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FINAL REPORT

DR2 5411 D3

TITLE: DECONTAMINATION AND DECOMMISSIONING (D&D) OF THE URANIUM CARBIDE PILOT FUEL FACILITY - BUILDING T005

- APPROVALS -

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## 1.0 INTRODUCTION/BACKGROUND

Building T005 is located within Area IV of Rockwell International's Santa Susana Field Laboratory (SSFL) in the Simi Hills of Southeastern Ventura County, California, adjacent to the Los Angeles County Line and is approximately 29 miles Northwest of downtown Los Angeles. The SSFL location relative to the Los Angeles Area and surrounding vicinity is shown in Figure 1-1. Figure 1-2 presents a map showing the area of SSFL where Building T005 is located.

The Facility was constructed in the late 1950's for testing thermodynamic characteristics of proposed coolants for the Organic Moderated Reactor Experiment (OMRE) and PIQUA reactors. These projects did not involve the use of radioactive materials. During the mid to late 1960's, the facility was converted to fabricate enriched uranium carbide fuel for the Atomic Energy Commission's (AEC) Heavy-Water Organic-Cooled Reactor (HWOCR) and was designated as the Uranium Carbide Pilot Fuel Facility. During this process, the facility became contaminated with enriched uranium, which was the only radioactive material handled at Building T005.

At the completion of the fuel fabrication program in 1967, equipment was removed and surfaces decontaminated to permit non-radiologic use of the building. Beginning in 1972, Building T005 was used as a Molten Salt Test Facility. The building contained offices and the control room for the Molten Salt Test Bed and the Process Demonstration Unit (PDU), both of which were located in areas adjacent to Building T005.

The building is a tilt-up concrete structure with butler aluminum siding 80 feet long and 60 feet wide. It is divided into an administration area, change rooms, chemistry and other service laboratories, and a large high-bay area. The floor plan is shown in Figure 1-3. Figure 1-4 is a photograph of Building T005 as viewed from the front (looking from 17th Street). During its use as the Uranium Carbide Pilot Fuel Facility, the building was a radiologically controlled access area. The administration area entry was uncontrolled. The remaining areas were controlled, of which one part required protective clothing. Figure 1-3 shows the divisions of the controlled areas.


Figure 1-1 Map of Los Angeles Area Showing Location of the SSFL

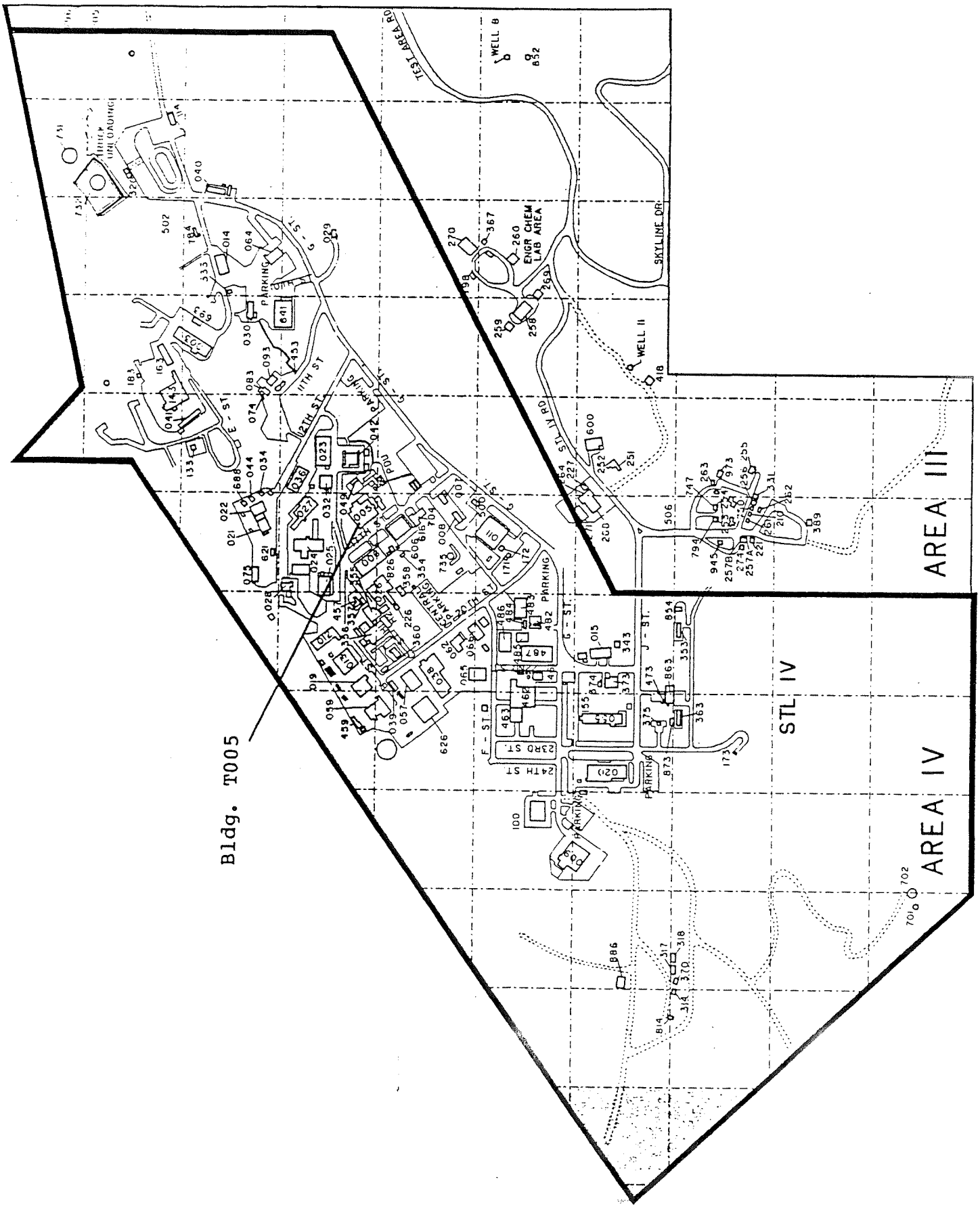


Figure 1-2 Location of Building T005 in Area IV of the SSFL

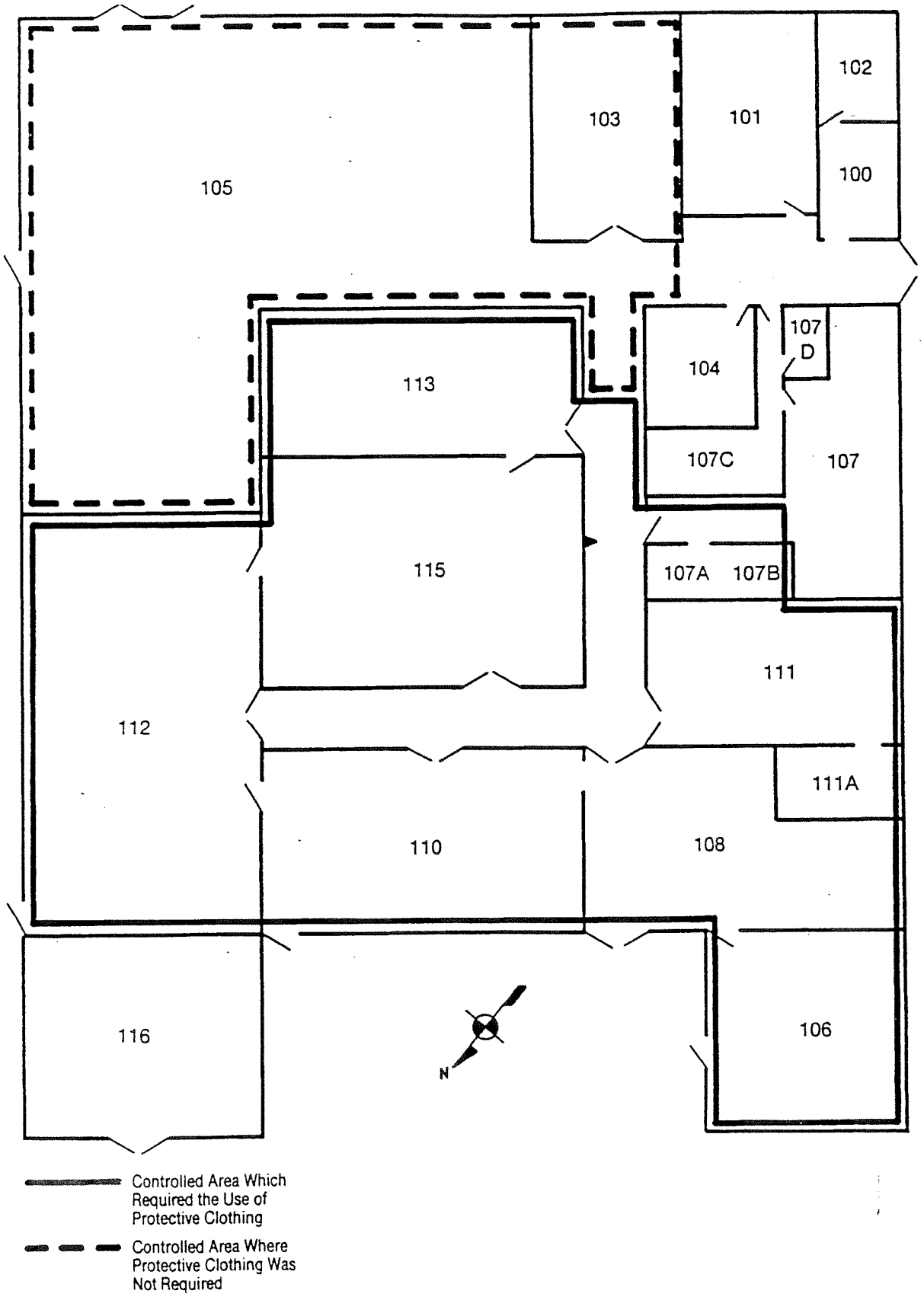


Figure 1-3 Building T005 Floor Plan Showing Controlled Areas

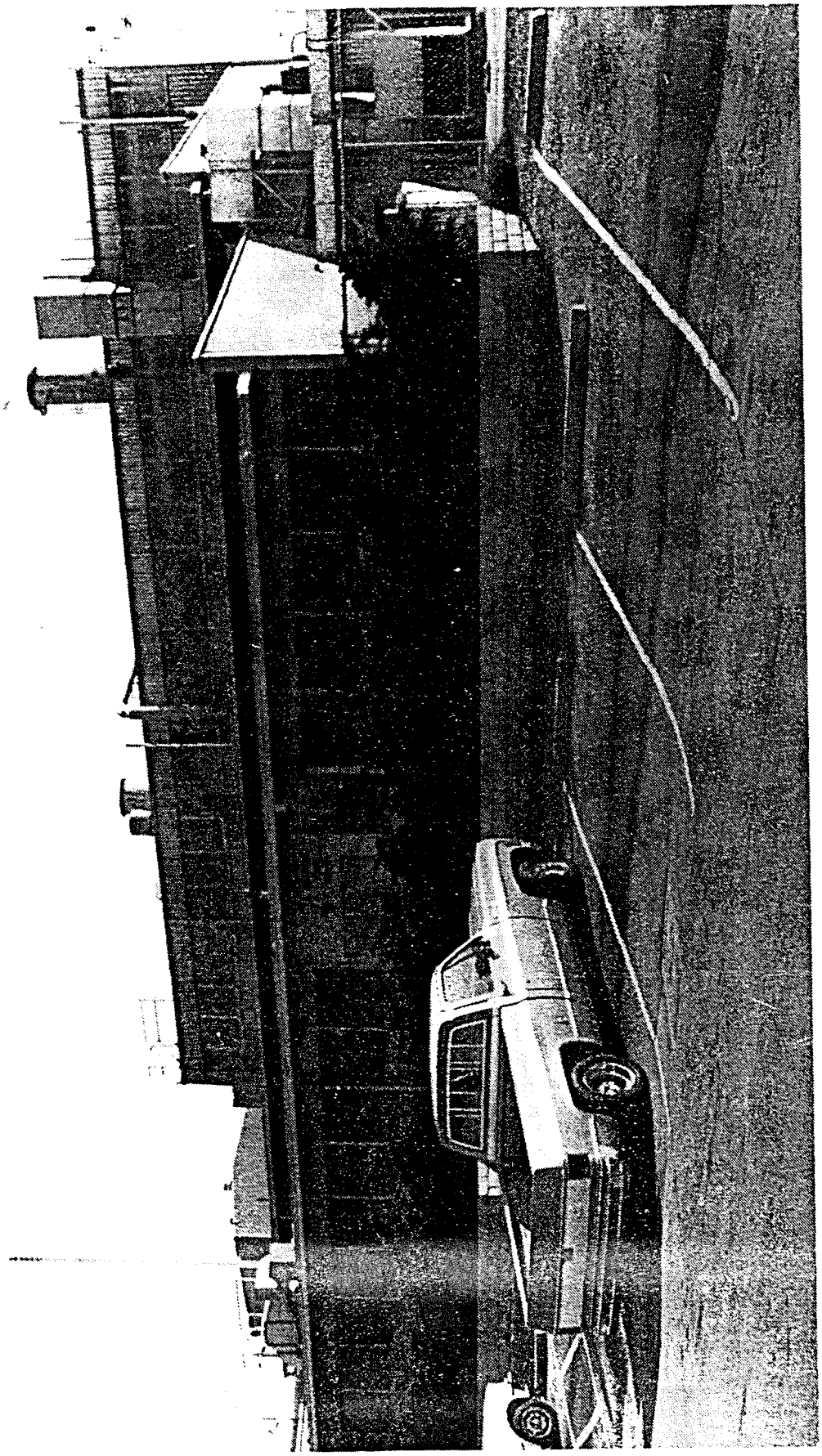

Figure 1-4 Photograph Showing Front View of Building T005

## 2.0 PRIOR DECONTAMINATION EFFORTS

After the fuel fabrication program was completed in 1967, all rooms and areas required to support the Molten Salt Test Facility were decontaminated to permit non-radiologic use of the facility. All associated project equipment was removed from the building. The wall between rooms 105 and 112 was removed to permit use of the entire high bay for storage and/or other appropriate activities. The floor tile, wall baseboards and coving were removed from Rooms 105, 112, 116, 111, 111A, 115 and 108. Radioactive material exhaust outlets were cut and capped and some of the radioactive liquid drain lines were removed.

All decontamination operations were performed under the cognizance of Radiation & Nuclear Safety. Asbestos analyses were performed for suspect areas. No asbestos was found during floor tile removal. The underlying floor was surveyed to ensure that it was not contaminated. During the cutting and capping of exhaust ducts, surveys were conducted to ensure that the operations did not spread loose contamination to surrounding areas. During the late 1970's, both underground radioactive liquid holdup tanks were removed and disposed of as low level radioactive waste. The excavated areas were backfilled and resurfaced with asphalt paving. The radioactive liquid drain lines from Building T005 to the holdup tanks were capped and left in place.

During 1987, additional decontamination tasks were performed in Building T005. The tasks included decontamination of Rooms 108 and 106, decontamination of walls and floors of Rooms 115, 107, 111, 110, 116, 110A and the hallways, removal of four RA contaminated exhaust ventilation drops, and removal of radioactive liquid drain lines in the floors of Rooms 107, 111, 110, 108, 116, 115, 110A, and hallways. The Decontamination Plan (Ref. 1) also included the removal of the RA exhaust ducting, RA filter plenums and the underground RA liquid drain lines located outside the building structure, however these tasks were not accomplished because of funding restraints. All of the areas that were decontaminated were surveyed to release the rooms for unrestricted use. The results of the RA survey are presented in Reference 2.

## 3.0 SUMMARY

This project completed the final phase of the Decontamination and Decommissioning (D&D) Plan for the Building T005 Uranium Carbide Pilot Fuel Facility that started in 1987 in order to released Building T005 and surrounding grounds for unrestricted use. The final phase of the D&D effort consisted of the removal and disposal of RA contaminated exhaust ducting, RA exhaust filter plenums and underground RA liquid waste drain lines. Extensive surveys were conducted and documented to insure that all detectable RA materials contamination above background levels were removed from the facility site. All materials were visually examined for any evidence of hazardous or potentially hazardous materials prior to removal from the site. Suspect materials were subjected to chemical analyses to insure absence of hazardous materials. All known hazardous materials, such as oil residue and lead, were appropriately treated and/or disposed of in accordance with DOE, Federal and State regulations. All RA contaminated waste generated was packaged and disposed of as low level RA waste at the Hanford Disposal Site, Hanford, Washington.

All D&D work was performed in accordance with ETEC-approved plans and procedures that satisfied the requirements of the ETEC Environmental Restoration Program Management Plan (Ref. 3). Results of the final release survey of Building T005 and surrounding facility grounds are presented in Reference 18.

## 4.0 PROJECT ACTIVITY AND RESULTS

The Decontamination and Decommissioning (D&D) Plan for the Building T005 Uranium Carbide Pilot Fuel Facility started in 1987 in accordance with Ref. 1. The facility was to be decontaminated in five separate work packages. The first four work packages were completed and an extensive radiological survey (Ref. 2) was performed to release those specific areas for unrestricted use. The last work package remaining to be accomplished was to remove the RA exhaust ventilation system and all remaining exterior underground RA liquid waste drain lines.

Completion of the D&D of Building T005 was included in the ETEC Environmental Restoration Program Management Plan (Ref 3). A Building T005 D&D Plan (Ref. 4) was prepared to provide a systematic and documented D&D approach for the last work package. This plan divided the work into four separate phases followed by final RA materials surveys to release the facility for unrestricted use. A D&D Operations Procedure was prepared for each work phase. Additional work procedures were prepared for preliminary and final surveys and relocation of equipment.

## 4.1 PHASE I - EXTERIOR RA DUCTING REMOVAL

The exterior ducting consisted of four separate sections of ducts located on the North and East sides and across the roof of Building T005 as shown in Figure 4-1. A detailed Procedure (Ref. 5) was prepared and used for removal of the exterior ducting.

The first section of ducting was a horizontal 24-in. diameter duct located on the North side of the building. The duct was approximately 24 ft long and had 6 ft. of ducting rising vertically through the roof of the covered patio area (Fig. 4-2). Several smaller duct stubs and view ports were attached to the main duct. All openings were sealed to contain internal contamination. This section of ducting also contained an oil residue that was RA contaminated which classified the duct as containing a "mixed waste". A special D&D Procedure (Ref. 12) was prepared for the removal of this section of ducting. The duct section was transported to the RMDF where it was sectioned and the oil residue rinsed off the duct internal surfaces. The duct material was then packaged and disposed of as low level RA waste. The removed oil residue and spent cleaning solution (mixed waste) were treated in a Molten Salt Oxidation Unit specifically designed for processing RA contaminated oil and other liquids in accordance with Reference 6.

On the East side of the building, two RA filter plenums were connected to the three remaining duct sections (Figure 4-1). On the No. 1 filter plenum (large plenum), two ducts were attached to the plenum at one end and blank flanged at the other end. One duct consisted of a 42-in. diameter elbow and straight horizontal section approximately 20 ft. in total length. The other section was a 16-in. diameter L-shaped duct about 28 ft. in total length. The interior or both duct sections attached to the No. 1 filter plenum were RA contaminated. The third remaining section of ducting was attached to filter plenum No. 2 (small plenum). It was a 14-in. diameter duct approximately 86 ft. long, running from the filter plenum up and over the high bay roof above Room 112 and subsequently connected to the interior ducting in the open attic area above Room 115. The majority of the 14-in. diameter ducting that extended over the roof of the high bay was installed but never used.

Removal of the 16-in. and 42-in. diameter ducting connected to filter plenum No. 1 was accomplished with conventional reciprocating power saws, hand tools, grove crane and rigging. Negative pressure was maintained inside the ducting by use of a portable HEPA filtered exhaust system attached to the downstream (clean) chamber of the original filter plenum. The portable unit drew air from the ducting interior through the pre-filter and HEPA filter banks in the original plenum and then through the portable HEPA filter exhaust unit. Exhaust air from the portable unit was constantly monitored for adequate air flow and RA contamination. The ducting was cut into workable sections starting from the end of the ducts farthest from the filter plenum and working toward the plenum so as to maintain the negative air pressure in the ducts at all times. The open ends of the cut ducting were sealed with plastic bags and/or sheeting as they were cut and placed into a Radioactive Material Management Area (RMMA) that had been established for this effort in accordance with Ref. 16. Preliminary RA surveys were performed for each section of duct as it was being cut with hand held field detection instruments. Visual inspections for hazardous materials were also performed for each section of ducting. A more comprehensive survey was performed for the duct sections after they were placed in the RMMA using field instruments and smears in order to classify the waste for disposal purposes. The duct sections were then size reduced and disposed of as low level RA waste.

Removal of the 14-in. diameter ducting that was connected to filter plenum No. 2 was performed in a similar manner as the 16-in. and 42-in. diameter ducting. The portable HEPA filtered RA exhaust system was connected to the outlet side of filter plenum No. 2 to provide negative pressure inside the ducting as it was being cut and sections removed. A Condor manlift was used to support the radiation workers and equipment when the vertical sections of duct were removed from the exterior walls of the building high bay. Personnel safety harnasses and wire rope tie-downs were used when the ducting running across the roof top was sectioned and removed. The removed duct sections were lowered to ground level and placed in the RMMA, where they were surveyed and classified for waste disposal purposes. The ducting sections were then sized reduced and packaged for disposal as either low level RA waste or conventional waste.

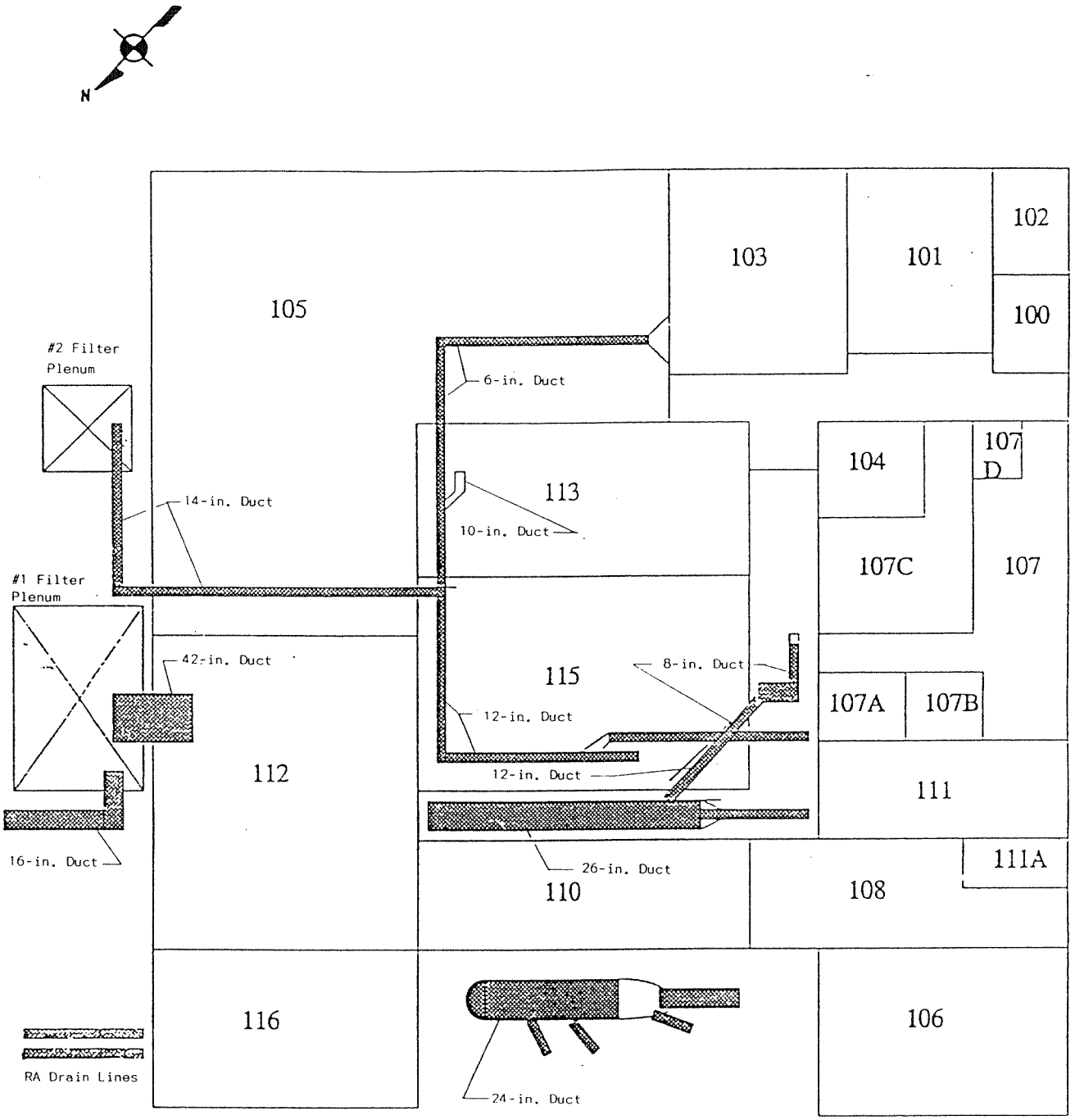


Figure 4-1 Building T005 RA Material Locations

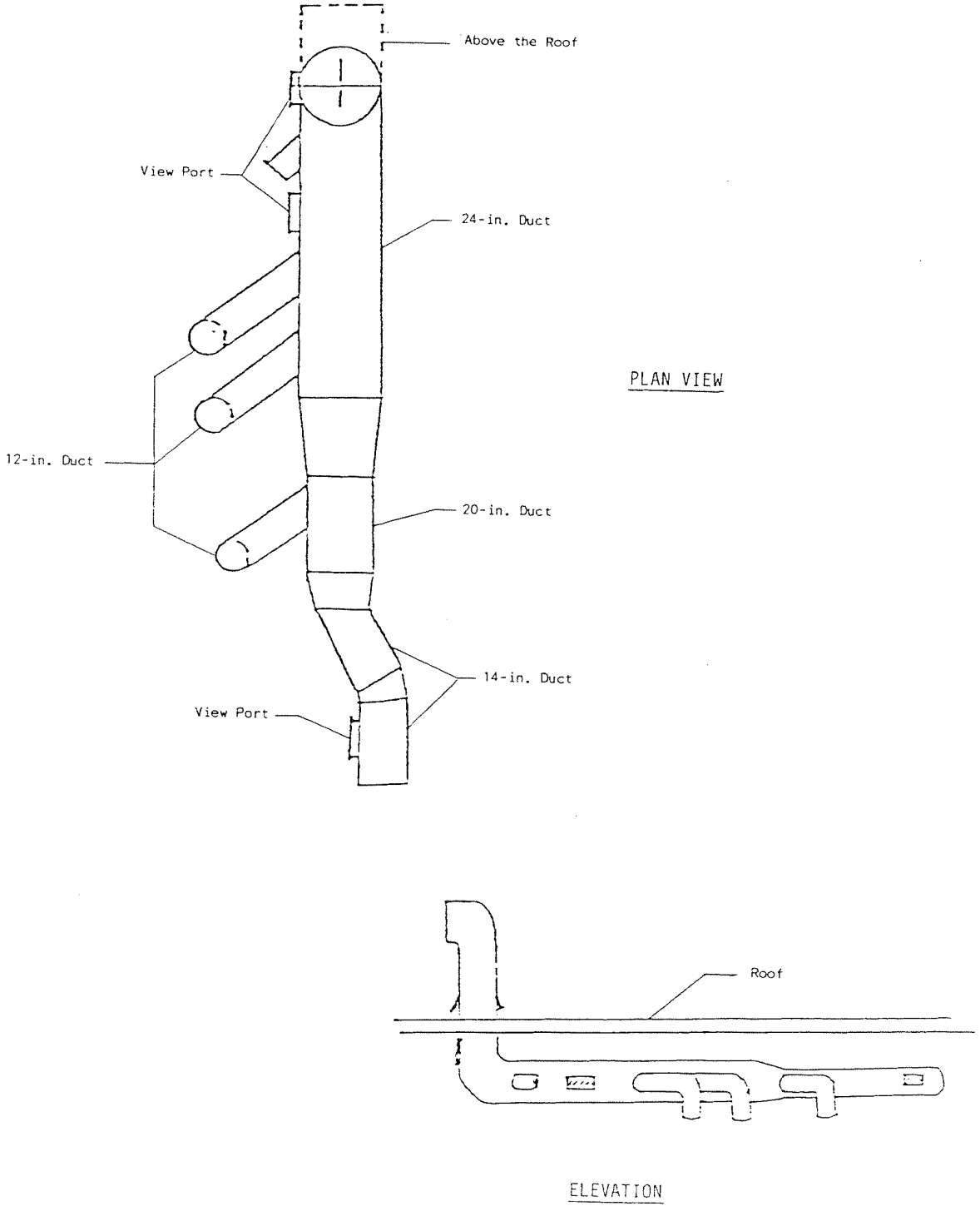


Figure 4-2 Section of 24-in. Diameter Ducting in Room 110A

## 4.2 PHASE II - INTERIOR RA DUCTING REMOVAL

The interior RA exhaust ducting was located primarily in the attic area of the building above several rooms and hall ways. A section of 6-in. diameter ducting extended from the attic area, across the high bay near the ceiling, and into a wall opening to Room 103. The ducting was composed of two partially dismantled duct systems as shown in Figure 4-1. One 26-in. diameter duct about 40 ft. long was located above the hallway between Rooms 115 and 110 in the open attic area. A branch of 12-in. and 8-in. diameter ducting about 20-ft. in length was attached to the 26-in. diameter duct in a Y-configuration. Two isolated sections of 8-in. diameter ducting approximately 10 ft. and 15 ft. in length were located above the hallway between Rooms 115 and 111. The other ducting system comprised of 60 ft. of 12-in. diameter duct, 30 ft. of 8-in. diameter duct, 16 ft. of 10-in. diameter duct, and 60 ft. of 6-in. diameter duct. This ducting system was connected to the 14-in. diameter ducting that lead to filter plenum No. 2 on one end and terminated in the confined attic area above Room 111 for the 8-in. diameter duct and Room 103 for the 6-in. diameter duct. This ducting system was removed prior to removing the 14-in. diameter exterior ducting discussed in Section 5.1 so that the portable HEPA filtered exhaust system attached to filter plenum No. 2 could be used to maintain negative pressure inside the ducting. A detailed Procedure (Ref. 7) was prepared and used to remove the interior ducting systems.

Prior to implementing the procedure for removing the interior ducting in the attic areas of the building, preliminary surveys were conducted in accordance with Ref. 8 to determine the levels of RA contamination and the visual presence of potential hazardous materials. The ducting was surveyed at existing ports connected directly to the ducting at various locations. The RA surveys were conducted with hand friskers and smears taken from several locations in the duct port openings. Visual inspections were made of the duct and port interiors at the duct port locations. The inspections revealed no evidence of any hazardous or potentially hazardous materials. The results of the surveys are documented in Ref. 11.

The ducting in the attic area was located just above the drop ceiling above rooms and hallways. The drop ceiling was supported by metal stringers hung by heavy metal wire

attached to metal roof rafters. Insulation panels that created the drop ceilings were inserted between the metal stringers. A structural analysis was made to determine safe working loads that could be supported by the drop ceilings. Load distribution and work platforms were provided by plywood sheeting placed across the ceiling support stringers. Also, the D&D Procedure (Ref. 7) permitted a maximum of two persons working in the attic at one time with a third person observer located on a manlift or exterior roof just outside the attic openings to provide assistance as required. An opening was cut through the high bay wall of the attic to provide access for personnel and ducting removal from the attic area. The opposite side of the attic contained windows that opened out to the roof of the office and change room areas of the building.

With the portable HEPA filtered exhaust unit connected to filter plenum No. 2 and operating, the 6-in., 10-in., 12-in., and 8-in. diameter ducts connected to 14-in. diameter exterior duct leading to plenum No. 2 were sectioned and removed starting from their termination locations farthest from the connection to the exterior duct. The cut duct sections were removed from the attic through the wall opening to the high-bay and placed in the RMMA for further surveying, processing and packaging. Removal of the isolated 26-in. diameter duct and attaching ducts was accomplished by connecting the portable HEPA filtered exhaust unit to the 8-in. diameter branch duct and sectioning the 26-in., 12-in. and 8-in. diameter ducting starting from the end farthest from the portable exhaust unit.

The two isolated 8-in. diameter duct sections were removed from the attic intact and sent to the RMDF for sectioning and size reduction in a controlled atmosphere area.

After sectioning and removal from the attic area, all ducting was surveyed for waste classification, size reduced and packaged for disposal as either low level RA waste or conventional waste.

## 4.3 PHASE III - RA EXHAUST FILTER PLENUMS REMOVAL

Two RA exhaust filter plenums were used during previous fuel fabrication activities. The larger filter plenum, designated as plenum No. 1, was 20 ft. by 12 ft. by 8 ft. high and received the exhaust from all the process equipment except the grinders. The other (smaller) filter plenum, designated as plenum No. 2, was 12 ft. by 5 ft. by 4 ft. high and received the exhaust from grinding and machining equipment. Figures 4-3 and 4-4 present photographs of the two plenums. Each filter plenum contained three internal chambers designated as 1) inlet chamber, 2) middle chamber, and 3) outlet chamber. A wall of pre-filters separated the inlet chamber from the middle chamber. A wall of HEPA filters separated the middle chamber from the outlet chamber. Each chamber contained an exterior door which provided access to the filter walls for filter change-out activities. Both filter plenums were previously surveyed for RA contamination in accordance with Ref. 2. Both plenums were found to be contaminated, primarily with radioactive material embedded in the filters. The smaller plenum No. 2 contained a higher level of RA contamination than the larger plenum No. 1. The outlet chamber of plenum No. 1 was not RA contaminated. A D&D Procedure (Ref. 9) was prepared and used for removal of the two RA exhaust filter plenums.

Prior to implementation of the D&D Procedure, the large filter plenum No. 1 was surveyed for RA and hazardous materials contamination in accordance with Ref. 10. Each chamber of plenum No. 1 was RA surveyed with hand held friskers and smears taken from various locations within the chambers. Visual inspections of each of the three chambers were conducted for evidence of hazardous or potentially hazardous materials. No hazardous materials were observed and only one potentially hazardous material (paint) was observed on interior wall and ceiling surfaces. Samples of paint chips were removed from the outlet chamber of plenum No. 1 and analyzed for RA contamination. The RA analysis revealed No Detectable Activity (NDA) above background levels. The paint samples were then subjected to TTLC analyses and TCLP extraction analyses for hazardous constituent concentrations. The results of these analyses classified the paint as "non-hazardous". The results of the RA and hazardous materials contamination surveys and chemical analyses are presented in Ref. 11.

The small size of filter plenum No. 2 made it feasible to remove it intact to the RMDF for dismantlement, size reduction and packaging in the controlled atmosphere decontamination room of Building 022. This approach was also safer and more cost effective than performing the work at Building T005. The plenum was disconnected and isolated from all attached blowers, exhaust inlet hood, conduit, piping, and anchor bolts. The duct inlet and outlet openings were covered and sealed with plastic. The plenum was then lifted and placed in a specially fabricated plastic lined wooden secondary containment box and transported to Building 021 of the RMDF. At the RMDF, the pre-filters and HEPA filters were removed from the plenum and packaged separately. The pre-filters were packaged for disposal as low level RA waste. The HEPA filters were packaged and placed in safe storage pending resolution of the "Mixed-Waste" issue of disposal of HEPA filters that were DOP tested prior to use. the filter plenum was sectioned, size reduced, and packaged for disposal as low level RA waste.

The larger filter plenum was dismantled in place in accordance with Ref 9. An enclosure tent of wood framing and plastic sheeting was fabricated and installed around the plenum (Figure 4-5). The portable HEPA filtered exhaust unit was attached to the South side of the tent (Figure 4-6) and filtered air inlet openings were installed on the North side of the tent. The pre-filters in the plenum were removed, surveyed and packaged for disposal as low Level RA waste. The HEPA filters in the plenum were removed, surveyed, packaged and placed in RA materials storage at the RMDF. The plenum was cut into sections and size reduced using a plasma arc torch and reciprocating power saw. The size reduced sections were surveyed and packaged for disposal as low level RA waste. The tent enclosure was dismantled and surveyed. The plastic sheeting and some of the wood framing were packaged for disposal as low level RA waste. Most of the wood framing was not RA contaminated and was reused or disposed of as conventional waste.

The concrete support foundations for both filter plenums No. 1 and No. 2 were surveyed for RA contamination. A few localized surface areas were found to be contaminated. Light scabbling to a depth of no more than 1/8-in. was sufficient to remove the contamination from the concrete surfaces.

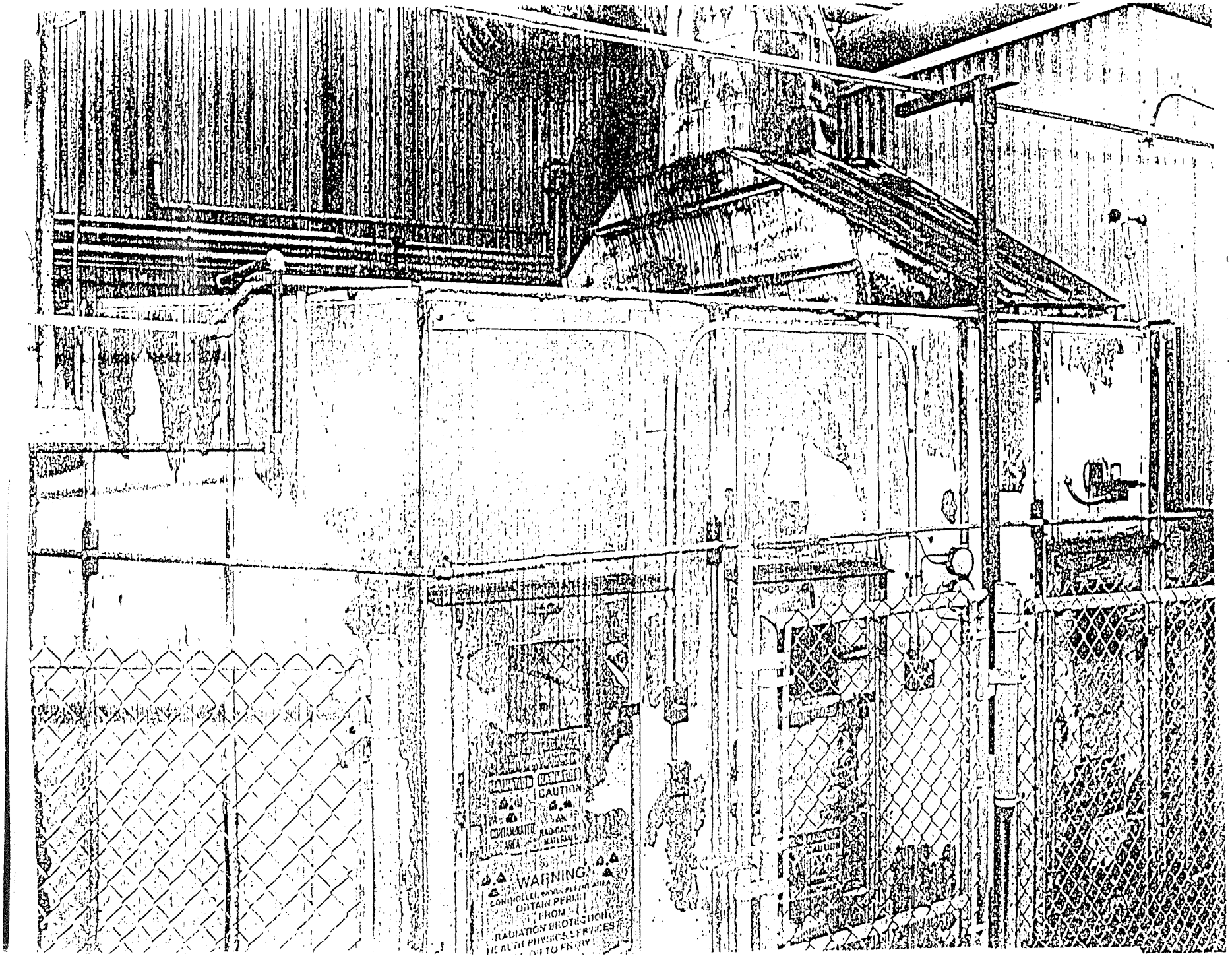


Figure 4-3 Building T005 RA Filter Plenum No. 1

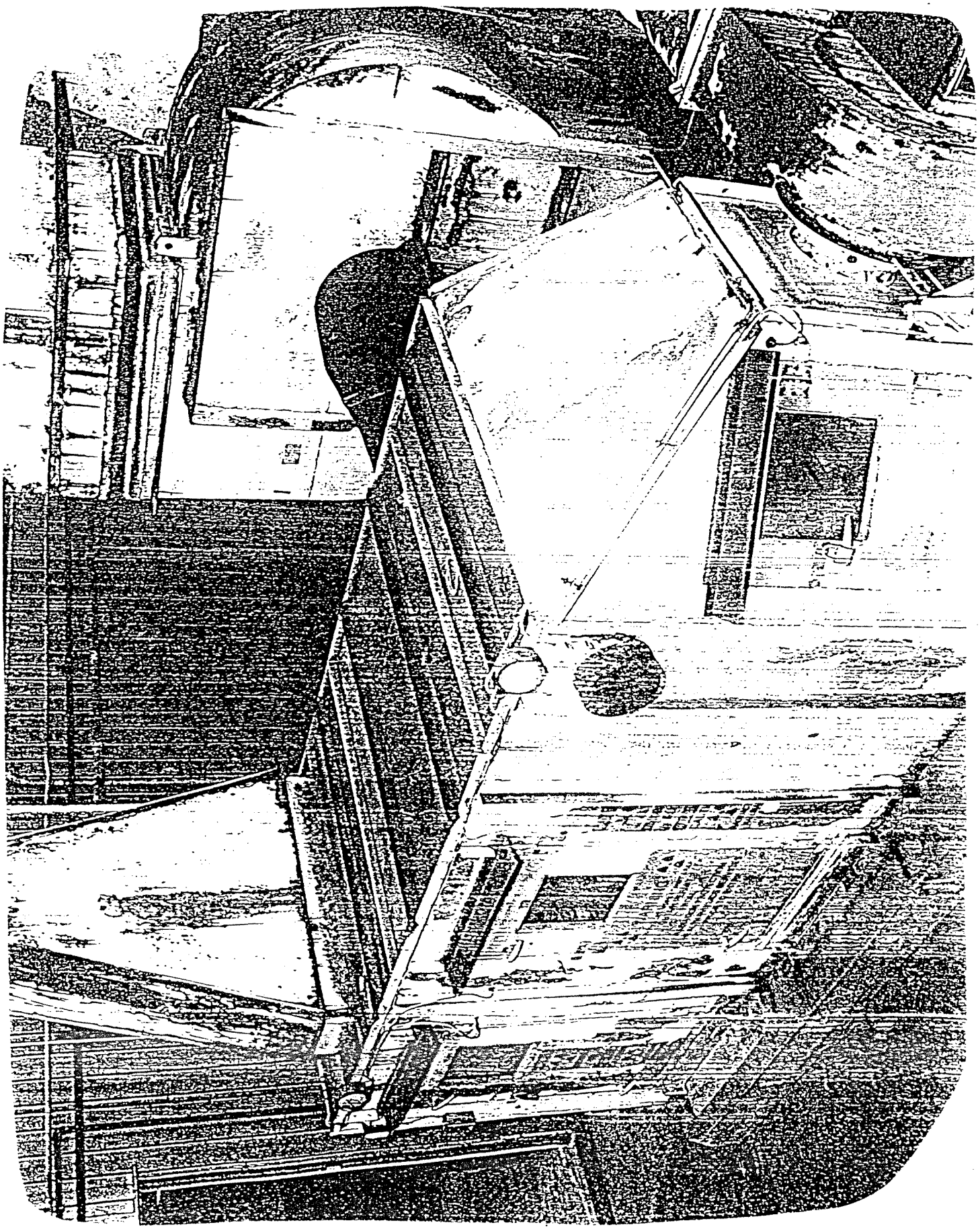

Figure 4-4 Building T005 RA Filter Plenum No. 2

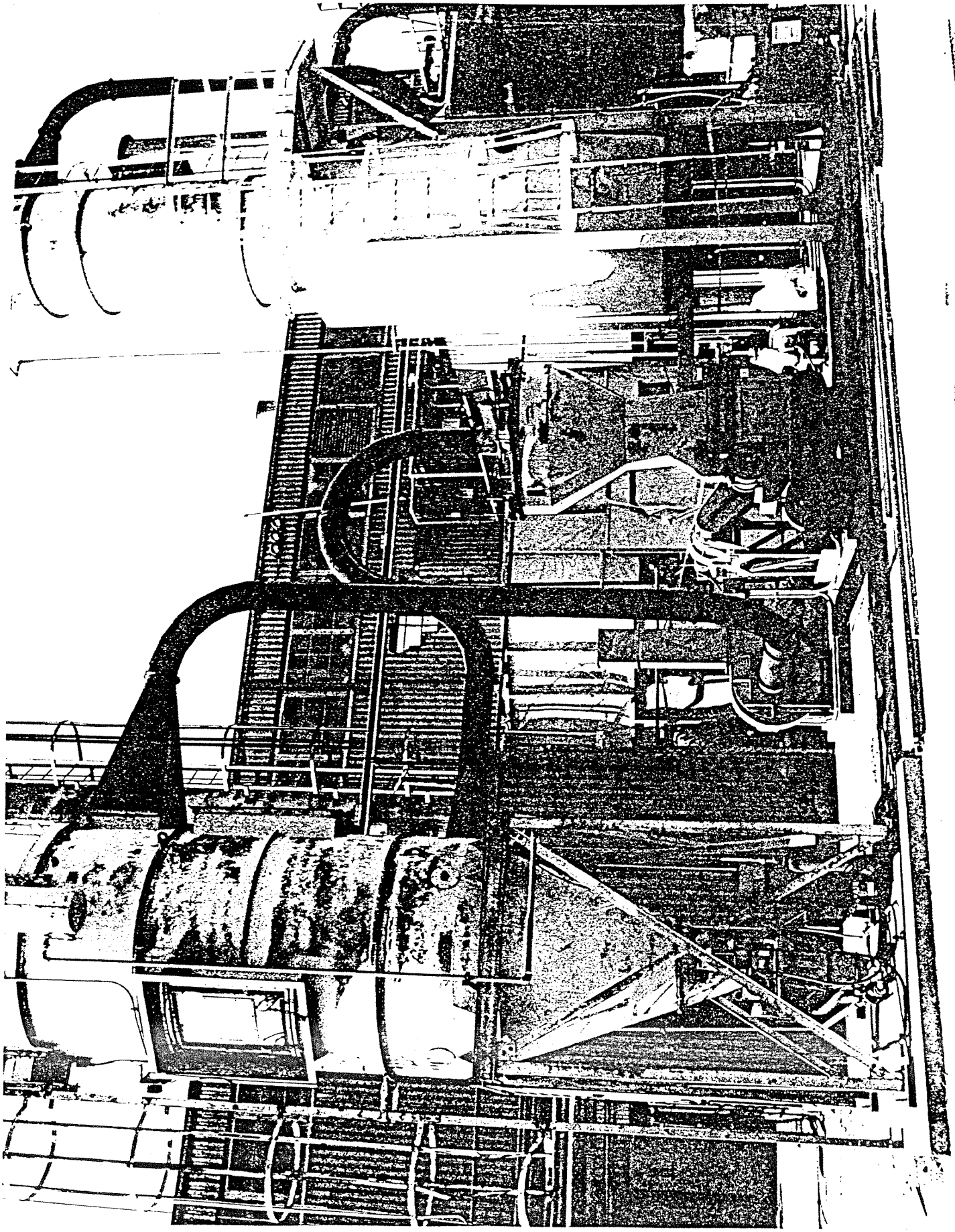

Figure 4-5 Tent Enclosure Around RA Filter Plenum No. 1

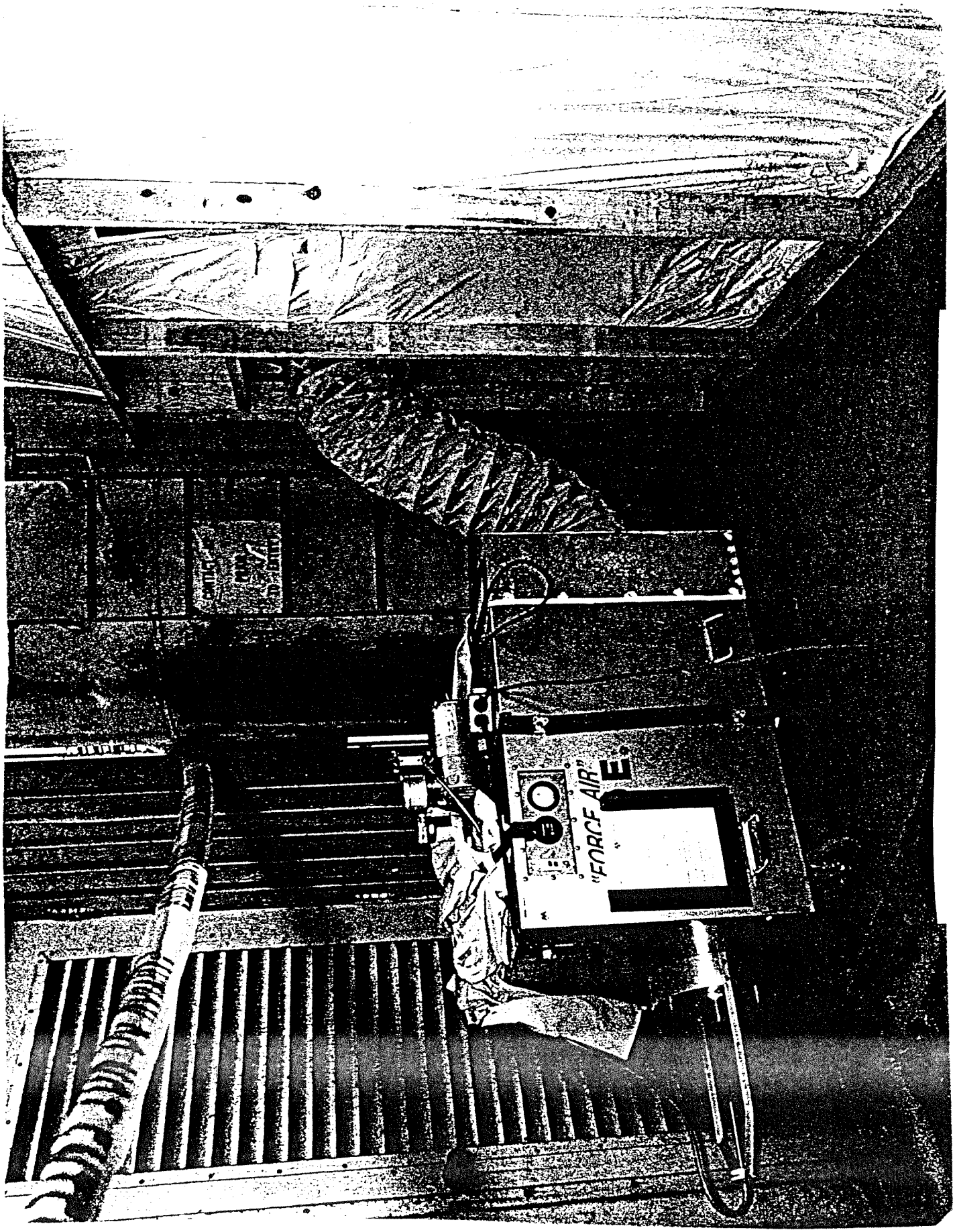


Figure 4-6 Portable HEPA Filtered Exhaust Unit Attached to Enclosure Test Around RA Filter Plenum No. 1

## 4.4 PHASE IV - EXTERIOR RA DRAIN LINE REMOVAL

The remaining exterior underground RA liquid waste drain lines were located off the North-East corner of Building T005. The drain lines originally extended from various laboratories and work areas inside Building T005 to two underground holding tanks located approximately 60 ft. North-East of the Building. The two holding tanks and the drain lines that were located inside Building T005 were removed previously. The remaining drain lines to be removed consisted of three 2-in. diameter lines, one 3-in. diameter line, and two 4-in. diameter lines. The drain lines were approximately 40 ft. in length each and were made of cast iron drain pipe. The pipe joints and fittings were connected and sealed with oakum and lead. A D&D Procedure (Ref. 13) was prepared and used for removing the underground drain lines.

Two major equipment installations were located directly over the area containing the drain lines. One was a large tank and support structure and the other was a free standing bag house structure. The bag house structure was lifted and relocated per Ref. 14.

The tank and support structure were left in place. The drain lines that traversed the underside of the tank foundation were successfully pulled through the soil underneath the foundation without breaching the pipe.

The surface concrete and asphalt paving above the drain lines were saw cut and removed with jack hammers, bob cat ram, and backhoe. The soil above and around the drain lines was carefully removed with a backhoe assisted by hand shoveling. The removed concrete, asphalt paving and soil were surveyed for RA and hazardous materials during the removal process. No hazardous materials associated with the drain lines were found in the excavated areas. The drain line pipe sections were carefully removed from the excavations and placed in a RMMA where the pipe joints were separated and the lead seals removed. The lead was segregated and surveyed for RA contamination. The survey revealed no detectable RA activity from any of the lead seals. The lead was then packaged and processed from the RMMA per Ref. 17. Approval to dispose of this material was obtained from DOE-SF in accordance with "Moratorium" procedures. The drain pipe was size

reduced, surveyed, and packaged for disposal as low level RA waste. A few sections of drain pipe were embedded in concrete support foundations. In these instances, the drain pipe interiors were surveyed, found to be free of RA or hazardous materials contamination and the pipe left embedded in the concrete.

Soil samples were taken from the bottom areas of the excavations for RA and hazardous materials contamination analyses prior to backfilling the excavations. The area adjacent to the wall of the underground pit that contained the two holdup tanks previously removed was excavated deeper to expose soil near the base of the pit. Additional soil samples were taken in this area to confirm that no contamination resulted from the holdup tanks removal. Analyses of the soil samples revealed no RA or hazardous materials contamination. The excavations were then backfilled and paved with concrete.

## 4.5 PHASE V - FINAL RA SURVEY

The final radiological survey of Building T005 included previously surveyed areas, recently decontaminated areas as described in this report, and the grounds around Building T005 including Building T049. A detailed survey procedure (Ref. 15) was prepared and used to perform the final survey. The results of the final survey and backup data are presented in the Building T005 final survey report (Ref. 18).

## 5.0 WASTE VOLUME GENERATED AND DISPOSAL

The types of waste materials generated during the D&D of Building T005 included metal ducting and plenum materials, cast iron drain piping, metal conduit and abandoned utility piping, lead, pre-filters, HEPA filters, asphalt and concrete rubble, cleaning solutions, and soft trash. A total of 950 $ft^3$ of low level RA waste was generated, of which 143 $ft^3$ was soft trash. In addition, approximately 55 linear feet of radiologically clean 6-in. diameter ducting was disposed of as conventional waste and 144 $ft^3$ of HEPA filters were packaged and placed in RA materials storage at the RMDF. Approximately 80 lbs of radiologically clean lead was removed from the drain pipe joints and shipped off site for recycling. Cleaning of the 24-in. diameter duct section that contained oil residue resulted in 2 1/2 gallons of alcohol and oil solution and 1 gallon of kerosene and tar solution (mixed waste). These solutions were treated by a molten salt oxidation process to remove the hazardous waste constituents. The asphalt and concrete rubble was not contaminated and was disposed of as conventional waste. Table 6-1 compares estimated and actual waste volumes generated.

TABLE 6-1 WASTE VOLUME GENERATED

| Source | Volume ($Ft^3$) Estimated | Actual |
|---|---|---|
| Duct, Plenum & & Drain Lines | 840 | 807* |
| HEPA Filters | 144 | 144 |
| Consumable (Soft Trash) | 250 | 143 |
| Total | 1234 | 1094 |

* Does not include 55 linear feet of 6-in. diameter ducting disposed of as "Conventional Waste" or 80 lbs of recycled lead.

## 6.0 PERSONNEL RADIATION EXPOSURE

No appreciable personnel radiation exposure was anticipated or encountered from the D&D activities for Building T005. Total personnel radiation exposure from this project was less than 10 mREM.

## 7.0 PROJECT COST EVALUATION

The Work Breakdown Structure (WBS) established for the final work package of the Building T005 D&D project was separated into six accounting activities. They were 1) Plans & Procedures, 2) Health Physics Support, 3) Material & Sub-Contracts, 4) D&D Activities, 5) Final survey and 6) Material Disposal. Comparisons of estimated versus actual project costs are presented in Table 8-1.

Table 8-1 Estimated Versus Actual Project Costs

| WBS Activity | Estimated Costs ($) | Actual Costs ($) |
|---|---|---|
| Plans, Procedures, Reports | 26,000 | 30,160 |
| Health Physics Support | 37,000 | 29,205 |
| Material & Sub-contracts | 40,000 | 33,495 |
| D&D Activities | 226,000 | 241,652 |
| Final Survey | 123,000 | 153,021 |
| Waste Disposal (excluding HEPA filters) | 100,000 | 76,866 |
| Totals | 552,000 | 564,399 |

## 8.0 REFERENCES

1. IL dated June 8, 1987, F. Schmidt to W. McCurnin, Subject: Decontamination Plan for Building T005
2. GEN-ZR-0003, Radiological Survey of Building T005
3. ER-AN-0002, ETEC Environmental Restoration Program Management Plan
4. 005-AN-0001, Building T005 Decontamination & Decommissioning Operations Plan
5. 005-DP-0001, Removal of Exterior RA Contaminated Exhaust System at B/005
6. 022-SOP-0001, Molten Salt Oxidation of Oil with Radioactive Contamination
7. 005-DP-0002, Removal of Interior RA Contaminated Exhaust System at B/005
8. 005-OI-001, Building 005 Preliminary Duct Survey and Sampling
9. 005-DP-0003, Removal of RA Contaminated Exhaust Filter Plenum Systems at B/005
10. 005-OI-002, Building 005 Preliminary Filter Plenum Survey and Sampling
11. IL 92-022-02-036, S. L. Pendleberry to R. D. Meyer, Subject: Preliminary Survey and Sampling of RA Exhaust Ducting and Filter Plenums, Building 005
12. 005-DP-0004, Removal of RA Contaminated Ducting Containing Oily Residue at Building 005
13. 005-DP-0005, Removal of Exterior Underground RA Drain Lines at B/005
14. 005-HP-0001, Relocation of Bag House for Removing RA Drain Lines at B/005
15. 005-SP-0001, Building 005 Final Survey Procedure
16. N001TI000339, Definitions and Designations of Radioactive Material Management Areas (RMMAs)
17. ER-SP-0001, Management and Disposition of Known or Potentially Hazardous Wastes Originating in a RMMA
18. 005-ZR-0001, Final Radiological Survey of Building 005