubblesuits (8)
tent		

LABOR HOURS FOR U-BEDS
(unencumbered labor hours - 1,000 Ci case)

Air Purge process piping = One week purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
R C technician
decontamination worker
electrician

Crew hours

lead technician	4 hours
process technician	46
pipe fitter	8
electrician	2
repurge glovebox (P T)	8

Special labor(1)

mechanic (2 each - buddies)	16
R C technician (2)	16
decon. worker	24

Notes

(1) Tent, floor papered, and bubble suits required for disconnect and removal of U-bed. High tent exhaust to the TERF/ERS.

Does not include labor to seal U-bed in shipping container within tent.

Assume that accountable tritium has been removed - the process technician's hours include the work time for the oxidation and purge of the U-bed.

U-beds weighs about 130 lbs. U-bed is probably mixed waste.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
tent	paper	Bubblesuits (4)

LABOR HOURS FOR VANE PUMPS
(unencumbered labor hours - 1,000 Ci case)

Air Purge process piping = One week purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
R C technician
decontamination worker
electrician
welder

Crew hours

lead technician	4 hours
process technician	20
pipe fitter	4
mechanic	4
decon. worker	12
electrician	2
R C technician	4
repurge glovebox (P T)	8
welder (seal in container)	2

Notes

Seals pump in shipping container within tent. High exhaust to TERF/ERS.

Shipping container (with absorbent added) needed for job

Oil left in pump - pump plugged, sealed, and bagged.

Pump disassembled and sealed in glovebox. Pump passed out through gloveport. Motor and base removed as part of box hardware.

Fully assembled pump weighs about 150 lbs.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves

Bubblesuits 3

LABOR HOURS FOR ROUGH PUMPS
(unencumbered labor hours - 1,000 Ci case)

Air Purge process piping = Nine day purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
R C technician
decontamination worker
electrician
welder

Crew hours

lead technician	4 hours
process technician	22
pipe fitter	6
mechanic (remove oil - cap and seal 1402's)	5
repurge glovebox (P T)	8

Special labor(1)

mechanic (2 each - buddies) (remove pump - place in weldable container)	8
decon. worker	24
R C technician (two needed on job)	8
welder (seal in container)	3

Notes

(1) Tent, floor paper, and bubble suits required for disconnect and removal of rough pumps. Window removed to remove pump and then replaced. High exhaust to TERF/ERS.

Seals pump in container within tent (welded container - with absorbal)

Weight of Welch 1402K 185 lbs
Weight of other pumps 100 lbs

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (3)	window seal
tent		

LABOR HOURS FOR MOLECULAR SIEVE TRAPS
(unencumbered labor hours 1,000 Ci case)

Air Purge trap and heat — Nine day purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
R C technician
decontamination worker
electrician
welder

Crew hours

lead technician	4 hours
process technician (1)	30
pipe fitter	4
repurge glovebox (P T)	8

Special labor (2)

pipe fitter (2 each - buddies) (caps (and seal trap, removes trap - places in weldable container)	10
decon. worker	24
R C technician (two needed on job)	8
welder (seal in container)	3

Notes

(1) Process technician heats, air purges, and then heats and air purges trap for nine days before removal.

(2) Tent, floor paper, and bubble suits required for disconnect and removal of traps. High exhaust on tent to TERF/ERS.

Seals trap in container within tent

Shipping container needed (welded container)

Average trap 0.5 ft by 0.5 ft by 1 ft - estimated weight 10 lbs..

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (3)	window seal
tent		

LABOR HOURS FOR CARBON TRAPS
(unencumbered labor hours - 1,000 Ci case)

Air Purge process piping = Nine day purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
R C technician
decontamination worker
electrician
welder

Crew hours

lead technician	4 hours
process technician (1)	30
pipe fitter	4
repurge glovebox (P T)	8

Special labor(2)

pipe fitter (2 each - buddies) (cap and seal trap, removes trap - place in weldable container)	10
decon. worker	24
R C technician (two needed on job)	8
welder (seal in container)	3

Notes

(1) Process technician heats, air purges, and then heats and air purges trap for nine days before removal.

(2) Tent, floor paper, and bubble suits required for disconnect and removal of traps. High exhaust to TERF/ERS.

Seals trap in container within tent

Shipping container needed (welded container)

Average trap is 1 ft by 1 ft by 2 ft - estimated weight 10 lbs.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (3)	window seal
tent		

LABOR HOURS FOR REMOVING ONE MASS SPEC. CAPILLARY LINE - T-BLD
(unencumbered labor hours - 1,000 Ci case)

Air Purge capillary — One week purge. 10% require repurge after line break and monitor check.

Crew

lead technician
process technician
pipe fitter
welder
R C technician
decontamination worker

Crew hours

lead technician	3 hours
process technician	12

Special labor(1)

decon. worker	16
pipe fitter (2 each - buddies)	8
R C technician	4
welder	2

Notes

(1) Tent with high exhaust to ERS/TERF, paper floor, and bubble suits required for disconnecting and welding of capillary.

Purge capillary with air for one week. Cut and weld capillary at both ends and pull. Roll and then seal (weld) in container in tent. Average capillary is stainless steel with 1/8 inch OD and 120 feet long.

Cut and weld capillaries at (above) the glovebox end first. Cut and weld capillaries on the "trees" in mass spectrometer rooms. Remove all material from glovebox or fumehood. Decon glovebox or fumehood to levels that allow the capillaries to be pulled without the use of a bubble suit but in a tent exhausted at high rate. Pull the capillary with "come along".

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (2)	

LABOR HOURS FOR REMOVING ONE MASS SPEC CAPILLARY LINE - SW/R-BLD
(unencumbered labor hours - 1,000 Ci case)

Air Purge capillary — One week purge. 10% require repurge after line break and monitor check.

Crew

lead technician
process technician
pipe fitter
welder
R C technician
decontamination worker

Crew hours

lead technician	3 hours
process technician	14

Special labor(1)

decon. worker	16
pipe fitter (2 each - buddies)	18
R C technician	9
welder	3

Notes

(1) Tent with high exhaust to TERF/ERS, paper floor, and bubble suits required for disconnect and weld capillary. High exhaust on tent.

Weld capillary at both ends and pull. Roll and place in shipping container that can be welded. Average capillary is stainless steel with 1/8 inch OD and 120 feet long.

Cut and weld capillaries at (above) the glovebox end first. Cut and weld capillaries on the "trees" in mass spectrometer rooms. Remove all material from glovebox or fumehood. Decon glovebox or fumehood to levels that allow the capillaries to be pulled without the use of a bubble suit. Pull the capillary with "come along". Pull, roll, and seal in container in a tent that is exhausted at high rate to TERF/ERS.
Many SW/R capillaries are in heavy wall conduit - more effort needed to pull than those in T-Building. Many will require assistance at "junction boxes". Tent the junctions box in case capillary breaks.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (2)	

LABOR HOURS AVERAGE FOR GLOVEBOX PRESSURE CONTROL SYSTEM
(unencumbered labor hours - 1,000 Ci case)

Air Purge process piping = One week purge. 30% require repurge after line break and monitor check.

Crew

lead technician
process technician
mechanic
pipe fitter
welder
R C technician
decontamination worker

Crew hours

lead technician	8 hours
process technician	14
repurge box (P T)	4

Special labor(1)

decon. worker	16
pipe fitter (2 each - buddies)	10
R C technician (2)	10
welder	3

Notes

(1) Tent, paper floor, and bubble suits required for disconnect and removal of system (cap holes left on glovebox after removing system for purging). Last system removed from glovebox. Purging capability removed with this operation. High purge on tent to TERF/ERS.

Seals (welds) system in container within tent.

Shipping container needed (welded container).

Average system has four 3.5 ft pieces of tubing removed and capped. Average system will fill 3 55-gal drums with control valves, gauges, etc. Average system will outgas.

Maintain flow to TERF/ERS

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (3)	tent

LABOR HOURS FOR BUBBLERS
(unencumbered labor hours - 1,000 Ci case)

Crew

lead technician
process technician
mechanic
pipe fitter
welder
R C technician
decontamination worker

Crew hours

lead technician	4 hours
process technician	14
repurge box (P T)	8

Special labor(1)

decon. worker	16
pipe fitter (2 each - buddies)	10
R C technician	6
welder	3

Notes

(1) Tent, paper floor, and bubble suits required for disconnect and removal of bubbler (cap bubbler hole on glovebox after removing bubbler for purging). Warning - removing a safety system. High purge to TERF/ERS

Seals (welds) bubbler in container within tent.

Shipping container needed (welded container, absorbal - assume bubbler is 1 ft by 1 ft by 1.5 ft and weighs 20 lbs when ready to place into the shipping container).

One gallon of tritium contaminated oil in bubbler which will be "solidified" in place with absorbal.

Materials List

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (3)	tent
absorbal		

LABOR HOURS FOR REMOVAL OF ERS, ROUGH VACUUM, AND BUBBLER LINES
PER FOOT
(within the buildings - unencumbered labor hours - 1,000 Ci case)

Lines have been purged for one week and are under suction. Line is cut and capped with a valve assembly. The line is lowered and allowed to drain toward the low end for one day. After one day the line is checked for oil and the oil removed. All cuts and line checks are done in a bubble suit within a tent, and paper on floor. High tent exhaust to TERF/ERS. ERS line cuts can have from no oil up to about a quart. For the estimate assume that about 100 cc of mixed waste oil (heavy metal and tritium) will be removed per 21 feet of ERS line. Assume no oil in bubbler lines, however use of bubble suits and draining procedures is to be used in the estimate due to potential of tritiated oil. The 21 ft line was assumed to be an "average" length.

For a 21 foot piece of pipe the following effort will be required assuming the pipe is cut into 3.5 foot lengths (6 cuts). The 3.5 foot sections will outgas and are to be capped/sealed. The 3.5 foot sections are placed in 4 foot wide containers that can be welded shut. Welding done as part of waste packaging.

Crew

lead technician
process technician
R C technician
pipe fitter

Crew Labor (1)	HOURS PER FOOT
lead technician	0.2
process technician (for purging)	0.5
R C technician (2)	0.5
pipe fitter (2 each - buddies)	0.5
decon worker	0.2

Notes

(1) Bubble suits required. Tent with high exhaust to TERF/ERS. Pipe to be welded in 4 ft. wide shipping container that contains the outgasing and is in the tent. Shipping container is welded in tent.

Maintain flow to TERF/ERS.

Materials List per 21 feet of line

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (2)	

LABOR HOUR FOR REMOVAL OF ERS AND TRANSFER LINES BETWEEN T AND SW/R
PER FOOT - unencumbered labor hours - 1,000 Ci case

Lines have been purged for seven days and are under suction at approximately 1 CFM. Line is cut and checked for oil and the oil removed. All cuts and line checks are done in a bubble suit. For a 21 ft. piece of pipe the following effort will be required assuming the pipe is cut into 3.5 ft. lengths (6 cuts). The 3.5 ft. sections will outgas and are to be capped/sealed.

The tunnel and the pit will be reworked so that the air flow is toward T-Building and is to be the confinement system (tent) for the job. Use the full capacity of the TERF (less the 1 CFM for suction on the line being cut). All other operations requiring TERF will be stopped. This operation should be the last job conducted except for the TERF system and the T-Building tritiated water packaging system (if it is installed).

Crew

Lead technician	Process technician
R C technician	Pipe fitter
mechanic	heavy equipment operator

Crew Labor (1)

	HOURS PER FOOT
lead technician	0.6
process technician (for purging)	1.5
R C technician	1.5
pipe fitter (buddies)	1.5
decon worker	0.6

Confined space and rigging for OSHA

mechanic	0.8
heavy equipment operator	0.6

Notes

(1) Bubble suits and papered pit floor required.

Pipe to be sealed in shipping container that contains outgasing.

Lower pieces of pipe to bottom of pit. Remove after individuals in bubble suits are out of the way. Pipe to be welded in 4 ft. wide shipping container that contains the outgasing and is in a "tent". Use the "head house" as the tent for the pit. Air flow to the T-Building West stack (R building stack) needs to be blocked off for this operation because flow could upset "tent operation". Air flow for TERF would be supplied by T-Building east stack modifications.

Materials List per 21 feet of line

Plastic bags	plastic tape	duct tape
Cajon blind glands	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
paper	Bubblesuits (6)	

LABOR HOURS FOR REMOVAL OF TRITIUM TRANSFER LINES
PER FOOT
(within the buildings - unencumbered labor hours - 1,000 Ci case)

Lines have been purged for one week and are under suction. Line is cut and capped. All cuts and line checks are done in a bubble suit within a tent, and paper on floor. High tent exhaust to TERF/ERS on tent. The 21 ft line was assumed to be an "average" length.

For a 21 foot piece of pipe the following effort will be required assuming the pipe is cut into 3.5 foot lengths (6 cuts). The 3.5 foot sections will outgas and are to be capped/sealed. The 3.5 foot sections are placed in 4 foot wide containers that can be welded shut. Welding done as part of waste packaging.

Crew

lead technician
process technician
R C technician
pipe fitter

Crew Labor (1)	HOURS PER FOOT
lead technician	0.2
process technician (for purging)	0.5
R C technician (2)	0.5
pipe fitter (2 each - buddies)	0.5
decon worker	0.2

Notes

(1) Bubble suits required. Tent with high exhaust to TERF/ERS.

Pipe to be welded in 4 ft. wide shipping container that contains the outgasing and is in the tent. Shipping container is welded in the tent.

Maintain flow to TERF/ERS.

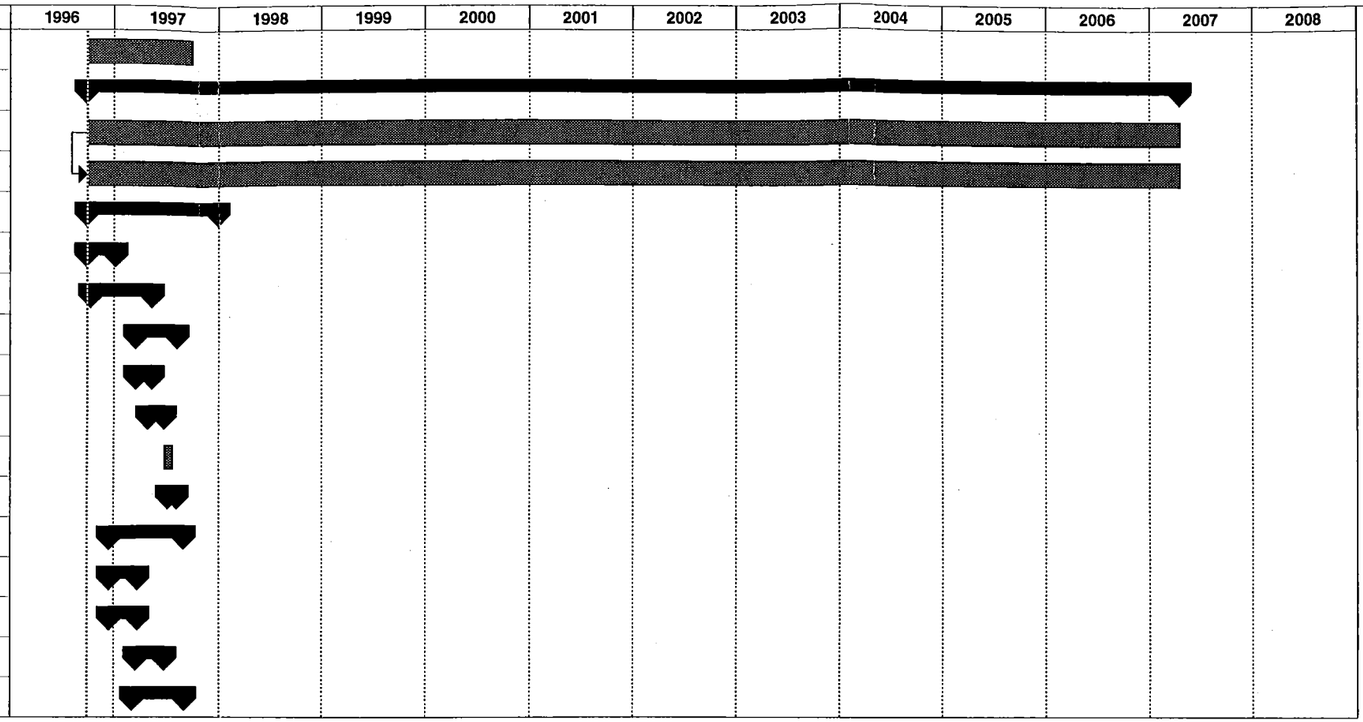
Materials List per 21 feet of line

Plastic bags	plastic tape	duct tape
paper	plastic end caps	RTV
latex gloves	cotton glove liners	rubber gloves
Bubblesuits (2)		

APPENDIX E
SCHEDULE

T-Building D&D Pre-Conceptual Engineering Study
Immediate D&D for Unrestricted Use Alternative
1,000 Curie/yr Release Limit

ID	Task Name	Duration	Start	Finish	Predecessors
1	Safe Shutdown Activities	52w	10/1/96	9/29/97	
2	**Immediate D&D for Unrestricted Use (1,000 Ci)**	**2752d**	**10/1/96**	**4/18/07**	
3	Project Management	2752d	10/1/96	4/18/07	
4	Site Services	2752d	10/1/96	4/18/07	3SS
5	**Engineering**	**327d**	**10/1/96**	**12/31/97**	
6	**Project Plan**	**70d**	**10/1/96**	**1/6/97**	
11	**Conceptual Engineering Study**	**150d**	**10/15/96**	**5/12/97**	
16	**Characterization**	**102d**	**3/18/97**	**8/6/97**	
17	**Characterization Plan**	**40d**	**3/18/97**	**5/12/97**	
22	**Sampling and Analysis Plan**	**40d**	**4/29/97**	**6/23/97**	
27	Complete Characterization	4w	6/24/97	7/21/97	26
28	**Characterization Report**	**22d**	**7/8/97**	**8/6/97**	
33	**Decommissioning Plan**	**185d**	**12/17/96**	**9/1/97**	
34	**Waste Management Plan**	**70d**	**12/17/96**	**3/24/97**	
39	**Long Lead Packages/Specs**	**70d**	**12/17/96**	**3/24/97**	
44	**Standard Packages/Specs**	**70d**	**3/18/97**	**6/23/97**	
49	**Detailed Work Procedures (batched)**	**130d**	**3/4/97**	**9/1/97**	

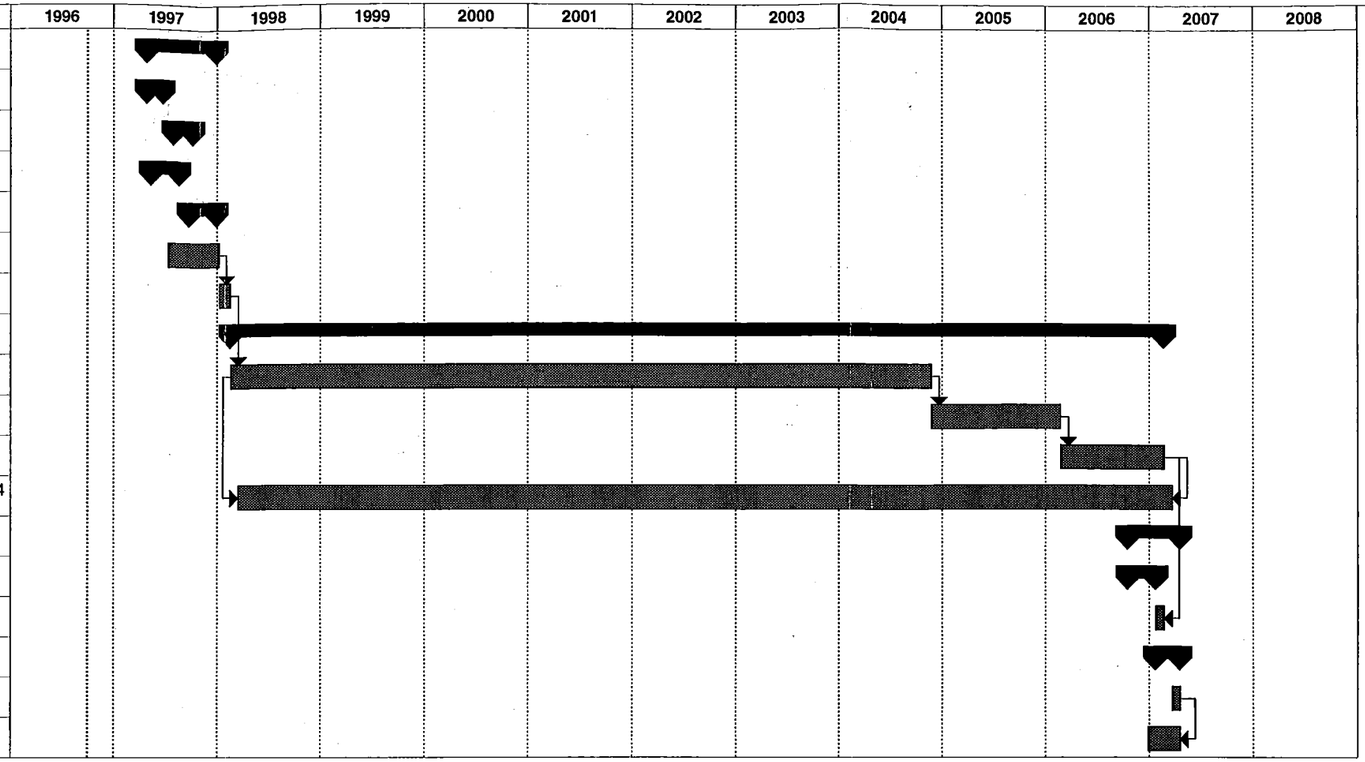


Project: T-Building Pre-Conceptual D&D
Date: 9/29/96

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

T-Building D&D Pre-Conceptual Engineering Study
Immediate D&D for Unrestricted Use Alternative
1,000 Curie/yr Release Limit

ID	Task Name	Duration	Start	Finish	Predecessors
54	**Environmental, Safety and Health**	**177d**	**4/29/97**	**12/31/97**	
55	**Sampling HASP**	**40d**	**4/29/97**	**6/23/97**	
60	**Safety Assessment**	**50d**	**7/31/97**	**10/8/97**	
65	**Environmental Compliance Strategy**	**70d**	**5/13/97**	**8/18/97**	
70	**Decommissioning HASP**	**70d**	**9/25/97**	**12/31/97**	
75	Procedure Training and Mock-up Testing	26w	7/10/97	1/7/98	53SS+2w,74FF+1w
76	Readiness Checklists	6w	1/8/98	2/18/98	74,75
77	**D&D Activites**	**2350d**	**2/19/98**	**2/21/07**	
78	Initial Cleanup	353w	2/19/98	11/24/04	76
79	Surveillance and Maintenance	65w	11/25/04	2/22/06	78
80	Final Cleanup	52w	2/23/06	2/21/07	79
81	Waste Disposal	470w	3/19/98	3/21/07	38,78SS+4w,80FF+4
82	**Closure Activities**	**130d**	**10/19/06**	**4/18/07**	
83	**Facility Release Survey Plans**	**70d**	**10/19/06**	**1/25/07**	
88	Complete Final Surveys	4w	1/25/07	2/21/07	80FF
89	**IVC**	**60d**	**1/25/07**	**4/18/07**	
93	Restoration Activity	4w	3/22/07	4/18/07	91
94	Final Report	16w	12/28/06	4/18/07	84,93FF



Project: T-Building Pre-Conceptual D&D
Date: 9/29/96

Task | Milestone | Rolled Up Task | Rolled Up Progress
Progress | Summary | Rolled Up Milestone

3 Project Management
Project Management includes project plans, scheduling, cost estimating, procurement support, technical writing, change control, cost/schedule, project reporting, funds management, training, A/E coordination, and the responsibility for controlling subcontractor work.

4 Site Services
Site services includes environmental monitoring , procurement, safeguards and security, utilities, computer maintenance, and sampling and analysis during D&D activities.

77 D&D Activites
Duration of D&D activites is based on length of time to remove T-Building equipment and decontaminate rooms and was calculated to be 405 weeks. The schedule for cleanup is based on sum of "glovebox removal" manhours (w/o contingency). The total hours were divided by a typical crew of 6 workers to determine overall duration. Constraint is that only one glovebox can be purged and removed at a time to remain below 1,000 curie/year release limit. Other activities such as glovebox preparation, misc. equipment removal, crawlspace cleanout and area decontamination are assumed to be done in concert with glovebox removal operations.

78 Initial Cleanup
Intiial cleanup consists of glovebox/fumehood purge and removal, miscellaneous equipment removal, and area decontamination. The TERF system is operating during this period and is not removed. It is expected to take 353 weeks to remove/decontaminate all but the TERF system components.

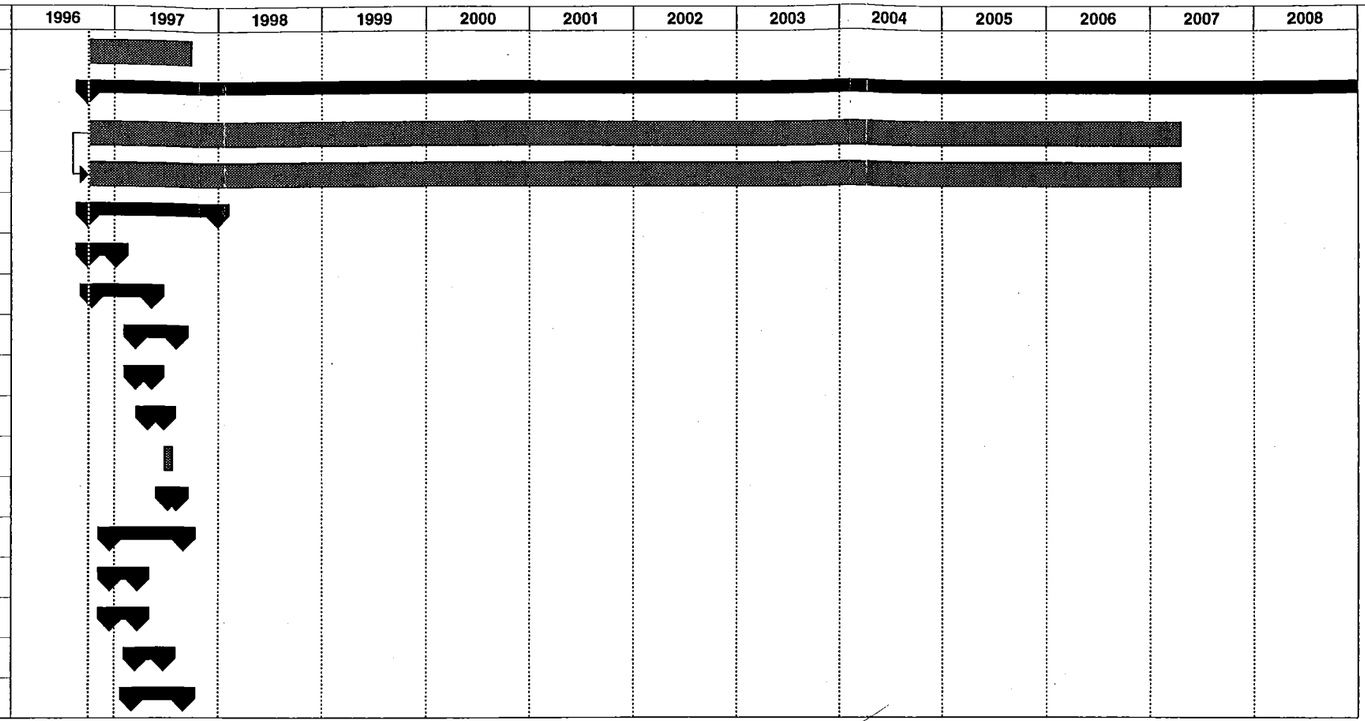
79 Surveillance and Maintenance
The TERF system is required to operate during the cleanup of the SW/R Tritium Complex. The TERF system will be needed during the entire duration of Internal D&D of the SW/R Tritium Complex. Currently, under the 1,000 Curie release option, internal D&D of the SW/R Tritium Complex is scheduled to end February 2006. A S&M program will be in-place in T-Building while the TERF is operating in support of SW/R Tritium Complex.

80 Final Cleanup
Once SW/R Tritium Complex (1,000 Curie release option) completes internal D&D, final cleanup of T-Building will commence. It is expected to take approximately one year and includes removal of the TERF equipment and lines and final decontamination of remaining areas previously untouched and those areas which may have been contaiminated during the S&M period.

81 Waste Disposal
Waste disposal includes activities to handle materials and equipment on site as well as offsite transportation.

T-Building D&D Pre-Conceptual Engineering Study
Decay In Place Alternative
1,000 Curie/yr Release Limit

ID	Task Name	Duration	Start	Finish	Predecessors
1	Safe Shutdown Activities	52w	10/1/96	9/29/97	
2	**Alternative 2 - Decay In Place (1,000 Ci)**	**13372d**	**10/1/96**	**1/1/48**	
3	Project Management	2752d	10/1/96	4/18/07	
4	Site Services	2752d	10/1/96	4/18/07	3SS
5	**Engineering**	**327d**	**10/1/96**	**12/31/97**	
6	**Project Plan**	**70d**	**10/1/96**	**1/6/97**	
11	**Conceptual Engineering Study**	**150d**	**10/15/96**	**5/12/97**	
16	**Characterization**	**102d**	**3/18/97**	**8/6/97**	
17	**Characterization Plan**	**40d**	**3/18/97**	**5/12/97**	
22	**Sampling and Analysis Plan**	**40d**	**4/29/97**	**6/23/97**	
27	Complete Characterization	4w	6/24/97	7/21/97	26
28	**Characterization Report**	**22d**	**7/8/97**	**8/6/97**	
33	**Decommissioning Plan**	**185d**	**12/17/96**	**9/1/97**	
34	**Waste Management Plan**	**70d**	**12/17/96**	**3/24/97**	
39	**Long Lead Packages/Specs**	**70d**	**12/17/96**	**3/24/97**	
44	**Standard Packages/Specs**	**70d**	**3/18/97**	**6/23/97**	
49	**Detailed Work Procedures (batched)**	**130d**	**3/4/97**	**9/1/97**	

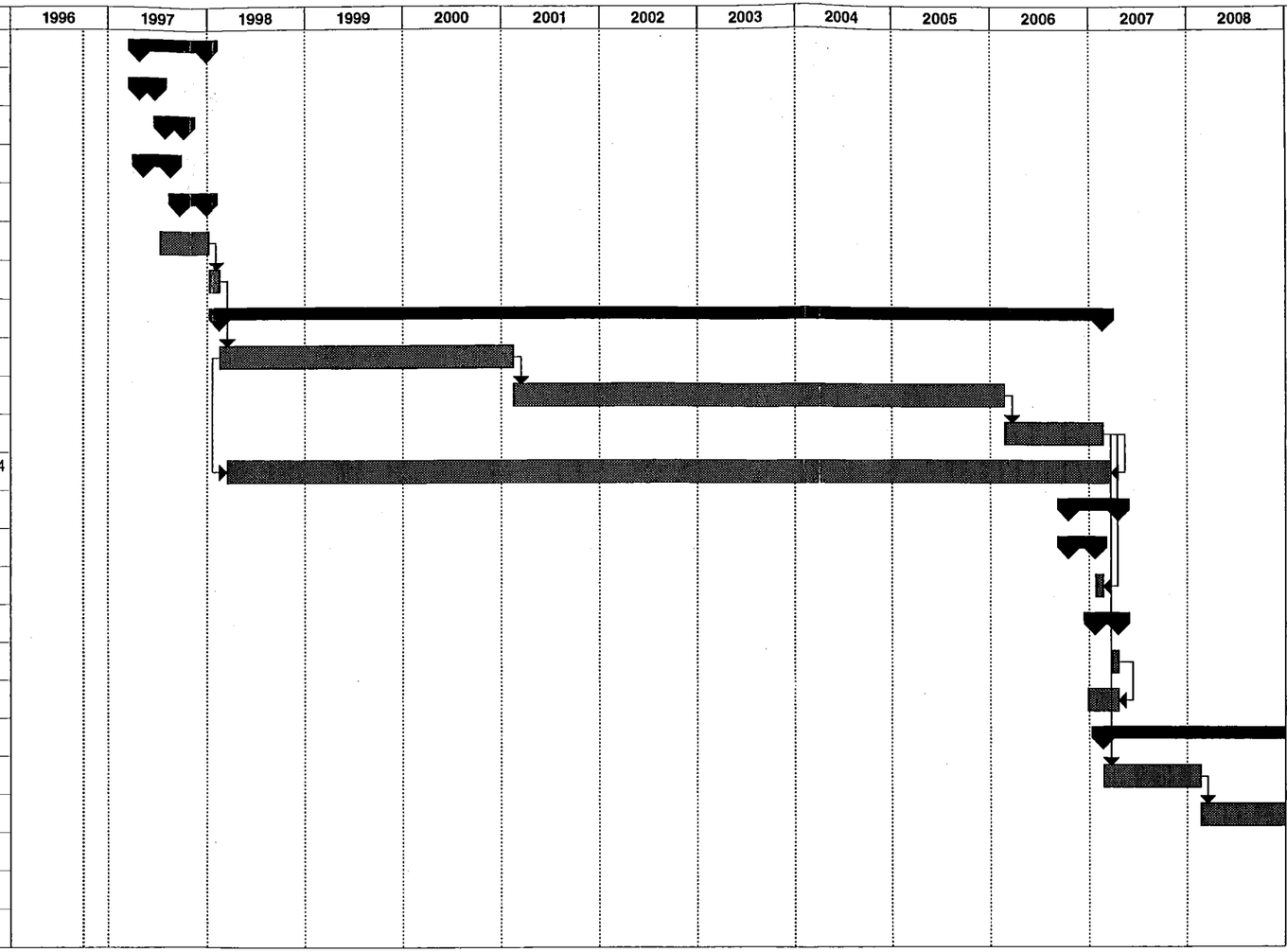


Project: T-Building Pre-Conceptual D&D
Date: 9/29/96

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

T-Building D&D Pre-Conceptual Engineering Study
Decay In Place Alternative
1,000 Curie/yr Release Limit

ID	Task Name	Duration	Start	Finish	Predecessors
54	**Environmental, Safety and Health**	**177d**	**4/29/97**	**12/31/97**	
55	**Sampling HASP**	**40d**	**4/29/97**	**6/23/97**	
60	**Safety Assessment**	**50d**	**7/31/97**	**10/8/97**	
65	**Environmental Compliance Strategy**	**70d**	**5/13/97**	**8/18/97**	
70	**Decommissioning HASP**	**70d**	**9/25/97**	**12/31/97**	
75	Procedure Training and Mock-up Testing	26w	7/10/97	1/7/98	53SS+2w,74FF+1w
76	Readiness Checklists	6w	1/8/98	2/18/98	74,75
77	**D&D Activites**	**2350d**	**2/19/98**	**2/21/07**	
78	Process Equipment Removal	156w	2/19/98	2/14/01	76
79	Building/Glovebox Purge and S&M	262w	2/15/01	2/22/06	78
80	Final Cleanup Removal	52w	2/23/06	2/21/07	79
81	Waste Disposal	470w	3/19/98	3/21/07	38,78SS+4w,80FF+4
82	**S&M Preparation Activities**	**130d**	**10/19/06**	**4/18/07**	
83	**Facility Survey Plans**	**70d**	**10/19/06**	**1/25/07**	
88	Complete Final Surveys	4w	1/25/07	2/21/07	80FF
89	**IVC**	**60d**	**1/25/07**	**4/18/07**	
93	Restoration Activity	4w	3/22/07	4/18/07	91
94	Final Report	16w	12/28/06	4/18/07	84,93FF
95	**Surveilance and Maintenance**	**10660d**	**2/22/07**	**1/1/48**	
96	S&M First Year	52w	2/22/07	2/20/08	80
97	S&M - Decay Period (1st decade)	520w	2/21/08	2/7/18	96
98	S&M - Decay Period (2nd decade)	520w	2/8/18	1/26/28	97
99	S&M - Decay Period (3rd decade)	520w	1/27/28	1/13/38	98
100	S&M - Decay Period (4th decade)	520w	1/14/38	1/1/48	99



Project: T-Building Pre-Conceptual D&D
Date: 9/29/96

Task | Milestone | Rolled Up Task | Rolled Up Progress
Progress | Summary | Rolled Up Milestone

3 Project Management
Project Management includes project plans, scheduling, cost estimating, procurement support, technical writing, change control, cost/schedule, project reporting, funds management, training, A/E coordination, and the responsibility for controlling subcontractor work. PM during decay in place period is not included here.

4 Site Services
Site services includes environmental monitoring , procurement, safeguards and security, utilities, computer maintenance, and sampling and analysis during D&D activities.

77 D&D Activites
Duration of D&D activites is based on length of time to remove T-Building equipment and decontaminate rooms and was calculated to be 208 weeks. The schedule for cleanup is based on sum of "glovebox removal" manhours (w/o contingency). The total hours were divided by a typical crew of 6 workers to determine overall duration. Constraint is that only one glovebox can be purged and removed at a time to remain below 1,000 curie/year release limit. Other activities such as glovebox preparation, misc. equipment removal, crawlspace cleanout and area decontamination are assumed to be done in concert with glovebox removal operations.

78 Process Equipment Removal
Intiial cleanup consists of glovebox/fumehood purge and removal, miscellaneous equipment removal, and area decontamination. The TERF system is operating during this period and is not removed. It is expected to take 156 weeks to remove/decontaminate all but the TERF system components.

79 Building/Glovebox Purge and S&M
The TERF system is required to operate during the cleanup of the SW/R Tritium Complex. The TERF system will be needed during the entire duration of Internal D&D of the SW/R Tritium Complex. Currently, under the 1,000 Curie release option, internal D&D of the SW/R Tritium Complex is scheduled to end February 2006. A S&M program will be in-place in T-Building while the TERF is operating in support of SW/R Tritium Complex. In addition, the TERF will be used to purge remaining process equipment and lines prior to decay in place option S&M period.

80 Final Cleanup Removal
Once SW/R Tritium Complex (1,000 Curie release option) completes internal D&D, final cleanup for decay in place option of T-Building will commence. It is expected to take approximately one year and includes removal of the TERF equipment and lines and final decontamination of remaining areas previously untouched and those areas which may have been contaiminated during the S&M period. The decay in place S&M activities will commence.

81 Waste Disposal
Waste disposal includes activities to handle materials and equipment on site as well as offsite transportation.

95 Surveilance and Maintenance
Actual end date of 100 S&M period is 2107. This has been depicted until 1/1/2048 due to computer program limitations.

APPENDIX F
T-BUILDING FLOOR PLANS

VOLUME II

T-BUILDING D&D
COST ESTIMATE

(Rev. 0)

September 26, 1996

EG&G Mound Applied Technologies
P.O. Box 3000
Miamisburg, OH 45343-3000

Volume II - Cost
TABLE OF CONTENTS

1.0 INTRODUCTION

The cost estimate is based on information derived from the technical volume (Volume I) of this study along with walk down data obtained regarding physical requirements necessary for the performance of the scope of work outlined in the engineering study. Raw and peripheral costs were obtained from nationally recognized cost manuals such as R.S. Means, and the U.S. Army Corps. of Engineers, as well as Parsons and MTES personnel experience with the site and previous D&D projects at the Mound. Also, data were used from other DOE D&D project costs and vendor quotations. Labor was analyzed as to the actual requirements and specific manpower (types) needed to perform the tasks. A description of planned equipment removal methods and labor standards is provided in Appendix D of Volume I of this study.

1.1 Work Breakdown Structure

A WBS was prepared for the D&D project as described in Section 5.0 of Volume I. The WBS is included in this Volume as Appendix B.

1.2 Contingency

The contingency level for a conceptual design project in accordance with DOE Order 5700.2D is 40% to 50%. The contingency allowance for this estimate is 40%.

For this project, the following items are the main factors in determining this percentage based on the degree of complexity and detail of design:

a. The Facility has not been adequately characterized;
b. It is assumed that the 1,000 Ci/yr release limit will not be exceeded in one year's time; and
c. Detailed packaging criteria have not been defined.

1.3 Escalation

For pre-conceptual engineering, escalation is calculated at the mid-point of the project. The project schedule for the Immediate D&D of T-Building indicates completion in eight years (FY-2004). Therefore, the estimate is escalated for four years at a total rate of 11.82%.

The project schedule for Decay in Place indicates an initial period of approximately nine years of D&D activities and purging followed by a 100 year period of institutional controls. Escalation for this alternative has been calculated in two phases. The initial D&D period is escalated to the fourth year at a total rate of 11.82%. The institutional controls period has been escalated to the midpoint of the period which will occur in the year 2065. The rate of escalation is 549% which is determined by compounding a nominal rate of 2.5% per year through year 2065.

2.0 BASIS FOR ESTIMATE

2.1 T-BUILDING D&D FOR UNRESTRICTED RELEASE (1,000 Ci/yr case)

2.1.1 Project Management

Project Management includes project plans, scheduling, cost estimating, procurement support, technical writing, change control, cost/schedule project reporting, funds management, training, Architect/Engineering (A/E) coordination, and the responsibility for controlling any subcontractor portions of the work.

Costs for this element have been based on the weighted averages obtained from EG&G's baseline report dated May 20, 1996 for Alternate 1 - Immediate D&D for Unrestricted Release.

2.1.2 Engineering

Engineering includes the Conceptual Engineering Study, Technical Specifications, Safety Assessment, Environmental Compliance, Readiness Checklists, Engineering Inspection and Detailed Work Procedures, Facility Release Survey Plans, and Final Report.

Costs for this element have been based on the weighted averages obtained from EG&G's baseline report dated May 20, 1996 for Alternate 1 - Immediate D&D for Unrestricted Release.

2.1.3 Site Services

Costs associated with site services include the following:

- Equipment procurement,
- Safeguards and security(including material control),

- Relocation and shutdown of existing site utilities,
- Staffing,

2.1.4 T-Building D&D Activities (1,000 Ci/yr case)

A description of the planned D&D activities is provided in Section 6.1 of Volume I of this study.

2.1.5 Waste Disposal

Costs associated with waste disposal include:

- Costs to handle materials and equipment on site.
- Costs to transport by truck to burial site.
- Disposal costs or burial site fee.
- Waste container costs

Further, the following assumptions are made:

- It is assumed that materials will not be decontaminated prior to placing into containers. Waste will be wrapped in plastic and sealed in two types of containers: B-25 (metal) boxes and 55-gallon drums. Special boxes (which require a welded closure) are also required to contain waste which has the potential to offgas.

- The boxes or drums containing the radioactive waste are placed on a truck (maximum load of 40,000 lbs.) and shipped to NTS. The approximate truck fare is assumed to be $2,800 per round trip to NTS. The total distance to NTS is 2,061 miles.

- Disposal costs at the NTS site have been estimated at $13.63 per cubic foot of box or drum volume.

When detailed engineering is performed, the use of larger sized containers, bulk shipments using railcars and the use of Envirocare disposal site should be estimated.

2.1.6 Independent Verification Contractor

Costs to account for independent verification that the unrestricted release criteria have been achieved following completion of the D&D activities are included.

2.2 T-BUILDING DECAY IN PLACE (1,000 Ci/yr case)

2.2.1 Project Management

Project Management includes project plans, scheduling, cost estimating, procurement support, technical writing, change control, cost/schedule project reporting, funds management, training, Architect/Engineering (A/E) coordination, and the responsibility for controlling any subcontractor portions of the work.

Costs for this element have been based on the weighted averages obtained from EG&G's baseline report dated May 20, 1996 for Alternate 1 - Immediate D&D for Unrestricted Release.

2.2.2 Engineering

Engineering includes the Conceptual Engineering Study, Technical Specifications, Safety Assessment, Environmental Compliance, Readiness Checklists, Engineering Inspection and Detailed Work Procedures, Facility Release Survey Plans, and Final Report.

Costs for this element have been based on the weighted averages obtained from EG&G's baseline report dated May 20, 1996 for Alternate 1 - Immediate D&D for Unrestricted Release.

2.2.3 Site Services

Costs associated with site services include the following:

- Equipment procurement,
- Safeguards and security (including material control),

- Relocation and shutdown of existing site utilities,
- Staffing,

2.2.4 Decay in Place Activities

Cost associated with this WBS include those activities described in Section 6.2 of Volume I of this study with the following additional information.

- Purging of the glove boxes for the TERF system has been considered as a level of effort activity over the three year period.

- It's assumed that most of the equipment for this effort is on site. The estimate does consider large equipment, small tools and maintenance for three years.

- Costs are included to "overpack" the collected, tritiated water over the five year purging period. Generated water will be solidified with concrete within 28 liter barrels and overpacked in 55 gallon barrels with asphalt linings.

- All building utilities are depressurized, drained, or locked out/tagged and abandoned prior to the 100-year decay period.

2.2.5 Waste Disposal

Costs for this element are estimated as discussed in Section 2.1.5 of this Volume.

2.2.6 Verification and Institutional Controls

The cost element includes verification that the initial D&D effort has reduced the residual contamination to levels which will allow natural decay to achieve unrestricted release levels within the 100-year period.

Additionally, this element includes institutional control measures in place during the 100 years such as:

- Building Maintenance;
- Site Security; and
- Environmental Monitoring.

3.0 ESTIMATE RESULTS

The Total Estimated Cost (TEC) for the two study alternatives, T-Building D&D for Unrestricted Release (1,000 Ci/yr case) and T-Building Decay in Place (1,000 Ci/yr case) are presented on the following two pages. The detailed estimates for both alternatives are provided in Appendix C and Appendix D.

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

T E C (1.0) T-BUILDING D&D - 1,000 Ci / yr

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.1	PROJECT MANAGEMENT	20,362	2,771,325	1,024,185	421,723	0	0	4,217,233
1.2	ENGINEERING	18,591	1,968,042	421,723	281,149	140,574	0	2,811,489
1.3	SITE SERVICES	59,020	4,462,650	100,010	23,750	250,000	3,200,000	8,036,410
1.4	T-BUILDING D&D ACTIVITIES	143,725	9,718,487	1,665,979	246,605	250,000	0	11,881,071
1.5	WASTE DISPOSAL	5,530	418,113	2,048,853	285	267,635	1,522,571	4,257,456
1.6	INDEPENDENT VERIFICATION CONTRACTOR (IVC)	0	0	0	0	0	130,000	130,000
1.7	SITE RESTORATION	600	31,582	3,000	0	0	0	34,582
	SUBTOTAL	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
								0
								0
								0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
11.82%	ESCALATION - AVERAGE EFFECTIVE RATE		2,289,557	622,175	115,069	107,350	573,574	3,707,726
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
18.80%	G & A Overhead		3,641,597	989,585	183,020	170,743	912,283	5,897,229
	SUBTOTAL - PROJECT LOADERS	0	5,931,154	1,611,760	298,089	278,094	1,485,857	9,604,955
	TOTAL PROJECT COST	247,828	25,301,352	6,875,511	1,271,602	1,186,303	6,338,428	40,973,195
40.00%	CONTINGENCY		10,120,541	2,750,204	508,641	474,521	2,535,371	16,389,278
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
	TOTAL	247,828	35,421,893	9,625,715	1,780,242	1,660,824	8,873,799	57,362,473

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

T E C (2.0) T-BUILDING DECAY IN PLACE - 1,000 Ci / yr

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.1	PROJECT MANAGEMENT	17,420	2,370,962	876,225	360,799	0	0	3,607,986
2.2	ENGINEERING	15,906	1,683,727	360,799	240,532	120,266	0	2,405,324
2.3	SITE SERVICES	67,860	5,131,064	116,678	26,250	250,000	3,600,000	9,123,993
2.4	T-BUILDING DECAY IN PLACE ACTIVITIES	79,545	5,713,218	1,561,464	208,331	350,000	1,300	7,834,313
2.5	WASTE DISPOSAL	4,495	339,865	1,503,913	95	140,400	919,280	2,903,552
2.6	D&D VERIFICATION & MAINTENANCE FOR 100 YEARS	24,000	4,760,700	0	0	0	520,080	5,280,780
2.7	SITE RESTORATION	600	31,582	3,000	0	0	0	34,582
	SUBTOTAL	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
								0
								0
								0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
11.82%	ESCALATION - AVERAGE EFFECTIVE RATE (see note 1)		2,367,678	522,690	98,816	101,731	595,806	3,686,721
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
18.80%	G & A Overhead		3,765,850	831,351	157,169	161,805	947,644	5,863,820
	SUBTOTAL - PROJECT LOADERS	0	6,133,529	1,354,040	255,985	263,536	1,543,450	9,550,540
	TOTAL PROJECT COST	209,825	26,164,647	5,776,119	1,091,992	1,124,202	6,584,110	40,741,071
40.00%	CONTINGENCY		10,465,859	2,310,448	436,797	449,681	2,633,644	16,296,428
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
	TOTAL	209,825	36,630,506	8,086,567	1,528,789	1,573,883	9,217,754	57,037,499

(1) Entire project is escalated to the midpoint of the initial D&D activities (4 years). Additionally, the institutional controls period is escalated to its midpoint (50 years). See WBS 2.6

APPENDIX A

Acronyms

A/E	Architect-Engineer
CADD	Computer-Aided Design and Drafting
Ci	Curie
D&D	Decontamination and Decommissioning
DOE	Department of Energy
ERS	Effluent Removal System
MT&E	Material Testing and Evaluation
NTS	Nevada Test Site
S&M	Surveillance and Maintenance
TERF	Tritium Emission Reduction Facility
WBS	Work Breakdown Structure
Yr	Year

APPENDIX B
WORK BREAKDOWN STRUCTURE

APPENDIX B

Mound Facilities D&D
Work Breakdown Structure

1. Project Title T-Building						2. Date 7/31/96
3. Line No.	4. WBS Element Title					
	5. Estimate Level				6. WBS Title	7. WBS Code
	1	2	3	4		
1	x				**T Building D&D - 1,000 Ci/yr**	**1.0**
2		x			Project Management	1.1
3		x			Engineering	1.2
4		x			Site Services	1.3
5		x			T Building D&D Activities	1.4
6			x		T Second Floor South	1.4.1
7				x	Preparations	1.4.1.1
8				x	Glovebox Removal	1.4.1.2
9				x	Miscellaneous Equipment Removal	1.4.1.3
10				x	Service Removal/Crawlspace Cleanout	1.4.1.4
11				x	Area Decontamination	1.4.1.5
12			x		T Second Floor Middle	1.4.2
13				x	Preparations	1.4.2.1
14				x	Glovebox Removal	1.4.2.2
15				x	Miscellaneous Equipment Removal	1.4.2.3
16				x	Service Removal/Crawlspace Cleanout	1.4.2.4
17				x	Area Decontamination	1.4.2.5
18			x		T Second Floor North	1.4.3
19				x	Preparations	1.4.3.1
20				x	Glovebox Removal	1.4.3.2
21				x	Miscellaneous Equipment Removal	1.4.3.3
22				x	Service Removal/Crawlspace Cleanout	1.4.3.4
23				x	Area Decontamination	1.4.3.5
24			x		T First Floor South	1.4.4
25				x	Preparations	1.4.4.1
26				x	Glovebox Removal	1.4.4.2
27				x	Miscellaneous Equipment Removal	1.4.4.3
28				x	Service Removal/Crawlspace Cleanout	1.4.4.4
29				x	Area Decontamination	1.4.4.5
30			x		T First Floor Middle	1.4.5
31				x	Preparations	1.4.5.1
32				x	Glovebox Removal	1.4.5.2
33				x	Miscellaneous Equipment Removal	1.4.5.3
34				x	Service Removal/Crawlspace Cleanout	1.4.5.4
35				x	Area Decontamination	1.4.5.5
36			x		T First Floor North	1.4.6
37				x	Preparations	1.4.6.1
38				x	Glovebox Removal	1.4.6.2
39				x	Miscellaneous Equipment Removal	1.4.6.3
40				x	Service Removal/Crawlspace Cleanout	1.4.6.4
41				x	Area Decontamination	1.4.6.5
42			x		T Building Systems D&D	1.4.7
43				x	HVAC	1.4.7.1

APPENDIX B

Mound Facilities D&D
Work Breakdown Structure

1. Project Title T-Building						2. Date 7/31/96
3. Line No.	4. WBS Element Title					
	5. Estimate Level				6. WBS Title	7. WBS Code
	1	2	3	4		
44				x	Chilled Water	1.4.7.2
45			x		T Building Structural Demolition	1.4.8
46			x		T East Stack	1.4.9
47		x			Waste Disposal	1.5
48		x			Independent Verification Contractor (IVC)	1.6
49			x		IVC Survey	1.6.1
50			x		IVC Report	1.6.2
51	x				**T Building Decay in Place - 1,000 Ci/yr**	**2.0**
52		x			Project Management	2.1
53		x			Engineering	2.2
54		x			Site Services	2.3
55		x			T Building Decay in Place Activities	2.4
56			x		T Second Floor South	2.4.1
57				x	Preparations	2.4.1.1
58				x	Glovebox Internals Removal	2.4.1.2
59			x		T Second Floor Middle	2.4.2
60				x	Preparations	2.4.2.1
61				x	Glovebox Internals Removal	2.4.2.2
62			x		T Second Floor North	2.4.3
63				x	Preparations	2.4.3.1
64				x	Glovebox Internals Removal	2.4.3.2
65			x		T First Floor South	2.4.4
66				x	Preparations	2.4.4.1
67				x	Glovebox Internals Removal	2.4.4.2
68			x		T First Floor Middle	2.4.5
69				x	Preparations	2.4.5.1
70				x	Glovebox Internals Removal	2.4.5.2
71			x		T First Floor North	2.4.6
72				x	Preparations	2.4.6.1
73				x	Glovebox Internals Removal	2.4.6.2
74			x		T Building Systems	2.4.7
75				x	Purge Gloveboxes	2.4.7.1
76				x	Disconnect Utilities	2.4.7.2
77			x		T Building Structure	2.4.8
78				x	T Building Assess Control	2.4.8.1
79			x		T East Stack	2.4.9
80		x			Waste Disposal	2.5
81		x			Verification and Institutional Controls	2.6

APPENDIX C
DETAILED ESTIMATE FOR ALTERNATIVE 1
IMMEDIATE D&D FOR UNRESTRICTED USE (1,000 Ci/yr)

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

T E C (1.0) T-BUILDING D&D - 1,000 Ci / yr

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.1	PROJECT MANAGEMENT	20,362	2,771,325	1,024,185	421,723	0	0	4,217,233
1.2	ENGINEERING	18,591	1,968,042	421,723	281,149	140,574	0	2,811,489
1.3	SITE SERVICES	59,020	4,462,650	100,010	23,750	250,000	3,200,000	8,036,410
1.4	T-BUILDING D&D ACTIVITIES	143,725	9,718,487	1,665,979	246,605	250,000	0	11,881,071
1.5	WASTE DISPOSAL	5,530	418,113	2,048,853	285	267,635	1,522,571	4,257,456
1.6	INDEPENDENT VERIFICATION CONTRACTOR (IVC)	0	0	0	0	0	130,000	130,000
1.7	SITE RESTORATION	600	31,582	3,000	0	0	0	34,582
	SUBTOTAL	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
								0
								0
								0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	247,828	19,370,198	5,263,750	973,512	908,209	4,852,571	31,368,240
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
11.82%	ESCALATION - AVERAGE EFFECTIVE RATE		2,289,557	622,175	115,069	107,350	573,574	3,707,726
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
18.80%	G & A Overhead		3,641,597	989,585	183,020	170,743	912,283	5,897,229
	SUBTOTAL - PROJECT LOADERS	0	5,931,154	1,611,760	298,089	278,094	1,485,857	9,604,955
	TOTAL PROJECT COST	247,828	25,301,352	6,875,511	1,271,602	1,186,303	6,338,428	40,973,195
40.00%	CONTINGENCY		10,120,541	2,750,204	508,641	474,521	2,535,371	16,389,278
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
	TOTAL	247,828	35,421,893	9,625,715	1,780,242	1,660,824	8,873,799	57,362,473

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.1 - PROJECT MANAGEMENT

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIPMENT	SUBCONTRACTS	OTHER	TOTAL
1.1.1	PROJECT MANAGEMENT ACTIVITIES (ASSESSMENT)	12,394	557,743	481,969	240,985	0	0	1,280,697
1.1.2	PROJECT CONTROLS (DECOMMISSIONING PHASE)	7,968	358,549	542,216	180,739	0	0	1,081,503
	** Based on %'s of the Project Cost (less Waste Management Costs)							
	SUBTOTAL	20,362	916,292	1,024,185	421,723	0	0	2,362,200
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	20,362	916,292	1,024,185	421,723	0	0	2,362,200
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT							
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)							
	TOTAL FIELD AND HOME OFFICE	20,362	916,292	1,024,185	421,723	0	0	2,362,200
202.45%	LABOR BURDEN		1,855,033					1,855,033
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,855,033	0	0	0	0	1,855,033
	SUBTOTAL	20,362	2,771,325	1,024,185	421,723	0	0	4,217,233
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.1 - PROJECT MANAGEMENT		20,362	2,771,325	1,024,185	421,723	0	0	4,217,233

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr
WBS NUMBER : 1.1.1
WBS DESCRIPTION: PROJECT MANAGEMENT ACTIVITIES (ASSESSMENT)

DETAIL ESTIMATE

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT COSTS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	**Project Management**	6	man yr	80,884	481,969	2,080	12,394	PM	$45.00	557,743	40,442	240,985	-	0	-	0	1,280,697
2	[based on 12% of project cost	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0		0	0	0	0	0	0	0	0	0
5	*Labor Burden in 3.1 Summary	0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7	**Project Management Costs:**	0		0	0	0	0		0	0	0	0	0	0	0	0	0
8	70% Labor (fully burdened)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
9	20% Material	0		0	0	0	0		0	0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39				0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					481,969		12,394			557,743		240,985		0		0	1,280,697

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr
WBS NUMBER : 1.1.2
WBS DESCRIPTION: PROJECT CONTROLS (DECOMMISSIONING PHASE)

DETAIL ESTIMATE

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT COST	EXTENDED COST	
1	**Project Controls**	4	man yr	141,547	542,216	2,080	7,968	PM	$45.00	358,549	47,182	180,739	-	0	-	0	1,081,503
2	[based on 9% of project cost	0		0	0	0	0			0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0			0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0			0	0	0	0	0	0	0	0
5	*Labor Burden in 3.1 Summary	0		0	0	0	0			0	0	0	0	0	0	0	0
6		0		0	0	0	0			0	0	0	0	0	0	0	0
7	**Project Control Costs:**	0		0	0	0	0			0	0	0	0	0	0	0	0
8	60% Labor (fully burdened)	0		0	0	0	0			0	0	0	0	0	0	0	0
9	30% Material	0		0	0	0	0			0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39				0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					542,216		7,968			358,549		180,739		0		0	1,081,503

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.2 - ENGINEERING

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.2.1	ENGINEERING	18,591	650,700	421,723	281,149	140,574	0	1,494,147
								0
								0
								0
	** Based on 14% of project cost (less Waste Management Costs)							0
								0
								0
								0
								0
	SUBTOTAL	18,591	650,700	421,723	281,149	140,574	0	1,494,147
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	18,591	650,700	421,723	281,149	140,574	0	1,494,147
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)	0	0	0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	18,591	650,700	421,723	281,149	140,574	0	1,494,147
202.45%	LABOR BURDEN		1,317,342					1,317,342
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,317,342	0	0	0	0	1,317,342
	SUBTOTAL	18,591	1,968,042	421,723	281,149	140,574	0	2,811,489
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.2 - ENGINEERING		18,591	1,968,042	421,723	281,149	140,574	0	2,811,489

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.2.1 ENGINEERING

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT of MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDED	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	**Engineering**	9	man yr	47,182	421,723	2080	18,591	ENG	$35.00	650,700	31,455	281,149	15,727	140,574	0	0	1,494,147
2	[based on 14% of project cost	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
5	*Labor Burden in 3.2 Summary	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
6		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
7	**Engineering Costs:**	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
8	70% Labor (fully burdened)	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
9	15% Material	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
11	5% Subcontractors	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
12		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
13		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
14		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
15		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
16		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
17		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
18		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
19		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
21		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
22		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
23		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
24		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
25		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
26		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
27		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
28		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
29		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
30		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
31		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
32		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
33		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
34		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
35		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
36		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
37		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
38		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
39		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
40		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
41		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
42				0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
43		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
Subtotal					421,723		18,591			650,700		281,149		140,574		0	1,494,147

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.3 - SITE SERVICES

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.3.1	REQD. ENVIRONMENTAL MONITORING ACTIVITIES	3,900	97,500	0	18,750	0	0	116,250
1.3.2	EQUIPMENT PROCUREMENT	3,900	97,500	0	0	0	0	97,500
1.3.3	SAFEGUARDS & SECURITY	3,900	97,500	0	0	0	0	97,500
1.3.4	UTILITIES	2,080	52,000	0	5,000	0	3,200,000	3,257,000
1.3.5	STAFFING	3,900	97,500	0	0	0	0	97,500
1.3.6	SAFETY DOCUMENTATION	3,900	97,500	0	0	0	0	97,500
1.3.7	FACILITY CHARACTERIZATION / LAB. SAMPLING	0	0	0	0	250,000	0	250,000
1.3.8	TERF OPERATION (EQUIPMENT REMOVAL PERIOD)	37,440	936,000	100,010	0	0	0	1,036,010
								0
								0
	SUBTOTAL	59,020	1,475,500	100,010	23,750	250,000	3,200,000	5,049,260
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	59,020	1,475,500	100,010	23,750	250,000	3,200,000	5,049,260
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	59,020	1,475,500	100,010	23,750	250,000	3,200,000	5,049,260
202.45%	LABOR BURDEN		2,987,150					2,987,150
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	2,987,150	0	0	0	0	2,987,150
	SUBTOTAL	59,020	4,462,650	100,010	23,750	250,000	3,200,000	8,036,410
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.3 - SITE SERVICES		59,020	4,462,650	100,010	23,750	250,000	3,200,000	8,036,410

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.3.1 REQD. ENVIRONMENTAL MONITORING ACTIVITIES

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Env. Monitoring	1.875	man yr	0	0	2,080	3,900	COMP	$25.00	97,500	10000	18,750	0	0	0	0	116,250
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(7.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		3,900			97,500		18,750		0		0	116,250

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.3.2 EQUIPMENT PROCUREMENT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Procurement Services	1.875	man yr	0	0	2,080	3,900	COMP	$25.00	97,500	0	0	0	0	0	0	97,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(7.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		3,900			97,500		0		0		0	97,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.3.3 SAFEGUARDS & SECURITY

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Security Measures	1.875	man yr	0	0	2,080	3,900		25	97,500	0	0	0	0	0	0	97,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(7.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		3,900			97,500		0		0		0	97,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.3.4 UTILITIES

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Computer Support	1	man yr	0	0	2,080	2,080	COMP	$25.00	52,000	5000	5,000	0	0	0	0	57,000
2	(CAD support during D&D Activit	0		0	0	0	0			0	0	0	0	0	0	0	0
3		0		0	0	0	0			0	0	0	0	0	0	0	0
4	Annual Utility Cost	8	yr	0	0	0	0			0	0	0	0	0	400000	3,200,000	3,200,000
5		0		0	0	0	0			0	0	0	0	0	0	0	0
6		0		0	0	0	0			0	0	0	0	0	0	0	0
7		0		0	0	0	0			0	0	0	0	0	0	0	0
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		2,080			52,000		5,000		0		3,200,000	3,257,000

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.3.5 STAFFING

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Staffing	1.875	man yr	0	0	2,080	3,900	COMP	$25.00	97,500	0	0	0	0	0	0	97,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(7.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		3,900			97,500		0		0		0	97,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.3.6 SAFETY DOCUMENTATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Safety Documentations	1.875	man yr	0	0	2,080	3,900		25	97,500	0	0	0	0	0	0	97,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(7.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		3,900			97,500		0		0		0	97,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.3.7 FACILITY CHARACTERIZATION / LAB. SAMPLING

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Laboratory Analysis Support	1	lot	0	0	0	0		0	0	0	0	250000	250,000	0	0	250,000
2	(Allowance)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		250,000		0	250,000

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.3.8 TERF OPERATION (EQUIPMENT REMOVAL PERIOD)

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	TERF Operation(6 Yrs.)	18	man yr	0	0	2,080	37,440	COMP	$25.00	936,000	0	0	0	0	0	0	936,000
2		0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	Allowance for Barrels	730	ea	137	100,010	0	0		0	0	0	0	0	0	0	0	100,010
4	(28 liters every 3 days)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					100,010		37,440			936,000		0		0		0	1,036,010

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4 - T-BUILDING D&D ACTIVITIES

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.1	T SECOND FLOOR SOUTH	1,479	86,594	20,517	18,235	0	0	125,346
1.4.2	T SECOND FLOOR MIDDLE	34,557	2,353,184	501,523	26,424	0	0	2,881,131
1.4.3	T SECOND FLOOR NORTH	2,413	149,187	35,513	18,396	0	0	203,095
1.4.4	T FIRST FLOOR SOUTH	3,578	243,004	41,757	18,436	0	0	303,197
1.4.5	T FIRST FLOOR MIDDLE	83,465	5,485,361	955,135	89,404	0	0	6,529,899
1.4.6	T FIRST FLOOR NORTH	2,274	135,438	33,539	18,436	0	0	187,413
1.4.7	T BUILDING SYSTEM D & D	15,636	1,182,277	75,399	26,578	0	0	1,284,254
1.4.8	T BUILDING STRUCTURAL DEMOLITION	324	24,498	2,597	24,196	0	0	51,292
1.4.9	T EAST STACK	0	0	0	6,500	250,000	0	256,500
	SUBTOTAL	143,725	9,659,544	1,665,979	246,605	250,000	0	11,822,128
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	143,725	9,659,544	1,665,979	246,605	250,000	0	11,822,128
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	58,943	0	0	0	0	58,943
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	143,725	9,718,487	1,665,979	246,605	250,000	0	11,881,071
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)						0	0
0.00%	PERMITS						0	0
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR		0					0
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	0	0	0	0	0	0
	SUBTOTAL	143,725	9,718,487	1,665,979	246,605	250,000	0	11,881,071
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.4 - T-BUILDING D&D ACTIVITIES		143,725	9,718,487	1,665,979	246,605	250,000	0	11,881,071

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.1 - T SECOND FLOOR SOUTH

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.1.1	PREPARATIONS	238	5,950	20,513	18,235	0	0	44,698
1.4.1.2	GLOVEBOX / FUMEHOOD REMOVAL	318	7,561	0	0	0	0	7,561
1.4.1.3	MISCELLANEOUS EQUIPMENT REMOVAL	40	693	0	0	0	0	693
1.4.1.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	61	1,023	0	0	0	0	1,023
1.4.1.5	AREA DECONTAMINATION	822	13,404	4	0	0	0	13,408
	SUBTOTAL	1,479	28,631	20,517	18,235	0	0	67,383
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	1,479	28,631	20,517	18,235	0	0	67,383
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	1,479	28,631	20,517	18,235	0	0	67,383
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		57,963					57,963
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	57,963	0	0	0	0	57,963
	SUBTOTAL	1,479	86,594	20,517	18,235	0	0	125,346
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.1 - T SECOND FLOOR SOUTH		1,479	86,594	20,517	18,235	0	0	125,346

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.1.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	15	ea	0	0	0	0	COMP	$25.00	0	9	135	0	0	0	0	135
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	10	ea	0	0	0	0	COMP	$25.00	0	18	180	0	0	0	0	180
5		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
6	Portable Temporary Lights	2	set	500	1,000	80	160	COMP	$25.00	4,000	0	0	0	0	0	0	5,000
7	GFI Portable Power (cords)	2	ea	250	500	24	48	COMP	$25.00	1,200	0	0	0	0	0	0	1,700
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials (per MTES)	1	lot	2358	2,358	0	0	COMP	$25.00	0	0	0	0	0	0	0	2,358
22	Bubble Suit	27	ea	290	7,830	0	5	COMP	$25.00	125	0	0	0	0	0	0	7,955
23	Supplied Air Unit	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250sfca ea.)	500	sfca	1.16	580	0	25	COMP	$25.00	625	0	0	0	0	0	0	1,205
25	Additional PPE	1479	hr	5	7,395	0	0	COMP	$25.00	0	0	0	0	0	0	0	7,395
26		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0	COMP	$25.00	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0	COMP	$25.00	0	0	0	0	0	0	0	850
29		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
30		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
31		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
32		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
33		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
34		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
35		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
36		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
37		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
38		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
39		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
40		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
Subtotal					20,513		238			5,950		18,235		0		0	44,698

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.1.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glove box/fumehood	0	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	28	hr	0	0	1.00	28	LT	$44.25	1,225	0	0	0	0	0	0	1,225
3	Process Technician	94	hr	0	0	1.00	94	PT	$31.78	2,995	0	0	0	0	0	0	2,995
4	Fabrication Mechanic	8	hr	0	0	1.00	8	FM	$18.19	142	0	0	0	0	0	0	142
5	Pipefitter / Welder	68	hr	0	0	1.00	68	PW	$18.32	1,238	0	0	0	0	0	0	1,238
6	Electrician	0	hr	0	0	1.00	0	E	$18.19	0	0	0	0	0	0	0	0
7	R C Technician	66	hr	0	0	1.00	66	RCT	$18.91	1,254	0	0	0	0	0	0	1,254
8	Decon Worker	54	hr	0	0	1.00	54	D	$13.00	706	0	0	0	0	0	0	706
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
11		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
12		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
13		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
14		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
15		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
16		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
17		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
18		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
19		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		318			7,561		0		0		0	7,561

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.1.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	0	hr	0	0	1	0	PW	$18.32	0	0	0	0	0	0	0	0
5	Electrician	31	hr	0	0	1	31	E	$18.19	564	0	0	0	0	0	0	564
6	R C Technician	2	hr	0	0	1	2	RCT	$18.91	38	0	0	0	0	0	0	38
7	Decon Worker	7	hr	0	0	1	7	D	$13.00	91	0	0	0	0	0	0	91
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		40			693		0		0		0	693

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.1.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician		hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician		hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic		hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	20	hr	0	0	1	20	PW	$18.32	366	0	0	0	0	0	0	366
5	Electrician	1	hr	0	0	1	1	E	$18.19	18	0	0	0	0	0	0	18
6	R C Technician	20	hr	0	0	1	20	RCT	$18.91	378	0	0	0	0	0	0	378
7	Decon Worker	20	hr	0	0	1	20	D	$13.00	260	0	0	0	0	0	0	260
8				0	0	0	0	0	0	0	0	0	0	0	0	0	0
9				0	0	0	0	0	0	0	0	0	0	0	0	0	0
10				0	0	0	0	0	0	0	0	0	0	0	0	0	0
11				0	0	0	0	0	0	0	0	0	0	0	0	0	0
12				0	0	0	0	0	0	0	0	0	0	0	0	0	0
13				0	0	0	0	0	0	0	0	0	0	0	0	0	0
14				0	0	0	0	0	0	0	0	0	0	0	0	0	0
15				0	0	0	0	0	0	0	0	0	0	0	0	0	0
16				0	0	0	0	0	0	0	0	0	0	0	0	0	0
17				0	0	0	0	0	0	0	0	0	0	0	0	0	0
18				0	0	0	0	0	0	0	0	0	0	0	0	0	0
19				0	0	0	0	0	0	0	0	0	0	0	0	0	0
20				0	0	0	0	0	0	0	0	0	0	0	0	0	0
21				0	0	0	0	0	0	0	0	0	0	0	0	0	0
22				0	0	0	0	0	0	0	0	0	0	0	0	0	0
23				0	0	0	0	0	0	0	0	0	0	0	0	0	0
24				0	0	0	0	0	0	0	0	0	0	0	0	0	0
25				0	0	0	0	0	0	0	0	0	0	0	0	0	0
26				0	0	0	0	0	0	0	0	0	0	0	0	0	0
27				0	0	0	0	0	0	0	0	0	0	0	0	0	0
28				0	0	0	0	0	0	0	0	0	0	0	0	0	0
29				0	0	0	0	0	0	0	0	0	0	0	0	0	0
30				0	0	0	0	0	0	0	0	0	0	0	0	0	0
31				0	0	0	0	0	0	0	0	0	0	0	0	0	0
32				0	0	0	0	0	0	0	0	0	0	0	0	0	0
33				0	0	0	0	0	0	0	0	0	0	0	0	0	0
34				0	0	0	0	0	0	0	0	0	0	0	0	0	0
35				0	0	0	0	0	0	0	0	0	0	0	0	0	0
36				0	0	0	0	0	0	0	0	0	0	0	0	0	0
37				0	0	0	0	0	0	0	0	0	0	0	0	0	0
38				0	0	0	0	0	0	0	0	0	0	0	0	0	0
39				0	0	0	0	0	0	0	0	0	0	0	0	0	0
40				0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal					0		61			1,023		0		0		0	1,023

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.1.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Wipedown Surface - Heavy	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
2	Wipedown Surface - Medium	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
3	Wipedown Surface - Normal	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4	Wipedown Surface - Light	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5	Wipedown Surface - Very Light	4000	sf	0.001	4	0.008	32	COMP	$25.00	800	0	0	0	0	0	0	804
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	395	hr	0	0	1	395	RCT	$18.91	7,469	0	0	0	0	0	0	7,469
12	Decon Worker	395	hr	0	0	1	395	D	$13.00	5,135	0	0	0	0	0	0	5,135
13		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
14		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
17		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
18		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
19		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
22		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
23		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
24		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
25		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
26		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
27		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
28		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
29		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
30		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					4		822			13,404		0		0		0	13,408

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.2 - T SECOND FLOOR MIDDLE

Work Code	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.2.1	PREPARATIONS	1,925	48,125	501,515	26,424	0	0	576,064
1.4.2.2	GLOVEBOX / FUMEHOOD REMOVAL	27,386	640,359	0	0	0	0	640,359
1.4.2.3	MISCELLANEOUS EQUIPMENT REMOVAL	910	15,938	0	0	0	0	15,938
1.4.2.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	1,144	22,111	0	0	0	0	22,111
1.4.2.5	AREA DECONTAMINATION	3,192	51,507	8	0	0	0	51,515
	SUBTOTAL	34,557	778,041	501,523	26,424	0	0	1,305,988
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	34,557	778,041	501,523	26,424	0	0	1,305,988
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	34,557	778,041	501,523	26,424	0	0	1,305,988
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		1,575,143					1,575,143
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,575,143	0	0	0	0	1,575,143
	SUBTOTAL	34,557	2,353,184	501,523	26,424	0	0	2,881,131
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.2 - T SECOND FLOOR MIDDLE		34,557	2,353,184	501,523	26,424	0	0	2,881,131

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.2.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	15	mn	0	0	0	0	COMP	$25.00	0	30	450	0	0	0	0	450
2	Saw Blades	45	ea	0	0	0	0	COMP	$25.00	0	9	405	0	0	0	0	405
3	Portable Band Saws	8	mn	0	0	0	0	COMP	$25.00	0	48	384	0	0	0	0	384
4	Band Saw Blades	30	ea	0	0	0	0	COMP	$25.00	0	18	540	0	0	0	0	540
5	Pallet Jack	10	mn	0	0	0	0	COMP	$25.00	0	20	200	0	0	0	0	200
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	15	mn	0	0	0	0	COMP	$25.00	0	125	1,875	0	0	0	0	1,875
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	15	mn	0	0	0	0	COMP	$25.00	0	250	3,750	0	0	0	0	3,750
12	Electric Sheet Metal Cutters	15	mn	0	0	0	0	COMP	$25.00	0	108	1,620	0	0	0	0	1,620
13	Portable Dry Vacuum (hepa) Sys	15	mn	0	0	0	0	COMP	$25.00	0	185	2,775	0	0	0	0	2,775
14	Portable Wet Vacuum System	15	mn	0	0	0	0	COMP	$25.00	0	95	1,425	0	0	0	0	1,425
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	64800	64,800	0	0	COMP	$25.00	0	0	0	0	0	0	0	64,800
22	Bubble Suits	768	ea	290	222,720	0	154	COMP	$25.00	3,850	0	0	0	0	0	0	226,570
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	33500	sfca	1.16	38,860	0	1,675	COMP	$25.00	41,875	0	0	0	0	0	0	80,735
25	Additional PPE	34557	hr	5	172,785	0	0		0	0	0	0	0	0	0	0	172,785
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					501,515		1,925			48,125		26,424		0		0	576,064

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.2.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	48	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	1734.2	hr	0	0	1.00	1,734	LT	$44.25	76,738	0	0	0	0	0	0	76,738
3	Process Technician	8773.7	hr	0	0	1.00	8,774	PT	$31.78	278,828	0	0	0	0	0	0	278,828
4	Fabrication Mechanic	3081	hr	0	0	1.00	3,081	FM	$18.19	56,043	0	0	0	0	0	0	56,043
5	Pipefitter / Welder	4316	hr	0	0	1.00	4,316	PW	$18.32	79,069	0	0	0	0	0	0	79,069
6	Electrician	310.7	hr	0	0	1.00	311	E	$18.19	5,652	0	0	0	0	0	0	5,652
7	R C Technician	4199	hr	0	0	1.00	4,199	RCT	$18.91	79,403	0	0	0	0	0	0	79,403
8	Decon Worker	4971.2	hr	0	0	1.00	4,971	D	$13.00	64,626	0	0	0	0	0	0	64,626
9	Heavy duty operator	0	hr	0	0	1.00	0	X	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		27,386			640,359		0		0		0	640,359

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.2.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	346	hr	0	0	1	346	FM	$18.19	6,294	0	0	0	0	0	0	6,294
4	Pipefitter / Welder	77	hr	0	0	1	77	PW	$18.32	1,411	0	0	0	0	0	0	1,411
5	Electrician	247	hr	0	0	1	247	E	$18.19	4,493	0	0	0	0	0	0	4,493
6	R C Technician	105	hr	0	0	1	105	RCT	$18.91	1,986	0	0	0	0	0	0	1,986
7	Decon Worker	135	hr	0	0	1	135	D	$13.00	1,755	0	0	0	0	0	0	1,755
8		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
9		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
10		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
11		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
12		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
13		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
14		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		910			15,938		0		0		0	15,938

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.2.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	50	hr	0	0	1	50	LT	$44.25	2,213	0	0	0	0	0	0	2,213
2	Process Technician	125	hr	0	0	1	125	PT	$31.78	3,973	0	0	0	0	0	0	3,973
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	483	hr	0	0	1	483	PW	$18.32	8,849	0	0	0	0	0	0	8,849
5	Electrician	4	hr	0	0	1	4	E	$18.19	73	0	0	0	0	0	0	73
6	R C Technician	125	hr	0	0	1	125	RCT	$18.91	2,364	0	0	0	0	0	0	2,364
7	Decon Worker	357	hr	0	0	1	357	D	$13.00	4,641	0	0	0	0	0	0	4,641
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		1,144			22,111		0		0		0	22,111

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.2.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Wipedown Surface - Heavy	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
2	Wipedown Surface - Medium	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
3	Wipedown Surface - Normal	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4	Wipedown Surface - Light	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5	Wipedown Surface - Very Light	8000	sf	0.001	8	0.008	64	COMP	$25.00	1,600	0	0	0	0	0	0	1,608
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	1564	hr	0	0	1	1,564	RCT	$18.91	29,575	0	0	0	0	0	0	29,575
12	Decon Worker	1564	hr	0	0	1	1,564	D	$13.00	20,332	0	0	0	0	0	0	20,332
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					8		3,192			51,507		0		0		0	51,515

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.3 - T SECOND FLOOR NORTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.3.1	PREPARATIONS	279	6,975	35,510	18,396	0	0	60,881
1.4.3.2	GLOVEBOX / FUMEHOOD REMOVAL	1,105	25,753	0	0	0	0	25,753
1.4.3.3	MISCELLANEOUS EQUIPMENT REMOVAL	3	49	0	0	0	0	49
1.4.3.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	8	125	0	0	0	0	125
1.4.3.5	AREA DECONTAMINATION	1,018	16,423	3	0	0	0	16,426
	SUBTOTAL	2,413	49,326	35,513	18,396	0	0	103,235
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	2,413	49,326	35,513	18,396	0	0	103,235
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	2,413	49,326	35,513	18,396	0	0	103,235
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		99,861					99,861
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	99,861	0	0	0	0	99,861
	SUBTOTAL	2,413	149,187	35,513	18,396	0	0	203,095
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.3 - T SECOND FLOOR NORTH		2,413	149,187	35,513	18,396	0	0	203,095

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.3.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	4	mn	0	0	0	0	COMP	$25.00	0	20	80	0	0	0	0	80
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4855	4,855	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,855
22	Bubble Suits	42	ea	290	12,180	0	8	COMP	$25.00	200	0	0	0	0	0	0	12,380
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	3500	sfca	1.16	4,060	0	175	COMP	$25.00	4,375	0	0	0	0	0	0	8,435
25	Additional PPE	2413	hr	5	12,065	0	0		0	0	0	0	0	0	0	0	12,065
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					35,510		279			6,975		18,396		0		0	60,881

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.3.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	2	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	69	hr	0	0	1.00	69	LT	$44.25	3,049	0	0	0	0	0	0	3,049
3	Process Technician	356	hr	0	0	1.00	356	PT	$31.78	11,320	0	0	0	0	0	0	11,320
4	Fabrication Mechanic	133	hr	0	0	1.00	133	FM	$18.19	2,412	0	0	0	0	0	0	2,412
5	Pipefitter / Welder	150	hr	0	0	1.00	150	PW	$18.32	2,739	0	0	0	0	0	0	2,739
6	Electrician	8	hr	0	0	1.00	8	E	$18.19	142	0	0	0	0	0	0	142
7	R C Technician	173	hr	0	0	1.00	173	RCT	$18.91	3,270	0	0	0	0	0	0	3,270
8	Decon Worker	217	hr	0	0	1.00	217	D	$13.00	2,822	0	0	0	0	0	0	2,822
9	Heavy duty operator	0	hr	0	0	1.00	0	X	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		1,105			25,753		0		0		0	25,753

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.3.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	0	hr	0	0	1	0	PW	$18.32	0	0	0	0	0	0	0	0
5	Electrician	2	hr	0	0	1	2	E	$18.19	36	0	0	0	0	0	0	36
6	R C Technician	0	hr	0	0	1	0	RCT	$18.91	0	0	0	0	0	0	0	0
7	Decon Worker	1	hr	0	0	1	1	D	$13.00	13	0	0	0	0	0	0	13
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		3			49		0		0		0	49

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.3.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	4	hr	0	0	1	4	PW	$18.32	73	0	0	0	0	0	0	73
5	Electrician	0	hr	0	0	1	0	E	$18.19	0	0	0	0	0	0	0	0
6	R C Technician	0	hr	0	0	1	0	RCT	$18.91	0	0	0	0	0	0	0	0
7	Decon Worker	4	hr	0	0	1	4	D	$13.00	52	0	0	0	0	0	0	52
8				0	0	0	0			0	0	0	0	0	0	0	0
9				0	0	0	0			0	0	0	0	0	0	0	0
10					0	0	0			0	0	0	0	0	0	0	0
11				0	0	0	0			0	0	0	0	0	0	0	0
12				0	0	0	0			0	0	0	0	0	0	0	0
13				0	0	0	0			0	0	0	0	0	0	0	0
14				0	0	0	0			0	0	0	0	0	0	0	0
15				0	0	0	0			0	0	0	0	0	0	0	0
16				0	0	0	0			0	0	0	0	0	0	0	0
17				0	0	0	0			0	0	0	0	0	0	0	0
18				0	0	0	0			0	0	0	0	0	0	0	0
19				0	0	0	0			0	0	0	0	0	0	0	0
20				0	0	0	0			0	0	0	0	0	0	0	0
21				0	0	0	0			0	0	0	0	0	0	0	0
22				0	0	0	0			0	0	0	0	0	0	0	0
23				0	0	0	0			0	0	0	0	0	0	0	0
24				0	0	0	0			0	0	0	0	0	0	0	0
25					0	0	0			0	0	0	0	0	0	0	0
26				0	0	0	0			0	0	0	0	0	0	0	0
27				0	0	0	0			0	0	0	0	0	0	0	0
28				0	0	0	0			0	0	0	0	0	0	0	0
29				0	0	0	0			0	0	0	0	0	0	0	0
30				0	0	0	0			0	0	0	0	0	0	0	0
31				0	0	0	0			0	0	0	0	0	0	0	0
32				0	0	0	0			0	0	0	0	0	0	0	0
33				0	0	0	0			0	0	0	0	0	0	0	0
34				0	0	0	0			0	0	0	0	0	0	0	0
35				0	0	0	0			0	0	0	0	0	0	0	0
36				0	0	0	0			0	0	0	0	0	0	0	0
37				0	0	0	0			0	0	0	0	0	0	0	0
38				0	0	0	0			0	0	0	0	0	0	0	0
39				0	0	0	0			0	0	0	0	0	0	0	0
40					0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		8			125		0		0		0	125

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.3.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Wipedown Surface - Heavy	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
2	Wipedown Surface - Medium	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
3	Wipedown Surface - Normal	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4	Wipedown Surface - Light	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5	Wipedown Surface - Very Light	2500	sf	0.001	3	0.008	20	COMP	$25.00	500	0	0	0	0	0	0	503
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	499	hr	0	0	1	499	RCT	$18.91	9,436	0	0	0	0	0	0	9,436
12	Decon Worker	499	hr	0	0	1	499	D	$13.00	6,487	0	0	0	0	0	0	6,487
13				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
14				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
15				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
17				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
18				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
19				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
20				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
22				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
23				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
24				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
25				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
26				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
27				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
28				0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
29				0	0	0	0		0	0	0	0	0	0	0	0	0
30				0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					3		1,018			16,423		0		0		0	16,426

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.4 - T FIRST FLOOR SOUTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.4.1	PREPARATIONS	231	5,775	41,754	18,436	0	0	65,965
1.4.4.2	GLOVEBOX / FUMEHOOD REMOVAL	2,821	65,821	0	0	0	0	65,821
1.4.4.3	MISCELLANEOUS EQUIPMENT REMOVAL	180	3,018	0	0	0	0	3,018
1.4.4.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	22	345	0	0	0	0	345
1.4.4.5	AREA DECONTAMINATION	324	5,387	3	0	0	0	5,390
	SUBTOTAL	3,578	80,345	41,757	18,436	0	0	140,538
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	3,578	80,345	41,757	18,436	0	0	140,538
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	3,578	80,345	41,757	18,436	0	0	140,538
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		162,659					162,659
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	162,659	0	0	0	0	162,659
	SUBTOTAL	3,578	243,004	41,757	18,436	0	0	303,197
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.4 - T FIRST FLOOR SOUTH		3,578	243,004	41,757	18,436	0	0	303,197

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.4.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	6	mn	0	0	0	0	COMP	$25.00	0	20	120	0	0	0	0	120
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4404	4,404	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,404
22	Bubble Suits	49	ea	290	14,210	0	10	COMP	$25.00	250	0	0	0	0	0	0	14,460
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	2500	sfca	1.16	2,900	0	125	COMP	$25.00	3,125	0	0	0	0	0	0	6,025
25	Additional PPE	3578	hr	5	17,890	0	0		0	0	0	0	0	0	0	0	17,890
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0.00	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					41,754		231			5,775		18,436		0		0	65,965

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.4.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	11	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	152	hr	0	0	1.00	152	LT	$44.25	6,730	0	0	0	0	0	0	6,730
3	Process Technician	918	hr	0	0	1.00	918	PT	$31.78	29,168	0	0	0	0	0	0	29,168
4	Fabrication Mechanic	530	hr	0	0	1.00	530	FM	$18.19	9,648	0	0	0	0	0	0	9,648
5	Pipefitter / Welder	348	hr	0	0	1.00	348	PW	$18.32	6,383	0	0	0	0	0	0	6,383
6	Electrician	51	hr	0	0	1.00	51	E	$18.19	922	0	0	0	0	0	0	922
7	R C Technician	387	hr	0	0	1.00	387	RCT	$18.91	7,326	0	0	0	0	0	0	7,326
8	Decon Worker	434	hr	0	0	1.00	434	D	$13.00	5,645	0	0	0	0	0	0	5,645
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		2,821			65,821		0		0		0	65,821

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.4.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	45	hr	0	0	1	45	PW	$18.32	824	0	0	0	0	0	0	824
5	Electrician	23	hr	0	0	1	23	E	$18.19	418	0	0	0	0	0	0	418
6	R C Technician	54	hr	0	0	1	54	RCT	$18.91	1,021	0	0	0	0	0	0	1,021
7	Decon Worker	58	hr	0	0	1	58	D	$13.00	754	0	0	0	0	0	0	754
8				0	0	0	0			0	0	0	0	0	0	0	0
9				0	0	0	0			0	0	0	0	0	0	0	0
10				0	0	0	0			0	0	0	0	0	0	0	0
11				0	0	0	0			0	0	0	0	0	0	0	0
12				0	0	0	0			0	0	0	0	0	0	0	0
13				0	0	0	0			0	0	0	0	0	0	0	0
14				0	0	0	0			0	0	0	0	0	0	0	0
15				0	0	0	0			0	0	0	0	0	0	0	0
16				0	0	0	0			0	0	0	0	0	0	0	0
17				0	0	0	0			0	0	0	0	0	0	0	0
18				0	0	0	0			0	0	0	0	0	0	0	0
19				0	0	0	0			0	0	0	0	0	0	0	0
20				0	0	0	0			0	0	0	0	0	0	0	0
21				0	0	0	0			0	0	0	0	0	0	0	0
22				0	0	0	0			0	0	0	0	0	0	0	0
23				0	0	0	0			0	0	0	0	0	0	0	0
24				0	0	0	0			0	0	0	0	0	0	0	0
25				0	0	0	0			0	0	0	0	0	0	0	0
26				0	0	0	0			0	0	0	0	0	0	0	0
27				0	0	0	0			0	0	0	0	0	0	0	0
28				0	0	0	0			0	0	0	0	0	0	0	0
29				0	0	0	0			0	0	0	0	0	0	0	0
30				0	0	0	0			0	0	0	0	0	0	0	0
31				0	0	0	0			0	0	0	0	0	0	0	0
32				0	0	0	0			0	0	0	0	0	0	0	0
33				0	0	0	0			0	0	0	0	0	0	0	0
34				0	0	0	0			0	0	0	0	0	0	0	0
35				0	0	0	0			0	0	0	0	0	0	0	0
36				0	0	0	0			0	0	0	0	0	0	0	0
37				0	0	0	0			0	0	0	0	0	0	0	0
38				0	0	0	0			0	0	0	0	0	0	0	0
39				0	0	0	0			0	0	0	0	0	0	0	0
40				0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		180			3,018		0		0		0	3,018

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.4.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	11	hr	0	0	1	11	PW	$18.32	202	0	0	0	0	0	0	202
5	Electrician	0	hr	0	0	1	0	E	$18.19	0	0	0	0	0	0	0	0
6	R C Technician	0	hr	0	0	1	0	RCT	$18.91	0	0	0	0	0	0	0	0
7	Decon Worker	11	hr	0	0	1	11	D	$13.00	143	0	0	0	0	0	0	143
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		22			345		0		0		0	345

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.4.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Wipedown Surface - Heavy	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
2	Wipedown Surface - Medium	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
3	Wipedown Surface - Normal	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4	Wipedown Surface - Light	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5	Wipedown Surface - Very Light	3000	sf	0.001	3	0.008	24	COMP	$25.00	600	0	0	0	0	0	0	603
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	150	hr	0	0	1	150	RCT	$18.91	2,837	0	0	0	0	0	0	2,837
12	Decon Worker	150	hr	0	0	1	150	D	$13.00	1,950	0	0	0	0	0	0	1,950
13					0	0	0			0	0	0	0	0	0	0	0
14					0	0	0			0	0	0	0	0	0	0	0
15					0	0	0			0	0	0	0	0	0	0	0
16					0	0	0			0	0	0	0	0	0	0	0
17					0	0	0			0	0	0	0	0	0	0	0
18					0	0	0			0	0	0	0	0	0	0	0
19					0	0	0			0	0	0	0	0	0	0	0
20					0	0	0			0	0	0	0	0	0	0	0
21					0	0	0			0	0	0	0	0	0	0	0
22					0	0	0			0	0	0	0	0	0	0	0
23					0	0	0			0	0	0	0	0	0	0	0
24					0	0	0			0	0	0	0	0	0	0	0
25					0	0	0			0	0	0	0	0	0	0	0
26					0	0	0			0	0	0	0	0	0	0	0
27					0	0	0			0	0	0	0	0	0	0	0
28					0	0	0			0	0	0	0	0	0	0	0
29					0	0	0			0	0	0	0	0	0	0	0
30					0	0	0			0	0	0	0	0	0	0	0
31					0	0	0			0	0	0	0	0	0	0	0
32					0	0	0			0	0	0	0	0	0	0	0
33					0	0	0			0	0	0	0	0	0	0	0
34					0	0	0			0	0	0	0	0	0	0	0
35					0	0	0			0	0	0	0	0	0	0	0
36					0	0	0			0	0	0	0	0	0	0	0
37					0	0	0			0	0	0	0	0	0	0	0
38					0	0	0			0	0	0	0	0	0	0	0
39					0	0	0			0	0	0	0	0	0	0	0
40					0	0	0			0	0	0	0	0	0	0	0
Subtotal					3		324			5,387		0		0		0	5,390

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.5 - T FIRST FLOOR MIDDLE

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.5.1	PREPARATIONS	3,038	75,950	953,262	81,904	0	0	1,111,116
1.4.5.2	GLOVEBOX / FUMEHOOD REMOVAL	60,856	1,399,258	0	0	0	0	1,399,258
1.4.5.3	MISCELLANEOUS EQUIPMENT REMOVAL	5,955	100,383	0	0	0	0	100,383
1.4.5.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	2,546	51,967	0	0	0	0	51,967
1.4.5.5	AREA DECONTAMINATION	11,070	186,085	1,873	7,500	0	0	195,457
	SUBTOTAL	83,465	1,813,642	955,135	89,404	0	0	2,858,181
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	83,465	1,813,642	955,135	89,404	0	0	2,858,181
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	83,465	1,813,642	955,135	89,404	0	0	2,858,181
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		3,671,719					3,671,719
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	3,671,719	0	0	0	0	3,671,719
	SUBTOTAL	83,465	5,485,361	955,135	89,404	0	0	6,529,899
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.5 - T FIRST FLOOR MIDDLE		83,465	5,485,361	955,135	89,404	0	0	6,529,899

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.5.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	24	mn	0	0	0	0	COMP	$25.00	0	30	720	0	0	0	0	720
2	Saw Blades	120	ea	0	0	0	0	COMP	$25.00	0	9	1,080	0	0	0	0	1,080
3	Portable Band Saws	24	mn	0	0	0	0	COMP	$25.00	0	48	1,152	0	0	0	0	1,152
4	Band Saw Blades	120	ea	0	0	0	0	COMP	$25.00	0	18	2,160	0	0	0	0	2,160
5	Pallet Jack	24	mn	0	0	0	0	COMP	$25.00	0	20	480	0	0	0	0	480
6	Portable Temporary Lights	4	set	500	2,000	40	160	COMP	$25.00	4,000	0	0	0	0	0	0	6,000
7	GFI Portable Power (cords)	8	ea	250	2,000	8	64	COMP	$25.00	1,600	0	0	0	0	0	0	3,600
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	24	mn	0	0	0	0	COMP	$25.00	0	125	3,000	0	0	0	0	3,000
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	24	mn	0	0	0	0	COMP	$25.00	0	250	6,000	0	0	0	0	6,000
12	Electric Sheet Metal Cutters	24	mn	0	0	0	0	COMP	$25.00	0	108	2,592	0	0	0	0	2,592
13	Portable Dry Vacuum (hepa) Sys	24	mn	0	0	0	0	COMP	$25.00	0	185	4,440	0	0	0	0	4,440
14	Portable Wet Vacuum System	24	mn	0	0	0	0	COMP	$25.00	0	95	2,280	0	0	0	0	2,280
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	106277	106,277	0	0	COMP	$25.00	0	0	0	0	0	0	0	106,277
22	Bubble Suits	1254	ea	290	363,660	0	251	COMP	$25.00	6,275	0	0	0	0	0	0	369,935
23	Supplied Air Units	5	ea	0	0	0	0	COMP	$25.00	0	9500	47,500	0	0	0	0	47,500
24	Tent Material (250 sfca ea.)	51250	sfca	1.16	59,450	0	2,563	COMP	$25.00	64,075	0	0	0	0	0	0	123,525
25	Additional PPE	83465	hr	5	417,325	0	0		0	0	0	0	0	0	0	0	417,325
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	3	ea	0	0	0	0		0	0	3500	10,500	0	0	0	0	10,500
28	Portable Eyewash Station	3	ea	850	2,550	0	0		0	0	0	0	0	0	0	0	2,550
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					953,262		3,038			75,950		81,904		0		0	1,111,116

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.5.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	75	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	3788	hr	0	0	1.00	3,788	LT	$44.25	167,628	0	0	0	0	0	0	167,628
3	Process Technician	18877	hr	0	0	1.00	18,877	PT	$31.78	599,921	0	0	0	0	0	0	599,921
4	Fabrication Mechanic	5863	hr	0	0	1.00	5,863	FM	$18.19	106,648	0	0	0	0	0	0	106,648
5	Pipefitter / Welder	10150	hr	0	0	1.00	10,150	PW	$18.32	185,955	0	0	0	0	0	0	185,955
6	Electrician	575	hr	0	0	1.00	575	E	$18.19	10,452	0	0	0	0	0	0	10,452
7	R C Technician	8046	hr	0	0	1.00	8,046	RCT	$18.91	152,144	0	0	0	0	0	0	152,144
8	Decon Worker	13504	hr	0	0	1.00	13,504	D	$13.00	175,557	0	0	0	0	0	0	175,557
9	Heavy duty operator	52	hr	0	0	1.00	52	HO	$18.32	953	0	0	0	0	0	0	953
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		60,856			1,399,258		0		0		0	1,399,258

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.5.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	319	hr	0	0	1	319	FM	$18.19	5,803	0	0	0	0	0	0	5,803
4	Pipefitter / Welder	151	hr	0	0	1	151	PW	$18.32	2,766	0	0	0	0	0	0	2,766
5	Electrician	1944	hr	0	0	1	1,944	E	$18.19	35,361	0	0	0	0	0	0	35,361
6	R C Technician	1,763	hr	0	0	1	1,763	RCT	$18.91	33,338	0	0	0	0	0	0	33,338
7	Decon Worker	1778	hr	0	0	1	1,778	D	$13.00	23,114	0	0	0	0	0	0	23,114
8				0	0	0	0			0	0	0	0	0	0	0	0
9				0	0	0	0			0	0	0	0	0	0	0	0
10				0	0	0	0			0	0	0	0	0	0	0	0
11				0	0	0	0			0	0	0	0	0	0	0	0
12				0	0	0	0			0	0	0	0	0	0	0	0
13				0	0	0	0			0	0	0	0	0	0	0	0
14				0	0	0	0			0	0	0	0	0	0	0	0
15				0	0	0	0			0	0	0	0	0	0	0	0
16				0	0	0	0			0	0	0	0	0	0	0	0
17				0	0	0	0			0	0	0	0	0	0	0	0
18				0	0	0	0			0	0	0	0	0	0	0	0
19				0	0	0	0			0	0	0	0	0	0	0	0
20				0	0	0	0			0	0	0	0	0	0	0	0
21				0	0	0	0			0	0	0	0	0	0	0	0
22				0	0	0	0			0	0	0	0	0	0	0	0
23				0	0	0	0			0	0	0	0	0	0	0	0
24				0	0	0	0			0	0	0	0	0	0	0	0
25				0	0	0	0			0	0	0	0	0	0	0	0
26				0	0	0	0			0	0	0	0	0	0	0	0
27				0	0	0	0			0	0	0	0	0	0	0	0
28				0	0	0	0			0	0	0	0	0	0	0	0
29				0	0	0	0			0	0	0	0	0	0	0	0
30				0	0	0	0			0	0	0	0	0	0	0	0
31				0	0	0	0			0	0	0	0	0	0	0	0
32				0	0	0	0			0	0	0	0	0	0	0	0
33				0	0	0	0			0	0	0	0	0	0	0	0
34				0	0	0	0			0	0	0	0	0	0	0	0
35				0	0	0	0			0	0	0	0	0	0	0	0
36				0	0	0	0			0	0	0	0	0	0	0	0
37				0	0	0	0			0	0	0	0	0	0	0	0
38				0	0	0	0			0	0	0	0	0	0	0	0
39				0	0	0	0			0	0	0	0	0	0	0	0
40				0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		5,955			100,383		0		0		0	100,383

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.5.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	144	hr	0	0	1	144	LT	$44.25	6,372	0	0	0	0	0	0	6,372
2	Process Technician	361	hr	0	0	1	361	PT	$31.78	11,473	0	0	0	0	0	0	11,473
3	Fabrication Mechanic	17	hr	0	0	1	17	FM	$18.19	309	0	0	0	0	0	0	309
4	Pipefitter / Welder	1007	hr	0	0	1	1,007	PW	$18.32	18,448	0	0	0	0	0	0	18,448
5	Electrician	2	hr	0	0	1	2	E	$18.19	36	0	0	0	0	0	0	36
6	R C Technician	361	hr	0	0	1	361	RCT	$18.91	6,827	0	0	0	0	0	0	6,827
7	Decon Worker	654	hr	0	0	1	654	D	$13.00	8,502	0	0	0	0	0	0	8,502
8				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
9				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
10				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
11				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
12				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
13				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
14				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
15				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
16				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
17				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
18				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
19				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
20				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
21				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
22				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
23				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
24				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
25				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
26				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
27				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
28				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
29				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
30				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
31				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
32				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
33				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
34				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
35				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
36				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
37				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
38				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
39				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
40				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
Subtotal					0		2,546			51,967		0		0		0	51,967

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.5.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Wipedown Surface - Heavy	5000	sf	0.25	1,250	0.1	500	COMP	$25.00	12,500	0	0	0	0	0	0	13,750
2	Wipedown Surface - Medium	5000	sf	0.1	500	0.05	250	COMP	$25.00	6,250	0	0	0	0	0	0	6,750
3	Wipedown Surface - Normal	2500	sf	0.025	63	0.02	50	COMP	$25.00	1,250	0	0	0	0	0	0	1,313
4	Wipedown Surface - Light	5000	sf	0.01	50	0.01	50	COMP	$25.00	1,250	0	0	0	0	0	0	1,300
5	Wipedown Surface - Very Light	10000	sf	0.001	10	0.008	80	COMP	$25.00	2,000	0	0	0	0	0	0	2,010
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	3630	hr	0	0	1	3,630	RCT	$18.91	68,643	0	0	0	0	0	0	68,643
12	Decon Worker	3630	hr	0	0	1	3,630	D	$13.00	47,190	0	0	0	0	0	0	47,190
13				0	0	0	0		0	0	0	0	0	0	0	0	0
14				0	0	0	0		0	0	0	0	0	0	0	0	0
15				0	0	0	0		0	0	0	0	0	0	0	0	0
16	Contaminated Contrete			0	0	0	0		0	0	0	0	0	0	0	0	0
17	and Sump Removal:			0	0	0	0		0	0	0	0	0	0	0	0	0
18	(4,000 Cubic Feet)			0	0	0	0		0	0	0	0	0	0	0	0	0
19	Heavy Duty	640	hr	0	0	1	640	HD	$18.32	11,725	0	0	0	0	0	0	11,725
20	Field Coordinator	320	hr	0	0	1	320	FC	$20.42	6,534	0	0	0	0	0	0	6,534
21	R C Technician	640	hr	0	0	1	640	RCT	$18.91	12,102	0	0	0	0	0	0	12,102
22	Decon Worker	1280	hr	0	0	1	1,280	D	$13.00	16,640	0	0	0	0	0	0	16,640
23	Equipment	1	lot	0	0	0	0		0	0	7500	7,500	0	0	0	0	7,500
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					1,873		11,070			186,085		7,500		0		0	195,457

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.6 - T FIRST FLOOR NORTH

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.6.1	PREPARATIONS	205	5,125	33,535	18,436	0	0	57,096
1.4.6.2	GLOVEBOX / FUMEHOOD REMOVAL	749	18,064	0	0	0	0	18,064
1.4.6.3	MISCELLANEOUS EQUIPMENT REMOVAL	184	3,183	0	0	0	0	3,183
1.4.6.4	SERVICE REMOVAL / CRAWLSPACE CLEANOUT	20	313	0	0	0	0	313
1.4.6.5	AREA DECONTAMINATION	1,116	18,095	4	0	0	0	18,099
	SUBTOTAL	2,274	44,780	33,539	18,436	0	0	96,755
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	2,274	44,780	33,539	18,436	0	0	96,755
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	2,274	44,780	33,539	18,436	0	0	96,755
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		90,658					90,658
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	90,658	0	0	0	0	90,658
	SUBTOTAL	2,274	135,438	33,539	18,436	0	0	187,413
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.6 - T FIRST FLOOR NORTH		2,274	135,438	33,539	18,436	0	0	187,413

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.6.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	6	mn	0	0	0	0	COMP	$25.00	0	20	120	0	0	0	0	120
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4155	4,155	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,155
22	Bubble Suits	46	ea	290	13,340	0	9	COMP	$25.00	225	0	0	0	0	0	0	13,565
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	2000	sfca	1.16	2,320	0	100	COMP	$25.00	2,500	0	0	0	0	0	0	4,820
25	Additional PPE	2274	hr	5	11,370	0	0		0	0	0	0	0	0	0	0	11,370
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					33,535		205			5,125		18,436		0		0	57,096

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.6.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	0	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	78	hr	0	0	1.00	78	LT	$44.25	3,452	0	0	0	0	0	0	3,452
3	Process Technician	195	hr	0	0	1.00	195	PT	$31.78	6,197	0	0	0	0	0	0	6,197
4	Fabrication Mechanic	7.8	hr	0	0	1.00	8	FM	$18.19	142	0	0	0	0	0	0	142
5	Pipefitter / Welder	195	hr	0	0	1.00	195	PW	$18.32	3,572	0	0	0	0	0	0	3,572
6	Electrician	0	hr	0	0	1.00	0	E	$18.19	0	0	0	0	0	0	0	0
7	R C Technician	195	hr	0	0	1.00	195	RCT	$18.91	3,687	0	0	0	0	0	0	3,687
8	Decon Worker	78	hr	0	0	1.00	78	D	$13.00	1,014	0	0	0	0	0	0	1,014
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		749			18,064		0		0		0	18,064

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.6.3 MISCELLANEOUS EQUIPMENT REMOVAL

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	30	hr	0	0	1	30	PW	$18.32	550	0	0	0	0	0	0	550
5	Electrician	84	hr	0	0	1	84	E	$18.19	1,528	0	0	0	0	0	0	1,528
6	R C Technician	33	hr	0	0	1	33	RCT	$18.91	624	0	0	0	0	0	0	624
7	Decon Worker	37	hr	0	0	1	37	D	$13.00	481	0	0	0	0	0	0	481
8				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
9				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
10				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
11				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
12				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
13				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
14				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
15				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
16				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
17				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
18				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
19				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
20				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
21				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
22				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
23				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
24				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
25				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
26				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
27				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
28				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
29				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
30				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
31				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
32				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
33				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
34				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
35				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
36				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
37				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
38				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
39				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
40				0	0	0	0		$0.00	0	0	0	0	0	0	0	0
Subtotal					0		184			3,183		0		0		0	3,183

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.6.4 SERVICE REMOVAL / CRAWLSPACE CLEANOUT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Lead Technician	0	hr	0	0	1	0	LT	$44.25	0	0	0	0	0	0	0	0
2	Process Technician	0	hr	0	0	1	0	PT	$31.78	0	0	0	0	0	0	0	0
3	Fabrication Mechanic	0	hr	0	0	1	0	FM	$18.19	0	0	0	0	0	0	0	0
4	Pipefitter / Welder	10	hr	0	0	1	10	PW	$18.32	183	0	0	0	0	0	0	183
5	Electrician	0	hr	0	0	1	0	E	$18.19	0	0	0	0	0	0	0	0
6	R C Technician	0	hr	0	0	1	0	RCT	$18.91	0	0	0	0	0	0	0	0
7	Decon Worker	10	hr	0	0	1	10	D	$13.00	130	0	0	0	0	0	0	130
8		0		0	0	0	0		$0.00	0	0	0	0	0	0	0	0
9		0		0	0	0	0		$0.00	0	0	0	0	0	0	0	0
10		0		0	0	0	0		$0.00	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		20			313		0		0		0	313

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.6.5 AREA DECONTAMINATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Wipedown Surface - Heavy	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
2	Wipedown Surface - Medium	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
3	Wipedown Surface - Normal	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4	Wipedown Surface - Light	0	sf	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5	Wipedown Surface - Very Light	4000	sf	0.001	4	0.008	32	COMP	$25.00	800	0	0	0	0	0	0	804
6	Lead Technician	0	hr	0	0	0	0	LT	$44.25	0	0	0	0	0	0	0	0
7	Process Technician	0	hr	0	0	0	0	PT	$31.78	0	0	0	0	0	0	0	0
8	Fabrication Mechanic	0	hr	0	0	0	0	FM	$18.19	0	0	0	0	0	0	0	0
9	Pipefitter / Welder	0	hr	0	0	0	0	PW	$18.32	0	0	0	0	0	0	0	0
10	Electrician	0	hr	0	0	0	0	E	$18.19	0	0	0	0	0	0	0	0
11	R C Technician	542	hr	0	0	1	542	RCT	$18.91	10,249	0	0	0	0	0	0	10,249
12	Decon Worker	542	hr	0	0	1	542	D	$13.00	7,046	0	0	0	0	0	0	7,046
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					4		1,116			18,095		0		0		0	18,099

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.7 - T BUILDING SYSTEM D & D

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.7.1	HVAC	7,636	190,900	30,899	26,578	0	0	248,377
1.4.7.2	CHILLED WATER	8,000	200,000	44,500	0	0	0	244,500
	SUBTOTAL	15,636	390,900	75,399	26,578	0	0	492,877
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	15,636	390,900	75,399	26,578	0	0	492,877
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	15,636	390,900	75,399	26,578	0	0	492,877
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		791,377					791,377
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	791,377	0	0	0	0	791,377
	SUBTOTAL	15,636	1,182,277	75,399	26,578	0	0	1,284,254
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.7 - T BUILDING SYSTEM D & D		15,636	1,182,277	75,399	26,578	0	0	1,284,254

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.4.7.1 HVAC

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Hand Tool Allowance	1	lot	0	0	0	0	COMP	$25.00	0	1000	1,000	0	0	0	0	1,000
2	Portable Temporary Lights	3	set	0	0	8	24	COMP	$25.00	600	500	1,500	0	0	0	0	2,100
3	GFI Portable Power (cords)	3	ea	0	0	4	12	COMP	$25.00	300	250	750	0	0	0	0	1,050
4	Scissor Platform Lift	8	mn	75	600	0	0	COMP	$25.00	0	920	7,360	0	0	0	0	7,960
5	Ductwork Jack	8	mn	0	0	0	0	COMP	$25.00	0	870	6,960	0	0	0	0	6,960
6	Forklift	6	mn	150	900	0	0	COMP	$25.00	0	1280	7,680	0	0	0	0	8,580
7	Chain Hoist	8	mn	0	0	0	0	COMP	$25.00	0	96	768	0	0	0	0	768
8	Come-a-long	8	mn	0	0	0	0	COMP	$25.00	0	42	336	0	0	0	0	336
9	Block & Tackle Rigging	8	mn	0	0	0	0	COMP	$25.00	0	28	224	0	0	0	0	224
10		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
11	Ductwork Removal	5000	lf	0	0	0.8	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
12	Equipment Removal	200	ton	0	0	18	3,600	COMP	$25.00	90,000	0	0	0	0	0	0	90,000
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16	PPE	7,636	hr	3.85	29,399	0	0			0	0	0	0	0	0	0	29,399
17				0	0	0	0			0	0	0	0	0	0	0	0
18				0	0	0	0			0	0	0	0	0	0	0	0
19				0	0	0	0			0	0	0	0	0	0	0	0
20				0	0	0	0			0	0	0	0	0	0	0	0
21				0	0	0	0			0	0	0	0	0	0	0	0
22				0	0	0	0			0	0	0	0	0	0	0	0
23				0	0	0	0			0	0	0	0	0	0	0	0
24				0	0	0	0			0	0	0	0	0	0	0	0
25				0	0	0	0			0	0	0	0	0	0	0	0
26				0	0	0	0			0	0	0	0	0	0	0	0
27				0	0	0	0			0	0	0	0	0	0	0	0
28				0	0	0	0			0	0	0	0	0	0	0	0
29				0	0	0	0			0	0	0	0	0	0	0	0
30				0	0	0	0			0	0	0	0	0	0	0	0
31				0	0	0	0			0	0	0	0	0	0	0	0
32				0	0	0	0			0	0	0	0	0	0	0	0
33				0	0	0	0			0	0	0	0	0	0	0	0
34				0	0	0	0			0	0	0	0	0	0	0	0
35				0	0	0	0			0	0	0	0	0	0	0	0
36				0	0	0	0			0	0	0	0	0	0	0	0
37				0	0	0	0			0	0	0	0	0	0	0	0
38				0	0	0	0			0	0	0	0	0	0	0	0
39				0	0	0	0			0	0	0	0	0	0	0	0
40				0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					30,899		7,636			190,900		26,578		0		0	248,377

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.7.2 CHILLED WATER

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Piping Removal	25000	lf	0	0	0.16	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
2	Equipment Removal	250	ton	0	0	16	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
3		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
4		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
5		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
6	PPE	8000	hr	3.85	30,800	0	0			0	0	0	0	0	0	0	30,800
7		0		0	0	0	0			0	0	0	0	0	0	0	0
8	Allowance for barrels	100	ea	137	13,700	0	0			0	0	0	0	0	0	0	13,700
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					44,500		8,000			200,000		0		0		0	244,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.8 - T BUILDING STRUCTURAL DEMOLITION

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.8.1	T BUILDING STRUCTURAL DEMOLITION	324	8,100	2,597	24,196	0	0	34,893
	SUBTOTAL	324	8,100	2,597	24,196	0	0	34,893
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	324	8,100	2,597	24,196	0	0	34,893
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	324	8,100	2,597	24,196	0	0	34,893
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		16,398					16,398
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	16,398	0	0	0	0	16,398
	SUBTOTAL	324	24,498	2,597	24,196	0	0	51,292
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.8 - T BUILDING STRUCTURAL DEMOLITION		324	24,498	2,597	24,196	0	0	51,292

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.8.1 T BUILDING STRUCTURAL DEMOLITION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Hand Tool Allowance	1	lot	0	0	0	0		0	0	1000	1,000	0	0	0	0	1,000
2	Portable Temporary Lights	2	set	0	0	8	16	COMP	$25.00	400	500	1,000	0	0	0	0	1,400
3	GFI Portable Power (cords)	2	ea	0	0	4	8	COMP	$25.00	200	250	500	0	0	0	0	700
4	Scissor Platform Lift	6	mn	75	450	0	0		0	0	920	5,520	0	0	0	0	5,970
5	Small Crane	6	mn	0	0	0	0		0	0	1250	7,500	0	0	0	0	7,500
6	Forklift	6	mn	150	900	0	0		0	0	1280	7,680	0	0	0	0	8,580
7	Chain Hoist	6	mn	0	0	0	0		0	0	96	576	0	0	0	0	576
8	Come-a-long	6	mn	0	0	0	0		0	0	42	252	0	0	0	0	252
9	Block & Tackle Rigging	6	mn	0	0	0	0		0	0	28	168	0	0	0	0	168
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11	Internal Demolition (selective)	100000	cf	0	0	0.003	300	COMP	$25.00	7,500	0	0	0	0	0	0	7,500
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16	PPE	324	hr	3.85	1,247	0	0		0	0	0	0	0	0	0	0	1,247
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					2,597		324			8,100		24,196		0		0	34,893

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.4.9 - T EAST STACK

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.4.9.1	T EAST STACK	0	0	0	6,500	250,000	0	256,500
	SUBTOTAL	0	0	0	6,500	250,000	0	256,500
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	0	0	0	6,500	250,000	0	256,500
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	0	0	0	6,500	250,000	0	256,500
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	0	0	0	0	0	0
	SUBTOTAL	0	0	0	6,500	250,000	0	256,500
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 1.4.9 - T EAST STACK		0	0	0	6,500	250,000	0	256,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.4.9.1 T EAST STACK

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Concrete saw cut stack	1	lot	0	0	0	0	COMP	$25.00	0	0	0	250000	250,000	0	0	250,000
2	Rubblize Stack	1	lot	0	0	0	0	COMP	$25.00	0	6500	6,500	0	0	0	0	6,500
3		0		0	0	0	0			0	0	0	0	0	0	0	0
4		0		0	0	0	0			0	0	0	0	0	0	0	0
5		0		0	0	0	0			0	0	0	0	0	0	0	0
6		0		0	0	0	0			0	0	0	0	0	0	0	0
7		0		0	0	0	0			0	0	0	0	0	0	0	0
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		0			0		6,500		250,000		0	256,500

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.5 - WASTE DISPOSAL

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.5.1	WASTE PACKAGING (Cost to Procure & Handling)	5,530	138,242	2,048,853	285	0	0	2,187,380
1.5.2	WASTE TRANSPORTATION	0	0	0	0	267,635	63,568	331,203
1.5.3	WASTE DISPOSAL (Final Disposition)	0	0	0	0	0	1,459,003	1,459,003
	SUBTOTAL	5,530	138,242	2,048,853	285	267,635	1,522,571	3,977,585
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	5,530	138,242	2,048,853	285	267,635	1,522,571	3,977,585
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	5,530	138,242	2,048,853	285	267,635	1,522,571	3,977,585
202.45%	LABOR BURDEN		279,871					279,871
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	279,871	0	0	0	0	279,871
	SUBTOTAL	5,530	418,113	2,048,853	285	267,635	1,522,571	4,257,456
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.5 - WASTE DISPOSAL		5,530	418,113	2,048,853	285	267,635	1,522,571	4,257,456

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.5.1 WASTE PACKAGING (Cost to Procure & Handling)

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	B-25 boxes to NTS	317	ea	800	253,827	1	317	COMP	$25.00	7,932	0	0	0	0	0	0	261,759
2	Vol. to Local land fill	1,500	cf	0	0	0.083	125	COMP	$25.00	3,113	0.19	285	0	0	0	0	3,398
3	Visquene (90 mil)	300000	sf	0.0018	540	0.0008	240	COMP	$25.00	6,000	0	0	0	0	0	0	6,540
4	55 gallon drum	900	ea	55	49,500	0.5	450	COMP	$25.00	11,250	0	0	0	0	0	0	60,750
5	Tape	500	roll	3.75	1,875	0.5	250	COMP	$25.00	6,250	0	0	0	0	0	0	8,125
6	Special Sealed Tritium box A(Rad)	652	ea	1600	1,043,166	2	1,304	COMP	$25.00	32,599	0	0	0	0	0	0	1,075,765
7	Special Sealed Tritium box B(Rad)	326	ea	2100	684,578	3	978	COMP	$25.00	24,449	0	0	0	0	0	0	709,027
8		0		0	0	2	0	COMP	$25.00	0	0	0	0	0	0	0	0
9		0		0	0	3	0	COMP	$25.00	0	0	0	0	0	0	0	0
10		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
11	Manifesting - Labeling	2195	container	2.5	5,488	0.1	220	COMP	$25.00	5,488	0	0	0	0	0	0	10,976
12	Inventory Set- up	2195	container	2	4,391	0.1	220	COMP	$25.00	5,488	0	0	0	0	0	0	9,879
13	Loading	2195	container	0	0	0.25	549	COMP	$25.00	13,720	0	0	0	0	0	0	13,720
14	Unloading	2195	container	0	0	0.25	549	COMP	$25.00	13,720	0	0	0	0	0	0	13,720
15	Certification	2195	container	2.5	5,488	0.15	329	COMP	$25.00	8,232	0	0	0	0	0	0	13,720
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					2,048,853		5,530			138,242		285		0		0	2,187,380

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.5.2 WASTE TRANSPORTATION

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Transportation to NTS - B25 boxes	63	trip	0	0	0	0		0	0	0	0	2800	177,679	0	0	177,679
2	Truck special container	98	trip	0	0	0	0		0	0	0	0	0	0	650	63,568	63,568
3	Transportation (to local landfill)	6	dumpster	0	0	0	0		0	0	0	0	100	556	0	0	556
4	Transportation (mixed waste)	1	trip	0	0	0	0		0	0	0	0	5400	5,400	0	0	5,400
5	Transportation to NTS - 55 gal	30	trip	0	0	0	0		0	0	0	0	2800	84,000	0	0	84,000
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		267,635		63,568	331,203

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.5.3 WASTE DISPOSAL (Final Disposition)

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Disposal Costs @ Burial	76,610	cf	0	0	0	0	COMP	$25.00	0	0	0	0	0	13.63	1,044,201	1,044,201
2	Surcharge @ Burial Site	76,610	cf	0	0	0	0	COMP	$25.00	0	0	0	0	0	5	383,052	383,052
3	Local landfill fee (12 ton/dumpster	1500	cf	0	0	0	0		0	0	0	0	0	0	2.5	3,750	3,750
4	Disposal Cost (mixed waste)	70	cf	0	0	0	0		0	0	0	0	0	0	400	28,000	28,000
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	8	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0		0			0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		0		1,459,003	1,459,003

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.6 - INDEPENDENT VERIFICATION CONTRACTOR (IVC)

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.6.1	Independent Verification Contractor (IVC) SURVEY	0	0	0	0	0	75,000	75,000
1.6.2	Independent Verification Contractor (IVC) REPORT	0	0	0	0	0	55,000	55,000
	SUBTOTAL	0	0	0	0	0	130,000	130,000
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	0	0	0	0	0	130,000	130,000
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	0	0	0	0	0	130,000	130,000
202.45%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	0	0	0	0	0	0
	SUBTOTAL	0	0	0	0	0	130,000	130,000
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.6 -	INDEPENDENT VERIFICATION CONTRACTOR (IVC)	0	0	0	0	0	130,000	130,000

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.6.1 Independent Verification Contractor (IVC) SURVEY

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Characterization Survey	1	lot	0	0	0	0		0	0	0	0	0	0	75000	75,000	75,000
2		0		0	0	0	0		0	0	0	0	0	0	0	0	0
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		0		75,000	75,000

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 1.6.2 Independent Verification Contractor (IVC) REPORT

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Characterization Report	1	lot	0	0	0	0			0	0	0	0	0	35000	35,000	35,000
2	Documentation	1	lot	0	0	0	0			0	0	0	0	0	20000	20,000	20,000
3		0		0	0	0	0			0	0	0	0	0	0	0	0
4		0		0	0	0	0			0	0	0	0	0	0	0	0
5		0		0	0	0	0			0	0	0	0	0	0	0	0
6		0		0	0	0	0			0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		0		55,000	55,000

CLIENT: MOUND
PROJECT: T-BUILDING D&D
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: D.C. PRYOR
APPROVED BY: J.M. USHER

WBS - 1.7 - SITE RESTORATION

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
1.7.1	STRUCTURAL REPAIR	600	10,442	3,000	0	0	0	13,442
	SUBTOTAL	600	10,442	3,000	0	0	0	13,442
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	600	10,442	3,000	0	0	0	13,442
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	600	10,442	3,000	0	0	0	13,442
202.45%	LABOR BURDEN		21,140					21,140
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	21,140	0	0	0	0	21,140
	SUBTOTAL	600	31,582	3,000	0	0	0	34,582
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 1.7 - SITE RESTORATION		600	31,582	3,000	0	0	0	34,582

CLIENT: MOUND
PROJECT: T-BUILDING D&D
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 1.7.1 STRUCTURAL REPAIR

DATE: 9/26/96
ESTIMATOR: D.C. PRYOR

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Minimal restoration activities	0		0	0	0	0		0	0	0	0	0	0	0	0	0
2	necessary to meet basic safety	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	requirements	0		0	0	0	0		0	0	0	0	50	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6	Construction Craft	400	hr	2.5	1,000	1	400	CC	$17.01	6,804	0	0	0	0	0	0	7,804
7	Electrician	200	hr	10	2,000	1	200	E	$18.19	3638	0	0.00	0	0	0	0	5,638
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					3,000		600			10,442		0		0		0	13,442

APPENDIX D
DETAILED ESTIMATE FOR ALTERNATIVE 2
DECAY IN PLACE (1,000 Ci/yr)

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

T E C (2.0) T-BUILDING DECAY IN PLACE - 1,000 Ci / yr

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.1	PROJECT MANAGEMENT	17,420	2,370,962	876,225	360,799	0	0	3,607,986
2.2	ENGINEERING	15,906	1,683,727	360,799	240,532	120,266	0	2,405,324
2.3	SITE SERVICES	67,860	5,131,064	116,678	26,250	250,000	3,600,000	9,123,993
2.4	T-BUILDING DECAY IN PLACE ACTIVITIES	79,545	5,713,218	1,561,464	208,331	350,000	1,300	7,834,313
2.5	WASTE DISPOSAL	4,495	339,865	1,503,913	95	140,400	919,280	2,903,552
2.6	D&D VERIFICATION & MAINTENANCE FOR 100 YEARS	24,000	4,760,700	0	0	0	520,080	5,280,780
2.7	SITE RESTORATION	600	31,582	3,000	0	0	0	34,582
	SUBTOTAL	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
								0
								0
								0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	209,825	20,031,119	4,422,079	836,007	860,666	5,040,660	31,190,530
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
11.82%	ESCALATION - AVERAGE EFFECTIVE RATE (see note 1)		2,367,678	522,690	98,816	101,731	595,806	3,686,721
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
18.80%	G & A Overhead		3,765,850	831,351	157,169	161,805	947,644	5,863,820
	SUBTOTAL - PROJECT LOADERS	0	6,133,529	1,354,040	255,985	263,536	1,543,450	9,550,540
	TOTAL PROJECT COST	209,825	26,164,647	5,776,119	1,091,992	1,124,202	6,584,110	40,741,071
40.00%	CONTINGENCY		10,465,859	2,310,448	436,797	449,681	2,633,644	16,296,428
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
	TOTAL	209,825	36,630,506	8,086,567	1,528,789	1,573,883	9,217,754	57,037,499

(1) Entire project is escalated to the midpoint of the initial D&D activities (4 years). Additionally, the institutional controls period is escalated to its midpoint (50 years). See WBS 2.6

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.1 - PROJECT MANAGEMENT

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIPMENT	SUBCONTRACTS	OTHER	TOTAL
2.1.1	PROJECT MANAGEMENT ACTIVITIES (ASSESSMENT)	10,604	477,168	412,341	206,171	0	0	1,095,680
2.1.2	PROJECT CONTROLS (DECOMMISSIONING PHASE)	6,817	306,751	463,884	154,628	0	0	925,263
	** Based on %'s of the Project Cost (less Waste Management Costs)							
	SUBTOTAL	17,420	783,919	876,225	360,799	0	0	2,020,943
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	17,420	783,919	876,225	360,799	0	0	2,020,943
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT							
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)							
	TOTAL FIELD AND HOME OFFICE	17,420	783,919	876,225	360,799	0	0	2,020,943
202.45%	LABOR BURDEN		1,587,044					1,587,044
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,587,044	0	0	0	0	1,587,044
	SUBTOTAL	17,420	2,370,962	876,225	360,799	0	0	3,607,986
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.1 - PROJECT MANAGEMENT		17,420	2,370,962	876,225	360,799	0	0	3,607,986

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr

WBS NUMBER : 2.1.1

WBS DESCRIPTION: PROJECT MANAGEMENT ACTIVITIES (ASSESSMENT)

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT COSTS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDED	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	**Project Management**	5	man yr	80,884	412,341	2,080	10,604	PM	$45.00	477,168	40,442	206,171	-	0	-	0	1,095,680
2	[based on 12% of project cost	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0		0	0	0	0	0	0	0	0	0
5	*Labor Burden in 3.1 Summary	0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7	**Project Management Costs:**	0		0	0	0	0		0	0	0	0	0	0	0	0	0
8	70% Labor (fully burdened)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
9	20% Material	0		0	0	0	0		0	0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39				0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					412,341		10,604			477,168		206,171		0		0	1,095,680

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr

WBS NUMBER : 2.1.2

WBS DESCRIPTION: PROJECT CONTROLS (DECOMMISSIONING PHASE)

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT COST	EXTENDED COST	
1	**Project Controls**	3	man yr	141,547	463,884	2,080	6,817	PM	$45.00	306,751	47,182	154,628	-	0	-	0	925,263
2	[based on 9% of project cost	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0		0	0	0	0	0	0	0	0	0
5	*Labor Burden in 3.1 Summary	0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7	**Project Control Costs:**	0		0	0	0	0		0	0	0	0	0	0	0	0	0
8	60% Labor (fully burdened)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
9	30% Material	0		0	0	0	0		0	0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39				0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					463,884		6,817			306,751		154,628		0		0	925,263

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.2 - ENGINEERING

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.2.1	ENGINEERING	15,906	556,696	360,799	240,532	120,266	0	1,278,293
								0
								0
								0
	** Based on 14% of project cost (less Waste Management Costs)							0
								0
								0
								0
								0
	SUBTOTAL	15,906	556,696	360,799	240,532	120,266	0	1,278,293
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	15,906	556,696	360,799	240,532	120,266	0	1,278,293
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)	0	0	0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	15,906	556,696	360,799	240,532	120,266	0	1,278,293
202.45%	LABOR BURDEN		1,127,031					1,127,031
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,127,031	0	0	0	0	1,127,031
	SUBTOTAL	15,906	1,683,727	360,799	240,532	120,266	0	2,405,324
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.2 -	ENGINEERING	15,906	1,683,727	360,799	240,532	120,266	0	2,405,324

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 2.2.1 ENGINEERING

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT of MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDED	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	**Engineering**	8	man yr	47,182	360,799	2080	15,906	ENG	$35.00	556,696	31,455	240,532	15,727	120,266	0	0	1,278,293
2	[based on 14% of project cost	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
3	(less waste management costs)	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
4	including Labor Burden]	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
5	*Labor Burden in 3.2 Summary	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
6		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
7	**Engineering Costs:**	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
8	70% Labor (fully burdened)	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
9	15% Material	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
10	10% Equipment	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
11	5% Subcontractors	0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
12		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
13		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
14		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
15		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
16		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
17		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
18		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
19		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
21		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
22		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
23		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
24		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
25		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
26		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
27		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
28		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
29		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
30		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
31		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
32		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
33		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
34		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
35		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
36		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
37		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
38		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
39		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
40		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
41		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
42				0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
43		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
Subtotal					360,799		15,906			556,696		240,532		120,266		0	1,278,293

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.3 - SITE SERVICES

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.3.1	REQD. ENVIRONMENTAL MONITORING ACTIVITIES	4,420	110,500	0	21,250	0	0	131,750
2.3.2	EQUIPMENT PROCUREMENT	4,420	110,500	0	0	0	0	110,500
2.3.3	SAFEGUARDS & SECURITY	4,420	110,500	0	0	0	0	110,500
2.3.4	UTILITIES	2,080	52,000	0	5,000	0	3,600,000	3,657,000
2.3.5	STAFFING	4,420	110,500	0	0	0	0	110,500
2.3.6	SAFETY DOCUMENTATION	4,420	110,500	0	0	0	0	110,500
2.3.7	FACILITY CHARACTERIZATION / LAB. SAMPLING	0	0	0	0	250,000	0	250,000
2.3.8	TERF OPERATION (EQUIPMENT REMOVAL PERIOD)	43,680	1,092,000	116,678	0	0	0	1,208,678
								0
								0
	SUBTOTAL	67,860	1,696,500	116,678	26,250	250,000	3,600,000	5,689,428
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	67,860	1,696,500	116,678	26,250	250,000	3,600,000	5,689,428
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	67,860	1,696,500	116,678	26,250	250,000	3,600,000	5,689,428
202.45%	LABOR BURDEN		3,434,564					3,434,564
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	3,434,564	0	0	0	0	3,434,564
	SUBTOTAL	67,860	5,131,064	116,678	26,250	250,000	3,600,000	9,123,993
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.3 - SITE SERVICES		67,860	5,131,064	116,678	26,250	250,000	3,600,000	9,123,993

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS

LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE

WBS: 2.3.1 REQD. ENVIRONMENTAL MONITORING ACTIVITIES

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Env. Monitoring	2.125	man yr	0	0	2,080	4,420	COMP	$25.00	110,500	10000	21,250	0	0	0	0	131,750
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(8.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,420			110,500		21,250		0		0	131,750

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 2.3.2 EQUIPMENT PROCUREMENT

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Procurement Services	2.125	man yr	0	0	2,080	4,420	COMP	$25.00	110,500	0	0	0	0	0	0	110,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(8.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,420			110,500		0		0		0	110,500

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS: 2.3.3 SAFEGUARDS & SECURITY

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Security Measures	2.125	man yr	0	0	2,080	4,420		25	110,500	0	0	0	0	0	0	110,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(8.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,420			110,500		0		0		0	110,500

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.3.4 UTILITIES

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Computer Support	1	man yr	0	0	2,080	2,080	COMP	$25.00	52,000	5000	5,000	0	0	0	0	57,000
2	(CAD support during D&D Activit	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4	Annual Utility Cost	9	yr	0	0	0	0		0	0	0	0	0	0	400000	3,600,000	3,600,000
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		2,080			52,000		5,000		0		3,600,000	3,657,000

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.3.5 STAFFING

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Staffing	2.125	man yr	0	0	2,080	4,420	COMP	$25.00	110,500	0	0	0	0	0	0	110,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(8.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,420			110,500		0		0		0	110,500

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.3.6 SAFETY DOCUMENTATION

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Safety Documentations	2.125	man yr	0	0	2,080	4,420		25	110,500	0	0	0	0	0	0	110,500
2	(.25 FTE during D&D Activities)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	(8.5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,420			110,500		0		0		0	110,500

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS: 2.3.7 FACILITY CHARACTERIZATION / LAB. SAMPLING

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS XTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Laboratory Analysis Support	1	lot	0	0	0	0		0	0	0	0	250000	250,000	0	0	250,000
2	(Allowance)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		250,000		0	250,000

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS

LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE

WBS : 2.3.8 TERF OPERATION (EQUIPMENT REMOVAL PERIOD)

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS XTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	TERF Operation(7 Yrs.)	21	man yr	0	0	2,080	43,680	COMP	$25.00	1,092,000	0	0	0	0	0	0	1,092,000
2		0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	Allowance for Barrels	852	ea	137	116,678	0	0		0	0	0	0	0	0	0	0	116,678
4	(28 liters every 3 days)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					116,678		43,680			1,092,000		0		0		0	1,208,678

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4 - T-BUILDING DECAY IN PLACE ACTIVITIES

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.1	T SECOND FLOOR SOUTH	483	35,587	15,533	18,235	0	0	69,355
2.4.2	T SECOND FLOOR MIDDLE	17,199	1,230,680	414,725	26,424	0	0	1,671,829
2.4.3	T SECOND FLOOR NORTH	977	70,382	28,330	18,396	0	0	117,108
2.4.4	T FIRST FLOOR SOUTH	1,473	105,496	31,229	18,436	0	0	155,161
2.4.5	T FIRST FLOOR MIDDLE	38,520	2,633,760	728,537	89,404	0	0	3,451,701
2.4.6	T FIRST FLOOR NORTH	775	57,198	26,040	18,436	0	0	101,674
2.4.7	T BUILDING SYSTEM D & D	19,304	1,459,624	284,716	12,500	100,000	1,300	1,858,140
2.4.8	T BUILDING STRUCTURAL DEMOLITION	814	61,549	32,354	0	0	0	93,903
2.4.9	T EAST STACK	0	0	0	6,500	250,000	0	256,500
	SUBTOTAL	79,545	5,654,275	1,561,464	208,331	350,000	1,300	7,775,370
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	79,545	5,654,275	1,561,464	208,331	350,000	1,300	7,775,370
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	58,943	0	0	0	0	58,943
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	79,545	5,713,218	1,561,464	208,331	350,000	1,300	7,834,313
0.00%	LABOR BURDEN		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)						0	0
0.00%	PERMITS						0	0
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR		0					0
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	0	0	0	0	0	0
	SUBTOTAL	79,545	5,713,218	1,561,464	208,331	350,000	1,300	7,834,313
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.4 - T-BUILDING DECAY IN PLACE ACTIVITIES		79,545	5,713,218	1,561,464	208,331	350,000	1,300	7,834,313

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.1 - T SECOND FLOOR SOUTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.1.1	PREPARATIONS	238	5,950	15,533	18,235	0	0	39,718
2.4.1.2	GLOVEBOX / FUMEHOOD REMOVAL	245	5,816	0	0	0	0	5,816
	SUBTOTAL	483	11,766	15,533	18,235	0	0	45,534
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	483	11,766	15,533	18,235	0	0	45,534
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	483	11,766	15,533	18,235	0	0	45,534
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		23,821					23,821
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	23,821	0	0	0	0	23,821
	SUBTOTAL	483	35,587	15,533	18,235	0	0	69,355
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.1 - T SECOND FLOOR SOUTH		483	35,587	15,533	18,235	0	0	69,355

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.1.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	15	ea	0	0	0	0	COMP	$25.00	0	9	135	0	0	0	0	135
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	10	ea	0	0	0	0	COMP	$25.00	0	18	180	0	0	0	0	180
5		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
6	Portable Temporary Lights	2	set	500	1,000	80	160	COMP	$25.00	4,000	0	0	0	0	0	0	5,000
7	GFI Portable Power (cords)	2	ea	250	500	24	48	COMP	$25.00	1,200	0	0	0	0	0	0	1,700
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials (per MTES)	1	lot	2358	2,358	0	0	COMP	$25.00	0	0	0	0	0	0	0	2,358
22	Bubble Suit	27	ea	290	7,830	0	5	COMP	$25.00	125	0	0	0	0	0	0	7,955
23	Supplied Air Unit	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250sfca ea.)	500	sfca	1.16	580	0	25	COMP	$25.00	625	0	0	0	0	0	0	1,205
25	Additional PPE	483	hr	5	2,415	0	0	COMP	$25.00	0	0	0	0	0	0	0	2,415
26		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0	COMP	$25.00	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0	COMP	$25.00	0	0	0	0	0	0	0	850
29		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
30		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
31		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
32		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
33		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
34		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
35		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
36		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
37		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
38		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
39		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
40		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
Subtotal					15,533		238			5,950		18,235		0		0	39,718

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.1.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glove box/fumehood	0	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	21	hr	0	0	1.00	21	LT	$44.25	943	0	0	0	0	0	0	943
3	Process Technician	73	hr	0	0	1.00	73	PT	$31.78	2,304	0	0	0	0	0	0	2,304
4	Fabrication Mechanic	6	hr	0	0	1.00	6	FM	$18.19	109	0	0	0	0	0	0	109
5	Pipefitter / Welder	52	hr	0	0	1.00	52	PW	$18.32	953	0	0	0	0	0	0	953
6	Electrician	0	hr	0	0	1.00	0	E	$18.19	0	0	0	0	0	0	0	0
7	R C Technician	51	hr	0	0	1.00	51	RCT	$18.91	964	0	0	0	0	0	0	964
8	Decon Worker	42	hr	0	0	1.00	42	D	$13.00	543	0	0	0	0	0	0	543
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
11		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
12		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
13		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
14		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
15		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
16		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
17		0		0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
18		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
19		0		0	0	0	0	X	$0.00	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		245			5,816		0		0		0	5,816

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.2 - T SECOND FLOOR MIDDLE

			DOLLARS					
Work Code	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.2.1	PREPARATIONS	1,925	48,125	414,725	26,424	0	0	489,274
2.4.2.2	GLOVEBOX / FUMEHOOD REMOVAL	15,274	358,779	0	0	0	0	358,779
	SUBTOTAL	17,199	406,904	414,725	26,424	0	0	848,053
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	17,199	406,904	414,725	26,424	0	0	848,053
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	17,199	406,904	414,725	26,424	0	0	848,053
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		823,776					823,776
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	823,776	0	0	0	0	823,776
	SUBTOTAL	17,199	1,230,680	414,725	26,424	0	0	1,671,829
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.2 - T SECOND FLOOR MIDDLE		17,199	1,230,680	414,725	26,424	0	0	1,671,829

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.2.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDED	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	15	mn	0	0	0	0	COMP	$25.00	0	30	450	0	0	0	0	450
2	Saw Blades	45	ea	0	0	0	0	COMP	$25.00	0	9	405	0	0	0	0	405
3	Portable Band Saws	8	mn	0	0	0	0	COMP	$25.00	0	48	384	0	0	0	0	384
4	Band Saw Blades	30	ea	0	0	0	0	COMP	$25.00	0	18	540	0	0	0	0	540
5	Pallet Jack	10	mn	0	0	0	0	COMP	$25.00	0	20	200	0	0	0	0	200
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	15	mn	0	0	0	0	COMP	$25.00	0	125	1,875	0	0	0	0	1,875
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	15	mn	0	0	0	0	COMP	$25.00	0	250	3,750	0	0	0	0	3,750
12	Electric Sheet Metal Cutters	15	mn	0	0	0	0	COMP	$25.00	0	108	1,620	0	0	0	0	1,620
13	Portable Dry Vacuum (hepa) Sys	15	mn	0	0	0	0	COMP	$25.00	0	185	2,775	0	0	0	0	2,775
14	Portable Wet Vacuum System	15	mn	0	0	0	0	COMP	$25.00	0	95	1,425	0	0	0	0	1,425
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	64800	64,800	0	0	COMP	$25.00	0	0	0	0	0	0	0	64,800
22	Bubble Suits	768	ea	290	222,720	0	154	COMP	$25.00	3,850	0	0	0	0	0	0	226,570
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	33500	sfca	1.16	38,860	0	1,675	COMP	$25.00	41,875	0	0	0	0	0	0	80,735
25	Additional PPE	17199	hr	5	85,995	0	0		0	0	0	0	0	0	0	0	85,995
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					414,725		1,925			48,125		26,424		0		0	489,274

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.2.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	48	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	1026	hr	0	0	1.00	1,026	LT	$44.25	45,401	0	0	0	0	0	0	45,401
3	Process Technician	4886	hr	0	0	1.00	4,886	PT	$31.78	155,277	0	0	0	0	0	0	155,277
4	Fabrication Mechanic	1281	hr	0	0	1.00	1,281	FM	$18.19	23,301	0	0	0	0	0	0	23,301
5	Pipefitter / Welder	2651	hr	0	0	1.00	2,651	PW	$18.32	48,566	0	0	0	0	0	0	48,566
6	Electrician	132	hr	0	0	1.00	132	E	$18.19	2,401	0	0	0	0	0	0	2,401
7	R C Technician	2531	hr	0	0	1.00	2,531	RCT	$18.91	47,861	0	0	0	0	0	0	47,861
8	Decon Worker	2767	hr	0	0	1.00	2,767	D	$13.00	35,971	0	0	0	0	0	0	35,971
9	Heavy duty operator	0	hr	0	0	1.00	0	X	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		15,274			358,779		0		0		0	358,779

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.3 - T SECOND FLOOR NORTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.3.1	PREPARATIONS	279	6,975	28,330	18,396	0	0	53,701
2.4.3.2	GLOVEBOX / FUMEHOOD REMOVAL	698	16,296	0	0	0	0	16,296
	SUBTOTAL	977	23,271	28,330	18,396	0	0	69,997
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	977	23,271	28,330	18,396	0	0	69,997
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	977	23,271	28,330	18,396	0	0	69,997
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		47,111					47,111
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	47,111	0	0	0	0	47,111
	SUBTOTAL	977	70,382	28,330	18,396	0	0	117,108
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.3 - T SECOND FLOOR NORTH		977	70,382	28,330	18,396	0	0	117,108

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.3.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	4	mn	0	0	0	0	COMP	$25.00	0	20	80	0	0	0	0	80
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4855	4,855	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,855
22	Bubble Suits	42	ea	290	12,180	0	8	COMP	$25.00	200	0	0	0	0	0	0	12,380
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	3500	sfca	1.16	4,060	0	175	COMP	$25.00	4,375	0	0	0	0	0	0	8,435
25	Additional PPE	977	hr	5	4,885	0	0		0	0	0	0	0	0	0	0	4,885
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					28,330		279			6,975		18,396		0		0	53,701

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.3.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	2	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	46	hr	0	0	1.00	46	LT	$44.25	2,036	0	0	0	0	0	0	2,036
3	Process Technician	225	hr	0	0	1.00	225	PT	$31.78	7,151	0	0	0	0	0	0	7,151
4	Fabrication Mechanic	61	hr	0	0	1.00	61	FM	$18.19	1,110	0	0	0	0	0	0	1,110
5	Pipefitter / Welder	105	hr	0	0	1.00	105	PW	$18.32	1,924	0	0	0	0	0	0	1,924
6	Electrician	3	hr	0	0	1.00	3	E	$18.19	55	0	0	0	0	0	0	55
7	R C Technician	113	hr	0	0	1.00	113	RCT	$18.91	2,137	0	0	0	0	0	0	2,137
8	Decon Worker	145	hr	0	0	1.00	145	D	$13.00	1,885	0	0	0	0	0	0	1,885
9	Heavy duty operator	0	hr	0	0	1.00	0	X	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		698			16,296		0		0		0	16,296

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.4 - T FIRST FLOOR SOUTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.4.1	PREPARATIONS	231	5,775	31,229	18,436	0	0	55,440
2.4.4.2	GLOVEBOX / FUMEHOOD REMOVAL	1,242	29,106	0	0	0	0	29,106
	SUBTOTAL	1,473	34,881	31,229	18,436	0	0	84,546
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	1,473	34,881	31,229	18,436	0	0	84,546
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	1,473	34,881	31,229	18,436	0	0	84,546
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		70,616					70,616
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	70,616	0	0	0	0	70,616
	SUBTOTAL	1,473	105,496	31,229	18,436	0	0	155,161
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.4 - T FIRST FLOOR SOUTH		1,473	105,496	31,229	18,436	0	0	155,161

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.4.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	6	mn	0	0	0	0	COMP	$25.00	0	20	120	0	0	0	0	120
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4404	4,404	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,404
22	Bubble Suits	49	ea	290	14,210	0	10	COMP	$25.00	250	0	0	0	0	0	0	14,460
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	2500	sfca	1.16	2,900	0	125	COMP	$25.00	3,125	0	0	0	0	0	0	6,025
25	Additional PPE	1473	hr	5	7,365	0	0		0	0	0	0	0	0	0	0	7,365
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0.00	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					31,229		231			5,775		18,436		0		0	55,440

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.4.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	11	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	75	hr	0	0	1.00	75	LT	$44.25	3,319	0	0	0	0	0	0	3,319
3	Process Technician	394	hr	0	0	1.00	394	PT	$31.78	12,521	0	0	0	0	0	0	12,521
4	Fabrication Mechanic	204	hr	0	0	1.00	204	FM	$18.19	3,711	0	0	0	0	0	0	3,711
5	Pipefitter / Welder	175	hr	0	0	1.00	175	PW	$18.32	3,206	0	0	0	0	0	0	3,206
6	Electrician	20	hr	0	0	1.00	20	E	$18.19	364	0	0	0	0	0	0	364
7	R C Technician	190	hr	0	0	1.00	190	RCT	$18.91	3,593	0	0	0	0	0	0	3,593
8	Decon Worker	184	hr	0	0	1.00	184	D	$13.00	2,392	0	0	0	0	0	0	2,392
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		1,242			29,106		0		0		0	29,106

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.5 - T FIRST FLOOR MIDDLE

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.5.1	PREPARATIONS	3,038	75,950	728,537	81,904	0	0	886,391
2.4.5.2	GLOVEBOX / FUMEHOOD REMOVAL	32,602	747,857	0	0	0	0	747,857
2.4.5.3	CONTAMINATED CONCRETE AND SUMP REMOVAL	2,880	47,002	0	7,500	0	0	54,502
	SUBTOTAL	38,520	870,809	728,537	89,404	0	0	1,688,750
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	38,520	870,809	728,537	89,404	0	0	1,688,750
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	38,520	870,809	728,537	89,404	0	0	1,688,750
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		1,762,952					1,762,952
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	1,762,952	0	0	0	0	1,762,952
	SUBTOTAL	38,520	2,633,760	728,537	89,404	0	0	3,451,701
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.5 - T FIRST FLOOR MIDDLE		38,520	2,633,760	728,537	89,404	0	0	3,451,701

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.5.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	24	mn	0	0	0	0	COMP	$25.00	0	30	720	0	0	0	0	720
2	Saw Blades	120	ea	0	0	0	0	COMP	$25.00	0	9	1,080	0	0	0	0	1,080
3	Portable Band Saws	24	mn	0	0	0	0	COMP	$25.00	0	48	1,152	0	0	0	0	1,152
4	Band Saw Blades	120	ea	0	0	0	0	COMP	$25.00	0	18	2,160	0	0	0	0	2,160
5	Pallet Jack	24	mn	0	0	0	0	COMP	$25.00	0	20	480	0	0	0	0	480
6	Portable Temporary Lights	4	set	500	2,000	40	160	COMP	$25.00	4,000	0	0	0	0	0	0	6,000
7	GFI Portable Power (cords)	8	ea	250	2,000	8	64	COMP	$25.00	1,600	0	0	0	0	0	0	3,600
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	24	mn	0	0	0	0	COMP	$25.00	0	125	3,000	0	0	0	0	3,000
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	24	mn	0	0	0	0	COMP	$25.00	0	250	6,000	0	0	0	0	6,000
12	Electric Sheet Metal Cutters	24	mn	0	0	0	0	COMP	$25.00	0	108	2,592	0	0	0	0	2,592
13	Portable Dry Vacuum (hepa) Sys	24	mn	0	0	0	0	COMP	$25.00	0	185	4,440	0	0	0	0	4,440
14	Portable Wet Vacuum System	24	mn	0	0	0	0	COMP	$25.00	0	95	2,280	0	0	0	0	2,280
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	106277	106,277	0	0	COMP	$25.00	0	0	0	0	0	0	0	106,277
22	Bubble Suits	1254	ea	290	363,660	0	251	COMP	$25.00	6,275	0	0	0	0	0	0	369,935
23	Supplied Air Units	5	ea	0	0	0	0	COMP	$25.00	0	9500	47,500	0	0	0	0	47,500
24	Tent Material (250 sfca ea.)	51250	sfca	1.16	59,450	0	2,563	COMP	$25.00	64,075	0	0	0	0	0	0	123,525
25	Additional PPE	38520	hr	5	192,600	0	0		0	0	0	0	0	0	0	0	192,600
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	3	ea	0	0	0	0		0	0	3500	10,500	0	0	0	0	10,500
28	Portable Eyewash Station	3	ea	850	2,550	0	0		0	0	0	0	0	0	0	0	2,550
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					728,537		3,038			75,950		81,904		0		0	886,391

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.5.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	75	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	2080	hr	0	0	1.00	2,080	LT	$44.25	92,040	0	0	0	0	0	0	92,040
3	Process Technician	10002	hr	0	0	1.00	10,002	PT	$31.78	317,864	0	0	0	0	0	0	317,864
4	Fabrication Mechanic	2451	hr	0	0	1.00	2,451	FM	$18.19	44,584	0	0	0	0	0	0	44,584
5	Pipefitter / Welder	5729	hr	0	0	1.00	5,729	PW	$18.32	104,955	0	0	0	0	0	0	104,955
6	Electrician	248	hr	0	0	1.00	248	E	$18.19	4,511	0	0	0	0	0	0	4,511
7	R C Technician	4501	hr	0	0	1.00	4,501	RCT	$18.91	85,114	0	0	0	0	0	0	85,114
8	Decon Worker	7571	hr	0	0	1.00	7,571	D	$13.00	98,423	0	0	0	0	0	0	98,423
9	Heavy duty operator	20	hr	0	0	1.00	20	HO	$18.32	366	0	0	0	0	0	0	366
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		32,602			747,857		0		0		0	747,857

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.5.3 CONTAMINATED CONCRETE AND SUMP REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Contaminated Contrete			0	0	0	0		0	0	0	0	0	0	0	0	0
2	and Sump Removal:			0	0	0	0		0	0	0	0	0	0	0	0	0
3	(4,000 Cubic Feet)			0	0	0	0		0	0	0	0	0	0	0	0	0
4	Heavy Duty	640	hr	0	0	1	640	HD	$18.32	11,725	0	0	0	0	0	0	11,725
5	Field Coordinator	320	hr	0	0	1	320	FC	$20.42	6,534	0	0	0	0	0	0	6,534
6	R C Technician	640	hr	0	0	1	640	RCT	$18.91	12,102	0	0	0	0	0	0	12,102
7	Decon Worker	1280	hr	0	0	1	1,280	D	$13.00	16,640	0	0	0	0	0	0	16,640
8	Equipment	1	lot	0	0	0	0		0	0	7500	7,500	0	0	0	0	7,500
9				0	0	0	0		0	0	0	0	0	0	0	0	0
10				0	0	0	0		0	0	0	0	0	0	0	0	0
11				0	0	0	0		0	0	0	0	0	0	0	0	0
12				0	0	0	0		0	0	0	0	0	0	0	0	0
13				0	0	0	0		0	0	0	0	0	0	0	0	0
14				0	0	0	0		0	0	0	0	0	0	0	0	0
15				0	0	0	0		0	0	0	0	0	0	0	0	0
16				0	0	0	0		0	0	0	0	0	0	0	0	0
17				0	0	0	0		0	0	0	0	0	0	0	0	0
18				0	0	0	0		0	0	0	0	0	0	0	0	0
19				0	0	0	0		0	0	0	0	0	0	0	0	0
20				0	0	0	0		0	0	0	0	0	0	0	0	0
21				0	0	0	0		0	0	0	0	0	0	0	0	0
22				0	0	0	0		0	0	0	0	0	0	0	0	0
23				0	0	0	0		0	0	0	0	0	0	0	0	0
24				0	0	0	0		0	0	0	0	0	0	0	0	0
25				0	0	0	0		0	0	0	0	0	0	0	0	0
26				0	0	0	0		0	0	0	0	0	0	0	0	0
27				0	0	0	0		0	0	0	0	0	0	0	0	0
28				0	0	0	0		0	0	0	0	0	0	0	0	0
29				0	0	0	0		0	0	0	0	0	0	0	0	0
30				0	0	0	0		0	0	0	0	0	0	0	0	0
31				0	0	0	0		0	0	0	0	0	0	0	0	0
32				0	0	0	0		0	0	0	0	0	0	0	0	0
33				0	0	0	0		0	0	0	0	0	0	0	0	0
34				0	0	0	0		0	0	0	0	0	0	0	0	0
35				0	0	0	0		0	0	0	0	0	0	0	0	0
36				0	0	0	0		0	0	0	0	0	0	0	0	0
37				0	0	0	0		0	0	0	0	0	0	0	0	0
38				0	0	0	0		0	0	0	0	0	0	0	0	0
39				0	0	0	0		0	0	0	0	0	0	0	0	0
40				0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		2,880			47,002		7,500		0		0	54,502

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.6 - T FIRST FLOOR NORTH

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.6.1	PREPARATIONS	205	5,125	26,040	18,436	0	0	49,601
2.4.6.2	GLOVEBOX / FUMEHOOD REMOVAL	570	13,787	0	0	0	0	13,787
	SUBTOTAL	775	18,912	26,040	18,436	0	0	63,388
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	775	18,912	26,040	18,436	0	0	63,388
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	775	18,912	26,040	18,436	0	0	63,388
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		38,286					38,286
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	38,286	0	0	0	0	38,286
	SUBTOTAL	775	57,198	26,040	18,436	0	0	101,674
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.6 - T FIRST FLOOR NORTH		775	57,198	26,040	18,436	0	0	101,674

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS: 2.4.6.1 PREPARATIONS

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Sawsall Electric (reciprocating)	5	mn	0	0	0	0	COMP	$25.00	0	30	150	0	0	0	0	150
2	Saw Blades	20	ea	0	0	0	0	COMP	$25.00	0	9	180	0	0	0	0	180
3	Portable Band Saws	4	mn	0	0	0	0	COMP	$25.00	0	48	192	0	0	0	0	192
4	Band Saw Blades	12	ea	0	0	0	0	COMP	$25.00	0	18	216	0	0	0	0	216
5	Pallet Jack	6	mn	0	0	0	0	COMP	$25.00	0	20	120	0	0	0	0	120
6	Portable Temporary Lights	2	set	500	1,000	40	80	COMP	$25.00	2,000	0	0	0	0	0	0	3,000
7	GFI Portable Power (cords)	2	ea	250	500	8	16	COMP	$25.00	400	0	0	0	0	0	0	900
8		0	mn	0	0	0	0	COMP	$25.00	0	870	0	0	0	0	0	0
9	Hydraulic Shears (small)	6	mn	0	0	0	0	COMP	$25.00	0	125	750	0	0	0	0	750
10		0	mn	0	0	0	0	COMP	$25.00	0	350	0	0	0	0	0	0
11	Hydraulic Sheet Metal Scissors	6	mn	0	0	0	0	COMP	$25.00	0	250	1,500	0	0	0	0	1,500
12	Electric Sheet Metal Cutters	6	mn	0	0	0	0	COMP	$25.00	0	108	648	0	0	0	0	648
13	Portable Dry Vacuum (hepa) Sys	6	mn	0	0	0	0	COMP	$25.00	0	185	1,110	0	0	0	0	1,110
14	Portable Wet Vacuum System	6	mn	0	0	0	0	COMP	$25.00	0	95	570	0	0	0	0	570
15		0		0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
16		0	mn	0	0	0	0	COMP	$25.00	0	30	0	0	0	0	0	0
17		0	ea	0	0	0	0	COMP	$25.00	0	9	0	0	0	0	0	0
18		0	mn	0	0	0	0	COMP	$25.00	0	48	0	0	0	0	0	0
19		0	ea	0	0	0	0	COMP	$25.00	0	18	0	0	0	0	0	0
20		0	ea	0	0	0	0	COMP	$25.00	0	0	0	0	0	0	0	0
21	Decon Materials(per Mtes)	1	lot	4155	4,155	0	0	COMP	$25.00	0	0	0	0	0	0	0	4,155
22	Bubble Suits	46	ea	290	13,340	0	9	COMP	$25.00	225	0	0	0	0	0	0	13,565
23	Supplied Air Units	1	ea	0	0	0	0	COMP	$25.00	0	9500	9,500	0	0	0	0	9,500
24	Tent Material (250 sfca ea.)	2000	sfca	1.16	2,320	0	100	COMP	$25.00	2,500	0	0	0	0	0	0	4,820
25	Additional PPE	775	hr	5	3,875	0	0		0	0	0	0	0	0	0	0	3,875
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27	Air Monitors	1	ea	0	0	0	0		0	0	3500	3,500	0	0	0	0	3,500
28	Portable Eyewash Station	1	ea	850	850	0	0		0	0	0	0	0	0	0	0	850
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					26,040		205			5,125		18,436		0		0	49,601

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE

WBS : 2.4.6.2 GLOVEBOX / FUMEHOOD REMOVAL

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Glovebox / Fumehood	0	count	0	0	0.00	0	X	$0.00	0	0	0	0	0	0	0	0
2	Lead Technician	60	hr	0	0	1.00	60	LT	$44.25	2,655	0	0	0	0	0	0	2,655
3	Process Technician	150	hr	0	0	1.00	150	PT	$31.78	4,767	0	0	0	0	0	0	4,767
4	Fabrication Mechanic	0	hr	0	0	1.00	0	FM	$18.19	0	0	0	0	0	0	0	0
5	Pipefitter / Welder	150	hr	0	0	1.00	150	PW	$18.32	2,748	0	0	0	0	0	0	2,748
6	Electrician	0	hr	0	0	1.00	0	E	$18.19	0	0	0	0	0	0	0	0
7	R C Technician	150	hr	0	0	1.00	150	RCT	$18.91	2,837	0	0	0	0	0	0	2,837
8	Decon Worker	60	hr	0	0	1.00	60	D	$13.00	780	0	0	0	0	0	0	780
9	Heavy duty operator	0	hr	0	0	1.00	0	HO	$18.32	0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					0		570			13,787		0		0		0	13,787

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.7 - T BUILDING SYSTEM D & D

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.7.1	PURGE GLOVEBOXES	18,720	468,000	284,575	12,500	100,000	1,300	866,375
2.4.7.2	DISCONNECT ALL UTILITIES	584	14,600	141	0	0	0	14,741
	SUBTOTAL	19,304	482,600	284,716	12,500	100,000	1,300	881,116
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	19,304	482,600	284,716	12,500	100,000	1,300	881,116
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	19,304	482,600	284,716	12,500	100,000	1,300	881,116
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		977,024					977,024
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	977,024	0	0	0	0	977,024
	SUBTOTAL	19,304	1,459,624	284,716	12,500	100,000	1,300	1,858,140
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.7 - T BUILDING SYSTEM D & D		19,304	1,459,624	284,716	12,500	100,000	1,300	1,858,140

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.7.1 PURGE GLOVEBOXES

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Purge Gloveboxes to TERF 3 yrs	9	man year	0	0	2080	18,720	COMP	$25.00	468,000	0	0	0	0	0	0	468,000
2	Material Allowance	1	lot	22500	22,500	0	0		0	0	0	0	0	0	0	0	22,500
3	Allowance for PPE	1	lot	11900	11,900	0	0		0	0	0	0	0	0	0	0	11,900
4	Equipment Rental	1	lot	0	0	0	0		0	0	12500	12,500	0	0	0	0	12,500
5	Allowance for Barrels	1	lot	250025	250,025	0	0		0	0	0	0	0	0	0	0	250,025
6	Dispose Contaminated Suits	1	lot	150	150	0	0		0	0	0	0	0	0	1300	1,300	1,450
7	Install CCTV System to monitor	1	lot	0	0	0	0		0	0	0	0	100000	100,000	0	0	100,000
8				0	0	0	0		0	0	0	0	0	0	0	0	0
9				0	0	0	0		0	0	0	0	0	0	0	0	0
10				0	0	0	0		0	0	0	0	0	0	0	0	0
11				0	0	0	0		0	0	0	0	0	0	0	0	0
12				0	0	0	0		0	0	0	0	0	0	0	0	0
13				0	0	0	0		0	0	0	0	0	0	0	0	0
14				0	0	0	0		0	0	0	0	0	0	0	0	0
15				0	0	0	0		0	0	0	0	0	0	0	0	0
16				0	0	0	0		0	0	0	0	0	0	0	0	0
17				0	0	0	0		0	0	0	0	0	0	0	0	0
18				0	0	0	0		0	0	0	0	0	0	0	0	0
19				0	0	0	0		0	0	0	0	0	0	0	0	0
20				0	0	0	0		0	0	0	0	0	0	0	0	0
21				0	0	0	0		0	0	0	0	0	0	0	0	0
22				0	0	0	0		0	0	0	0	0	0	0	0	0
23				0	0	0	0		0	0	0	0	0	0	0	0	0
24				0	0	0	0		0	0	0	0	0	0	0	0	0
25				0	0	0	0		0	0	0	0	0	0	0	0	0
26				0	0	0	0		0	0	0	0	0	0	0	0	0
27				0	0	0	0		0	0	0	0	0	0	0	0	0
28				0	0	0	0		0	0	0	0	0	0	0	0	0
29				0	0	0	0		0	0	0	0	0	0	0	0	0
30				0	0	0	0		0	0	0	0	0	0	0	0	0
31				0	0	0	0		0	0	0	0	0	0	0	0	0
32				0	0	0	0		0	0	0	0	0	0	0	0	0
33				0	0	0	0		0	0	0	0	0	0	0	0	0
34				0	0	0	0		0	0	0	0	0	0	0	0	0
35				0	0	0	0		0	0	0	0	0	0	0	0	0
36				0	0	0	0		0	0	0	0	0	0	0	0	0
37				0	0	0	0		0	0	0	0	0	0	0	0	0
38				0	0	0	0		0	0	0	0	0	0	0	0	0
39				0	0	0	0		0	0	0	0	0	0	0	0	0
40				0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					284,575		18,720			468,000		12,500		100,000		1,300	866,375

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE
WBS : 2.4.7.2 DISCONNECT ALL UTILITIES

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Depressureize & Drain Utilities	1	lot	0	0	224	224	COMP	$25.00	5,600	0	0	0	0	0	0	5,600
2	Drain Distilled Water System	1	lot	0	0	4	4	COMP	$25.00	100	0	0	0	0	0	0	100
3	Recirculate Chilled Water System	1	lot	0	0	32	32	COMP	$25.00	800	0	0	0	0	0	0	800
4	Liquid Gaseous Nitrogen Argon	1	lot	0	0	24	24	COMP	$25.00	600	0	0	0	0	0	0	600
5	Drain San. & Storm Sewer Pipes	1	lot	0	0	24	24	COMP	$25.00	600	0	0	0	0	0	0	600
6	Disconnect HVAC System	1	lot	3.85	4	96	96	COMP	$25.00	2,400	0	0	0	0	0	0	2,404
7	Disconnect ERS & TERF System	1	lot	0	0	120	120	COMP	$25.00	3,000	0	0	0	0	0	0	3,000
8	Electrical Shutdown	1	lot	137	137	60	60	COMP	$25.00	1,500	0	0	0	0	0	0	1,637
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					141		584			14,600		0		0		0	14,741

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.8 - T BUILDING STRUCTURAL DEMOLITION

			DOLLARS					
WBS	DESCRIPTION	MANHOURS	LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.8.1	T BUILDING ACCESS CONTROL (PRIOR TO 100 YR DECAY PE	814	20,350	32,354	0	0	0	52,704
	SUBTOTAL	814	20,350	32,354	0	0	0	52,704
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	814	20,350	32,354	0	0	0	52,704
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	814	20,350	32,354	0	0	0	52,704
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		41,199					41,199
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	41,199	0	0	0	0	41,199
	SUBTOTAL	814	61,549	32,354	0	0	0	93,903
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.8 - T BUILDING STRUCTURAL DEMOLITION		814	61,549	32,354	0	0	0	93,903

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DETAIL ESTIMATE

PAGE 1 OF 1

WBS : 2.4.8.1 T BUILDING ACCESS CONTROL (PRIOR TO 100 YR DECAY PERIOD)

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDE	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Install Concrete Walls	25	cy	142	3,550	6	150	COMP	$25.00	3,750	0	0	0	0	0	0	7,300
2	Install Pipe Bollards	8	ea	563	4,504	15	120	COMP	$25.00	3,000	0	0	0	0	0	0	7,504
3	Seal Guard Shelter Entrances	2	ea	1650	3,300	47	94	COMP	$25.00	2,350	0	0	0	0	0	0	5,650
4	Seal All Building Intakes	1	lot	7500	7,500	120	120	COMP	$25.00	3,000	0	0	0	0	0	0	10,500
5	Install Additional Fencing	1500	lf	9	13,500	0.22	330	COMP	$25.00	8,250	0	0	0	0	0	0	21,750
6		0		0	0	0	0			0	0	0	0	0	0	0	0
7		0		0	0	0	0			0	0	0	0	0	0	0	0
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0	0	0			0	0	0	0	0	0	0	0
37		0		0	0	0	0			0	0	0	0	0	0	0	0
38		0		0	0	0	0			0	0	0	0	0	0	0	0
39		0		0	0	0	0			0	0	0	0	0	0	0	0
40		0		0	0	0	0			0	0	0	0	0	0	0	0
Subtotal					32,354		814			20,350		0		0		0	52,704

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
LOCATION: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.4.9 - T EAST STACK

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.4.9.1	T - EAST STACK	0	0	0	6,500	250,000	0	256,500
	SUBTOTAL	0	0	0	6,500	250,000	0	256,500
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
		0	0	0	0	0	0	0
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	0	0	0	6,500	250,000	0	256,500
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	0	0	0	6,500	250,000	0	256,500
202.45%	LABOR BURDEN (FIELD LABOR ONLY)		0					0
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY (MARK - UP FACTOR)		0	0	0	0	0	0
0.00%	MISCELLANEOUS (Productivity Factor on Labor)	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	0	0	0	0	0	0
	SUBTOTAL	0	0	0	6,500	250,000	0	256,500
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES / PROFIT (PERCENTAGE OF COST + LOADERS)		0	0	0	0	0	0
0.00%	BONDS (P AYMENT & PERFORMANCE)		0	0	0	0	0	0
WBS - 2.4.9 - T EAST STACK		0	0	0	6,500	250,000	0	256,500

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.4.9.1 T - EAST STACK

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL UNIT COST	MATERIAL EXTENDED COST	LABOR UNIT HOURS	LABOR HOURS EXTENDED	LABOR CREW MIX	LABOR CREW RATE	LABOR DOLLARS EXTENDE	EQUIPMENT UNIT RATE	EQUIPMENT EXTENDED COST	SUBCONTRACTS UNIT RATE	SUBCONTRACTS EXTENDED COST	OTHER COSTS UNIT RATE	OTHER COSTS EXTENDED COST	SUBTOTAL
1	Concrete saw cut stack	1	lot	0	0	0	0		0	0	0	0	250000	250,000	0	0	250,000
2	Rubblize Stack	1	lot	0	0	0	0		0	0	6500	6,500	0	0	0	0	6,500
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		6,500		250,000		0	256,500

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.5 - WASTE DISPOSAL

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.5.1	WASTE PACKAGING (Cost to Procure & Handling)	4,495	112,371	1,503,913	95	0	0	1,616,378
2.5.2	WASTE TRANSPORTATION	0	0	0	0	140,400	50,563	190,963
2.5.3	WASTE DISPOSAL (Final Disposition)	0	0	0	0	0	868,717	868,717
	SUBTOTAL	4,495	112,371	1,503,913	95	140,400	919,280	2,676,058
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	4,495	112,371	1,503,913	95	140,400	919,280	2,676,058
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	4,495	112,371	1,503,913	95	140,400	919,280	2,676,058
202.45%	LABOR BURDEN		227,494					227,494
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	227,494	0	0	0	0	227,494
	SUBTOTAL	4,495	339,865	1,503,913	95	140,400	919,280	2,903,552
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.5 - WASTE DISPOSAL		4,495	339,865	1,503,913	95	140,400	919,280	2,903,552

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.5.1 WASTE PACKAGING (Cost to Procure & Handling)

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	B-25 boxes to NTS	74	ea	800	59,259	1	74	COMP	$25.00	1,852	0	0	0	0	0	0	61,111
2	Vol. to Local land fill	500	cf	0	0	0.083	42	COMP	$25.00	1,038	0.19	95	0	0	0	0	1,133
3	Visquene (90 mil)	300000	sf	0.0018	540	0.0008	240	COMP	$25.00	6,000	0	0	0	0	0	0	6,540
4	55 gallon drum	1,000	ea	55	55,000	0.5	500	COMP	$25.00	12,500	0	0	0	0	0	0	67,500
5	Tape	500	roll	3.75	1,875	0.5	250	COMP	$25.00	6,250	0	0	0	0	0	0	8,125
6	Special Sealed Tritium box A(Rad)	519	ea	1600	829,751	2	1,037	COMP	$25.00	25,930	0	0	0	0	0	0	855,680
7	Special Sealed Tritium box B(Rad)	259	ea	2100	544,524	3	778	COMP	$25.00	19,447	0	0	0	0	0	0	563,971
8		0	ea	0	0	2	0	COMP	$25.00	0	0	0	0	0	0	0	0
9		0	ea	0	0	3	0	COMP	$25.00	0	0	0	0	0	0	0	0
10	Wooden Box Liner	0	ea	50	0	0.5	0	COMP	$25.00	0	0	0	0	0	0	0	0
11	Manifesting - Labeling	1852	container	2.5	4,630	0.1	185	COMP	$25.00	4,630	0	0	0	0	0	0	9,260
12	Inventory Set- up	1852	container	2	3,704	0.1	185	COMP	$25.00	4,630	0	0	0	0	0	0	8,334
13	Loading	1852	container	0	0	0.25	463	COMP	$25.00	11,575	0	0	0	0	0	0	11,575
14	Unloading	1852	container	0	0	0.25	463	COMP	$25.00	11,575	0	0	0	0	0	0	11,575
15	Certification	1852	container	2.5	4,630	0.15	278	COMP	$25.00	6,945	0	0	0	0	0	0	11,575
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0		0			0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					1,503,913		4,495			112,371		95		0		0	1,616,378

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE
LOCATION: 1,000 Ci / yr WBS : 2.5.2 WASTE TRANSPORTATION

DATE: 9/26/96
ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Transportation to NTS - B25 boxes	15	trip	0	0	0	0		0	0	0	0	2800	41,481	0	0	41,481
2	Truck special container	78	trip	0	0	0	0		0	0	0	0	0	0	650	50,563	50,563
3	Transportation (to local landfill)	2	dumpster	0	0	0	0		0	0	0	0	100	185	0	0	185
4	Transportation (mixed waste)	1	trip	0	0	0	0		0	0	0	0	5400	5,400	0	0	5,400
5	Transportation to NTS - 55 gal	33	trip	0	0	0	0		0	0	0	0	2800	93,333	0	0	93,333
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		140,400		50,563	190,963

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.5.3 WASTE DISPOSAL (Final Disposition)

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Disposal Costs @ Burial	45,060	cf	0	0	0	0	COMP	$25.00	0	0	0	0	0	13.63	614,167	614,167
2	Surcharge @ Burial Site	45,060	cf	0	0	0	0	COMP	$25.00	0	0	0	0	0	5	225,300	225,300
3	Local landfill fee (12 ton/dumpster	500	cf	0	0	0	0			0	0	0	0	0	2.5	1,250	1,250
4	Disposal Cost (mixed waste)	70	cf	0	0	0	0			0	0	0	0	0	400	28,000	28,000
5		0		0	0	0	0			0	0	0	0	0	0	0	0
6		0		0	0	8	0			0	0	0	0	0	0	0	0
7		0		0	0	0	0			0	0	0	0	0	0	0	0
8		0		0	0	0	0			0	0	0	0	0	0	0	0
9		0		0	0	0	0			0	0	0	0	0	0	0	0
10		0		0	0	0	0			0	0	0	0	0	0	0	0
11		0		0	0	0	0			0	0	0	0	0	0	0	0
12		0		0	0	0	0			0	0	0	0	0	0	0	0
13		0		0	0	0	0			0	0	0	0	0	0	0	0
14		0		0	0	0	0			0	0	0	0	0	0	0	0
15		0		0	0	0	0			0	0	0	0	0	0	0	0
16		0		0	0	0	0			0	0	0	0	0	0	0	0
17		0		0	0	0	0			0	0	0	0	0	0	0	0
18		0		0	0	0	0			0	0	0	0	0	0	0	0
19		0		0	0	0	0			0	0	0	0	0	0	0	0
20		0		0	0	0	0			0	0	0	0	0	0	0	0
21		0		0	0	0	0			0	0	0	0	0	0	0	0
22		0		0	0	0	0			0	0	0	0	0	0	0	0
23		0		0	0	0	0			0	0	0	0	0	0	0	0
24		0		0	0	0	0			0	0	0	0	0	0	0	0
25		0		0	0	0	0			0	0	0	0	0	0	0	0
26		0		0	0	0	0			0	0	0	0	0	0	0	0
27		0		0	0	0	0			0	0	0	0	0	0	0	0
28		0		0	0	0	0			0	0	0	0	0	0	0	0
29		0		0	0	0	0			0	0	0	0	0	0	0	0
30		0		0	0	0	0			0	0	0	0	0	0	0	0
31		0		0	0	0	0			0	0	0	0	0	0	0	0
32		0		0	0	0	0			0	0	0	0	0	0	0	0
33		0		0	0	0	0			0	0	0	0	0	0	0	0
34		0		0	0	0	0			0	0	0	0	0	0	0	0
35		0		0	0	0	0			0	0	0	0	0	0	0	0
36		0		0	0		0			0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		0			0		0		0		868,717	868,717

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.6 - D&D VERIFICATION & MAINTENANCE FOR 100 YEARS

WBS	DESCRIPTION	MANHOURS	DOLLARS LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.6.1	D&D VERIFICATION & BUILDING MAINTENANCE	4,000	100,000	0	0	0	88,000	188,000
2.6.2	SITE SECURITY & ENVIRONMENTAL MONITORING	20,000	500,000	0	0	0	0	500,000
	SUBTOTAL	24,000	600,000	0	0	0	88,000	688,000
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	24,000	600,000	0	0	0	88,000	688,000
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	24,000	600,000	0	0	0	88,000	688,000
202.45%	LABOR BURDEN		1,214,700					1,214,700
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
491.00%	ESCALATION - AVERAGE EFFECTIVE RATE		2,946,000	0	0	0	432,080	3,378,080
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	4,160,700	0	0	0	432,080	4,592,780
	SUBTOTAL	24,000	4,760,700	0	0	0	520,080	5,280,780
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.6 -	D&D VERIFICATION & MAINTENANCE FOR 100 YEARS	24,000	4,760,700	0	0	0	520,080	5,280,780

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.6.1 D&D VERIFICATION & BUILDING MAINTENANCE

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Verify Struct. Integrity/Inspection	20	ea	0	0	200	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
2	(Every 5 years)	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3		0		0	0	0	0		0	0	0	0	0	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7	D&D Verification	1	lot	0	0	0	0		0	0	0	0	0	0	88000	88,000	88,000
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		4,000			100,000		0		0		88,000	188,000

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.6.2 SITE SECURITY & ENVIRONMENTAL MONITORING

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Safeguards & Security	100	yrs	0	0	40	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
2	Air Monitoring	100	yrs	0	0	40	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
3	Interier Inspection by remote camera	100	yrs	0	0	80	8,000	COMP	$25.00	200,000	0	0	0	0	0	0	200,000
4	Groundwater Wells Monitoring	100	yrs	0	0	40	4,000	COMP	$25.00	100,000	0	0	0	0	0	0	100,000
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6		0		0	0	0	0		0	0	0	0	0	0	0	0	0
7		0		0	0	0	0		0	0	0	0	0	0	0	0	0
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					0		20,000			500,000		0		0		0	500,000

CLIENT: MOUND
PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS
STUDY: 1,000 Ci / yr

DATE: 26-Sep-96
PRICED BY: B. NEMADE
APPROVED BY: J.M. USHER

WBS - 2.7 - SITE RESTORATION

WBS	DESCRIPTION	MANHOURS	DOLLARS					
			LABOR	MATERIAL	EQUIP	SUBS	OTHER	TOTAL
2.7.1	STRUCTURAL REPAIR	600	10,442	3,000	0	0	0	13,442
	SUBTOTAL	600	10,442	3,000	0	0	0	13,442
	INDIRECT FIELD COST	0	0	0	0	0	0	0
	TOTAL FIELD COST	600	10,442	3,000	0	0	0	13,442
A	ADMINISTRATIVE / ENGINEERING LABOR SUPPORT	0	0	0	0	0	0	0
B	ADMINISTRATIVE OFFICE SUPPORT (ODC)			0	0	0	0	0
	TOTAL FIELD AND HOME OFFICE	600	10,442	3,000	0	0	0	13,442
202.45%	LABOR BURDEN		21,140					21,140
0.00%	TAXES (EXCLUDING PAYROLL BASED)			0	0	0	0	0
0.00%	INSURANCES (EXCLUDING PAYROLL BASED)							
0.00%	PERMITS							
0.00%	CRAFT PREMIUM PAY - MARKUP FACTOR							
0.00%	Miscellaneous	0	0	0	0	0	0	0
0.00%	ESCALATION - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%			0	0	0	0	0	0
0.00%	RETAINAGE - AVERAGE EFFECTIVE RATE		0	0	0	0	0	0
0.00%	G & A Overhead		0	0	0	0	0	0
	SUBTOTAL - PROJECT LOADERS	0	21,140	0	0	0	0	21,140
	SUBTOTAL	600	31,582	3,000	0	0	0	34,582
0.00%	CONTINGENCY		0	0	0	0	0	0
0.00%	FEES/PROFIT (PERCENTAGE ON COST)		0	0	0	0	0	0
0.00%	BONDS (P&P)		0	0	0	0	0	0
WBS - 2.7 - SITE RESTORATION		600	31,582	3,000	0	0	0	34,582

CLIENT: MOUND

PROJECT: T-BUILDING DECAY IN PLACE FOR 100 YEARS DETAIL ESTIMATE

LOCATION: 1,000 Ci / yr WBS : 2.7.1 STRUCTURAL REPAIR

DATE: 9/26/96

ESTIMATOR: B. NEMADE

LINE ITEM #	DESCRIPTION	QUANTITY	UNIT OF MEASURE	MATERIAL		LABOR					EQUIPMENT		SUBCONTRACTS		OTHER COSTS		SUBTOTAL
				UNIT COST	EXTENDED COST	UNIT HOURS	HOURS EXTENDED	CREW MIX	CREW RATE	DOLLARS EXTENDED	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	UNIT RATE	EXTENDED COST	
1	Minimal restoration activities	0		0	0	0	0		0	0	0	0	0	0	0	0	0
2	necessary to meet basic safety	0		0	0	0	0		0	0	0	0	0	0	0	0	0
3	requirements	0		0	0	0	0		0	0	0	0	50	0	0	0	0
4		0		0	0	0	0		0	0	0	0	0	0	0	0	0
5		0		0	0	0	0		0	0	0	0	0	0	0	0	0
6	Construction Craft	400	hr	2.5	1,000	1	400	CC	$17.01	6,804	0	0	0	0	0	0	7,804
7	Electrician	200	hr	10	2,000	1	200	E	$18.19	3638	0	0.00	0	0	0	0	5,638
8		0		0	0	0	0		0	0	0	0	0	0	0	0	0
9		0		0	0	0	0		0	0	0	0	0	0	0	0	0
10		0		0	0	0	0		0	0	0	0	0	0	0	0	0
11		0		0	0	0	0		0	0	0	0	0	0	0	0	0
12		0		0	0	0	0		0	0	0	0	0	0	0	0	0
13		0		0	0	0	0		0	0	0	0	0	0	0	0	0
14		0		0	0	0	0		0	0	0	0	0	0	0	0	0
15		0		0	0	0	0		0	0	0	0	0	0	0	0	0
16		0		0	0	0	0		0	0	0	0	0	0	0	0	0
17		0		0	0	0	0		0	0	0	0	0	0	0	0	0
18		0		0	0	0	0		0	0	0	0	0	0	0	0	0
19		0		0	0	0	0		0	0	0	0	0	0	0	0	0
20		0		0	0	0	0		0	0	0	0	0	0	0	0	0
21		0		0	0	0	0		0	0	0	0	0	0	0	0	0
22		0		0	0	0	0		0	0	0	0	0	0	0	0	0
23		0		0	0	0	0		0	0	0	0	0	0	0	0	0
24		0		0	0	0	0		0	0	0	0	0	0	0	0	0
25		0		0	0	0	0		0	0	0	0	0	0	0	0	0
26		0		0	0	0	0		0	0	0	0	0	0	0	0	0
27		0		0	0	0	0		0	0	0	0	0	0	0	0	0
28		0		0	0	0	0		0	0	0	0	0	0	0	0	0
29		0		0	0	0	0		0	0	0	0	0	0	0	0	0
30		0		0	0	0	0		0	0	0	0	0	0	0	0	0
31		0		0	0	0	0		0	0	0	0	0	0	0	0	0
32		0		0	0	0	0		0	0	0	0	0	0	0	0	0
33		0		0	0	0	0		0	0	0	0	0	0	0	0	0
34		0		0	0	0	0		0	0	0	0	0	0	0	0	0
35		0		0	0	0	0		0	0	0	0	0	0	0	0	0
36		0		0	0	0	0		0	0	0	0	0	0	0	0	0
37		0		0	0	0	0		0	0	0	0	0	0	0	0	0
38		0		0	0	0	0		0	0	0	0	0	0	0	0	0
39		0		0	0	0	0		0	0	0	0	0	0	0	0	0
40		0		0	0	0	0		0	0	0	0	0	0	0	0	0
Subtotal					3,000		600			10,442		0		0		0	13,442