530204-0506210012

CH2M HILL
Mound, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, OH
45343-3030

CH2MHILL

SM-094/03
December 10, 2003

Mr. Dewain Eckman, Acting Director
Miamisburg Closure Project
U. S. Department of Energy
500 Capstone Circle
Miamisburg, OH 45342

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
**BUILDING 38, STRUCTURE OSC REPORT, FINAL, REV. 1**
Bldg 38 GFS/I: Completion Document Approved – Activity ID EBDEE038AY
38 Stack GFS/I: Completion Document Approved – Activity ID EBDEE038DY

REFERENCE: Statement of Work Requirement 055 - Regulator Reports

Dear Mr. Eckman:

Paul Lucas from your office has approved the following revised document to be released:

- Building 38, Structure OSC Report, Final, Rev. 1

Changes since Final include the reinsertion of the word "properly" to describe the disposal of the building debris, and to elaborate on the text describing the radiological assessment and surveys performed prior to demolition to identify areas of the building that met surface release criteria.

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Bob Ransbottom at 865-4220.

Sincerely,

K. L. Kehler
SMPP/TFV Project Manager

KLK/VKD

Enclosures

cc: David Seely, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attchs
Frank Schmaltz, DOE/MCP, (1) w/attachments
Lisa Rawls, DOE/MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Terry Tracy, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (2) w/attachments
Jim Bonfiglio, MESH, (1) w/attachments
Public Reading Room, (4) w/attachments
Kurt Kehler, CH2M Hill, (1) w/attachments
Val Darnell, CH2M Hill, (1) w/attachments
DCC (1) w/attachments
Admin Record (2) w/attachments
John Fulton, CH2M Hill, w/o attachments
Bob Ransbottom, CH2M Hill, w/o attachments
Dave Rakel, CH2M Hill, w/o attachments

530204-0506210012

# BUILDING 38 STRUCTURE REMOVAL ACTION

Includes closure of PRSs 294, 295, 297, 298, 301, 305, and 326

# OSC REPORT

December 2003

Final, Rev. 1

Department of Energy
Miamisburg Closure Project

CH2MHILL

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## Acronyms

| | |
|---|---|
| BOSS | Balance of Site Structures |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| D&D | decontamination and decomissioning |
| DAC | derived air concentration |
| DOE | Department of Energy |
| ER | Environmental Restoration |
| MCP | Miamisburg Closure Project |
| NTS | Nevada Test Site |
| OEPA | Ohio Environmental Protection Agency |
| OSC | On-Scene Coordinator |
| PP | Plutonium Processing |
| PRP | Potentially Responsible Party |
| PRS | Potential Release Site |
| RA | Removal Action |
| RTG | Radioisotopic Thermoelectric Generator |
| SM | Special Metallurgical |
| USEPA | United States Environmental Protection Agency |

# RECOMMENDATION

The superstructure portion of the Building 38 Removal Action was performed based on radiological contamination from plutonium-238 processing activities that occurred within the building. The removal action resulted in the demolition of Building 38 and its stack (PRS 305), and disposal of approximately 6,671 cubic yards of material. The radioactive waste was sent to Envirocare and the Nevada Test Site (NTS); the demolition debris meeting surface release criteria was sent to Stoney Hollow Landfill, and the concrete meeting surface release criteria was reused onsite. Other building components designated as PRSs 294, 295, 297, 298, 301, and 326 were removed by the previous site contractor. This OSC Report closes out PRSs 294, 295, 297, 298, 301, 305, and 326. Removal of the contaminated soil covered by the Building 38 Removal Action is underway and will be closed out separately in the Building 38 Soil OSC Report.

10/28/03

for Paul Lucas, OSC
U.S. Department of Energy
Miamisburg, Ohio

11/19/03

David Seely, Remedial Project Manager
USEPA
Chicago, Illinois

10/29/03

Brian Nickel, Project Manager
OEPA
Dayton, Ohio

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## 1.0 SUMMARY OF EVENTS

This section describes the site background and events leading up to the removal action, parties involved in supporting the removal action, chronological narrative of the removal action, and resources committed to complete the project.

**1.1 Site Conditions and Background**The Action Memorandum, Building 38 Removal Action, January 2002, Final (Revision 2), and the Building 38 Removal Action, Action Memorandum, Addendum 1, Final, August 2003 authorize removal of Building 38, the Building 38 Stack, and the contaminated soil in the vicinity. This Structure On-Scene Coordinator (OSC) Report documents only the removal of the Building 38 superstructure and stack, and associated building component PRSs. The removal of contaminated soil, and soil-related PRSs in the vicinity of Building 38 will be documented via the Building 38 Soil OSC Report.

The levels of radiological contamination present warranted a Removal Action (RA) under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) and subsequent demolition of Building 38 and its stack.

### 1.1.1 Building 38 Structure

Building 38, also called PP (Plutonium Processing) Building, was constructed in 1968 to replace the facilities in SM Building (Special Metallurgical). Building 38 was originally used as a plutonium-238 production processing facility and more recently supported the assembly and testing of Radioisotopic Thermoelectric Generators (RTGs), the repackaging and storage of excess nuclear material, and the storage and identification of orphan radioactive sources at Mound. Even though Building 38 has undergone extensive Decontamination and Decommissioning (D&D) cleanup in the past, sealed-in-place plutonium-238 contamination was present. There were seven structural Potential Release Sites (PRSs) (Table 1): six located within the building, and the seventh being the stack.

Building 38 was a two-story structure with the lower level constructed of reinforced concrete and prestressed concrete, and the upper-level constructed of concrete block. The roof was prestressed concrete with built-up membrane of asphalt. The total floor space was 44,327 square feet. Appendix D provides photographs of the building and stack before, during, and after demolition. The basement walls, slab, and footers were left in place and will be removed with the Building 38 soil removal action activities.

### 1.1.2 Building 38 Stack

The Building 38 Stack was a masonry process exhaust stack that served Building 38 and SM Building (prior to its demolition in March 1995). The stack's interior had been exposed to radioactive isotopes of thorium, americium, uranium, and plutonium. The 200-foot tall stack was made of bricks and mortar, reinforced with wire mesh and rebar, and coated on the inside surface. The stack was supported by a square reinforced concrete base pad, which was left in place and will be removed with the Building 38 soil

removal action activities. The stack also included a 48-inch diameter exhaust duct from Building 38 to the plenum, the exhaust plenum with support platform, and stack exhaust fan, which were removed with the structure removal activities. The Building 38 stack was designated as PRS 305.

**Associated Potential Release Sites and Previous Investigations.**

The seven PRSs listed in Table 1 (approximate locations are shown on Figure 2) were dispositioned with the Building 38 Structure and are closed out in this OSC Report. The 15 PRSs listed in Table 2 are to be dispositioned with the Building 38 Soil, and will be closed out in the corresponding Soil OSC Report.

**Removal Action.** The authorization of a Removal Action for Building 38, the Building 38 Stack, and contaminated soil in the vicinity was made by the Core Team on July 12, 1999 via the Building 38 Action Memorandum. Three additional soil-related PRSs were added via the Building 38 Action Memo Addendum 1, Final August 2003. These documents were made available for public review and comment on July 19, 1999 and June 4, 2003, respectively. Since DOE is the sole responsible party for cleanup of contamination in Building 38, no Potentially Responsible Parties (PRPs) were sought to clean up the site. Monsanto Research Corporation, EG&G Mound Applied Technologies, and BWXT of Ohio, Inc. were the operating contractors at the site from 1948 to 30 September 1988, from 1 October 1988 until 30 September 1997, and from 1 October 1997 until 31 December 2002 respectively. CH2M Hill Mound, Inc. became the site contractor for the Miamisburg Closure Project (MCP) effective January 1, 2003.

## 1.2 Organization of the Removal Action

Table 3 (Appendix B) lists the parties supporting the removal action and their responsibilities.

## 1.3 Objectives

Removal Action Objectives: The objectives of the Building 38 Removal Action were to demolish the Building 38 superstructure and stack, remove the Buildings 33 and 38 slabs and foundations, remove the contaminated soil in the vicinity of SM Building and Buildings 33 and 38, and remove additional soil PRSs in the vicinity. Completion of the Building 38 superstructure and stack demolition and closure of the PRSs listed in Table 1 is documented in this Structure OSC Report. Completion of the foundation and soil removals, and removal of the soil-related PRS listed in Table 2 will be documented in the Soil OSC Report.

Documentation Objective. The objective of this Building 38 Structure OSC Report is to describe the structure removal action fieldwork, report the air monitoring results, and document successful completion of the structure removal portion of the project. Material quantities and disposition locations are presented in Table 4. The cost breakdown of the structure portion of the RA is presented in Table 5. A separate Building 38 Soil OSC

Report will be provided to document completion of the soil removal portion of the project.

Verification of Structure Demolition. The verification of the building and stack superstructure removal is provided in the photographs included in Appendix D. The Building 38 basement walls and slab, and the stack slab were left in place and will be removed during the soil removal action activities.

### 1.4 Chronological Narrative of the Removal Action

The following is a chronological narrative of events surrounding the Building 38 Structure removal action.

| Timeframe | Activity |
|---|---|
| 1968 | Building 38 construction completed. |
| 1974 | A waste solidification facility (2,184 square feet) was added to the west side of Building 38. |
| 1976 | A low-level liquid waste facility and tanker loading pad was added to the west side of Building 38. |
| 1977 | Men's change room (1,764 square feet) and two dock towers (with an overhead rail crane in each) were added to Building 38. |
| 1979 | Plutonium processes in Building 38 ceased. After this time, only encapsulated heat sources were handled in the building. |
| 1982 – early 1990s | D&D activities conducted. |
| 1996 | RTG assembly and disassembly operations started in Building 38. |
| 1998 | Orphan source work ended in Building 38. |
| July 1999 | Core Team binned Building 38 as a Removal Action. |
| June to October 2002 | Safe Shutdown activities conducted. |
| October 2002 to June 2003 | Building 38 decontamination conducted. |
| January to February 2003 | Asbestos abatement conducted. |
| June 2003 | Exhaust ductwork demolition performed. |
| June to July 2003 | Building 38 structure and stack demolished. |
| September 2003 | Structure OSC Report generated. |
| November 2003 | Structure OSC Report released. |

## 2.0 EFFECTIVENESS OF THE REMOVAL ACTION

The Building 38 superstructure and stack have been demolished and the debris removed and disposed of properly per the EPA-approved work plans. Photographs taken before, during, and after demolition are included in Appendix D.

### 2.1 Actions Taken by Site Contractor

The Balance of Site Structures (BOSS) project and onsite personnel planned and performed removal action oversight, building and stack dismantlement and demolition, air monitoring for worker safety, and onsite transportation and staging of debris. The project met the removal action objectives as outlined in the Action Memorandum (Final Revision 2, dated January 2002). CH2M Hill Mound, Inc. personnel prepared the OSC Report, which shows that the structure Removal Action objectives were achieved.

**Building and Stack Dismantlement and Demolition**

Photographs of Building 38 and its stack before, during, and after demolition are provided in Appendix D. To prevent the generation of airborne radioactive contamination during demolition activities, a suite of engineering controls were employed. These controls included (but were not limited to) fixing contamination using liquid fixatives and/or foam, scabbling fixed contamination locations to remove the contamination, and using water misting to prevent fugitive dust emissions. All wastewater generated during decontamination activities was containerized and transported to the onsite Alpha Treatment System (ATS) Building (also known as Building 125) for processing. Water and sludge remaining in the building sumps and wastewater holding tank was solidified into concrete, and disposed of as LSA waste at the Nevada Test Site (NTS).

Prior to demolition, Radiological Controls performed an evaluation of the radiological history of the building. Radiological characterization surveys were conducted to identify clean and contaminated areas of the building. The survey results were used to guide the demolition sequence and to ensure proper debris segregation. Additionally, in-process surveys were also conducted throughout the phase I activities to ensure that the implemented controls were effective. The sections of the building that were anticipated to meet surface release criteria were demolished first.

Following demolition, debris was segregated and radiologically surveyed. Only structural material that met surface release criteria was released to Stoney Hollow Landfill (Appendix B, Table 4). Concrete debris meeting surface release criteria was size reduced to facilitate transportation to and processing at the onsite concrete crusher, prior to being reused as hard fill material onsite. Radioactively contaminated debris was size reduced and packaged to meet the Envirocare or NTS waste acceptance criteria.

Prior to stack demolition, an air lock work area (with ventilation providing negative pressure to draft airflow downward in the stack) was installed at the opening at the base

of the stack. Bracket scaffolds were installed on the stack to enable brick-by-brick demolition of the stack from the top down. The stack debris was routed down the interior of the stack to the air lock work area at the base. All debris from the stack demolition was disposed of as radiological waste. Radiological surveys were performed to ensure proper management of the waste stream, per the EPA-approved Work Plan.

Appendix C provides a copy of the CH2M Hill Mound, Inc. news announcement was released in June 2003 and five articles published about the Building 38 and stack demolition that appeared in the Dayton Daily News and the Miamisburg/West Carrollton News.

**Air Monitoring for Worker Safety**

During demolition activities, the Mound Radiological Control organization performed air monitoring to confirm a safe work environment, in accordance with 10 CFR 835. Air monitoring results (including the monitor locations relative to the demolition activities and wind direction) from the stack and building demolition are provided in Appendix E. On each day that demolition activities were performed, at least two air monitors were used at any given time (one upwind of the work area and the other downwind of the work area). The monitors were repositioned in response to changes in wind direction.

The derived air concentration (DAC) is a calculated value for occupationally exposed radiological workers based on continuous, non-shielded exposure. For the purpose of the Building 38 demolition, the DAC was calculated based on the isotopic mix of 60% plutonium-238, 30% plutonium-239, and 10% americium-241. The highest recorded results were 0.030 DAC and 0.106 DAC, for the stack and building respectively. All results were well below the 0.3 DAC, which is a Mound Administrative Control level based on 10 CFR 835.

The air monitoring results indicate that there was no airborne worker radiological exposure, and therefore it can be extrapolated that the demolition activities did not pose any risk to human health and the environment.

**Additional Building 38 Removal Action Activities**

The Environmental Restoration (ER) project will perform the soil removal actions and prepare the Building 38 Soil OSC Report.

## 2.2 Actions Taken by Local, State, and Federal Agencies

The Department of Energy (DOE)/MCP, the United States Environmental Protection Agency (USEPA), and Ohio EPA (OEPA) had oversight responsibility for the removal action. The DOE/MCP was the lead agency for the RA and provided the funding and oversight for the RA. The USEPA and OEPA had oversight responsibility for the RA and review of the Action Memorandum and OSC Reports to ensure that the objectives are/were met.

OEPA performed building and demolition site inspections; there were no corrective actions noted. They also performed air monitoring; all results were within appropriate limits.

### 2.3 Actions Taken by Subcontractors

Subcontractors involved in the project included the following:

- American Services Group, Inc. Cleves, Ohio for asbestos abatement
- Cleveland Wrecking Co., Ontario, California for building demolition.
- Concrete Coring Company, Dayton, Ohio for concrete wall and floor cutting.
- International Chimney, Buffalo, New York for SM/PP Stack demolition.
- Rieck Mechanical Electrical Services, Dayton, Ohio for isolation of mechanical utilities.
- RWE Nukem, Oak Ridge, Tennessee for building decontamination.
- Safeway Steel Products, Fairfield, Ohio for installation and disassembly of scaffolding for containments.
- URS Group, Inc. Oak Ridge, Tennessee as the primary contractor.

## 3.0 DIFFICULTIES ENCOUNTERED

### 3.1 Items that Affect the Removal Action

No difficulties were encountered that affected the removal action.

### 3.2 Issues of Intergovernmental Coordination

All DOE/USEPA/OEPA interactions were good. The agencies were updated informally on a regular basis, and formally at monthly Core Team meetings. The Mound 2000 Process worked well. Coordination with CH2M Hill, Inc. and the subcontractors went well.

## 4.0 RECOMMENDATIONS

### 4.1 Means to Prevent a Recurrence

The building debris was removed and disposed of properly per the EPA-approved work plan; therefore, the spread of contamination is prevented. This soil Removal Action is underway, and will be closed out in the Building 38 Soil OSC Report. Once both removal actions are complete, the area will be transferred from federal to private ownership. All State and Federal disposal rules will apply.

# APPENDIX A

## FIGURES

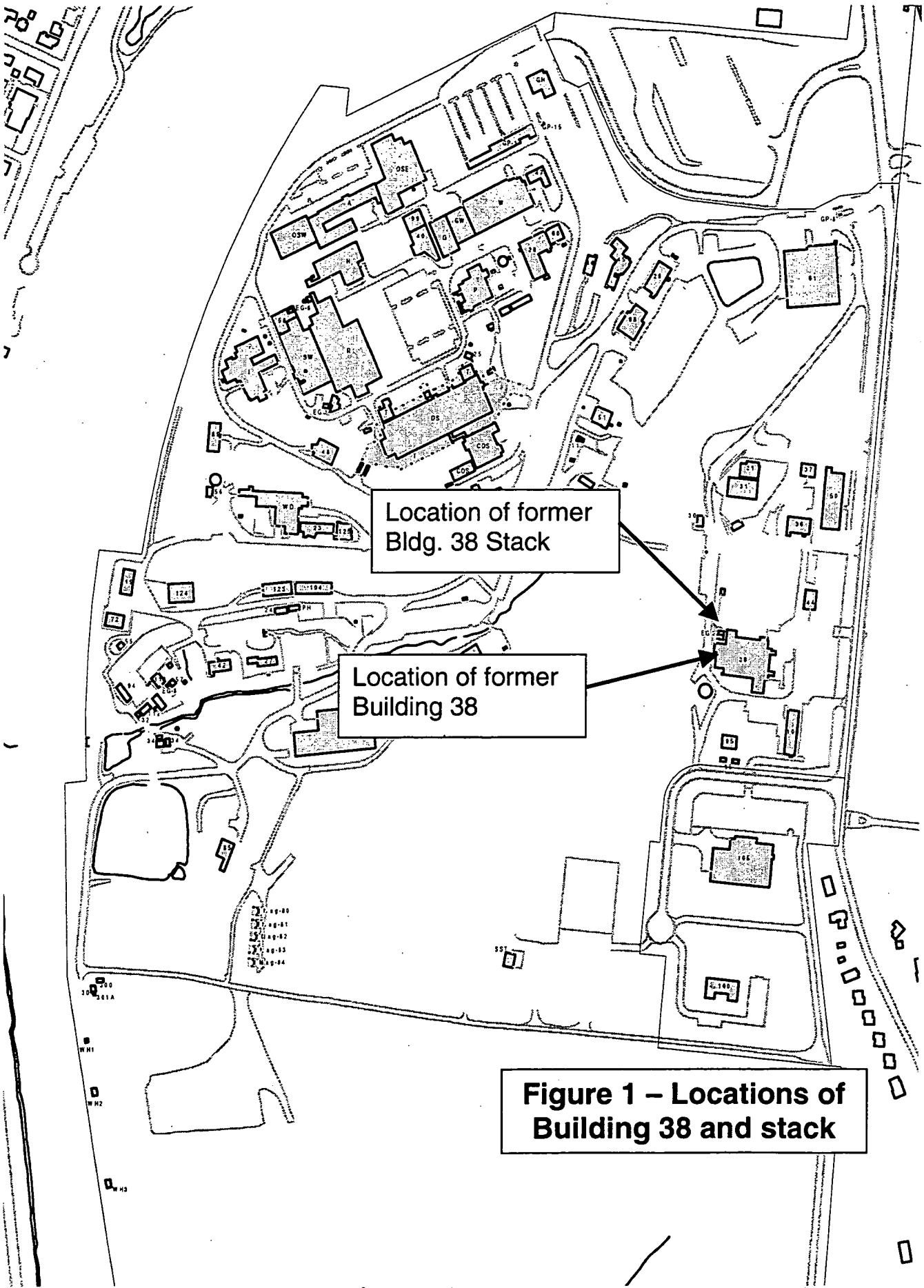
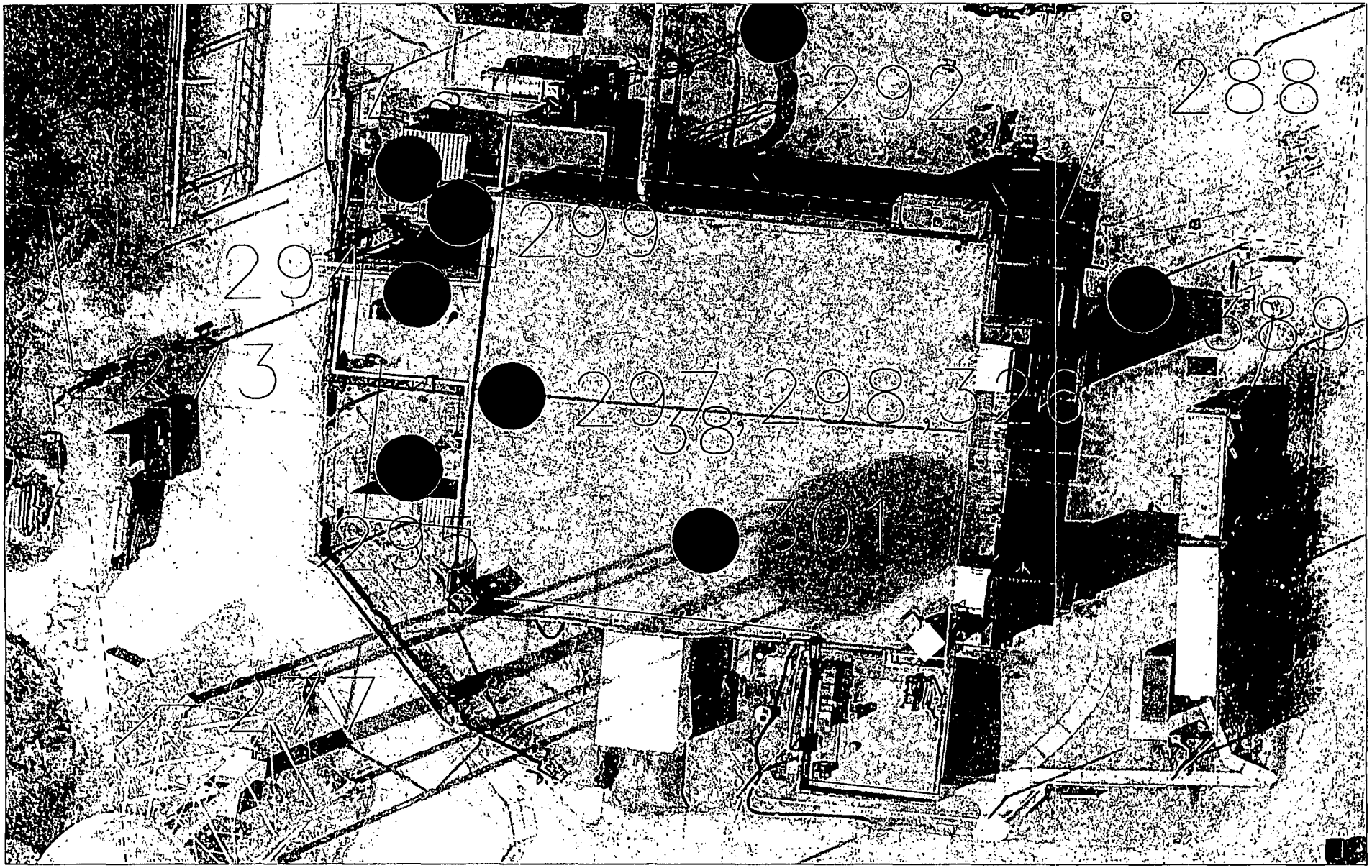



**Figure 1 – Locations of Building 38 and stack**

A 1 of 2




A2 of 2

- PRS Point
- PRS Area
- PRS Line

20 10 0 20 40FT
GRAPHIC SCALE

MOUND
Environmental Restoration Geographic Information System

| SHEET | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISSUE | | | | | | | | | | | | | | | | | | | | | |
| SHEET | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | |
| ISSUE | * | | | | | | | | | | | | | | | | | | | | |

PART CLASSIFICATION

# Figure 2
# Building 38 and Vicinity

DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE
DRAWING NUMBER: vicinity.dgn
JOB NUMBER
DWG TYPE: STE
PRMG: ER-GIS
CAGEC
SCALE
SHEET 1 OF 1
STATUS: MD-REL-08/29/03
ORIGIN: MSTATION / J

| ISS | DATE | REVISION | BY | CHKR | ENG | LP&EC | APVD | M |
|---|---|---|---|---|---|---|---|---|
| | 08/29/03 | | SSF | | | | | |

# APPENDIX B

## TABLES

## Table 1: PRSs Dispositioned with Building 38 Structure Removal

(Closed out in this Building 38 Structure OSC Report)

| PRS | Description |
|---|---|
| 294 | WS Bldg. Solidification Unit |
| 295 | Bldg. 38 Solid Radioactive Waste Compactors |
| 297 & 298 | Bldg. 38 Alpha Wastewater Sumps (tanks 26 & 27) – above ground tanks |
| 301 | In-Line Incinerator |
| 305 | Building 38 Stack |
| 326 | Sanitary Sump (tank 254) |

## Table 2: PRSs to be Dispositioned with Building 38 Soil Removals

(Will be closed out in the Building 38 Soil OSC Report)

| PRS | Description |
|---|---|
| 77 | Former Warehouse 10 Footprint |
| 78 | Former Warehouse 11 Footprint |
| 267 | Area 9, Former Thorium Storage/Redrumming Area |
| 273 | Area 12, Thorium-contaminated Soil form Area 1 |
| 285 | Area 11, Contamination from SM Bldg. Operations |
| 287 | SM Bldg. Historic Septic Tank (tank 241) -removed |
| 288 | Area 17, SM Bldg. Soils |
| 289-292 | SM Bldg. Alpha Wastewater Sumps (tanks 210-213) - all four removed |
| 293 | Footprint of Former SM Bldg. Solidification Unit |
| 296 | Bldg. 38 West Dock Sump (tank 25)* |
| 299 | EG-2 Diesel underground storage tank (tank 121). Tank removal and soil sampling is regulated under AOC 1301:7-9-13. The required BUSTR (Bureau of Underground Storage Tank Regulations) Remedial Action Plan contains COCs and action levels related to this tank. The plan has been approved by the state fire marshal. |
| 303 | Warehouse 14 Foundation |

## Table 3: Organization of the Removal Action

| | | |
|---|---|---|
| US EPA<br>SR-6J<br>77 W. Jackson Street<br>Chicago, IL 60604<br>312-886-7058 | David Seely | Federal agency responsible for MCP oversight. |
| Ohio EPA<br>401 E. Fifth Street<br>Dayton, OH 45402-2911<br>937-285-6357 | Brian Nickel | State agency responsible for MCP oversight. |
| DOE-MCP<br>P.O. Box 66<br>500 Capstone Circle<br>Miamisburg, OH 45342<br>937-847-8350 | Paul Lucas | OSC responsible for MCP oversight and success. |
| CH2M Hill Mound, Inc.<br>BOSS Project<br>1 Mound Road<br>Miamisburg, OH 45343-3030<br>937-865-4069 | Kurt Kehler | Provide OSC with technical assistance, administrative support, field oversight, site safety, photo, site documentation, and preparation of the OSC Report. |

## Table 4: Materials and Disposition

| Type of Material | Quantity | Disposal Method | Disposal Location |
|---|---|---|---|
| Radioactive Waste | 5,637 cubic yds | Landfill | Envirocare and NTS |
| Demolition Debris | 699 cubic yds | Landfill | Stoney Hollow |
| Clean Hard Fill Debris (concrete) | 335 cubic yds | Reused | Spoils Area/ Concrete Crusher |

## Table 5: Removal Cost

| Extramural Costs | Cost |
|---|---|
| Work Planning | $ 1,400,300 |
| Safe Shutdown | 1,234,200 |
| Characterization | 279,900 |
| Decontamination and Demolition | 6,863,000 |
| **Estimated Total Project Cost** | **$ 9,777,400** |

# APPENDIX C

## GENERAL MEDIA INFORMATION

CH2MHILL
Mound, Inc.

MIAMISBURG Mound COMMUNITY IMPROVEMENT CORP

# 2006 Closure of DOE Mound Site Brings Change to the Neighborhood Skyline

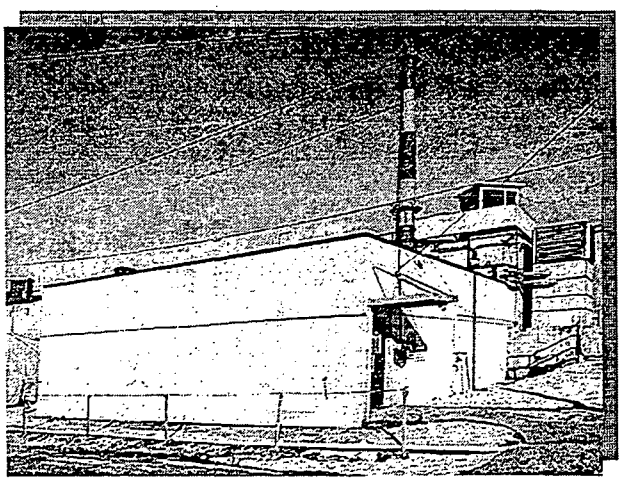
**The U.S. Department of Energy contracted with CH2M HILL Mound, Inc., to clean up the Miamisburg Mound site in preparation for property transfer to the Miamisburg Mound Community Improvement Corporation (MMCIC) for future reuse. The demolition of 66 structures and related infrastructure began under the new contract in January 2003. As the work continues, you will soon notice major changes to the neighborhood skyline as the existing smokestacks are removed. This demolition is part of the overall normal work plan at the site. Cleanup completion is anticipated by 2006.**

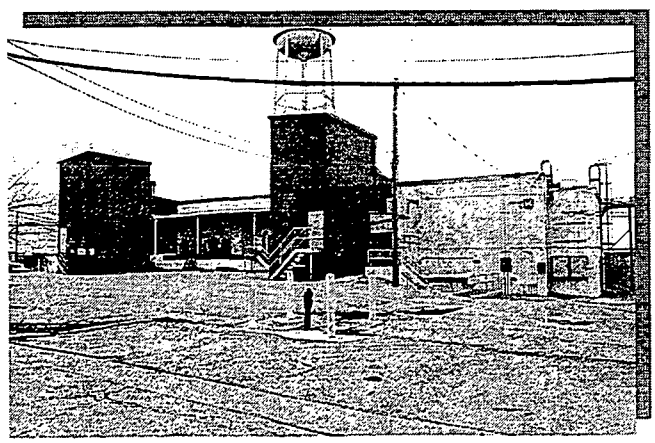
**What can you expect to see?**
In the next few days, construction workers will begin to erect scaffolding up and around Building Stack 38. Preparation for demolition of the stack and auxiliary buildings has begun and is expected to be complete at the end of July. The site crews will begin work at 6:00 a.m., Monday through Saturday, working 10-hour shifts.

**Who can you call with questions?**
Jane Greenwalt, DOE Public Affairs Officer, Ohio Field Office at 937-847-8350, ext. 312 or Lynette Bennett, Manager of Public Relations for CH2M HILL Mound, Inc. at 937-865-5519.

**How can you learn more about the project?**
Additional information is available for public review in the CERCLA Public Reading Room, 305 E. Central Avenue, Miamisburg. Mound Action Committee (MAC) meetings are held the second Friday of each month from 9:00 - 10:00 a.m. Meetings are informal and interactive, open to the public, and there are no membership dues or obligations.

The DOE Ohio Field Office publishes a monthly newsletter, 'New Directions'. Please call if you want to be added to the mailing list.





*Stack 38 and adjacent building are visible from Mound Road across from the Mound Golf Course.*

# Smokestack razing safety questions raised

*Ex-Mound worker challenges DOE on process*

By Dale Dempsey
*ddempsey@DaytonDailyNews.com*

**MIAMISBURG** — A former employee of the Mound Plant has questioned the Department of Energy about the safety of removing two smokestacks on the site of the former nuclear weapons plant.

The DOE this year announced plans to raze the towers, as part of the conversion to a business and technology park. The tower demolition is set to begin today, and officials said the department is taking steps to contain possible contaminants.

"I want to know what you are doing to prevent contamination for neighbors," Mark Becker wrote to the DOE last week. Becker was formerly a public information official for Mound and later BWX Ohio, which operated the plant for the Energy Department. Becker is currently with Ciba Specialty Chemicals in Memphis, but said he still has relatives in Miamisburg, prompting his concern.

The towers were used for work with plutonium and other radionuclides, Becker said.

"Will the towers be taken apart brick by brick to eliminate any material getting into the atmosphere?" Becker wrote. "I would think that better information should be put out and not with a mention that the skyline is changing."

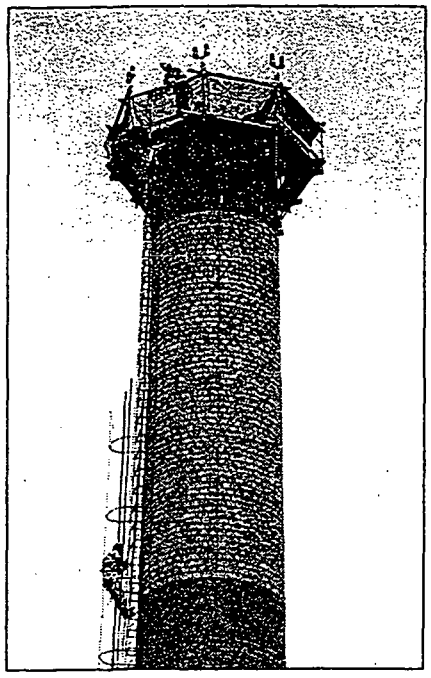
Jane Greenwalt, a spokeswoman for the DOE, said reverse-flow ventilation and a containment structure at the base of the towers will be used to prevent escape into the atmosphere.

She also said the structures will be dismantled brick by brick.

Becker's reaction was still one of skepticism. "They indicate they have potentially no harmful health effects but they have not ruled it out," he said. "I would not take my son to Mound Park while the work is being done."

For more information, visit the Reading Room at the Miamisburg Senior Adult Center, 305 Central Ave.

**Contact** Dale Dempsey at ddempsey@DaytonDailyNews.com or 225-2270.



JIM WITMER/DAYTON DAILY NEWS

# Chimney work

A demolition worker Tuesday climbs the chimney of Building 38, a former plutonium processing plant, on the grounds of the former Department of Energy's Mound Plant in Miamisburg. More than 60 buildings are to be demolished in the Mound closure project, set to be completed by 2006. The site is being converted to a business and technology park.

# Mound towers coming down

by Steve Sandlin
The News
Steve.Sandlin@miller-publishing.com

The demolition of two smokestack towers at the Mound site, once used for work with plutonium and other radio-nuclides, is being done safely, according to officials at the site.

The 200 foot towers are coming down as part of the site's conversion to a business and technology park. Some people in the community have expressed concerns that radioactive contaminated materials could escape the site and endanger the public, but officials say

(Continued on Page 6A)

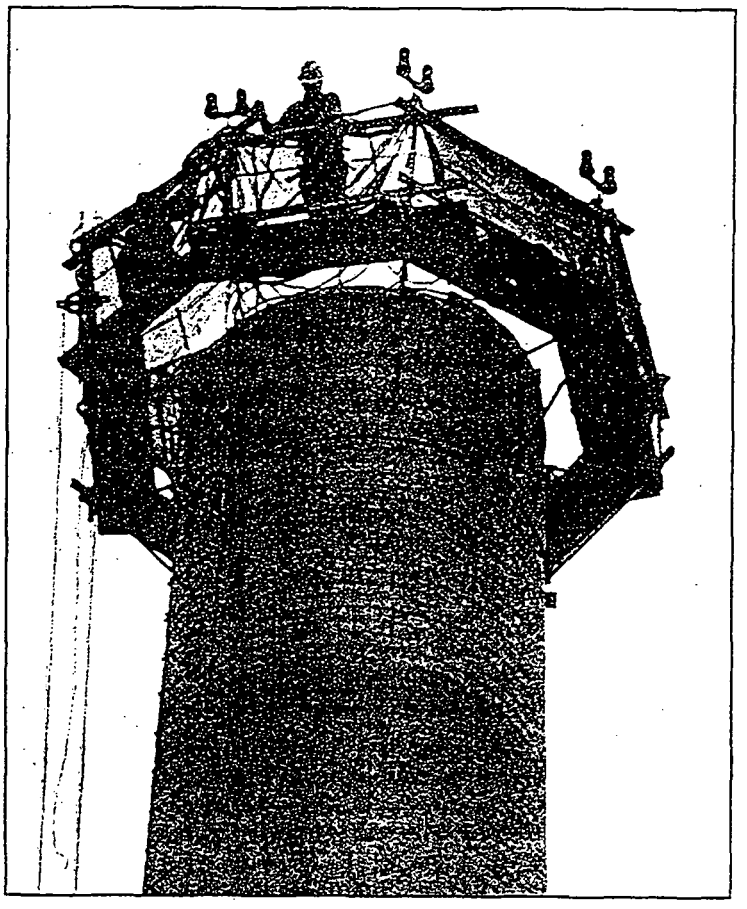


Photo by Steve Sandlin
Workers demolish one of the smokestacks at the Mound site.

# Mound towers

(Continued from Page 1A)

that's unlikely.

"We are taking down the towers using a method that's been approved by the Ohio EPA (Environmental Protection Agency)," said Chris Watson, project manager. "In fact, we and the EPA are working side-by-side during the process.

"We have air monitors located all around the demolition site and the EPA does, too," he said.

Watson said the towers are being taken down by a team of family members from Missouri who are known for such work.

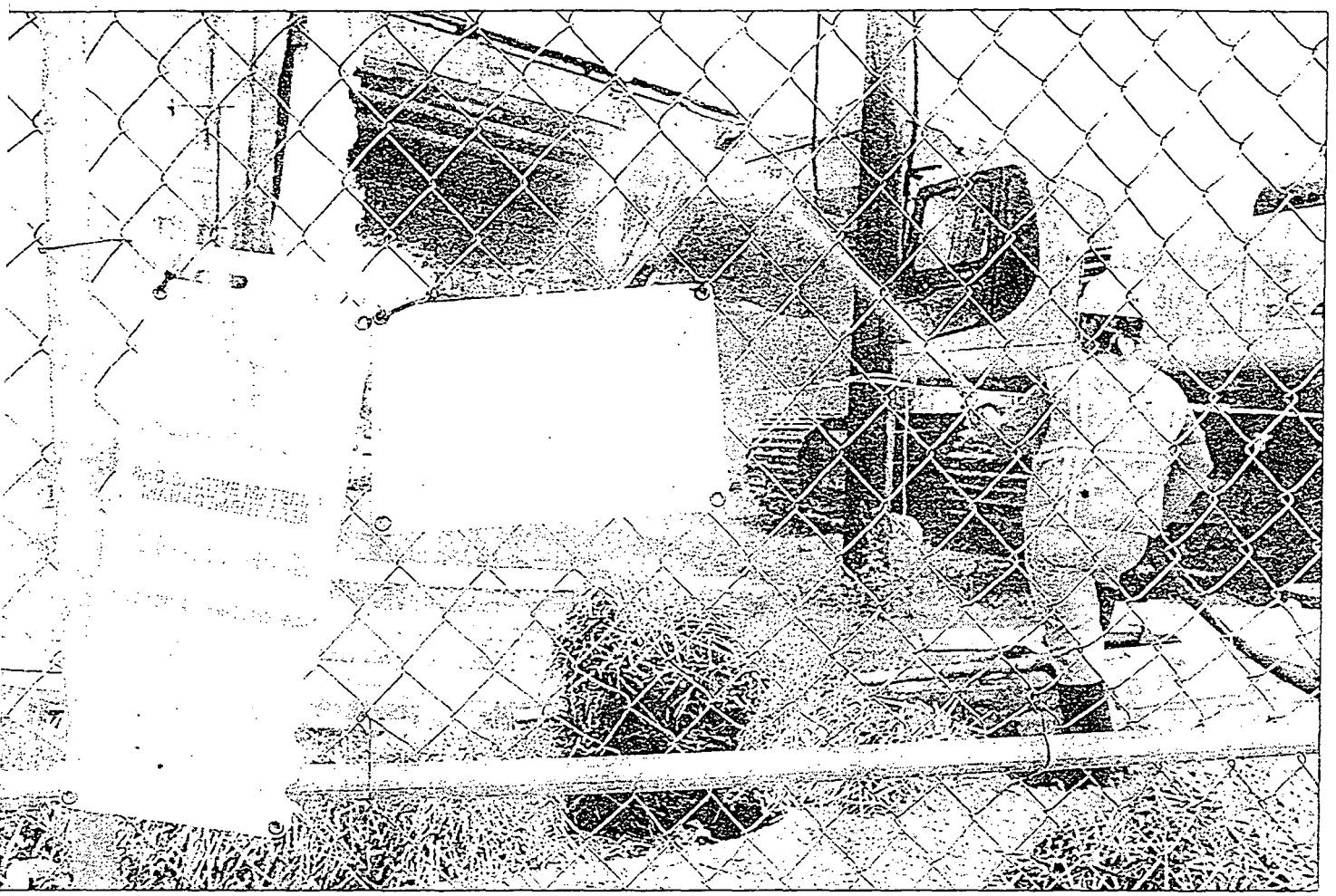
The team, the Bower family consisting of a father, son and cousin, are using a method called "bracket scaffolding" to demolish the towers.

Watson said the men push the bricks of the tower off and down inside the towers, then move the brackets down and do more.

He said at the bottom of the tower, the discarded material is taken through three bays to take it from "dirty to clean" and special HEPA air filters capture any contaminated materials in the air.

He said there is also a reverse a flow ventilation system that keep contaminated air from exiting u through the towers.

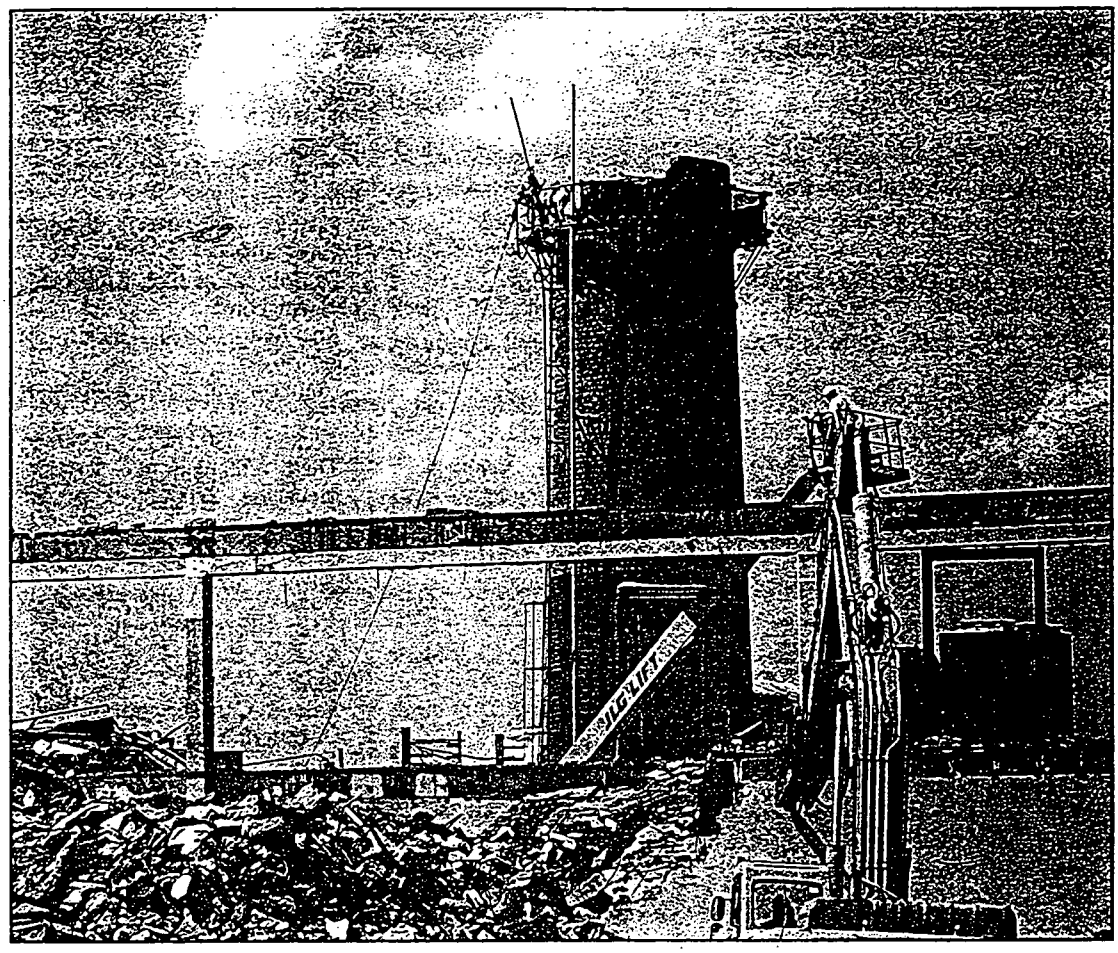
"The process is approved by th Ohio EPA and they are here t make sure everything is done safe ly," said Watson. "And that's ou mission, too."



JIM WITMER/DAYTON DAILY NEWS

# Building 38 comes down at the Mound

demolition worker sprays water as heavy machinery knocks down a wall of Building 38, a former plutonium processing plant on the rounds of the Department of Energy's former Mound Plant in Miamisburg. Building 38 is one of 66 buildings being taken down in the Mound ab Miamisburg Closure Project, which is scheduled for completion in 2006. The former nuclear weapons plant is being converted to ommunity use.



Demolition work on the stack at Mound has been completed.

# Demolition on Building 38 & stack complete at Mound

The demolition of Building 38 and Stack at the Mound site in Miamisburg is nearly complete, and much of the debris associated with this project has been removed. The next phase of this project is to remove soil and asphalt located within close proximity to the former Building 38 Stack and approximately 500 feet from the roadway running adjacent to Mound Road. The area for excavation is about 50 feet by 100 feet.

Unlike the demolition work, this work will be conducted during the evenings (Monday through Thursday) and on weekend days. Lights, and earth moving equipment such as an excavator, front-end loader and hauler may be seen from the roadway beginning early August through mid-September.

Multiple measures are being taken to protect workers and neighbors during excavation. Soils will be misted during the excavation process, containerized directly from excavation, and covered with tarps during off-shift hours when work is not actively being performed. Wind speeds will be monitored and work ceased if levels are exceeded, and air monitoring will be conducted to assure safety measures are functioning properly. Controls will be put in place to prevent excess run-on/run-off of surface water into and out of the excavation. Any surface water in the excavation will be sampled and disposed of using accepted waste management practices.

NEWS FROM THE HILL

If you have questions about the Miamisburg Closure Project contact Jane Greenwalt, Public Affairs Officer, DOE at 673-4568 or Lynette Bennett, Manager of External Communications for CH2M HILL Mound, Inc. at 865-5519.

If you have stories to share, please submit them to lbennett@ch2m.com or write Lynette Bennett, Manager of External Communications for CH2M HILL Mound, Inc., at P.O. Box 3030, Miamisburg, Ohio 45343-3030.

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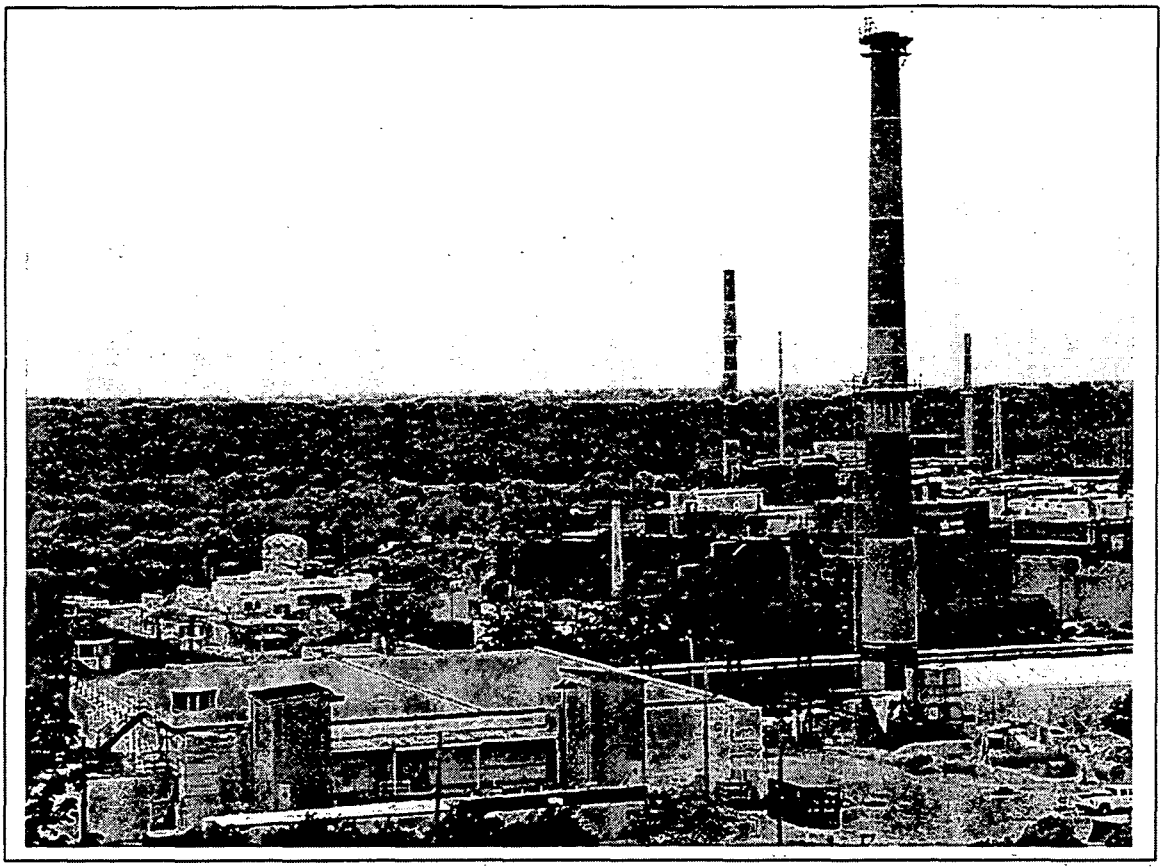
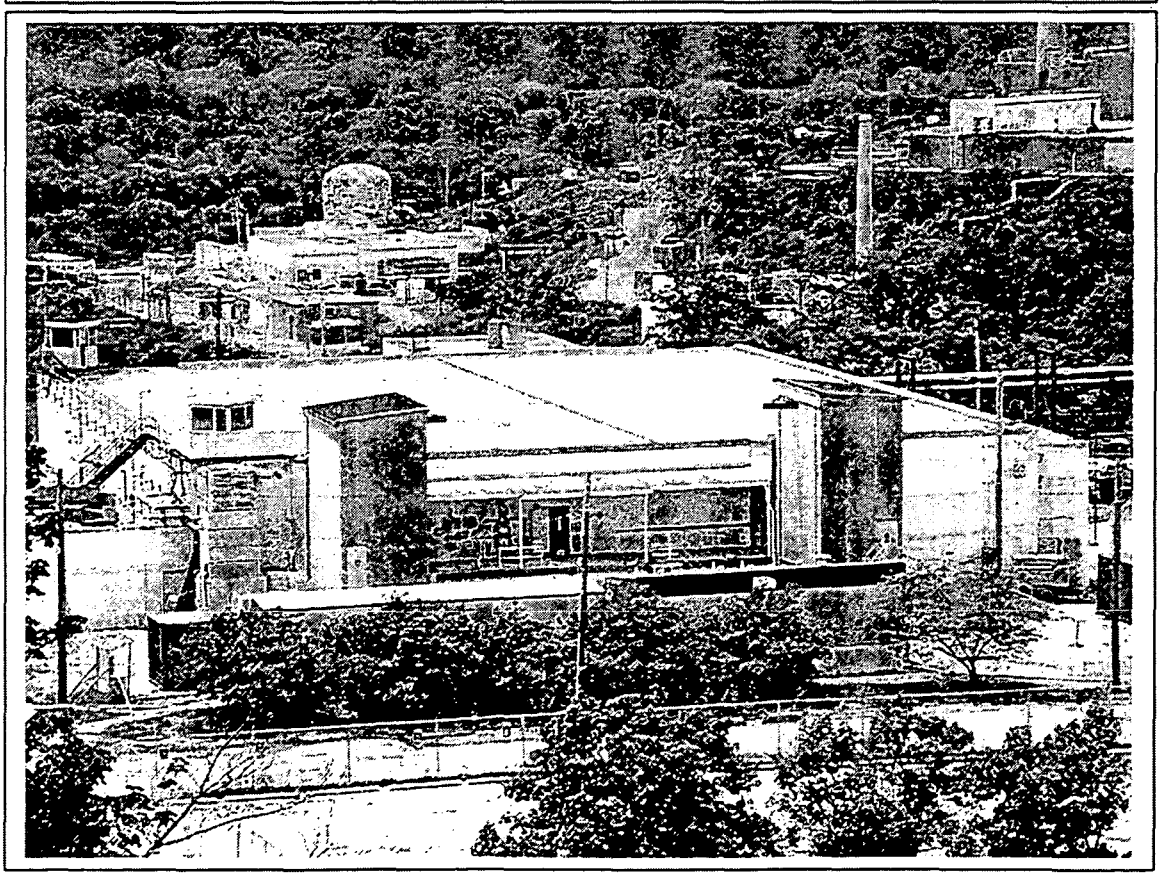
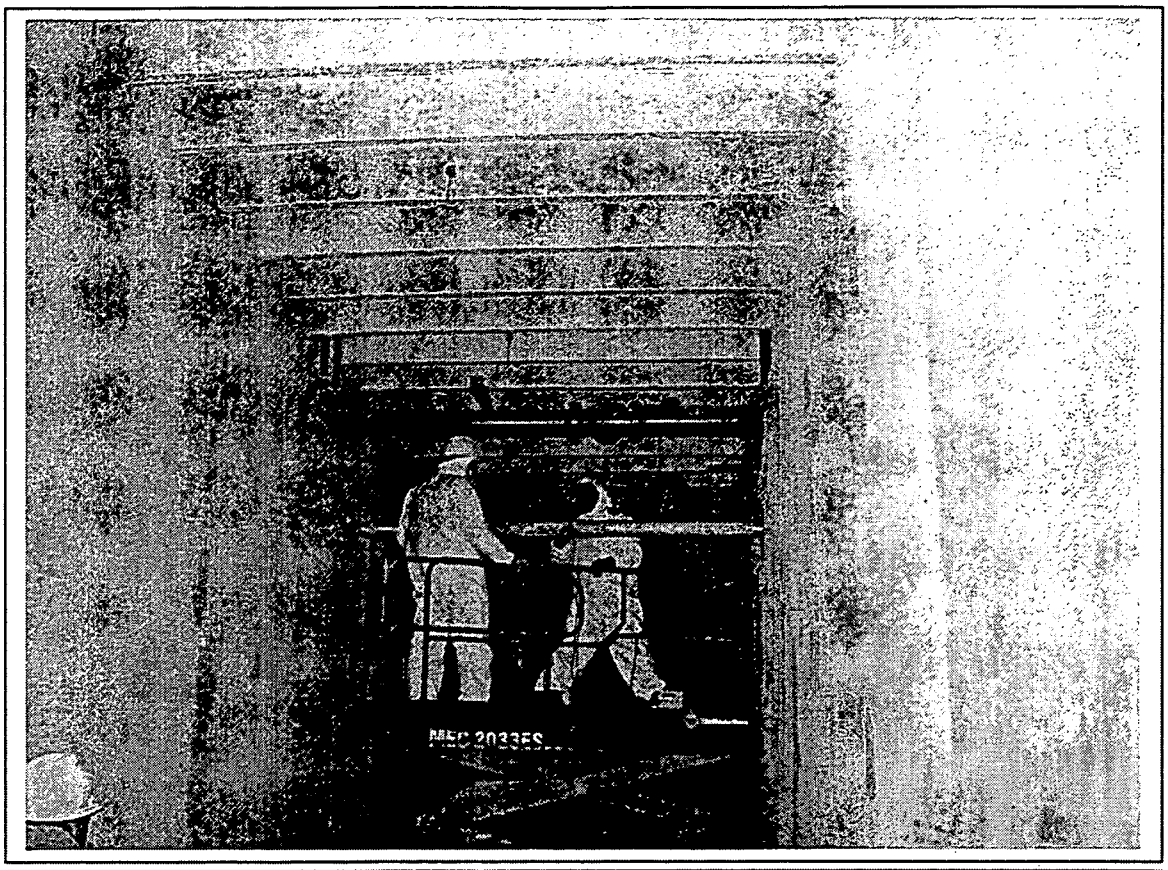
# APPENDIX D

## PHOTOGRAPH DOCUMENTATION

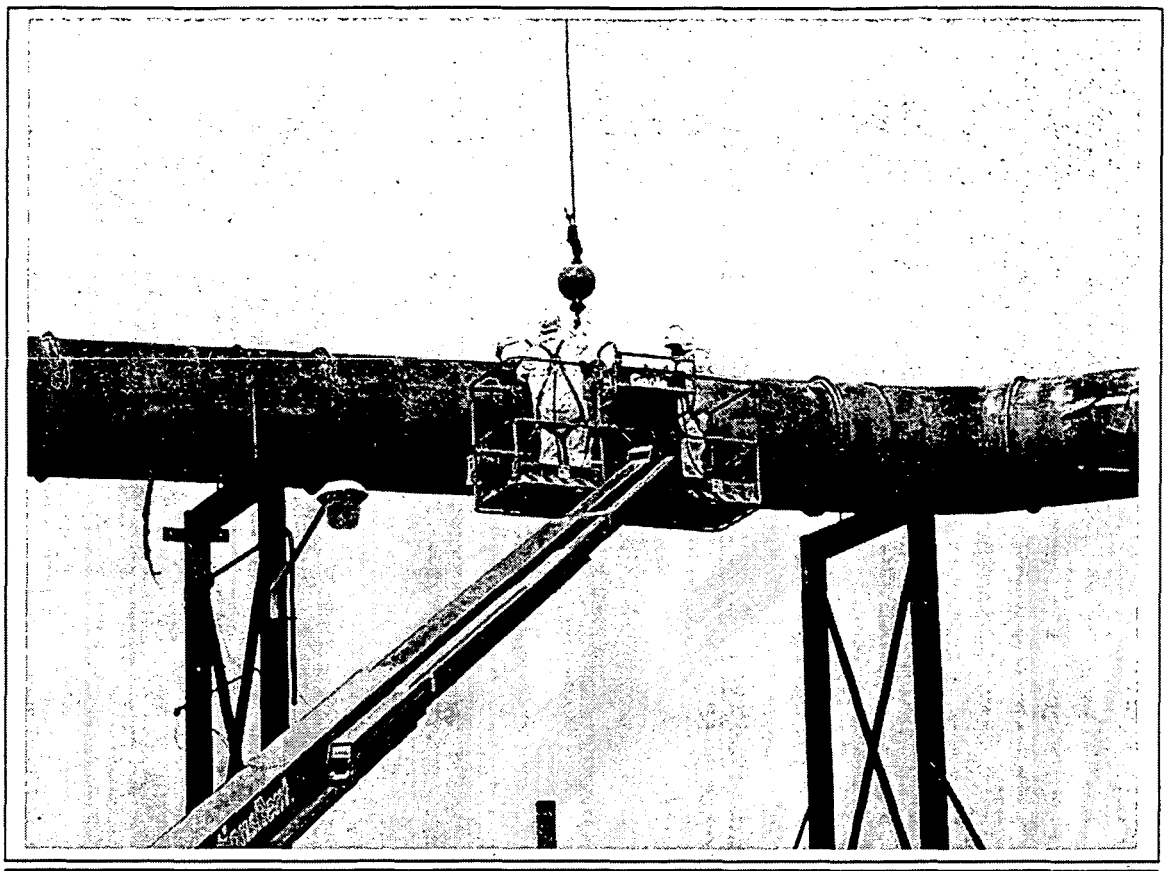
# Building 38 and Stack Prior to Demolition

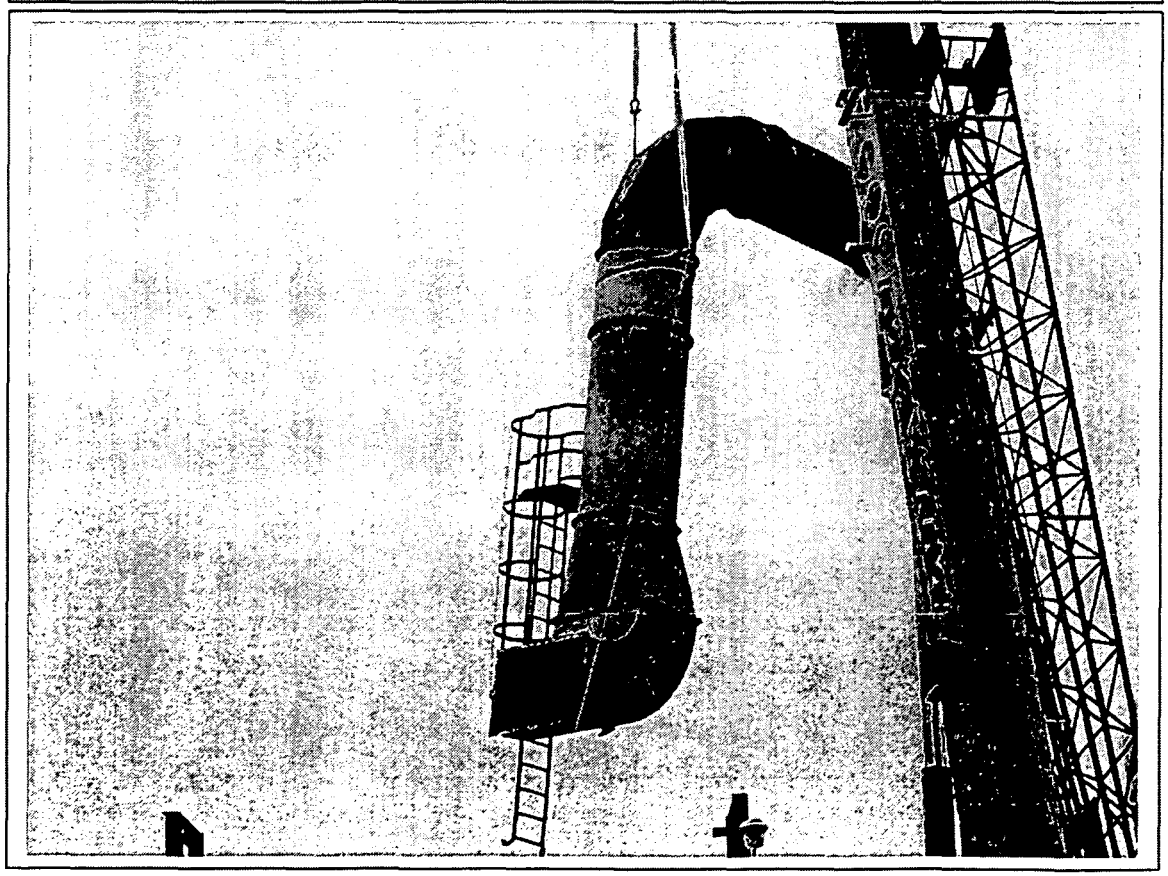




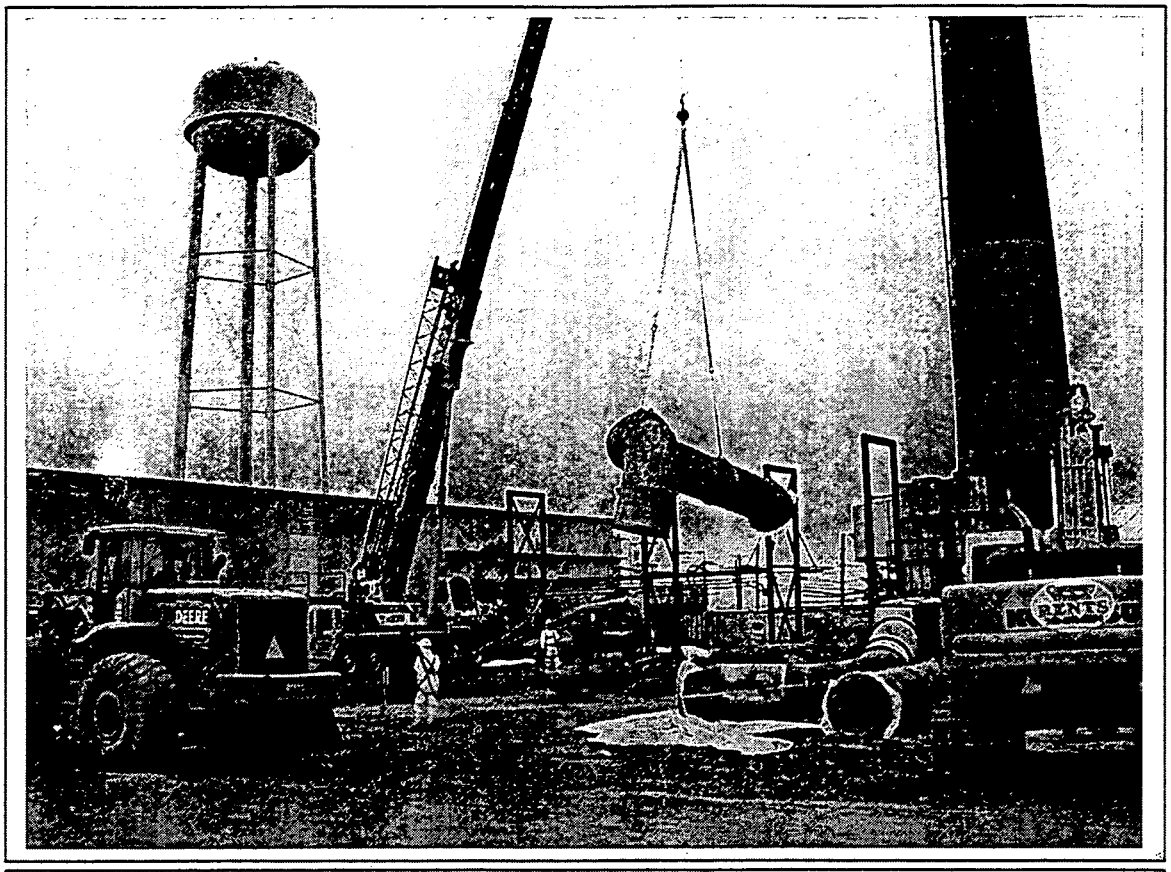


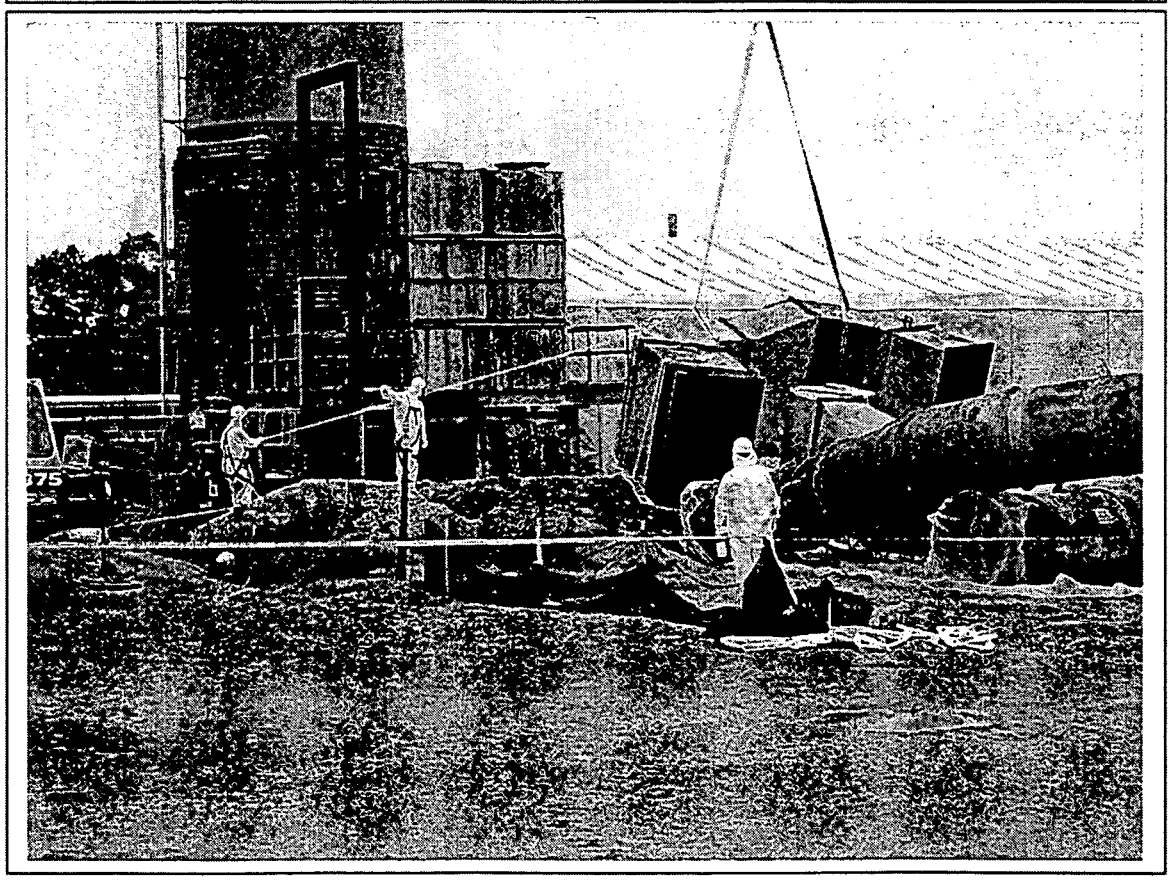
# Building 38 Exhaust Ductwork Demolition



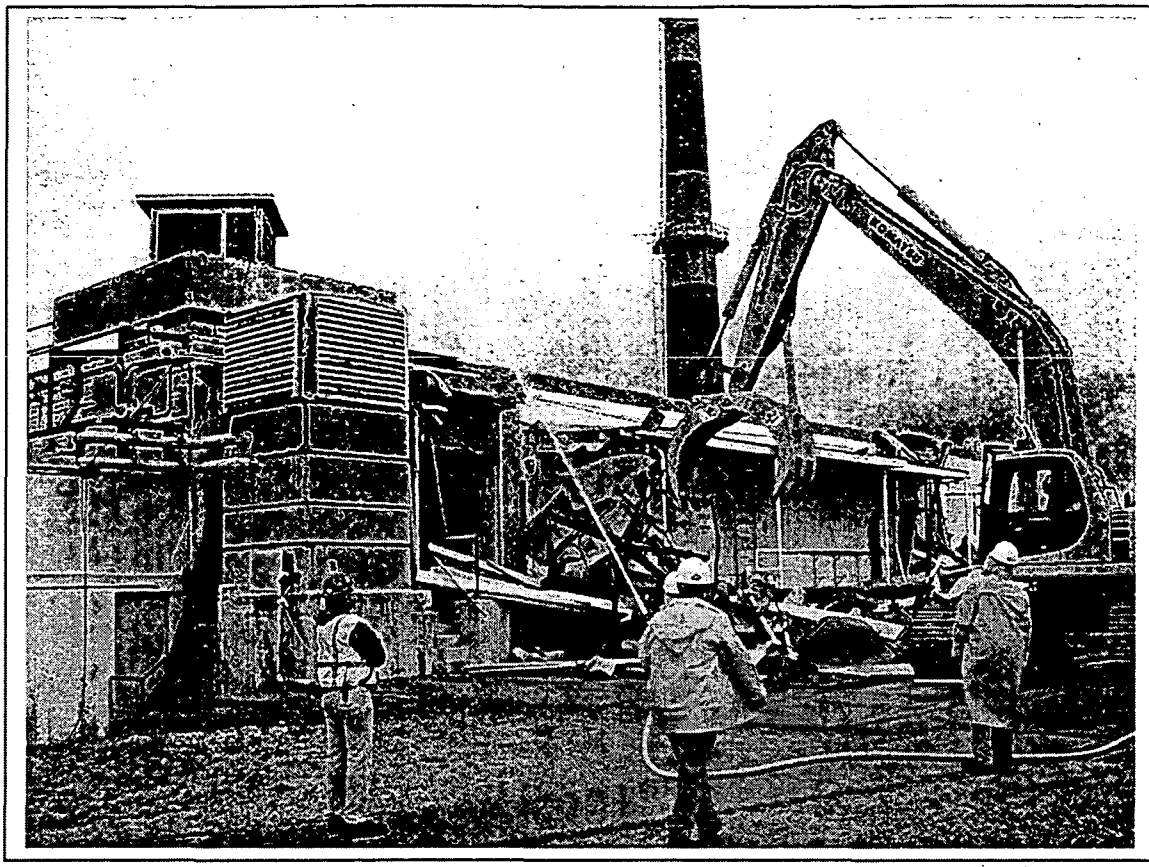


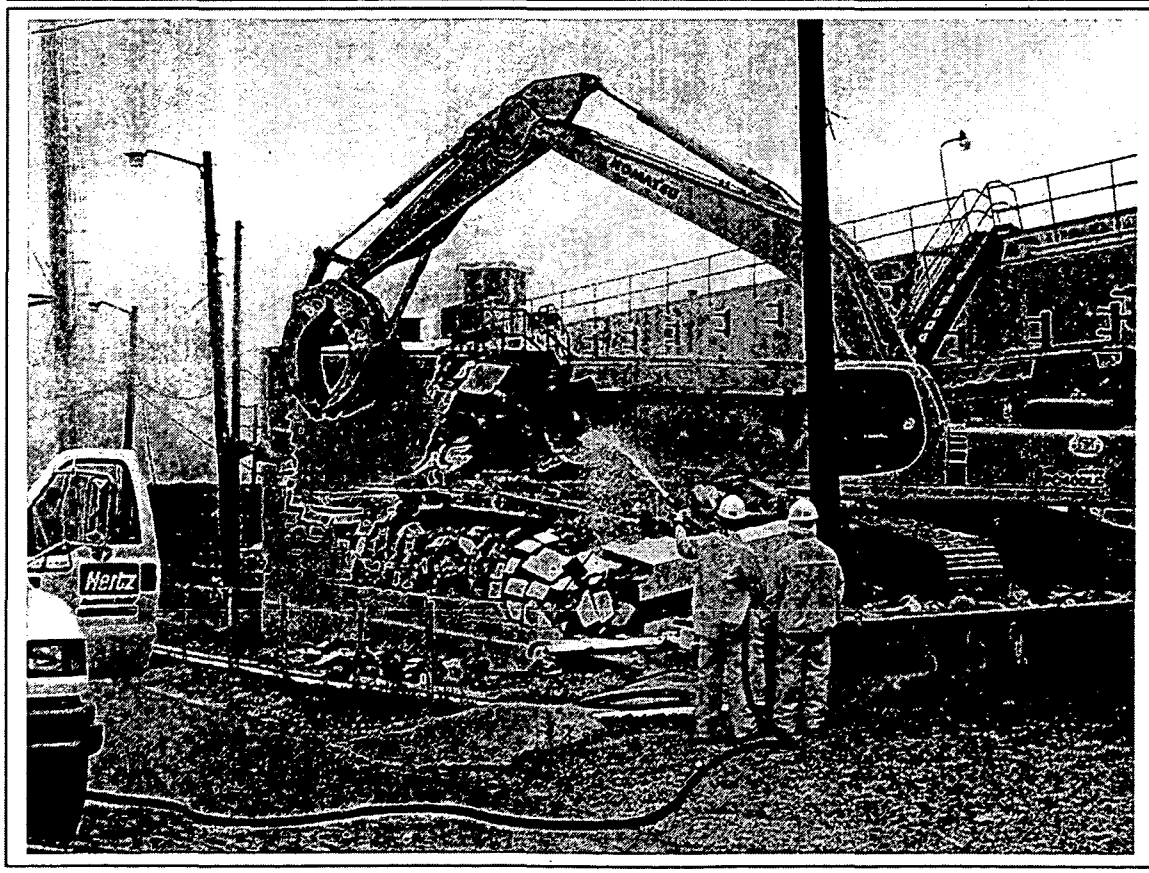
# Building 38 Exhaust Ductwork Demolition

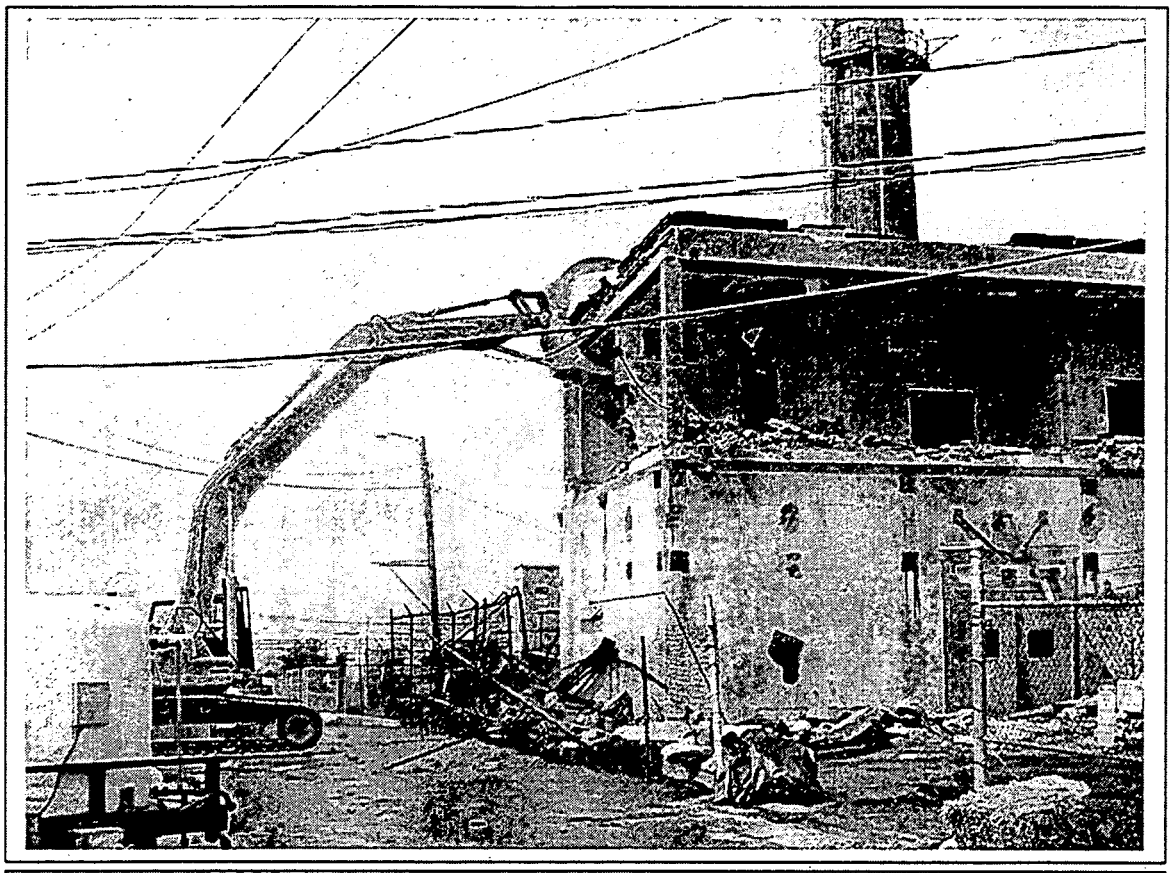


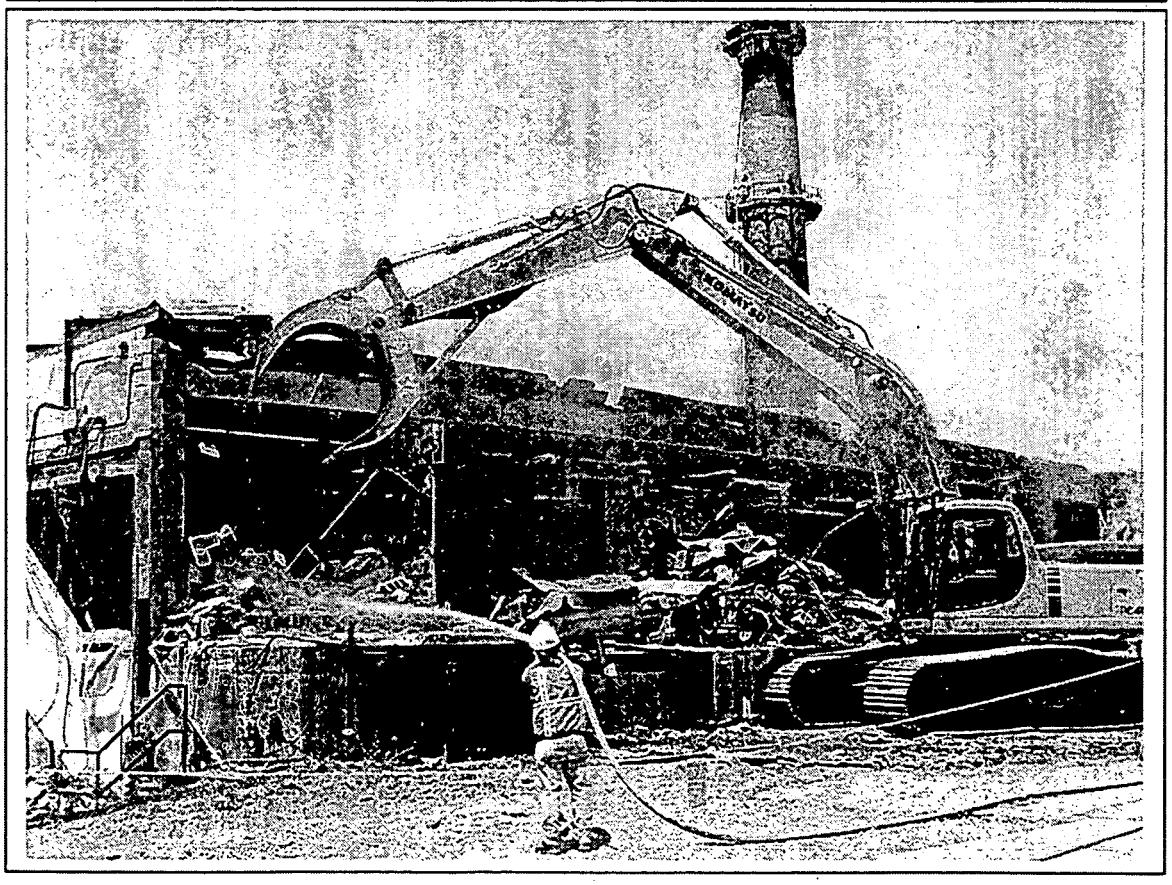



# Building 38 Superstructure Demolition

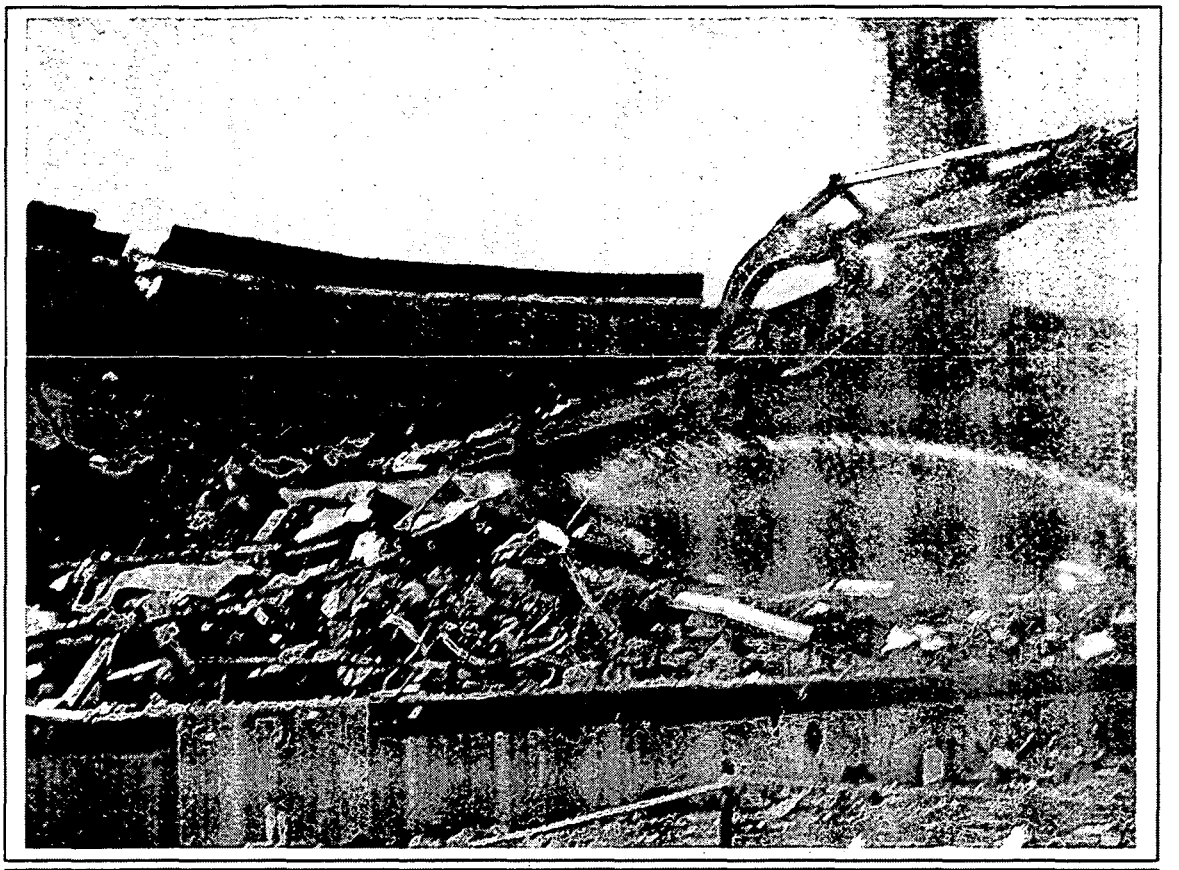


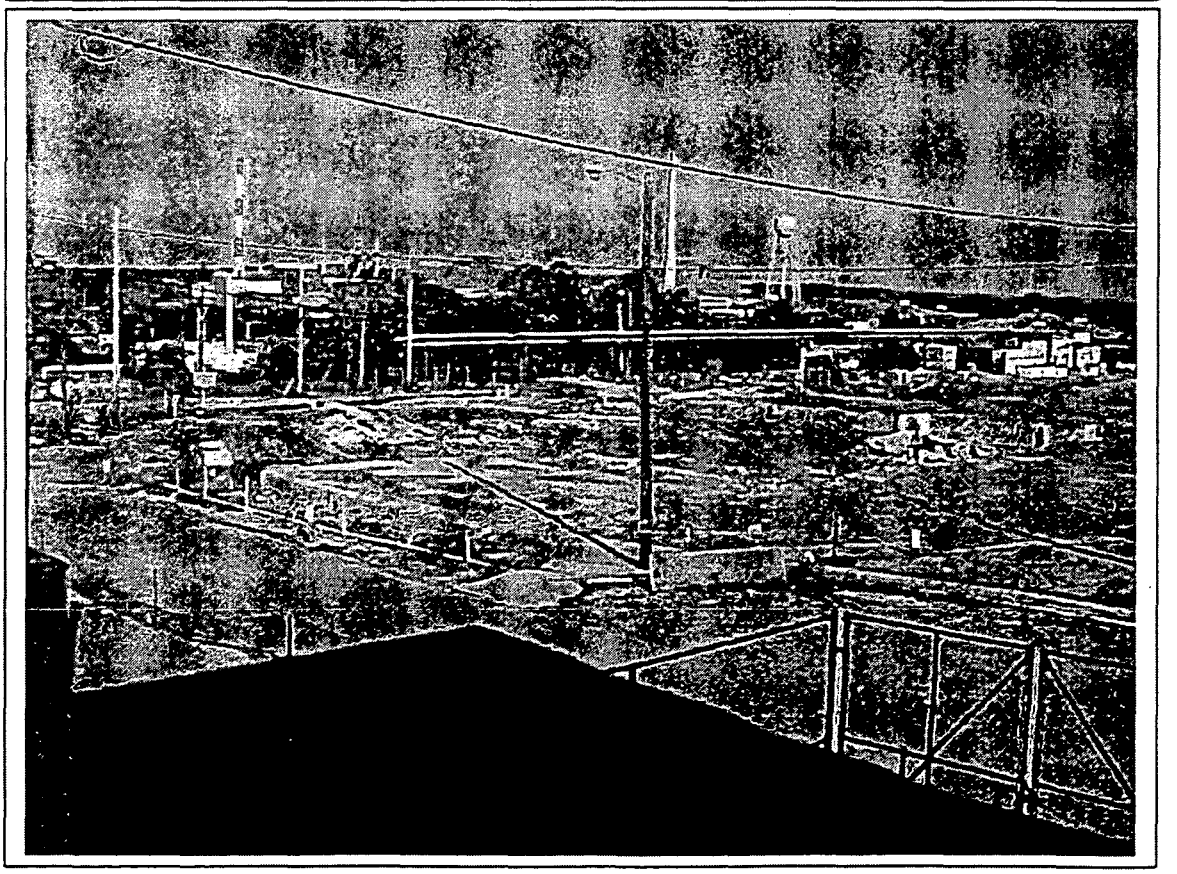


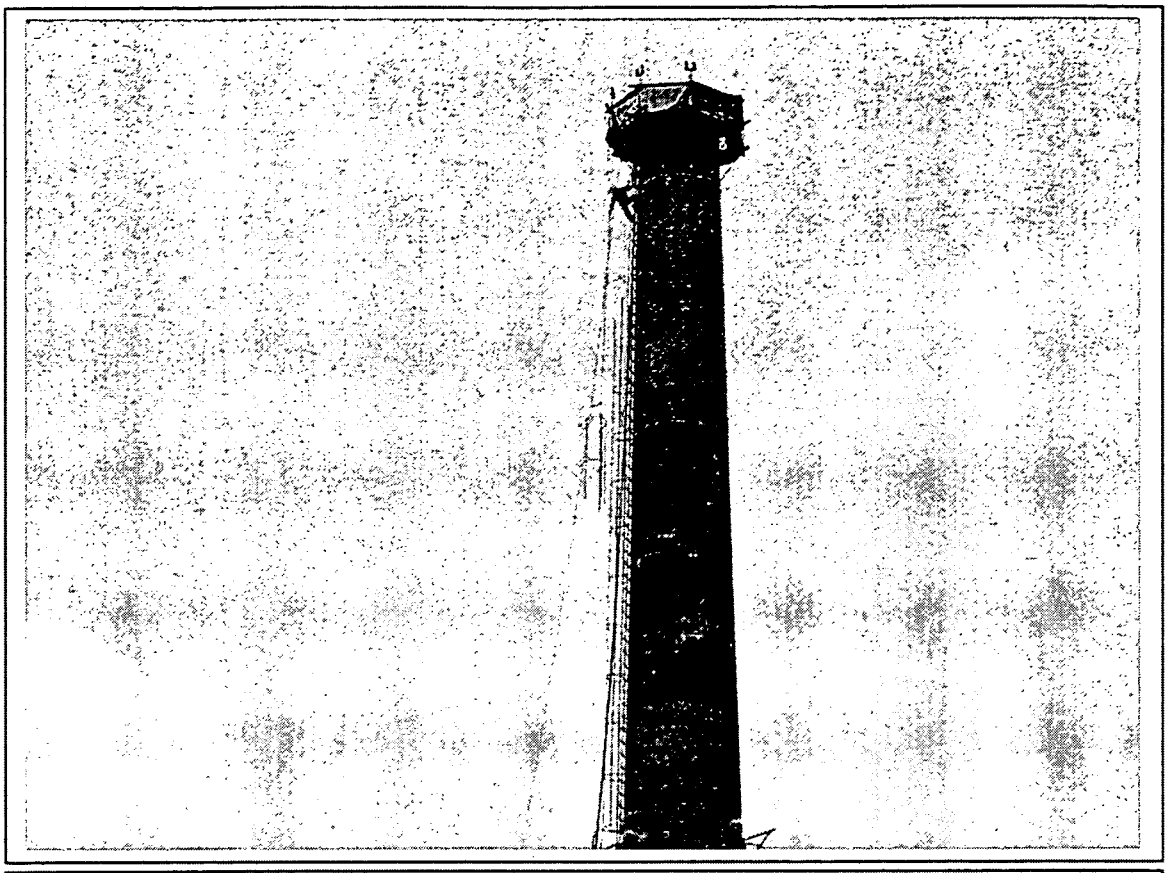


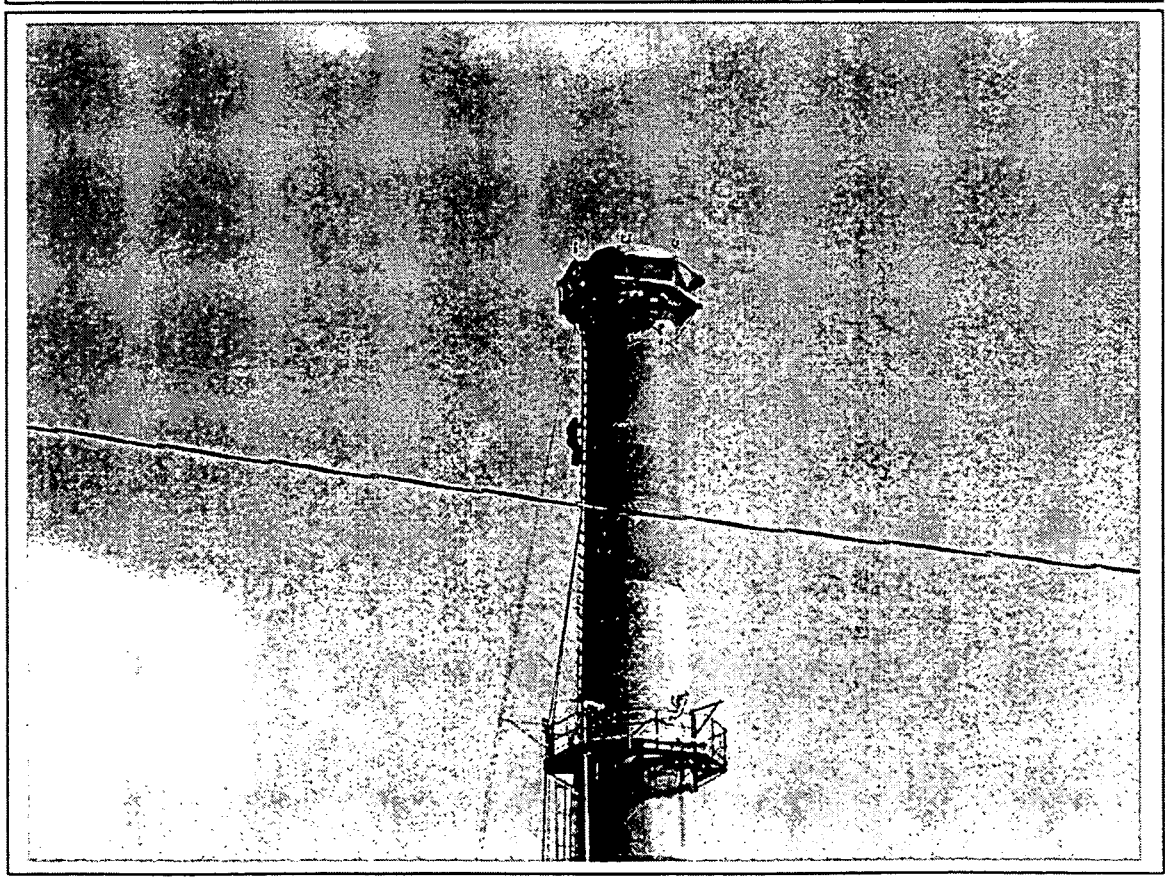


# Building 38 Superstructure Demolition

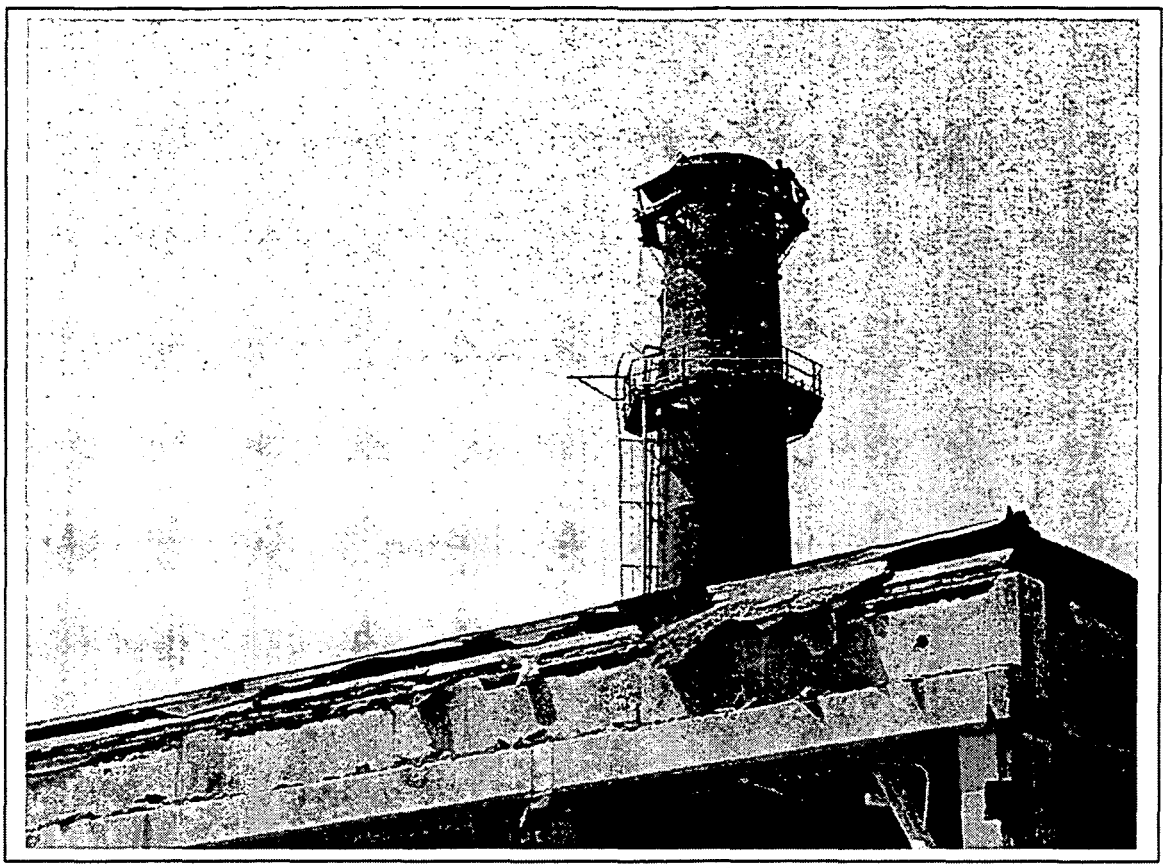


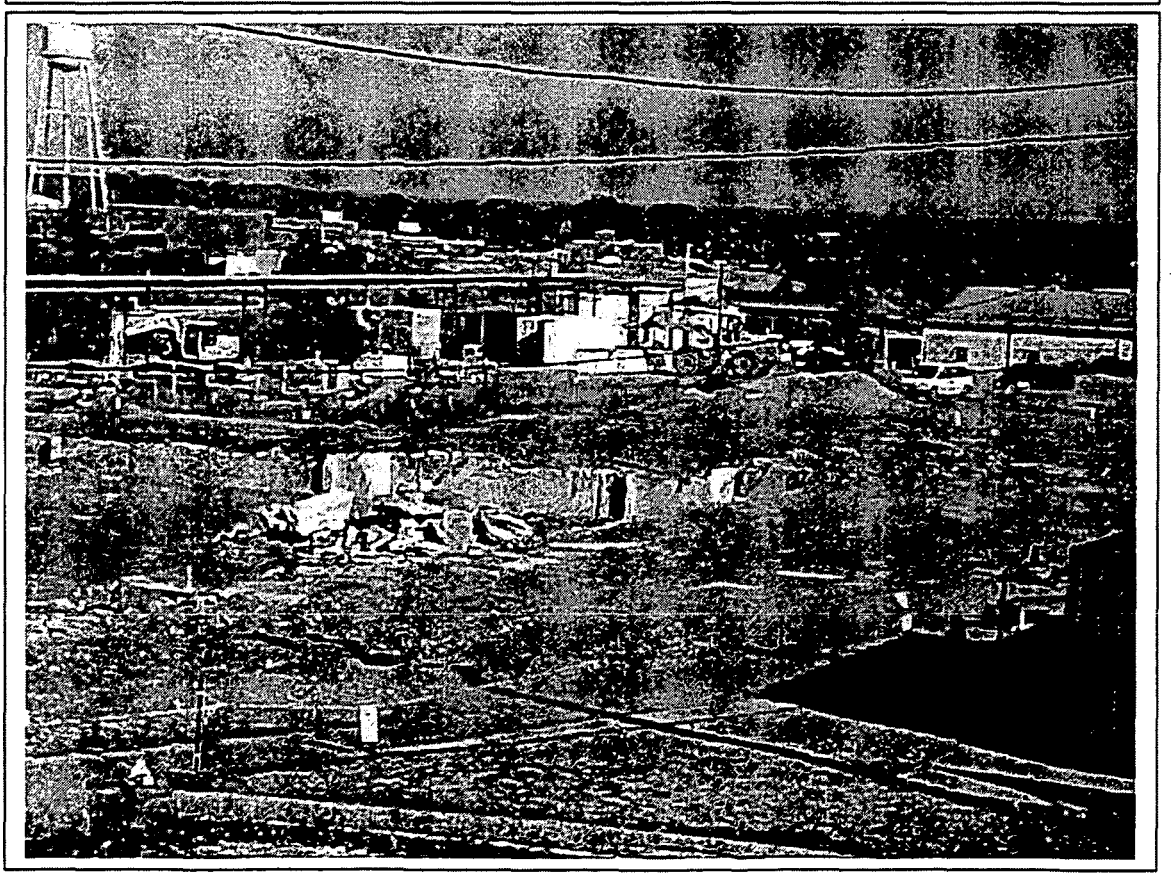






# Building 38 Stack (PRS 305) Demolition





# APPENDIX E

## RADIOLOGICAL AIR MONITORING RESULTS

| Rwp | Rwp Rev | Sample ID | Sample Revision | RCT Collected Date | RSDS Year | RSDS Room/Area | RSDS ID | Building | Room | Area | Purpose | Dac Fraction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1417 | 1 | 19929 | 3 | 6/10/03 | 03 | 38 | 0985 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 1 | 19923 | 3 | 6/11/03 | 03 | 38 | 0989 | 38 | Stack | HEPA Exhaust | Posting Verification | 0.000 |
| 1417 | 1 | 19843 | 5 | 6/12/03 | 03 | 38 | 0991 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 1 | 19862 | 3 | 6/13/03 | 03 | 38 | 0992 | 38 | Stack | HEPA Exhaust | Posting Verification | 0.000 |
| 1417 | 1 | 19903 | 3 | 6/16/03 | 03 | 38 | 0979 | 38 | Stack | HEPA Exhaust | Posting Verification | 0.000 |
| 1417 | 1 | 19888 | 3 | 6/17/03 | 03 | 38 | 0980 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 1 | 20176 | 3 | 6/19/03 | 03 | 38 | 0996 | 38 | Stack | HEPA Exhaust | Posting Verification | 0.000 |
| 1417 | 1 | 20131 | 3 | 6/20/03 | 03 | 38 | 1010 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.030 |
| 1417 | 1 | 20141 | 3 | 6/21/03 | 03 | 38 | 1028 | 38 | Stack | HEPA Exhaust | Routine (Daily) | 0.000 |
| 1417 | 2 | 20194 | 3 | 6/23/03 | 03 | 38 | 1043 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.002 |
| 1417 | 2 | 20183 | 4 | 6/24/03 | 03 | 38 | 1025 | 38 | Stack | HEPA Exhaust | See Comments | 0.003 |
| 1417 | 2 | 20208 | 3 | 6/25/03 | 03 | 38 | 1040 | 38 | Stack | HEPA Exhaust | Posting Verification | 0.002 |
| 1417 | 2 | 20213 | 3 | 6/26/03 | 03 | 38 | 1037 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20228 | 3 | 6/27/03 | 03 | 38 | 1050 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 0 | 20236 | 3 | 6/28/03 | 03 | 38 | 1051 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20333 | 3 | 7/1/03 | 03 | 38 | 1055 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20338 | 3 | 7/2/03 | 03 | 38 | 1058 | 38 | Stack | HEPA Exhaust | See Comments | 0.000 |
| 1417 | 2 | 20427 | 6 | 7/7/03 | 03 | 38 | 1060 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20484 | 3 | 7/8/03 | 03 | 38 | 1068 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.014 |
| 1417 | 2 | 20456 | 3 | 7/9/03 | 03 | 38 | 1070 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20466 | 3 | 7/10/03 | 03 | 38 | 1079 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20459 | 3 | 7/11/03 | 03 | 38 | 1083 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20560 | 3 | 7/12/03 | 03 | 38 | 1093 | 38 | Stack | HEPA Exhaust | See Comments | 0.000 |
| 1417 | 2 | 20568 | 3 | 7/14/03 | 03 | 38 | 1098 | 38 | Stack | HEPA Exhaust | See Comments | 0.000 |
| 1417 | 2 | 20625 | 4 | 7/15/03 | 03 | 38 | 1104 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20616 | 3 | 7/16/03 | 03 | 38 | 1110 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20641 | 4 | 7/17/03 | 03 | 38 | 1116 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |
| 1417 | 2 | 20622 | 4 | 7/18/03 | 03 | 38 | 1124 | 38 | Stack | HEPA Exhaust | Material Conf. C & V | 0.000 |

| | |
|---|---|
| Maximum | 0.030 |
| Average | 0.002 |
| Standard Deviation | 0.006 |
| Confidence Interval | 0.002 |
| n | 28 |

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| Rwp | Rwp Rev | Sample ID | Sample Revision | RCT Collected Date | RSDS Year | RSDS Room/Area | RSDS ID | Building | Room | Area | Purpose | Dac Fraction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1418 | 0 | 20191 | 3 | 6/18/03 | 03 | 38 | 1047 | 38 | Demo | Upwind | Boundary Verification | 0.004 |
| 1418 | 0 | 20143 | 3 | 6/23/03 | 03 | 38 | 1029 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20144 | 3 | 6/23/03 | 03 | 38 | 1029 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20198 | 3 | 6/24/03 | 03 | 38 | 1042 | 38 | Demo | Downwind | Boundary Verification | 0.008 |
| 1418 | 0 | 20204 | 3 | 6/25/03 | 03 | 38 | 1041 | 38 | Demo | Upwind | Boundary Verification | 0.002 |
| 1418 | 0 | 20211 | 3 | 6/26/03 | 03 | 38 | 1038 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20231 | 3 | 6/27/03 | 03 | 38 | 1049 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20234 | 6 | 6/28/03 | 03 | 38 | 1052 | 38 | Demo | downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20324 | 4 | 6/30/03 | 03 | 38 | 1056 | 38 | Demo | O/S | Boundary Verification | 0.000 |
| 1418 | 0 | 20325 | 3 | 6/30/03 | 03 | 38 | 1056 | 38 | Demo | O/S | Boundary Verification | 0.000 |
| 1418 | 0 | 20340 | 3 | 7/2/03 | 03 | 38 | 1054 | 38 | Demo | upwind | Boundary Verification | 0.002 |
| 1418 | 0 | 20342 | 3 | 7/2/03 | 03 | 38 | 1054 | 38 | Demo | downwind | Boundary Verification | 0.004 |
| 1418 | 0 | 20341 | 3 | 7/2/03 | 03 | 38 | 1054 | 38 | Demo | downwind | Boundary Verification | 0.017 |
| 1418 | 0 | 20431 | 3 | 7/7/03 | 03 | 38 | 1061 | 38 | Demo | Downwind | Boundary Verification | 0.021 |
| 1418 | 0 | 20430 | 3 | 7/7/03 | 03 | 38 | 1061 | 38 | Demo | Upwind | Boundary Verification | 0.024 |
| 1418 | 0 | 20477 | 3 | 7/8/03 | 03 | 38 | 1067 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20479 | 3 | 7/8/03 | 03 | 38 | 1067 | 38 | Demo | Downwind | Boundary Verification | 0.002 |
| 1418 | 0 | 20478 | 3 | 7/8/03 | 03 | 38 | 1067 | 38 | Demo | Downwind | Boundary Verification | 0.097 |
| 1418 | 0 | 20453 | 3 | 7/9/03 | 03 | 38 | 1077 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20452 | 3 | 7/9/03 | 03 | 38 | 1077 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20470 | 3 | 7/10/03 | 03 | 38 | 1082 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20469 | 3 | 7/10/03 | 03 | 38 | 1082 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20556 | 3 | 7/12/03 | 03 | 38 | 1092 | 38 | Demo | Upwind | Boundary Verification | 0.001 |
| 1418 | 0 | 20557 | 4 | 7/12/03 | 03 | 38 | 1092 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20564 | 3 | 7/14/03 | 03 | 38 | 1101 | 38 | Demo | Upwind | Boundary Verification | 0.002 |
| 1418 | 0 | 20565 | 3 | 7/14/03 | 03 | 38 | 1101 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20648 | 4 | 7/15/03 | 03 | 38 | 1107 | 38 | Demo | Upwind | Boundary Verification | 0.007 |
| 1418 | 0 | 20649 | 3 | 7/15/03 | 03 | 38 | 1107 | 38 | Demo | Downwind | Boundary Verification | 0.010 |
| 1418 | 0 | 20608 | 3 | 7/16/03 | 03 | 38 | 1113 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20606 | 3 | 7/16/03 | 03 | 38 | 1113 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20607 | 3 | 7/16/03 | 03 | 38 | 1113 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20605 | 3 | 7/16/03 | 03 | 38 | 1113 | 38 | Demo | Upwind | Boundary Verification | 0.002 |
| 1418 | 0 | 20634 | 4 | 7/17/03 | 03 | 38 | 1136 | 38 | Demo | LoadOut | Boundary Verification | 0.000 |
| 1418 | 0 | 20632 | 4 | 7/17/03 | 03 | 38 | 1136 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20631 | 4 | 7/17/03 | 03 | 38 | 1136 | 38 | Demo | Upwind | Boundary Verification | 0.006 |
| 1418 | 0 | 20633 | 4 | 7/17/03 | 03 | 38 | 1136 | 38 | Demo | Downwind | Boundary Verification | 0.013 |

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Results Building 38 Demo

| Rwp | Rwp Rev | Sample ID | Sample Revision | RCT Collected Date | RSDS Year | RSDS Room/Area | RSDS ID | Building | Room | Area | Purpose | Dac Fraction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1418 | 0 | 20597 | 3 | 7/18/03 | 03 | 38 | 1126 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20598 | 3 | 7/18/03 | 03 | 38 | 1126 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20599 | 3 | 7/18/03 | 03 | 38 | 1126 | 38 | Demo | Downwind | Boundary Verification | 0.005 |
| 1418 | 0 | 20611 | 3 | 7/19/03 | 03 | 38 | 1132 | 38 | Demo | Upwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20612 | 3 | 7/19/03 | 03 | 38 | 1132 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 20803 | 3 | 7/21/03 | 03 | 38 | 1135 | 38 | Demo | down wind | Boundary Verification | 0.000 |
| 1418 | 0 | 20802 | 3 | 7/21/03 | 03 | 38 | 1135 | 38 | Demo | upwind | Boundary Verification | 0.008 |
| 1418 | 0 | 20808 | 3 | 7/22/03 | 03 | 38 | 1143 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20811 | 3 | 7/22/03 | 03 | 38 | 1143 | 38 | Demo | down wind | Boundary Verification | 0.000 |
| 1418 | 0 | 20809 | 3 | 7/22/03 | 03 | 38 | 1143 | 38 | Demo | down wind | Boundary Verification | 0.007 |
| 1418 | 0 | 20799 | 3 | 7/23/03 | 03 | 38 | 1148 | 38 | Demo | Down wind | Boundary Verification | 0.000 |
| 1418 | 0 | 20800 | 3 | 7/23/03 | 03 | 38 | 1148 | 38 | Demo | Down wind | Boundary Verification | 0.000 |
| 1418 | 0 | 20798 | 4 | 7/23/03 | 03 | 38 | 1148 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20875 | 3 | 7/24/03 | 03 | 38 | 1149 | 38 | Demo | Down Wind | Boundary Verification | 0.000 |
| 1418 | 0 | 20895 | 3 | 7/25/03 | 03 | 38 | 1155 | 38 | Demo | Down Wind | Boundary Verification | 0.005 |
| 1418 | 0 | 20894 | 3 | 7/25/03 | 03 | 38 | 1155 | 38 | Demo | Upwind | Boundary Verification | 0.013 |
| 1418 | 0 | 20928 | 4 | 7/26/03 | 03 | 38 | 1160 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 20930 | 3 | 7/26/03 | 03 | 38 | 1160 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21116 | 3 | 7/29/03 | 03 | 38 | 1177 | 38 | Demo | DownWind | Boundary Verification | 0.000 |
| 1418 | 0 | 21117 | 3 | 7/29/03 | 03 | 38 | 1177 | 38 | Demo | UpWind | Boundary Verification | 0.006 |
| 1418 | 0 | 21101 | 4 | 7/30/03 | 03 | 38 | 1179 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21102 | 3 | 7/31/03 | 03 | 38 | 1179 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21089 | 4 | 7/31/03 | 03 | 38 | 1181 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21090 | 3 | 7/31/03 | 03 | 38 | 1181 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21121 | 3 | 8/1/03 | 03 | 38 | 1189 | 38 | Demo | Boundary | Boundary Verification | 0.000 |
| 1418 | 0 | 21146 | 3 | 8/4/03 | 03 | 38 | 1208 | 38 | Demo | Airlock | Boundary Verification | 0.004 |
| 1418 | 0 | 21152 | 3 | 8/5/03 | 03 | 38 | 1191 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21158 | 3 | 8/6/03 | 03 | 38 | 1198 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21157 | 3 | 8/6/03 | 03 | 38 | 1198 | 38 | Demo | Upwind | Boundary Verification | 0.003 |
| 1418 | 0 | 21170 | 3 | 8/7/03 | 03 | 38 | 1209 | 38 | Demo | Upwind | Boundary Verification | 0.002 |
| 1418 | 0 | 21171 | 3 | 8/7/03 | 03 | 38 | 1209 | 38 | Demo | Downwind | Boundary Verification | 0.002 |
| 1418 | 0 | 21172 | 3 | 8/7/03 | 03 | 38 | 1209 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 21163 | 4 | 8/8/03 | 03 | 38 | 1210 | 38 | Demo | Upwind | Boundary Verification | 0.002 |

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| Rwp | Rwp Rev | Sample ID | Sample Revision | RCT Collected Date | RSDS Year | RSDS Room/Area | RSDS ID | Building | Room | Area | Purpose | Dac Fraction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1418 | 0 | 21164 | 4 | 8/8/03 | 03 | 38 | 1210 | 38 | Demo | Downwind | Boundary Verification | 0.003 |
| 1418 | 0 | 21165 | 3 | 8/8/03 | 03 | 38 | 1210 | 38 | Demo | Downwind | Boundary Verification | 0.004 |
| 1418 | 0 | 21282 | 3 | 8/11/03 | 03 | 38 | 1213 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21281 | 4 | 8/11/03 | 03 | 38 | 1213 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21283 | 3 | 8/11/03 | 03 | 38 | 1213 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21286 | 3 | 8/12/03 | 03 | 38 | 1220 | 38 | Demo | Upwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21287 | 3 | 8/12/03 | 03 | 38 | 1220 | 38 | Demo | Downwind | Boundary Verification | 0.000 |
| 1418 | 0 | 21295 | 4 | 8/13/03 | 03 | 38 | 1223 | 38 | Demo | Downwind | Boundary Verification | 0.001 |
| 1418 | 0 | 21294 | 3 | 8/13/03 | 03 | 38 | 1223 | 38 | Demo | Upwind | Boundary Verification | 0.106 |

| | |
|---|---|
| Max | 0.106 |
| Average | 0.005 |
| Standard Deviation | 0.016 |
| Confidence Interval | 0.004 |
| n | 78 |

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